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AGRICULTURAL

FIELD

EXPERIMENTS

VOL. 9 PART 2

MYSORE

1954—59

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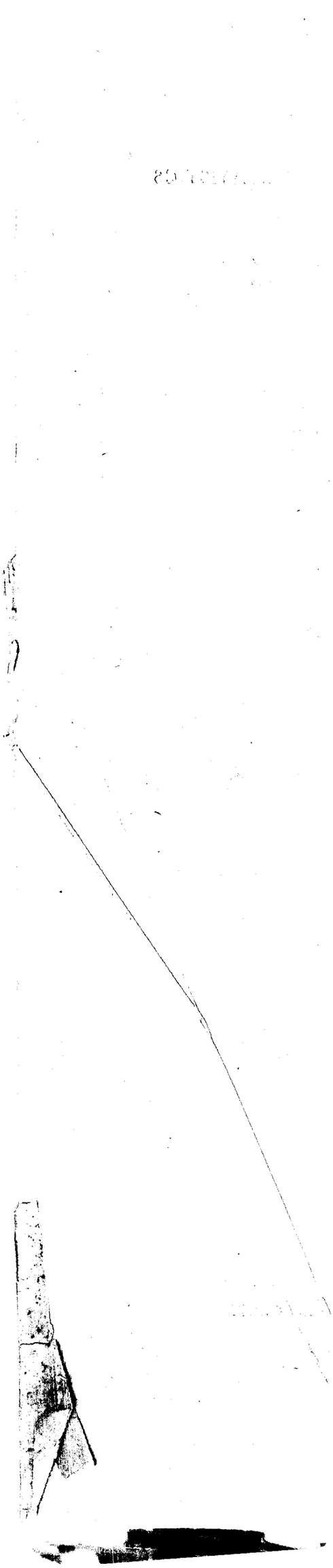

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FOREWORD

Increase in agricultural production is one of the main objectives of our agricultural planning. It is only by the exploitation of scientific methods of agriculture that we can hope to increase our agricultural production to the level needed for maintaining a reasonable standard of living to the country's population. The technical worth of improvement measures is best judged from carefully conducted field experiments. While it is true that a large number of agricultural field experiments are conducted in the country, the results of these experiments have not been brought together in an integrated manner for the use of research workers. The absence of such a unified account has often led to duplication of work and delay in the utilisation of results for practical farming. The Institute of Agricultural Research Statistics has rendered a very valuable service by preparing a compendium of agricultural field experiments conducted in the country. The first series of compendium containing the results of all agricultural field experiments during the period 1948-53 have already been published by the Institute.

The present compendium is the second in the series covering the period 1954-59. As in the earlier compendium, the present series also contains critical summaries of results of experiments bearing on important agronomic factors, such as the response of crops to fertilizers and manures, inter-relationship of fertilizers, varieties and cultivation practices and other information of value for giving sound advice to farmers in different regions. Judging from the demand for the first series of the compendium, I am sure that the present series will also prove equally useful.

A Standing Committee consisting of the Agricultural Commissioner with the Government of India, the Director, Indian Agricultural Research Institute, and the Statistical Adviser, Indian Council of Agricultural Research, has been set up to provide general guidance to the work under this scheme. I congratulate the members of this Committee and, in particular, the Statistical Adviser and his associates at the Institute of Agricultural Research Statistics for bringing out this compendium. The preparation of this compendium has been made possible only by the wholehearted co-operation of the States and other organisations in making available the results of their experimental researches for this purpose. My thanks are due to the officers of the State Departments of Agriculture and other institutions for participating in this work. I hope that the present series will be followed by periodical publications of similar compendia for later years, in order that the availability, in a consolidated form, of results of scientific experiments in agriculture in India may be maintained up-to-date.

A. D. PANDIT
Vice-President,
Indian Council of Agricultural Research.

NEW DELHI,
March 26, 1965.

PREFACE

The present set of volumes form Part II in the series of compendia of Agricultural Field Experiments being published by the Indian Council of Agricultural Research under the project for National Index of Field Experiments and contains a unified record of experiments conducted at agricultural research stations and institutes all over the country. Volumes in Part I in this series were published in 1962 and contained results of some 7,500 experiments conducted during the period 1948-53. The present set of volumes includes results of experiments conducted during the next period that is 1954-59. After the period, covered by Part I of the series, agricultural research and experimentation has expanded so much that for the period 1954-59, to which the present volumes refer, results of more than 15,000 experiments are available.

The present compendium is prepared on the same pattern as the previous one and is divided into 15 volumes one each for (1) Andhra Pradesh, (2) Assam, Manipur and Tripura, (3) Bihar, (4) Gujarat, (5) Kerala, (6) Madhya Pradesh, (7) Madras, (8) Maharashtra, (9) Mysore, (10) Orissa, (11) Punjab, Jammu and Kashmir and Himachal Pradesh, (12) Rajasthan, (13) Uttar Pradesh (14) West Bengal and (15) All Central Institutes. In each volume, background information of the respective state regarding its division into different soils and agro-climatic regions, rainfall and cropping pattern followed in each region and agricultural production and area under different crops in the State is given. The experiments reported in each volume have been arranged crop-wise for each State. All the experiments belonging to a particular crop at various research stations are Grouped together. For a particular crop, experiments are arranged according to the following classification :

Manurial (M), Cultural (C), Irrigational (I), Diseases, pests and chemicals other than fertilizers (D), Rotational (R), Mixed cropping (X) and combinations of these wherever they occur (*e.g.* CM as Cultural-cum-Manurial). Experiments in which crop varieties also form a factor are denoted by adding V to their symbol and are grouped together (*e.g.* MV as Manurial-cum-Varietal).

This publication owes its origin to the guidance and help of Dr. D.J. Finney, F.R.S., Professor of Statistics, Aberdeen University, Scotland, in formulating the project during his stay at the Institute of Agricultural Research Statistics as an F.A.O. expert in 1952-53.

At the Institute of Agricultural Research Statistics the work under the scheme was carried out under the supervision of Shri. T.P. Abraham, Assistant Statistical Adviser. The actual working of the scheme was conducted by Shri G.A. Kulkarni, Statistician till he left the Institute in July, 1964. The work was subsequently taken over by Shri O.P. Kathuria, Assistant Statistician. Messrs. L.B.S. Somayazulu, P.P. Rao, M.L. Sahni, Harbhajan Singh, A.L. Punhani, M.K. Joshi, N.K. Worrier, H.C. Jain and J.K. Kapoor of the statistical staff of the Institute deserve special mention for careful and painstaking work in editing and scrutiny of the manuscript as well as proofs of the compendium.

The burden of collecting the data from the various research stations and the analysis of a large number of experiments once again fell on the regional staff of the Council placed in different States. They deserve to be congratulated for the hard work they have put in.

Thanks are due to the State Departments of Agriculture, the Central Institutes and the Commodity Committees who made the data of the experiments conducted under their jurisdiction readily available to the staff of the Institute. The present publication has become possible only through their unstinted co-operation. The Institute is also thankful to the various

officers in the States who worked as Regional Supervisors for the project from time to time and took keen interest in the working of the Scheme. The list of the names of the regional supervisors and the regional staff of the project is given on the following page.

V.G. PANSE
Statistical Adviser,
Institute of Agricultural Research Statistics (I.C.A.R.).

NEW DELHI,
March 25, 1965.

REGIONAL SUPERVISORS AND REGIONAL STAFF FOR THE NATIONAL INDEX OF FIELD EXPERIMENTS

Region and Headquarter	*Statistical staff from the Institute of Agricultural Research Statistics.*	*Regional Supervisors*
1. Andhra Pradesh (Hyderabad)	S.K. Jilani P.R. Yeri	Dr. Mohd. Quadiruddin khan, Joint Director of Agricultural. Late Dr. Syed Waheeduddin. Shri Md. Khasim Adoni, Joint Director of Extension. Shri N.V. Mohana Rao, Joint Director, Agricultural Research Institute, Rajendranagar. Shri L. Venkataratnam, Deputy Director of Agriculture (Research).
2. Maharashtra (Poona)	P.D. Mehta B. Ramakrishnan	Shri D.S. Rangarao, Statistician, Department of Agriculture.
3. Gujarat (Ahmedabad)	S.P. Doshi	Dr. D. K. Desai, Deputy Director of Agriculture (Statistics). Shri J.B. Trivedi, Deputy Director of Agriculture (Statistics).
4. Uttar Pradesh (Lucknow)	S.N. Bajpai M.P. Saxena G.N. Bahuguna A.C. Srivastava	Dr. K. Kishen, Joint Director of Agriculture (Statistics).
5. Madhya Pradesh (Bhopal)	T. Lokeswara Rao H.C. Gupta	Shri A.G. Khare, Statistician, Department of Agriculture.
6. Punjab, Jammu & Kashmir	A.C. Kaistha B.L. Kaistha	Shri Piara Singh Sahota, Director of Crop Insurance.
& Himachal Pradesh (Chandigarh)	M.S. Batra	Shri Mohinder Singh Pannu, Statistician, Department of Agriculture.
7. Bihar (Sabour)	M.K. Joshi P.C. Kholia	Shri G.P. Singh, Statistician, Department of Agriculture. Shri R.S. Roy, Principal, Agricultural Research Institute, Sabour.
8. Rajasthan (Jaipur)	B.P. Dyundi N.K. Ohri	Shri H.C. Kothari, Statistician, Department of Agriculture,
9. Orissa (Bhubaneswar)	L.B.S. Somayazulu	Shri B. Misra, Deputy Director of Agriculture (Hq.) Shri D. Misra, Principal, Uttakal Krushi Mahavidyalaya, Bhubaneswar.
10. West Bengal (Calutta)	S.N. Nath	Shri S.N. Mukerjee, Statistical Officer, Directorate of Agriculture.

11. Madras (Coimbatore)	P. Prabhakara Rao V. Venkateswara Rao	Late Shri M. Bhavani Sankar Rao, Vice-Principal and Secretary, Research Council, Agricultural College and Research Institute, Coimbatore. Shri T. Natarajan, Agronomist. Shri A.H. Sarma, Extension Specialist. Shri V. Raman, Secretary, Research Council. Shri K.R. Nagaraja Rao, Secretary, Research Council.
12. Assam (Shillong)	T.K. Gupta	Dr. S.R. Barooha, Director of Agriculture, Assam. Shri B.N. Duara, Joint Director of Agriculture, Assam.
13. Mysore (Bangalore)	K.A. Balakrishnan	Shri M.A. Wali, Director of Statistics, Shri B.V.S. Rao, Assistant Director of Statistics.
14. Kerala (Trivandrum)	V.N. Iyer	Shri M. Janardanan nair, Director of Agriculture. Shri N. Shankara Menon Director of Agriculture. Shri P.D. Nair, Director of Agriculture.

ABBREVIATIONS COMMON TO EXPERIMENTS ON ANNUAL AND PERENNIAL CROPS AND EXPERIMENTS ON CULTIVATORS' FIELDS.

Crops :- In the top left corner is given the name of the crop on which the experiment is conducted. Within brackets along side the crop is mentioned the season wherever the information is available.

Ref :- Against the sub-title 'reference' is mentioned the name of the State, the year in which the experiment is conducted and the serial number of the experiment for that year given in brackets.

Abbreviations adopted for States are as follows :—

1. A.P.—Andhra Pradesh
2. As.—Assam
3. Bh.—Bihar
4. Gj.—Gujarat
5. H.P.—Himachal Pradesh
6. J.K.—Jammu and Kashmir
7. K.—Kerala
8. M.P.—Madhya Pradesh
9. M.—Madras
10. Mh.—Maharashtra
11. Ms.—Mysore
12. Or.—Orissa
13. Pb.—Punjab
14. Rj.—Rajasthan
15. U.P.—Uttar Pradesh
16. W.B.—West Bangal

For the experiments conducted under the schemes sponsored by the Indian Concil of Agricultural Research like the Model Agronomic Experiments or the Simple Fertilizer Trials scheme no serial numbers have been given at the source as the data of these experiments were collected at the Headquarters (New Delhi). In such cases the abbreviations MAE, SFT or TCM are given in the brackets against the year in which the experiment is conducted.

Site :—Name of the Research Station is mentioned alongwith the place where it is located, e.g. Agri. Res. Stn. for Agricultural Research Station.

For Central Institutes, the corresponding standard abbreviations have been adopted e.g. I.A.R.I. for the Indian Agricultural Research Institute.

In case of the experiments conducted on cultivators' fields whether under an Indian Council of Agricultural Research scheme or by the State Government, the abbreviation (c.f.) is given along with the site or centre as, for example, Cuttack (c.f.).

Type :- Abbreviations used against this item are one or more than one of the following :—

C—Cultural ; D—Control of Diseases and Pests ; I—Irrigational ; M—Manurial ; R—Rotational ; V—Varietal and X—Mixed cropping. e.g. CM is to be read as Cultural-cum-manurial.

Object :- A statement of the objective of the experiment is given indicating the main crop and type of the experiment. In case of M.A.E., S.F.T. and T.C.M. experiments, the type to which the experiment corresponds is also given, e.g. Type V, Type A or B or C etc.

Results :- Information under this heading should be read against the following items :—

(i) General mean. (ii) S.E. per plot. (iii) Results of test of significance. (iv) Summary table(s) with S.E. of comparison(s).

Other abbreviations used in the text of experiments :

Nitro. Phos.—Nitro. Phosphate
Ammo. Phos.—Ammonium Phosphate
A/S—Ammonium Sulphate
A/S/N.—Ammonium Sulphate Nitrate
C/A/N—Calcium Ammonium Nitrate
A/N—Ammonium Nitrate
A/C—Ammonium Chloride
C/N—Chilean Nitrate
N—Nitrogen
P—Phosphate

K—Potash
B.M.—Bone meal
Mur. Pot.—Muriate of Potash
Pot. Sul.—Potassium Sulphate
Super—Super Phosphate
Zn. Sul.—Zinc Sulphate
C/S—Copper Sulphate
G.M.—Green Manure
F.Y.M.—Farm Yard Manure
F.W.C.—Farm Waste Compost
F.M.—Fish Manure
G.N.C.—Groundnut cake
M.C.—Municipal Compost
T.C.—Town Compost
lb.—Pounds
Srs.—Seers
B.D.—Basal dressing
C.L.—Cart load
ac.—Acre
Dical. Phos.—Dicalcium Phosphate

Under the item (ii) (b) of the sub-heading 'Basal conditions' in the text of the experiment, the respective farm/station at which the experiment was conducted has been referred to for the soil analysis. The soil analysis of the farm, with other details of the research station is given under the background information of each state. The information regarding the details of experimental stations may be obtained under the respective items as given below :

DETAILS OF EXPERIMENTAL STATIONS

A. General information :

(i) District and the nearest railway station with Latitude, Longitude and Altitude if available. General topography of the experimental area. (ii) Type of tract it represents. (iii) Year of establishment. (iv) Cropping pattern. (v) Programme of research.

B. Normal rainfall :

Average monthly rainfall specifying the period on which the figures are based.

C. Irrigation and drainage facilities :

(i) (a) Whether available, if so, since when. (b) Type of facilities available. (ii) Whether there is a proper drainage system.

D. Soil type and soil analysis :

(i) Broad soil type with depth, colour, and structure etc. (ii) Chemical analysis. (iii) Mechanical analysis.

E. No. of experiments :

No. of experiments conducted on different crops that have been included in the compendium.

Information under the following heads is to be read against the respective items as given below.

BASAL CONDITIONS

A. For experiments on annual crops :

(i) (a) Crop rotation if any. (b) Previous crop. (c) Manuring of previous crop. (State amount and kind). (ii) (a) Soil type. (b) Soil analysis. (iii) Date of sowing/planting. (iv) Cultural practices. (a) Preparatory cultivation. (b) Method of sowing/planting. (c) Seed-rate. (d) Spacing. (e) No. of seedlings per hole. (v) Basal manuring with time and method of application. (vi) Variety. (vii) Irrigated or Unirrigated. (viii) Post-sowing/planting cultural operations. (ix) Rainfall during crop season (x) Date of harvest.

B. For experiments on perennial crops :

(i) History of site including manuring and other operations. (ii) (a) Soil type. (b) Soil analysis. (iii) Method of propagation of plants. (iv) Variety. (v) Date and method of sowing/planting, (vi) Age of seedlings at the time of planting. (vii) Basal dressing with time and method of application. (viii) Cultural operations during the year. (ix) Inter cropping if any. (x) Irrigated or Unirrigated. (xi) Rainfall during crop season. (xii) Date of harvest.

C. For experiments on cultivators' fields :

(i) (a) Crop rotation, if any. (b) Previous crop. (c) Manuring of previous crop. (ii) Soil type in general. (iii) Basal manuring with time and method of application. (iv) Variety. (v) Cultural practices. (a) Preparatory cultivation. (b) Method of sowing. (c) Seed-rate. (d) Spacing. (e) No. of seedlings per hole. (vi) Period of sowing/planting. (vii) Irrigated or Unirrigated. (viii) Post-sowing/planting cultural operations. (ix) Rainfall during crop season. (x) Period of harvesting.

DESIGN

A. For experiments on annual crops :

(i) Abbreviations for design : C.R.D.—Completely Randomised Design. R.B.D.—Randomised Block Design , L. Sq.—Latin Square , Confd.—Confounded , Fact.—Factorial. (other designs and modifications of the above to be indicated in full.). (ii) (a) No. of plots per block. (b) Block dimensions. (iii) No. of replications. (iv) Plot size. (a) Gross. (b) Net. (v) Border or guard rows kept. (vi) Whether treatments are randomised (separately in each block).

B. For experiments on perennial crops :

(i) Abbreviations for designs : C.R.D.—Completely Randomised Design ; R.B.D.—Randomised Block Design ; L.Sq.—Latin Square ; Confd.—Confounded. (other designs and modifications of the above indicated in full). (ii) (a) No. of plots per block. (b) Block dimensions. (iii) No. of replications. (iv) No. of trees/plot. (v) Border or guard rows kept. (vi) Are treatments randomised.

C. For experiments on cultivators' fields :

(i) Method of selection of experimental sites. (ii) No. and distribution of experiments. (iii) Plot size. (a) Gross. (b) Net. (iv) Whether treatments are randomised.

GENERAL

A. For experiments on annual crops :

(i) Crop conditions during growth with date of lodging, if any. (ii) Incidence of pests and diseases with control measures taken. (iii) Quantitative observations taken. (iv) In case of repetition in successive years—(a) from what year to what year, (b) whether treatments were assigned to the same plots in the same manner every year, (c) reference to combined analysis, if any. (v) In case of repetition in other places (a) names of the places along with reference and (b) reference to combined analysis, if any. (vi) Abnormal occurrences like heavy rains, frost, storm etc., if any. (vii) Any other important information.

B. For experiments on perennial crops :

(i) Crop condition during the year. (ii) Incidence of pests and diseases with control measures taken. (iii) Quantitative observations taken. (iv) In case of repetition in successive years—(a) from what year to what year, (b) reference to combined analysis, if any. (v) Abnormal occurrences like heavy rains, frost, storm etc., if any. (vi) Any other important information.

C. For experiments on cultivators' fields :

(i) Crop condition during growth. (ii) Incidence of pests and diseases with control measures taken. (iii) Quantitative observations taken. (iv) In case of repetition in successive years, (a) from what year to what year, (b) whether treatments were assigned to the same plots in the same manner every year, (c) reference to combined analysis, if any. (v) In case of repetition in other places names of places alongwith reference. (vi) Abnormal occurrances, like heavy rains, frost, storm etc., if any. (vii) Any other important information.

TABLE OF CONVERSIONS TO METRIC UNITS

1 foot	=	304.8 mm.
1 acre	=	0.404606 hectare.
1 gram	=	0.035274 ounce = 0.085735 tola = 0.017147 chatak
1 kg.	=	2.20462 pounds=1.07169 seers.
1 metric tone	=	0.9842 ton = 26.7923 maunds.
1 maund	=	0.373242 quintal = 37.3242 kg.
1 lb./ac.	=	1.12085 kg./hectare.
1 md./ac.	=	92.23002 kg./hectare = 0.9223 quintal/hectare.
1 ton/ac.	=	2.51071 metric tones/hectare.
1 gallon (Imp.)	=	4.54596 litres.

GLOSSARY OF VERNACULAR NAMES OF CROPS

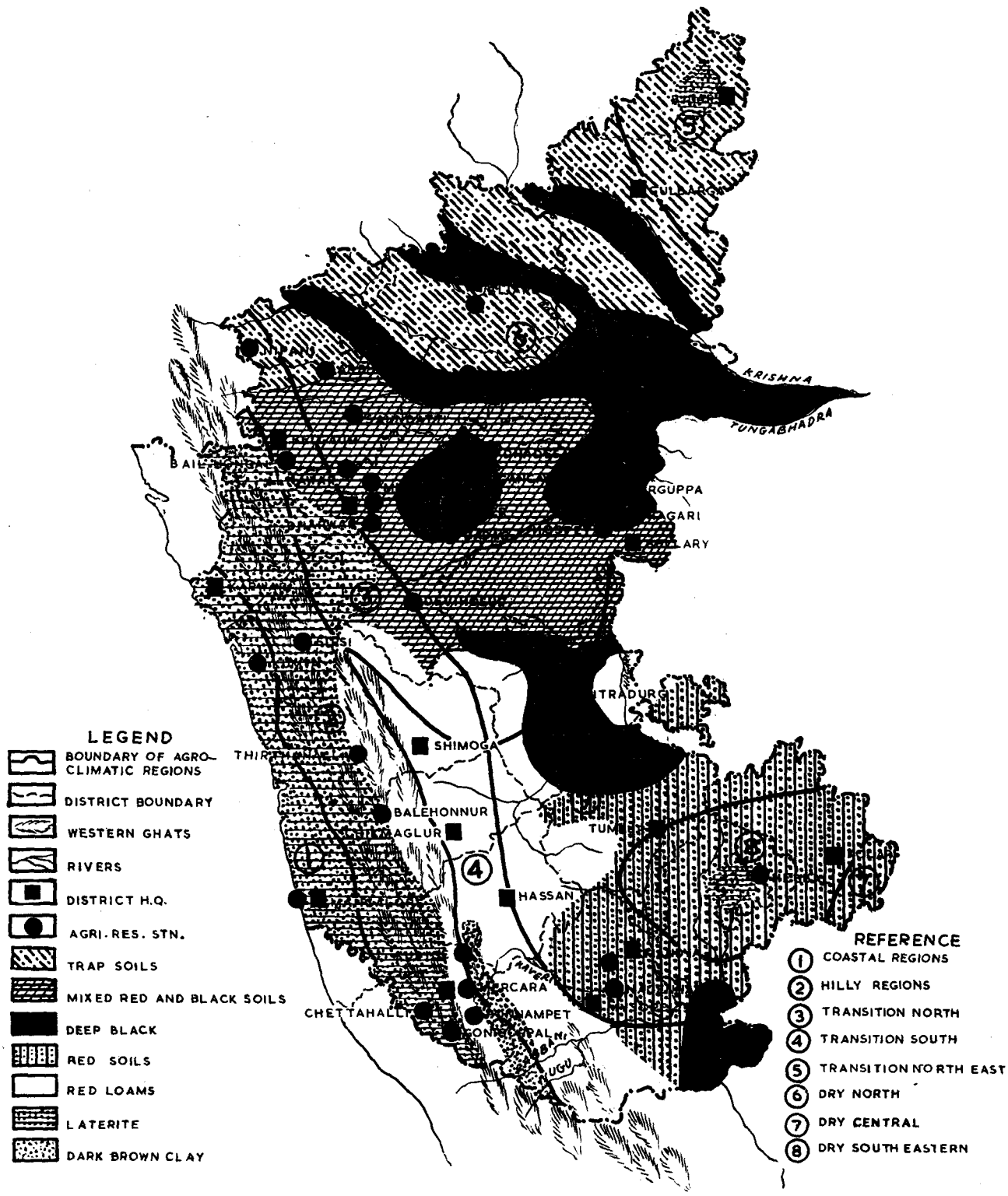
Sl. No	Name of Crop	Botanical Name	Assamese	Bengali	Oriya	Telugu	Tamil	Malayalam	Kannada	Marathi	Gujarati	Hindi	Punjabi
1.	Paddy	*Oryza sativa* L.	Dhan	Dhan	Dhano	Vadlu ; Biyyamu	Nel	Nellu	Bhatta	Bhat	Dangar	Dhan ; Chawal	Chaul ; Dhan
2.	Wheat	*Triticum sativum* Lamk *Triticum aestivum* L.	Gaum ; Ghehu	Gam	Gaham	Godumalu	Kothumai	Gothambu	Godhi	Gahu	Ghahu	Gehon	Kanak
3.	Jowar	*Andropogon Sorghum*	—	Jowar	Juara	Jonna	Cholam	Cholam	Jola	Jowari Jondhla	Jowari ; Juar	Jowar ; Jaur	Jowar
4.	Maize	*Zea mays* L.	Gom dhan	Bhutta	Macca	Mokkajonna	Makka-cholam	Cholam Makka-cholam	Musukina Jola	Makka	Makkai	Makka	Makki ; Makayee
5.	Bajra	*Pennisetum typhoides*	—	Bajra	Bajra	Sajja	Kambu	Kambu	Sajje	Bajri	Bajri	Bajra	Bajra
6.	Ragi	*Eleusine coracana* Gaertn	—	Marwa	Mandia	Ragi ; Chodi	Keppai ; Ragi	Muthari ; Ragi	Ragi	Nagli ; Nachni	Nagli ; Bavto	Ragi ; Mandika ; Marwah	Mandhuka ; Mandhal
7.	Tenai	*Setaria italica* Beauv	—	Kaon	Kanghu ; Kangam Kora	Korra	Tenai	Thena	Navane	Kang ; Rala	Kang	Kakum	Kangni
8.	Potato	*Solanum tuberosum* L.	Aloogutí	Alu	Bilati Alu	Bangala-dumpa, Urlagadda	Urulai Kizhangu	Urala kizangu	Alu gedde	Batata	Aloo ; Batata	Aaloo	Alu
9.	Sweet Potato	*Ipomoea batatas* Lam.	Mitha aloo	Misthi alu	Kandamula	Chilagada-dumpa	Seeni kilangu	Cheeni kizangu	Genasu	Ratalu	Shakaria	Shakar-kandi	Shakar-kandi
10.	Tur	*Cajanus cajan* Milsp, *Cajanus indicus* sprengl	Arhar	Arahar	Harad	Kandulu	Thuvarai	Thuvaran Payaru	Thogari	Tur	Tuver	Arhar	Harhar ; Arhar
11.	Bengal gram	*Cicer arietinum* L.	Butmah	Chola	Boot	Senagalu	Kadalai ; Sundal Kadalai	Kadala	Kadale	Harbara	Chana	Chana	Chhole Chana
12.	Horse gram	*Dolichos biflorus* Roxb.	—	Kulthi-Kalai	—	Vulavalu	Kollu ; Kaanam	Muthira	Huruli	Kulthi Hulga	Kulthi	Kultha	Kulthi
13.	Green gram (Mung)	*Phaseolus aureus* Roxb.	Magumah	Sonamug	Mung	Pacha-pesalu	Pachaipayru Pasipayaru	Cerupayaru Payaru	Hesaru	Mug	Mag	Moong	Moong, Mug
14.	Black gram	*Phaseolus mungo* var. *radiatus* Linn.	Matimah	Mashkalai	Biri	Minumulu	Uzhundu	Uzhunnu	Uddu	Udid	Adad, Udad	Urd	Mash, Urd

GLOSSARY OF VERNACULAR NAMES OF CROPS—*contd.*

Sl. No.	Name of Crop	Botanical Name	Assamese	Bengali	Oriya	Telugu	Tamil	Malyalam	Kannada	Marathi	Gujarati	Hindi	Punjabi
15.	Sugarcane	*Saccharum officinarum* L.	Kuhiar	Akh	—	Cheruku	Karumbu	Karimbu	Kabbu	Oos	Sherdi	Ganna ; Kamad ; Naishakar	Kamad ; Ganna ; Eakh
16.	Cotton	*Gossypium* spp.	Kapah	Karpas, Tula	Kapa	Pratti	Paruthi	Paruthi	Hatti	Kapus	Kapas	Kapas	Kapah
17.	Tobacco	*Nicotiana tabacum* L.	Dhopat	Tamak	Uanpatra	Pogaku	Pugayilai	Pukayila	Hoge Sappu	Tambaku	Tamaku	Tambaku	Tamaku Tambaku
18.	Groundnut	*Arachis hypogaea* L.	China badam	Cheena badam	China badam	Nelashanga	Nilakadalai	Nilakkadala	Kadale kayi	Bhuimug	Bhoising Magafali	Mungphali	Mungfali
19.	Safflower	*Carthamus tinctorius* L.	Kusum	Kusum	Kusum	Kusuma	Kusumba	Chand-rukam	Kusube	Karid	Kosambi	Kusum or Barre	Kasumba
20.	Chillies	*Capsicum frutescens* L.	Jalak ya	Lanka ; Marich	Lanka	Mirapakaya	Milakai	Mulaku	Menasina Kayi	Mirchi	Marcha	Lalmirchi	Lal mirch
21.	Lucerne	*Medicago sativa* L.	Lucerne ghah	Lucern	Lusarna	Garam-Masal	Kuthirai-masal	Lucerne	Kudure masale	Lasun ghas ; Vilaiti ghavat	Gadab Rajko	—	Lusan
22.	Paragrass	*Brachiaria mutica* ; *Panicum purpurascens* Raddi	Para ghah	Nardul	Ghara ghasa	Enumugaddi	Neerpul	—	Mauritius hullu	Para gavat	Para ghas	Para ghas	Para ghah
23.	Orange	*Citrus reticulata*	Kamala	Kamala lebu	Santra	Kamalaph-alamu	Kamala ; Koorg Kudagu orange	Arangu	—	Santra	Santra Narangi	Santra	Santra
24.	Coffee	*Coffea arabica* L.	Coffee	Kafi	Kofi	Coffee	Kappi	Coffee	Kafi	Kafi	Kafi	Coffee	Kofi
25.	Arecanut (Arecapalm)	*Areca Catechu* L.	Tamol	Supari	Gua	Poka	Kamuhu ; Pakku	Kavungu	Adike	Supari	Sopari	Supari	Supari

CONTENTS

MAP OF MYSORE STATE SHOWING AGRO-CLIMATIC REGIONS, SOILS, AGRICULTURAL RESEARCH STATIONS ETC.



MYSORE

1. GENERAL

Mysore State is situated on the western side of the Central Deccan plateau and extends from 11° to 18° north latitude and from 74° to 78° east longitude. It is bounded on the west by the Arabian sea, on the north by Maharashtra, on the east by Andhra Pradesh and Madras, and on the south by Madras and Kerala States. It has an area of 74,823 square miles divided into nineteen administrative districts. The classification the of area according to utilization is given in Table I below.

TABLE 1

Land utilization statistics of Mysore (1958—59)

(Area in '000 acres)

Reporting area as per village papers.	46,275
Land under forests	6,674
Barren and unculturable land	2,187
Land put to non-agricultural use	1,985
Culturable waste	1,638
Permanent pastures and other grazing land	4,369
Land under miscellaneous tree crops	914
Current fallows.	2,196
Other fallow land	1,170
Net area sown	25,142
Total cropped area	26,031
Area sown more than once.	889

2. TOPOGRAPHY

Physiographically the State can be divided broadly into three distinct regions : Coast land region, Ghat region on the *malnad*, and the eastern plateau on the *maidan*.

The coast-land is about 200 miles long and 8 to 20 miles broad in the north and 30 to 40 miles wide in the south. Among the many small torrential streams and rivers which drain the northern part, the prominent ones are the Kalinadi, the Gangavati, the Bedti, the Tadri and the Sharavati. The southern area is drained by the Netravati and several other streams.

The Ghats run like a back bone across the state from the north to the south and range in elevation from 1,000 ft. in the middle to 8,000 ft. in the south. Most of the rivers have their origin in the Ghats and flow down these ravine riddled slopes creating a most picturesque effect.

The *malnad* a literally hill country, is confined to the tracts boundering or resting on the Western Ghats. It is a land of magnificient hills and forests, presenting the most diversified and charming scenery.

The eastern region is a rolling plateau, popularly known as the *maidan*. Its northern part is about 1,000 ft. to 2,000 ft. above sea level, while the eastern part rises to as much as 3,000 ft. It is drained by three main river systems whose waters flow into the Bay of Bengal, viz., the Tungabhadra, the Cauveri and the eastern group of Pennar Palar rivers.

3. SOIL TYPES AND AGRO-CLIMATIC REGIONS.

Mysore State has essentially a tropical monsoon climate. Bulk of the rainfall is received from the south-west monsoon. The annual rainfall in the state ranges from about 200 inches

in the western Ghats to about 15 inches in the eastern and north-eastern parts, the average being 47 inches. The climate is mild in the plateau area. The minimum and maximum temperatures in shade during the hottest months are 60° F and 100° F respectively. The western Ghats area has a higher humidity while the table land has low humidity.

The main soil groups found in the state are (1) the coastal alluvium, (2) the laterite soils, (3) the red soils, (4) mixed red and black soils and (5) the black soils. The coastal soils are sandy with very low clay or organic matter content. The soils are poor in organic matter and essential plant nutrients and for rice cultivation liberal quantities of green leaf and ash are applied. The laterite soils are mainly concentrated in the area to the east of the coastal alluvium. The laterite soils exhibit a loamy or clayey surface with a lot of pellet concretions of varying thickness followed by laterite horizons. The pH value of these soils ranges between 5.0 to 6.0. These soils are very rich in organic matter and nitrogen but the base contents are rather low. On a rough estimate Mysore state has about 21,500 square miles under red soils. The colour of these soils changes from place to place bright red to yellowish brown and is dependent on the presence of hydrated oxides of iron. These soils permit free lateral and downward movement of water. The soils are poor in organic matter, nitrogen and available P_2O_5 but moderately supplied with potash. Mixed red, yellow and grey soils are generally soils formed from the underlying parent rock which is mostly granitic. The structure of surface soil varies in the first six inches from stony to sandy and loamy. Black soils are mainly found in the districts of Bijapur, Gulbarga, Bidar, Belgaum, Dharwar and Raichur and are akin to the black soils found in the other states of Deccan. These are either shallow, light coloured soils of the up-lands or the deep, clayey soils of the low lands. The deep soils are mainly transported and the Bhine and the Krishna rivers flow mainly through this soil belt. The black soils have high clay content and water holding capacity. The pH value ranges from 7.5 to 8.5 and sometimes slightly higher. These are very fertile, well supplied with P_2O_5 and K_2O and grow good crops of *jowar* and cotton. Based on variation in climate and soil, the state can be divided into the following agro-climatic regions.

1. Coastal Region :— It is a narrow strip running between the high mountains on one side and the sea coast on the other. There are a number of small streams starting from the Western Ghats and emptying into the Arabian sea. The soils are coastal alluvium in low-lying areas and gravelly in the high-lying areas. The annual rainfall is over 100 inches. Monsoon starts early in the southern regions and few days later in the northern region. It is restricted to the period of May to October. The districts of South Kanara and North Kanara come under this region. The main crop of the region is paddy which is grown on the low lying areas. In the high lying areas cashewnut is grown after forests are removed. In South Kanara, three crops of paddy are commonly taken wherever irrigational facilities exist the seasoans being May-October, October-January and January-April. Pulses like horsegram, greengram, blackgram and cowpea are grown after harvests of paddy. Sweet potato is grown in the high level lands during monsoon. Vegetables are grown throughout the year. Coconut, arecanut and cashewnut are the pernnial crops grown besides mango, lemon etc. Spice crops like chillies, ginger and pepper are also grown.

2. Hilly Region : This includes the Western Ghat region running from north to south almost parallel to the sea coast. It is comparatively narrower in the north and broader in the south. Soils are mostly lateritic all over the region. Rainfall varies from 60″ to 250″. The region sloping towards the sea-coast is almost covered with forests while that sloping eastwards is inter-spread with plantation crops although the entire area is clothed with thick forests. The plantation crops consist of coffee, cardamom, pepper, arecanut and oranges. The districts of Coorg, western portions of Chikmagalur and Shimoga, western portions of Hassan Dharwar and Belgaum and eastern South Kanara and North Kanara come under this region. Paddy is the main crop in the region, mostly grown under rainfed conditions. Usually two crops are taken. Coffee is the important plantation crop in the districts of Coorg, Chikmagalur and Hassan. Tea, to a small extent is also grown. Orange is confined to the

southern parts of this region. In Chikmagalur, paddy is rotated with sugarcane. *Jowar, ragi*, cotton, groundnut, oilseeds are the other crops grown in Shimoga district. Coconut is also grown.

3. Transition North : It lies to the east of the hilly regions where rainfall goes on decreasing very fast as we go east. Natural vegetation is tall grass with sparge forest. The tract lying immediately next to hilly region about 8 to 10 miles in width, where the rainfall is 40" to 60", is uncertain for growing cereal crops. In the esatern strip, however, where the rainfall is 25" to 40", the area is well developed and a variety of crops are grown. This region lies in Dharwar and Belgaum districts. The soil is reddish to medium black. Very high standard of cultivation is observed in this tract. Important crops grown are *kharif jowar*, drilled paddy, groundnut, cotton, chillies and tobacco. Sugarcane is also an important crop in this region.

4. Transition South :—The location of this region is similar to transition North, but it is on the southern side of the state with altogether different soil and climatic conditions and cropping pattern. The eastern portions of Shimoga and Chikmagalur, the central portion of Hassan and almost the entire district of Mysore come under this region. Rainfall and natural vegetation are similar to the north. Soils are sandy. Rainy season starts much earlier. Pre-monsoon showers are more certain than in the transition north. '*Kar*' Paddy is taken in low lying areas. Drilled paddy is common in the northern parts. Sea Island cotton is likely to become an important crop in this region in the years to come.

5. Transition North-East : The region forms the north eastern corner of the state, comprising the districts of Bidar and north castern part of Gulbarga district. The tract receives more than 30" rainfall, received mostly during the months of September to November. Soil is lateritic or black cotton. The mixed soils are quite productive. Sugarcane, pulses, and *jowar* are important crops of the tract. In low lying areas, paddy is taken.

6. Dry North : It is a vast area lying between transition north-east and transition north, comprising Bijapur, Gulbarga, Bellary and eastern portion of Dharwar, Raichur and Belgaum and north western portions of Chitradurga district. Soils are mostly black cotton with few patches of sandy soils here and there. It is a dry tract receiving about 20" rainfall. Rainfall is more assured during September—October. In lighter soils *kharif* crops are taken. In black soils cotton, *jowar*, *bajra*, groundnut, wheat and gram are commonly taken. If early rains are received more *kharif* crops are taken especially in light and medium soils. Otherwise major area is covered under *rabi* crops. The tract is a typical dry farming area.

7. Dry Central : It is the tract lying to the east of transition south, comprising eastern portion of Chikmagalur and Hassan districts, parts of Tumkur and southern portion of Chitradurga districts and almost the entire district of Mandya and the eastern portion of Kolar. In the Chamel area of Mandya, paddy and sugarcane are grown in rotation. Otherwise two crops of paddy are taken or a green manure crop is raised followed by paddy. The soils are sandy to loamy having poor retentive capacity. Some of the low lying patches are alkaline. The tract receives 20" to 25" rainfall. It is a scarcity tract, failure of crops being quite common. The crops grown are mainly *ragi* and other millets. Horsegram and castor are also grown in this tract quite commonly. Coconut and arecanut are commonly grown in valleys.

8. Dry South Eastern : It is plateau, consisting of, Kolar, Bangalore, south western portions of Tumkur and north western portions of Mandya. Soils are mostly red-loams with fairly good moisture retentive capacity. Rainfall is about 30 inches. More rains are received during September and October months. Important crop is *ragi*. Under tanks, paddy is commonly grown especially in summer. Vegetables and fruit crops are also important in this region. Arecanut is commonly grown under irrigation in this region.

4. IRRIGATION

The state has a total irrigated area of 1962 thousand acres. The area irrigated through different sources is as follows :

TABLE 2

Area irrigated (1958—59)

Source	Area in '000 acres	%
Government canals	460	23.9
Private canals	13	0.7
Tanks	859	44.7
Wells	304	15.8
Other sources	286	14.9
Total	1,922	100.0

5. AGRICULTURAL PRODUCTION AND NORMAL CROPPING PATTERN.

The important crops of the state are paddy, *jowar*, *ragi* and cotton. Groundnut, *bajra* and pulses also cover large area. Paddy-green manure-paddy rotation is generally followed in the state.

The figures for area, production and average yield per acre of various crops in the state are given in Table 3 below :

TABLE 3

Area and production of principal crops (1958—59)

Crop	Area in '000 acres	Proudction in '000 tons	Yield in lb./ac.
Rice	2,471	1,318	1195
Jowar	5,910	1,042	338
Bajra	1,279	123	215
Maize	26	9	775
Ragi	2,528	801	710
Small millets	1,167	133	255
Wheat	766	67	196
Barley	3	1	747
Gram	383	44	257
Tur	718	70	218
Other pulses	2,182	209	215
Groundnut	2,332	690	665
Castor	102	12	264
Sesamum	170	14	184
Rapeseed and mustard	21	2	213
Linseed	104	8	172
Cotton	2,660	376*	55
Sugarcane	146	3,706	56859
Mesta	67	66**	394

* Thousand bales of 392 lb. each.
** Thousand bales of 400 lb. each.

6. AGRICULTURAL RESEARCH AND EXPERIMENTATION

There are 1293 experiments reported from the State of Mysore for the period 1954—1959. The distribution of the experiments crop wise and type wise is given in Table 4 below; Besides these, there are 167 experiments. reported under the Model Agronomic Experiments and Simple Fertilizer Trial Schemes of the Indian Council of Agricultural Research and experiments on cultivators' fields included in the compendium.

TABLE 4

Distribution of the reported experiments crop-wise and type-wise

Crop	M	MV	C	CM	CMV	CV	D*	I**	Total
Paddy	165	4	50	23	7	4	29	4	286
Wheat	40	—	6	6	—	—	4	9	65
Jowar	139	1	35	25	—	6	21	8	235
Maize	1	—	—	—	—	—	—	11	12
Ragi	19	—	—	—	—	—	—	—	19
Korra	5	—	—	—	—	—	—	—	5
Bajri	—	—	2	1	—	—	—	—	3
Sweet potato	7	—	18	—	—	—	3	2	30
Urid	1	—	—	—	—	—	—	—	1
Tur	9	—	—	—	—	—	—	—	9
Gram	11	—	—	4	—	2	—	6	23
Sugarcane	56	—	26	5	—	—	7	17	111
Cotton	79	—	23	11	4	8	8	15	148
Tabacco	14	—	4	8	—	1	2	—	29
Groundnut	68	—	15	—	—	—	3	—	86
Safflower	4	—	—	—	—	—	—	—	4
Chillies	1	—	—	1	—	—	—	—	2
Arecanut	16	—	—	—	—	—	—	—	16
Paragrass	4	—	—	—	—	—	—	—	4
Lucerene	5	—	—	—	—	—	—	—	5
Grass	—	3	—	—	3	8	—	—	14
Orange	13	—	22	—	—	—	5	10	50
Coffee	39	—	16	12	—	—	—	—	67
Rotational	—	—	—	—	—	—	—	—	29
Mixed crop	—	—	—	—	—	—	—	—	30
	698	8	217	96	14	29	82	82	1293

D* includes D, DV, DC, DVC, DI etc.
I** includes I, IM, IMV, IC, ICM etc.

Experiments on paddy and *jowar* account for 23.3 % and 19.2 % of the total number of experiments respectively, while 11.9 % of the experiments are conducted on cotton. Most of the experiments are laid out in randomised blocks design covering about 77.6 % of the total number of experiments. Experiments to the extent of 11.9 % and 5.8 % are laid out in split-plot and confounded designs. The remaining experiments are in Latin Square Design.

The maximum number of replications in an experiment is 18 while there are some single replicate trials also. The net area of ultimate plot used, ranges from 40 sq. ft. to 7140 sq. ft. The maximum number of plots in a block of a simple R.B.D. is as high as 64.

PARTICULARS OF RESEARCH STATIONS AND SOIL ANALYSIS

1. Agricultural Research Station, Alnavar.

A. General information :

(i) In Dharwar taluka of Dharwar district, Lat. 17° N, Long. 75°E, Alt. 1849'. Small paddy terraces of varying slopes. (ii) It represents Malnad tract. (iii) Established in 1948. (iv) Paddy—sugarcane is the normal cropping pattern. (v) To study the possibilities of improving the yield of sugarcane crop in the malnad tract where the crop is taken as a rainfed crop with one or two irrigations.

B. Normal rainfall in mm. :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
197	479	205	95	181	23	6	1	1	3	40	118	1349

(Av. is based on 14 years rainfall data).

C. Irrigation and drainage facilities :

(i) (a) Irrigation facilities are available since 1948. (b) Well and a small tank. (ii) Proper drainage system exists.

D. Soil type and soil analysis :

(i) Red to medium black soil to a depth of 5" to 6", coarse to medium. (ii) Chemical analysis : pH value 6.76, calcium carbonate ($CaCO_3$) 2.0%, organic carbon 1.13%, total nitrogen 0.114%, available P_2O_5 4.91 mgms/100 gms, total soluble salts 0.042%. (iii) Mechanical analysis– N.A.

E. No. of experiments :

Sugarcane—24. Total=24.

2. Agricultural Research Station, Annigeri.

A. General information :

(i) In Navalgund taluka of Dharwar district. Lat. 15.8°N, Long. 75.3°E and Alt. 2069'. The lands are perfectly levelled. (ii) It represents black cotton soil in semi arid zone of Dharwar district. (iii) Established in 1947. (iv) Cereals are usually rotated with pulses or oilseeds. (v) The programme of research is to evolve improved strains in the commonly grown crops of the semi arid tract, viz. *kharif jowar, tur, rabi jowar,* wheat, gram and safflower by adopting scientific plant breeding methods.

B. Normal rainfall in mm. :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
72	80	44	149	87	9	15	5	3	17	54	111	646

(Average of 5 years from 1958 to 1962).

C. Irrigation and drainage facilities :

(i) (a) and (b) Nil. (ii) No.

D. Soil type and soil analysis :

(i) Deep black soil, 10' to 15' deep, heavy deep cotton soil. (b) Chemical analysis : pH 7.9, total soluble salts 0.27 mill—mhos/cm, organic carbon 0.24%, available P_2O_5 6.05 lb./ac, available K_2O 435 lb./ac. (c) Mechanical analysis—N.A.

E. No. of experiments :

Groundnut—4, Mixed cropping—2. Total=6.

3. Govrnment Agricultural Farm, Arbhavi.

A. General information :

(i) In Gokak taluka of Belgaum district. Lat. 16°12'N, Long. 74°-12 E and altitude 1920'. (ii) Transition tract. (iii) Established in 1947. (iv) Cotton—*jowar*—gram (pulses), groundnut and cotton—*jowar* and maize and cotton—*jowar* are the normal cropping pattern. (v) N.A.

B. Normal rainfall in mm. :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
46	93	53	123	130	38	2	1	1	7	41	88	623

(The rainfall is based on the period 1945—1961).

C. Irrigation and drainage facilities :

(i) (a) Irrigation facilities are available since 1947. (b) N.A. (ii) No.

D. Soil type and soil analysis :

(i) Medium black soil, 2' to 6" deep, clayey in structure. (ii) Chemical analysis and (iii) Mechanical analysis—N.A.

E. No. of experiments :

Paddy—5, Wheat—6, *Jowar*—6, Maize—12, Gram—6, Sugarcane—11, Cotton—7 and Chillies—1. Total = 154.

4. Agricultural Research Station (Kumta Cotton Improved Scheme), Bagalkot.

A. General information :

(i) In Bagalkot taluka of Bijapur district. Lat. 16°N, Long. 76°E and Alt. 1765'. Levelled land with slight slope towards north. (ii) Eastern dry tract. (iii) Established in 1951. (iv) *Jowar*—cotton. (v) To evolve a variety suitable for this tract equal to B C. 1 in earliness and yield and superior to it in ginning outturn.

B. Normal rainfall in mm. :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
63	135	38	21	179	7	—	—	2	—	59	65	569

(Rainfall data for 1961—1962).

C. Irrigation and drainage facilities :

(i) and (ii) Nil.

D. Soil type and soil analysis :

(i) Medium black soil upto 12". (ii) Chemical analysis pH : 9.3, total souble salt 0.41, organic carbon 0.31, available P_2O_5 1.6 lb./ac. available K_2O 42 lb./ac. (iii) Mechanical analysis—N.A.

E. No. of experiments :

Cotton—1. Total=1.

5. Agricultural Research Station, Bailhongal.

A. General information :

(i) In Bailhongal taluka of Belgaum district. Lat. 16° N, Long. 75°.5'. E, Alt. 2231'. Levelled land. (ii) It represents transitional tract of Northern parts of Mysore State. (iii) Started in 1947. (iv) (a) Wheat—*jowar*—groundnut, (b) [Groundnut—gram or wheat, (c) *Chinamug*—gram or wheat and (d) Groundnut—*hurali* or gram are different rotations followed in the tract. (v) Breeding trials, manurial and other agronomic experiments are generally conducted.

B. Normal rain fall in mm :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
98	180	79	78	176	37	—	—	2	6	39	123	818

(Average of 10 years from 1953—1962).

C. Irrigation and drainage facilities :

(i) and (ii) Nil.

D. Soil type and soil analysis :

(i) Red as well as slightly light black soils, varies from 1′ to 3′, coarse to medium in structure (ii) Chemical analysis and (iii) Mechanical analysis—N.A.

E. No. of experiments :

Wheat—6, *Jowar*—26, Gram—8, Groundnut—6, Total=46.

6. Central Coffee Research Institute, Coffee Research Station, Balehonnur.

A. General information :

(i) In Koppa taluka in Chikmagalur district, 63 miles from Kadur railway station. Undulating, moderately sloping towards north to north-east and south to south-east. (ii) South-west monsoon tract of the Western Ghat range in Chikmagalur district. (iii) Established in 1926. From 1926 to 1946 under Government of Mysore, Agricultural Department. In 1946 handed over on loan to Coffee Board for expanded research. (iv) Coffee. (v) To conduct research on different aspects of coffee.

B. Normal rainfall in mm :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
450	1186	615	214	269	59	9	—	4	26	149	190	3171

(Average of 10 years from 1953 to 1962).

C. Irrigation and drainage facilities :

(i) (a) and (b) Rainfed reservoirs. (ii) Natural drainage exists.

D. Soil type and soil analysis :

(i) Red earth to lateritic, dark brown to dark reddish brown in colour 20″ deep. (ii) Chemical analysis : depth—0.9″, moisture 7.36 %, loss on ignition 14.53 %, pH (water) 6.0, pH (KCl) 5.4, organic carbon 2.5 %, total nitrogen 0.1388%, total P_2O_5=0.2%, total K_2O 0.25%, insoluble in HCl 76.32 %, total Mg 0.1185 %, total Ca 0.1869 %, available P_2O_5 0.0045 %, available K_2O 0.008 %. (iii) Mechanical analysis : clay 27.16%, silt 8.44%, fine sand 36.3% and coarse sand 16.45%.

E. No. of experiments :

Coffee—38, Total=38.

7. Bhadra Estate, Balehonnur.

A. to *D.*

Information—N.A. Experiments are conducted by Coffee Res. Stn., Balehonnur. It is a private farm.

E. No. of experiments :

Coffee—6, Total=6.

8. Soil Conservation Research Station (Soil Conservation Research Demonstration and Training Centre), Bellary.

A. General information :

(i) In Bellary taluka of Bellary district. 8 miles from Bellary railway station. Slopy land. (ii) Black cotton soils of arid tract. (iii) Established in 1956. (iv) and (v) N.A.

B. Normal rainfall in mm :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
50	46	501	106	118	31	13	—	—	6	27	60	958

(Average based on the rainfall data from 1956 to 1964).

C. Irrigation and drainage facilities :

(i) (a) and (b) No. (ii) There is no difficulty for surface drainage.

D. Soil type and soil analysis :

(i) Black soils, 18″ to 72″ deep, black and cloddy. (ii) Chemical analysis : total nitrogen 0.02 to 0.04 %, total P_2O_5 0.05 %, pH 8.6 to 9.6, total exchange capacity 1me/gm., organic carbon 0.2 to 0.6 %, available P_2O_5 6 to 10 lb./ac. (iii) Mechanical analysis : moisture 7.46, $CaCO_3$ 12.81, coarse sand 9.88, fine sand 10.90, silt 12.75, clay 45.88, loss on solution 1.11.

E. No. of experiments :

Jowar—12, *Kurra*—2, Cotton—6, Groundnut—8, Total=28.

9. Agricultural Research Station, Bijapur.

A. General information :

(i) In Bijapur taluka of Bijapur district. Lat. 15.2°N, Long. 75.76°E, Alt. 1944. Contour bunds have been constructed at the vertical fall of 3′ throughout the entire area of the farm. (ii) Sub-tropical dry arid zone. (iii) Established in 1933. (iv) *Rabi jowar*, wheat, gram, safflower, linseed, groundnut, *bajri*, etc. are different crops raised in the tract. (v) To evolve improved varieties of cereals, pulses and oil seeds and agronomic experiments.

B. Normal rainfall in mm :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
84	62	83	123	87	23	3	3	4	7	18	36	533

(Average of 25 years)

C. Irrigation and drainage facilities :

(i) and (ii) Nil.

D. Soil type and soil analysis :

(i) Moderate black, 9″ to 15″ deep. Granular in structure. (ii) Chemical analysis and (iii) Mechanical analysis—N.A.

E. No. of experiments :

Wheat—18, *Jowar*—18, *Bajra*—3, Gram—1, Groundnut—19, Mixed copping—18. Total=77.

10. Coffee Research Sub-Station, Chethalli.

A. General information :

(i) In Somwarpet taluka of Coorg district. 68 miles from Tellicherry railway station. Hilly slopes with moderate to steep gradient. (ii) Typical south-west monsoon tract in western ghats. (iii) Established in 1947. (iv) Annual cropping, on one year old wood depending on satisfactory blossom showers in March—April. (v) To conduct fundamental and agronomic research.

B. Normal rainfall in mm :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
320	708	286	98	217	62	8	3	6	15	107	195	2025

(Average of 10 years from 1954 to 1963).

C. Irrigation and drainage facilities :

(i) (a) and (b) Nil. (ii) Yes.

D. Soil type and soil analysis :

(i) Sandy to gravel loams, fairly deep with red to black colour. (ii) Chemical analysis : pH 5.5 to 6.0, moisture 3.66 %, loss on ignition 6.39 %, total nitrogen 0.118 %, organic carbon 2.480 %, total P_2O_5 0.024 %, total K_2O 0.32 %, total CaO 0.268 %, available P_2O_5 0.00028 %, available K_2O 0.0056 %. (iii) Mechanical analysis : moisture 3.08%, clay 27.45%, silt 9.35 %, fine sand 22.94%, coarse sand 33.15%.

E. No. of experiments :

Coffee—23, Total=23.

11. Regional Fruit Research Station, Chethalli.

A. General information :

(i) In Somwarpet taluka of Coorg district. Lat. 12°-30′N, Long. 75° 80′E, Alt. 3200′. The land is undulating with slopes towards all directions. (ii) Malnad area. (iii) Established in 1953. (iv) Perennial trees of citrus and other tropical and sub-tropical fruits. (v) Introduction of fruit varieties, root stock trials, irrigation trials, cultural trials, breeding work, mixed planting trials etc. are the various items in the programme of research.

B. Normal rainfall in mm :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
56	999	347	83	115	32	—	9	18	9	158	206	2072

(The rainfall data is for 1961-1962).

C. Irrigation and drainage facilities :

(i) (a) and (b) Rainfed normally, however, a small tank is nearby which is used for irrigation. (c) Drainage exists.

D. Soil type and soil analysis :

(i) Laterite deep soil greyish brown in colour and loamy in structure. (ii) Chemical analysis.

Depth of collection	0—9″	9″—18″
Moisture (on air dry basis)	2.8450	3.1016
Loss on ignition	10.6100	8.5923
SiO_2	79.0427	79.7850
Al_2O_3	11.5436	12.0629
Fe_2O_3	6.9708	9.0361
CaO	0.9036	0.6014
MgO	0.1088	0.5435
Total P_2O_5	0.0933	0.0494
Total K_2O	0.2624	0.1328
Available P_2O_5	0.0013	0.0039
Available K_2O	0.0055	0.0082
Organic Carbon	1.8660	1.2785
Nitrogen	0.1882	0.1280
pH	6.2500	5.8500

(iii) Mechanical analysis—N.A.

E. No. of experiments :

Orange —18, Total=18.

12. Agricultural Research Station, Dhadesagur.

A. to *D.*

Information—N.A.

E. No of experiments :

Paddy—14, Wheat—8, *Jowar*—24, *Tur*—1, Sugarcane—3, Cotton—17, Groundnut—1, Total=68.

13. Agricultural Research Station (Agricultural College Farm), Dharwar.

A. General information :

(i) In Dharwar taluka of Dharwar district. Lat. 15.27°N, Long. 76.6°E, Alt. 2225′. The lands of the central portion of the farm area are in level and uniform in its characters. The lands at the frings of the central area are undulating and lowlying and soil conservation measures have been undertaken to check soil erosion. (ii) Transition tract of Dharwar division. (iii) Established in 1904. (iv) *Kharif jowar* followed by cotton. (v) Programme of research is to evolve a variety of *'Desi'* cotton superior to *Jayadhar* in yield and ginning percentage besides being resistant to wilt disease and agronomic experiments.

B. Normal rainfall in mm :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
113	179	90	9	139	34	4	—	2	3	44	124	828

(Average of 10 years from 1953 to 1962).

C. Irrigation and drainage facilities :

(i) (a) and (b) Nil. (ii) Natural drainage system exists.

D. Soil type and soil analysis :

(i) Medium black soil, 3′ to 3½′ deep while clayey and reddish black soils are 2′ to 2½′ deep and porous. (ii) Chemical analysis : pH 7.3, available P_2O_5 24.1%, $CaCa_3$ 6.26%, total nitrogen 0.083%. (iii) Mechanical analysis : sand 5.6%, silt 9.3%, clay 62.5% and moisture 8.2%.

E. No. of experiments :

Paddy—6, Wheat—8, *Jowar*—46, *Urid*—1, Gram—3, Sugarcane—4, Cotton—26, Groundnut—25, Safflower—4, Chillies—1, Grass—11, Rotational—7, Mixed cropping—13, Total =155.

14. Agricultural Research Station, Gadag.

A. General information :

(i) In Gadag taluka of Dharwar district. Lat 15.25° N, Long. 75.38° E and Alt. 2123′. (ii) Eastern dry tract of Dharwar or American *Rabi* cotton zone of Mysore fairly flat with gentle slopes towards the west. (iii) Established in 1957. (iv) *Kharif jowar* and cotton, *rabi jowar* and cotton, Groundnut and cotton. (v) To evolve American cotton variety superior to *Laxmi* cotton in fibre length and strength, with better resistance to black arm and red leaf diseases, keeping rest of the agronomic qualities on par with *Laxmi* cotton.

B. Normal rainfall in mm :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
77	76	75	145	151	35	8	—	—	—	39	92	698

(Average of 10 years from 1951 to 1961)

C. Irrigation and drainage facilities :

(i) and (ii) Nil.

D. Soil type and soil analysis :

(i) Medium black, 3′ to 5′ deep, clayey. (ii) Chemical analysis.

	0—6″	6″—18″	18″—24″
pH	8.0	8.4	8.5
Total nitrogen%	0.035	0.028	0.016
Available P_2O_5%	2.72	2.60	1.85
Exchangeable CaO%	23.74	20.25	15.54
Humus%	0.049	.061	.065
Organic Carbon	0.79	.80	.780
Total soluble salt%	0.258	.298	.267

(iii) Mechanical analysis—N.A.

E. No of experiments :

Cotton—16. Total=16.

15. Agricultural Research Station, Gangavati.

A. General information :

In Gangavati taluka of Raichur district, 22 miles from Ginigira railway station. The land is slopy towards south. (ii) Tungabhadra project area of Raichur district. (iii) Established in 1956. (iv) Sugarcane—G.M., *Kharif jowar*—cotton and paddy—groundnut are the normal rotations of the tract. (v) Agronomic research on sugarcane, cotton and wheat etc.

B. Normal rainfall in mm :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
157	197	209	277	249	92	17	—	—	—	74	116	1388

(Average of seven years from 1956 to 1962).

C. Irrigation and drainage facilities :

(i) (a) and (b) Canal irrigation since 1956. (ii) Nil.

D. Soil type and soil analysis :

(i) Medium black soil up to 2½′ to 3′, clay grad. II. (ii) Chemical analysis and (iii) Mechanical analysis—N.A.

E. No. of experiments :

Cotton—2, Total=2.

16. Sugarcane Research Station, Gangavati.

A. to *D.*

Information—N.A.

E. No. of experiments :

Sugarcane—4, Total=4.

17. Citrus Die-back Research Station, Gonicoppal.

A. General informations :

(i) In Virajpet taluka of Coorg district. Lat. 12° 5′ N, Long. 75°—9′E, Alt. 2700′. Undulating with slope towards west. (ii) *Malnad* tract. (iii) Established in 1954. (iv) Perennial-orange. (v) Survey, root stock trials, environmental studies, orchard practices, micronutrient trials, N, P and K trials, virus and nematode studies, root studies, citrus-die back disease studies, are the main items of research.

B. Normal rainfall in mm :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
837	2547	426	211	212	32	9	7	9	18	131	322	4761

(Average rainfall for 1961—1962).

C. Irrigation and drainage facilities :

(i) (a) and (b) Rainfed normally but lift irrigation from a tank is also available. (ii) Natural drainage system exists.

D. Soil type and soil analysis :

(i) Laterite soil, deep, greyish brown in colour and sandy loam in structure. (ii) Chemical analysis :

Depth of collection	0—9″	9″—18″	18″—24″
Moisture (on air dry basis)	6.7225	7.7205	5.3775
Loss on ignition	14.3800	15.0400	11.3400
SiO_2	62.3700	58.3300	68.8313
Al_2O_3	12.9900	11.7300	13.3400
Fe_2O_3	10.7000	14.5200	11.0800
CaO	0.2966	0.2130	0.1923
MgO	0.2049	0.1395	0.1115
Total P_2O_5	0.0696	0.0553	0.0637
Total K_2O	0.0512	0.0452	0.0412
Available P_2O_5	0.0011	0.00076	0.00095
Available K_2O	0.0021	0.0020	0.0016
Organic carbon	1.3960	0.7909	0.4904
Nitrogen	0.1269	0.0713	0.0562
pH	6.1	6.1	5.9

(iii) Mechanical analysis—N.A.

E. No. of experiments :

Orange—22, Total=22.

18. Agricultural Research Station Hagari.

A. General information :

(i) In Bellary taluka of Bellary district, Lat. 14°10″ N, Long. 77°04″ E, Alt. 1345′. Fairly leveled. (ii) It represents dry tract. (iii) Establised in 1906. (iv) *Kharif* : *navane bajra*, cotton and redgram ; *Rabi* : cotton, *jowar*, bengal gram, linseed and safflower. (iv) To conduct cultural and manurial trials on *jowar* and cotton.

B. Normal rainfall in mm :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
42	69	61	112	136	17	2	—	—	6	28	65	538

(Average based on rainfall data for 1952—1962 period).

C. Irrigation and drainage facilities :

(i) (a) and (b) Only 20 acres under irrigation for raising fodder for cattle and for maintenance of seeds in the event of failuie of rains. But mainly it is dry farm under rainfed conditions, having an extent of 300 acres. (ii) Nil.

D. Soil type and soil analysis :

(i) (a) 1′ to 6′ deep, black cotton type of soil, blocky in structure. (b) Chemical analysis : iron and alumina—13.28 ; lime—3.38 ; magnesia—0.66 ; potash—0.41 ; phosphoric acid—0.45 ; nitrogen—0.017 ; soda—0.74 and carbonic acid 1.95. (c) Mechanical analysis —N.A.

E No. of experiments :

Jowar—13, Cotton—11, Rotational—6, Total=30.

19. Agricultural Fesearch Station, Hebbal.

A. to D.

Information—N.A.

E. No. of experiments :

Paddy—21, Ragi—16, Sugarcane—6, Groundnut—2. Total=45.

20. Agricultural Research Station, Hiriyur.

A. to *D.*

Information—N.A.

E. No. of experiments :

Paddy—11, Cotton—10, Total=21.

21. Sugarcane Liasion Farm, Hospet.

A. to *D.*

Information—N.A.

E. No. of experiments :

Sugarcane=41, Total=41.

22. Agricultural Research Station, Kaladgi.

A. General information :

(i) In Bagalkot taluka of Bijapur district, Lat. 17°N, Long. 76°E. Most of the experimental area is level land with a negligible gradient of ½ to 1% at places. (ii) It represents dry farming zone of Mysore state comprising of Bijapur, eastern part of Raichur, Gulburga, Bellary, Chitradurg and Kothar where deep black soils are situated. (iii) Established in 1951. (iv) *Rabi jowar*, cotton, wheat and gram are grown in 8 blocks. Rotations are cotton—*jowar*, cotton—wheat—*jowar*, *jowar*—wheat—gram. (v) Research work is being carried out to find out ways and means to enhance yield of *rabi* crops like *jowar*, cotton, wheat and gram etc., under scarcity zone in deep black soil and under rainfed conditions.

B. Normal rainfall in mm. :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
62	88	53	95	126	12	1	—	—	6	36	85	564

(Av. based on the rainfall during 1951 to 1961).

C. Irrigation and drainage facilities :

(i) and (ii) Nil.

D. Soil type and soil analysis :

(a) Deep black soil, rock formation, sedimentary alluvial and mixed geological origin. Depth 4′ to 8′, colour greyish black to deep black. Structure compact clayey prismatic below. Chemical analysis : pH 8.6 to 8.9. total soluble salts 0.2 to 1.1% Ex. Ca. 40 m.e. to 51 m.e.%, Ex. Na. 2.5 m. e. to 11.5 m. e.% nitrogen .03%, phosphate 2 mg%, organic matter 0.7%, available potash 13.0 mg.%, dispersion co-efficient 57.4, crosin ratio 57.84. (iii) Mechanical analysis—N.A.

E. No. of experiments :

Wheat—6, *Jowar*—20, Gram—5, Cotton—13, Mixed cropping—5. Total=49.

23. Fodder Research Station, Kudige.

A. to *D*

Information—N.A.

E. No. of experiments :

Paragrass—5, Lucerne—4, Total=9.

24. Government Agricultural Farm (Agricultural Research Station), Kudige.

A. General information :

(i) In Somwarpet taluka of Coorg district. Lat. 13°, Long. 72°N and Alt. 2775′. The experimental area slopes both towards eastern and western direction with the gradient varying from 10 to 25 as a result there will be erosion during rainy season. It has been brought under check by the formation of contour drainage system. In wet land area there is a marshy area to an extent of 2 to 3 acres. (ii) It represents the maiden tract of both irrigated and rainfed conditions. (iii) Established in 1942. (iv) Paddy—*ragi*, sea island cotton, *chillies*, pulses, fodder and fruit crops are all cultivated with improved varieties. (v) Agronomic and manurial trials on different crops are conducted.

B. Normal rainfall in mm. :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April	May	Total
19	312	305	72	268	19	24	—	—	16	117	226	1376

C. Irrigation and drainage facilities :

(i) (a) and (b) Irrigation facilities are available by the river Harangi which flows on the northern boundary of the farm area, from the year 1952. (ii) Contour drainage system exists.

D. Soil type and soil analysis .

(i) Deep black to light red soil 1′ to 2′ deep, fine gravelly to silt clay. (ii) Chemical analysis and (iii) Mechanical analysis—N.A.

E. No. of experiments :

Paddy—1. Total=1.

25. Agricultural Research Station, Kumta.

A. General information :

(i) In Kumta taluka of north Kanara district. Lat. 15°N, Long. 74°E, Alt. 202′. (ii) Coastal tracts. (iii) Established in 1919. (iv) Paddy after paddy is the cropping pattern. (v) Plant breeding and multiplication of improved seeds is the programme of research.

B. Normall rainfall in mm. :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
970	1399	845	534	205	8	15	—	—	—	10	563	4549

C. Irrigation and drainage facilities :

(i) Irrigation facilities are limited. (b) N.A. (ii) Drainage facilities exist.

D. Soil type and soil analysis :

(i) Greyish brown 3′ to 4′. (b) Chemical analysis : pH 7.5, nitrogen 0.09%, available P_2O_5 0.03% and available K_2O 0.02%. (iii) Mechanical analysis—N.A.

E. No. of experiments :

Paddy—31. Total=31.

26. Agricultural Research Station, Mandya.

A. General information :

(i) In Mandya taluka of Mandya district. Lat. 12°55′N, Long. 76°50′E, Alt. 2741′. (ii) *Maidan* tract. (iii) Established in 1932. (iv) Sugarcane, paddy, *ragi*, tobacco, cotton, grasses and groundnut are the normal crops of the tract. (iv) Research is done on sugarcane, cotton breeding, millet breeding, fodder, coconut nursary and seed multiplication.

B. Normal rainfall in mm. :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
77	46	146	61	265	3	88	4	26	2	161	210	1089

D. Irrigation and drainage facilities :

(i) and (ii) Nil.

D. Soil type and soil analysis :

(i) Reddish upto 1′ to 2′, sandy local gravelly with open structure. (ii) Chemical analysis : pH 6.5, N 0.049%, available P_2O_5 0.0014% and exchangeable calcium 0.012%. (iii) Mechanical analysis : Coarse sand 40.9%, fine sand 34.0%, silt 4.6% and clay 17.75%.

E. No. of experiments :

Paddy—26 and Cotton—9, Total=35.

27. Sugarcane Research Station, Mandya.

A. to *D.*

Information—N.A.

E. No. of experiments :

Ragi—3, Sugarcane—16 and Grass—3. Total=22.

28. Paddy Breeding Station, Mangalore.

A. General information :

(i) In Mangalore taluka of South Kanara district. Lat. 13° N, Long 75°E, Alt. sea level A valley with the lower part of the surrounding hills terraced into paddy fields. (ii) Coastal laterite tract. (iii) Established in 1944. (iv) Paddy after paddy with some pulse or sweet potato crop in between. (v) To breed high yielding strains, carry out manurial, cultural, entomological and pathological trials.

B. Normal rainfall in mm :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
1160	1686	1124	932	411	41	7	—	61	—	18	516	5956

(Rainfall data is for 1961—1962).

C. Irrigation and drainage facilities :

(i) (a) Irrigation facilities exist from 1947. (b) Wells are the source of irrigation. (ii) Drainage is good.

D. Soil type and soil analysis :

(i) Yellow, red and grey, 15 to 30 cm. deep, sandy to clayey loam. (ii) Chemical analysis : loss on ignition 7.88 %, insolubles 72.14 %, iron oxide (Fe_2O_3) 7.37 %, alumina (Al_2O_3) 11.57 %, lime (CaO) 0.064 %, magnesia (MgO) 0.055 %, total K_2O 0.198 %, soda (Na_2O) 0.122 %, total P_2O_5 0.129 %, sulphuric acid 0.118 %, moisture 1.5 %, nitrogen 0.10 %. available K_2O 0.019, available P_2O_5 0.006 %, pH 5.6. (iii) Mechanical analysis : clay 24.5 %, silt 19.7 %, fine sand 7.4 %, Coarse sand 47.8 %, acid soluble 0.6 %,

E. No. of experiments :

Paddy—47, Sweet Potato—27, Total=74.

29. Government Agricultural Farm, Mercara.

A. General information :

(i) In Mercara taluka of Coorg district. Lat. 12° N, Long. 76° E, Alt. 3961′. The topography of Mercara is characterised by hills and valleys. Consequently high gradient and much undulation are the common features of the place. This is a heavy rainfed area. (ii) Heavy

rainfed tract of Coorg. (iii) Established in 1952. (iv) Varieties of paddy crop grown and pure seeds are supplied to the *ryots* of the district. (v) This is mainly a demonstration farm and little research work is being conducted. Paddy varieties are tried and seed multiplication is also attended and good seeds are supplied to the *ryots* in the Coorg district.

B. Normal rainfall in mm. :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
979	2729	1067	302	312	74	—	5	—	8	154	424	6054

(The rainfall data is for 1961—1962).

C. Irrigation and drainage facilities :

(i) (a) and (b) During rainy season the rain water is fed, after stopage of rain the *sepoge* water is supplied upto the end of December. For dry land area irrigation is made by pump installed to a streeml:t. (ii) No artificial drainage system is existing. Since land is sloping towards west there is plenty of natural drainage.

D. Soil type and soil analysis :

(i) Clay, 5′ deep, grey (mixture of yellow and white), sticky and plumpy. (ii) Chemical analysis and (iii) Mechanical analysis.—N.A.

E. No. of experiments :

Paddy—4, Total=4.

30. Consolidated Coffee Estate, Mocha.

A. to *D.*

Information—N.A. Experiments are conducted by Citrus-Die-Back Res. Stn., Gonicoppal. It is a private farm.

E. No. of experiments :

Orange—10. Total=10.

32. Agricultural Research Station, Mugad.

A. General information :

(i) In Dharwar taluka of Dharwar district. Lat. 15°-65′N, Long. 74°-50′E, Alt. 2300′. The fields are situated across the slopes forming terraces. (ii) Drill *Malnad* tract of Mysore state, where the crop is drilled with seed drill and depends upon the rainfall. (iii) Established in 1923 (iv) Paddy after paddy. (v) To evolve suitable paddy varieties to the drill tract of *Malnad*, having resistance to deseases. To determine suitable manurial and cultural practices to drill paddy in *Malnad*.

B. Normal rainfall in mm. :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
184	331	189	101	176	24	2	—	1	7	53	137	1205

(The average for the period 1952 to 1961).

C. Irrigation and drainage facilities :

(i) and (ii) Irrigation and drainage facilities are not there.

D. Soil type and soil analysis :

(i) Red to medium black soil, 6″ to 8″ deep. (ii) Chemical analysis and (iii) Mechanical analysis—N.A.

E. No. of experiments :

Paddy– 14. Total=14.

32. Agricultural Research Station, Nagenahalli.

A. General information :

(i) In Mysore taluka of Mysore district. Lat. 12°-22'N, Long. 76°-42'E, Alt. 2,500 above sea level. Level tracts of the channel area. (ii) Represents channel irrigation tracts of Mysore, Mandya, Hassan and Shimoga. (iii) Establshed in 1928. (iv) Paddy—G.M.—paddy. (v) Plant breeding and agronomic trials on paddy crop.

B. Normal rainfall in mm. :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
42	60	40	65	—	128	22	17	8	25	65	123	595

(Average for the period 1960—63).

C. Irrigation and drainage facilities :

(i) (a) and (b) K.R. Sagar dam low level channel since 1917. (ii) There is proper drainage system.

D. Soil type and soil analysis :

(i) Light red soil, 8" deep, sandy in structure. (ii) Chemical analysis : moisture 1.142%, N.573%, K_2O .57 lb./ac., pH 5.0, P_2O_5 12.1 lb./ac., total soluble salts 339 ppm. (iii) Mechanical analysis—N.A.

E. No. of experiments :

Paddy—74. Total=74.

33. Agricultural Research Station, Nargund.

A. General information :

(i) In Nargund taluka of Dharwar district. Lat. 15.40°N, Long. 75.40°E, Alt. 2650'. There is a general slope in experimental area. (ii) Sub-tropical. (iii) Established in 1951. (iv) The rotation of Cotton—wheat—*jowar*, Cotton—*jowar* or wheat—*jowar* is generally followed. (v) To conduct manurial and cultural trials on wheat, *jowar* and cotton.

B. Normal rainfall in mm.

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
65	83	61	123	115	28	7	3	2	4	21	85	597

(The average is for 22 years).

C. Irrigation and drainage facilities :

(i) and (ii) Nil.

D. Soil type and soil analysis :

(i) Alkaline soils more than 8' deep. Highly impermeable to rain water, sticky, despersible and easily liable to erosion. (ii) Chemical analysis and (iii) Mechnical analysis : pH 9.0 to 10.0, lime reserve 6% total soluble salt 0.2 to 0.6, clay 40 to 5.0% exchangable calcium 21.00 to 29.0 m.e., organic carbon .16 to 0.44, exchangable sodium 3.00 to 12 m.e., moisture equivalent 40.5% sodium saturation 20 to 25%, avilable P_2O_5 0.004 to 0.015%.

E. No. of experiments :

Wheat—10, *Jowar* - 8, Cotton—12, Rotational—2, Total=32.

34. Agricultural Research Station, Nipani.

A. General Information :

(i) In Chikodi taluka of Belgaum district. Lat. 16°-23'N, Long. 74°-22'E, Alt. 1978'. (ii) Bidi tobacco tract of Nipani. (iii) Established in 1961. (iv) *Kharif jowar*, groundnut—tobacco, chillies, G.M., paddy, *kulti*. (v) To study different aspects (i.e. agronomic, pathological and entomological) of the above crops .

B. Normal rainfall in mm.

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
110	247	128	110	113	38	10	2	1	11	40	56	866

(Average of 26 years).

C. Irrigation and drainage facilities :

(i) (a) and (b) Rainfed crop. (ii) Open drains are available.

D. Soil type and soil annlysis :

(i) Medium black to black soil over 2′ deep, clay loam. (ii) Chemical analysis : pH 6.00 to 8.2 organic carbon low, P_2O_5 and K_2O medium to high. (iii) Mechanical analysis—N.A.

E. No. of experiments :

Tobacco—29. Total=29.

35. Rice Breeding Station Ponampet.

A. General information :

(i) In Virajpet taluka of Coorg district. Lat. 12°N. Long. 76°E. Alt. 2811′. Lowlaying and as well as terraced, like fields situated in a shallow valley surrounded on other sides by the dry land. (ii) Heavy rainfall *Malnad* area of Coorg. (iii) Established in 1949. (iv) Paddy grasses, coffee, oranges, banana, pineapple, cashewnut and coconut are perennially grown. (v) Agronomical and selction work on paddy.

B. Normal rainfall in mm. :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
517	999	412	161	157	56	20	3	13	24	104	211	2677

(Average is based on the rainfall data for 1953 to 1962).

C. Irrigation and drainage facilities :

(i) and (ii) Nil.

D. Soil type and soil analysis :

(i) Browinsh grey, 6″ deep, sandy in struchtre. (ii) Chemical analysis and (iii) Mechanical analysis—N.A.

E. No. of experiments .

Paddy—7. Total=7.

36. Government Main Farm, Raichur.

A. General information .

(i) In Raichur taluka of Raichur district. Lat. 16.12°N, Long. 76.24°E, and Alt. 389.5 metres. 2½ miles away from Raichur town. (ii) Deccan. (iii) Established in 1932. (iv) *Jowar*, groundnut, *tur* and cotton. (v) Agronomical and selection work on cotton, *jowar* and oilseeds.

B. Normal rainfall in mm. :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
19	208	125	48	152	—	—	—	—	—	91	33	826

(Rainfall data is for 1961—1962).

C. Irrigation and drainage facilities :

(i) and (ii) Nil.

D. Soil type and soil analysis :

(i) Black soil 3′ to 6′ deep, compact and red soil 1′ to 11′, red *chalka*, hard. (ii) Chemical analysis and (iii) Mechanical analysis—N.A.

E. No. of experiments :

Jowar—15, *Tur*—8, Cotton—2 and Groundnut—8. Total=33.

37. Agricultural Research Station, Saundathi.

A. General information :

(i) In Saundathi taluka of Belgaum district. Lat. 15.7°N, Long. 75.1°E and Alt. 2150′. The land is sloping from south towards east, north and west. There are a few depressions towards east and west but the remaining area became fairly flat on account of contour bunding and contour cultivation. (ii) Medium black soil tract. (iii) Established in 1947. (iv) *Jowar*—groundnut—cotton, wheat or gram. (v) Varietal, cultural, manurial and rotational trials on *jowar*, groundnut, cotton, wheat, gram and *chinamug* are the main aspects of research.

B. Normal rainfall in mm. :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
67	97	77	102	139	31	4	2	3	8	40	90	660

(Average is based on the period 1935 to 1962).

C. Irrigation and drainage facilities :

(i) (a) and (b) No. (ii) Yes.

D. Soil type and soil analysis :

(i) Medium black soil 3″ to 6″ deep and grayish black in colour, granular to crumb in the upper layers and tending to prismatic in the lower layers. (ii) Chemical analysis and (iii) Mechanical analysis—N.A.

E. No. of experiments :

Jowar—19, Groundnut—7 and Rotational—6. Total=32.

38. Agricultural Research Station, Sirsi.

A. General information :

(i) In Sirsi taluka of North Kanara district. Lat. 14°36′N, Long. 74°.50′E and Alt. 2500′ above sea lexel. The farm area consists of Bana land, highlying lands (*Makhi*), low lying lands. (ii) *Maland*. (iii) Established in 1955. (iv) Paddy—paddy. (v) To evolve improved varieties of paddy, suitable for the *Maland* tract. To study the manurial and cultural requirement of the crop.

B. Normal rainfall in mm. :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
608	1044	509	166	150	38	3	—	—	2	35	107	2662

(Average is for 10 years i.e. 1951—1960).

C. Irrigation and drainage facilities :

(i) and (ii) Nil.

D. Soil type and soil analysis :

(i) Yellowish, 3′ deep. (ii) Chemical analysis as below :

	High land	Mid land	Low land
pH	5.6	5.5	5.4
Total soluble salts	0.1	trace	0.2
Nitrogen in lb./ac.	0.8	.52	.72
Available P_2O_5 in lb./ac.	7.2	1.2	1.8
Available K_2O in lb./ac.	4.0	8.0	16.00

(iii) Mechanical analysis—N.A.

E. No. of experiments :

Paddy—6. Total=6.

39. Agricultural Research Station, Siruguppa.

A. General information :

(i) In Siruguppa taluka of Bellary district. Lat. 15°18'N, Long. 76°54'E, and Alt. 1250'. The fields are farily levelled. (ii) Entire Ayacut of Tungabhadra project. (iii) Established in 1937 and new scheme in 1960. (iv) Ayacut itself is divided into three zones comprising of pernnial zone, wet zone and dry-cum wet zone. Accordingly the cropping pattern is drawn suitable to different zones. (v) To condct experiments on different aspects of paddy crop i.e. agronomic, physiological and evolving high yielding varieties of cotton.

B. Normal rainfall in mm. :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
84	140	123	161	101	19	9	13	7	11	37	66	771

(Average of 10 years rainfall data from1953—1962).

C. Irrigation and drainage facilities :

(i) (a) and (b) Irrigation facilities available since 1937. (ii) Drainage facilities are available.

D. Soil type and soil analysis :

(i) Black soil 3' to 5' deep. (ii) Chemical analysis : pH 8.0, T.S.S. 0.37%, available P_2O_5 9.6 lb./ac. and available K_2O 24.0 lb./ac. (iii) Mechanical analysis—N.A.

E. No. of experiments :

Paddy—19, Wheat—3, *Jowar*—28, *Korra*—3, Sweet potato—3, Sugarcane—2, Cotton—16, Groundnut—6 and Rotational—8. Total=88.

40. Regional Arecanut Research Station, Thirthahalli.

A. General information :

(i) In Thirthahalli taluka of Shimga district. Lat. 13°41' N, Long. 75° 14'E., Alt. 2059' above sea level. (ii) *Malnad.* (iii) Established in 1952. (iv) N.A. (v) To conduct manurial, agronomic, cultural and harvesting trials and also investigations on diseases and pests of different crops.

B. Normal rainfall in mm. :

June	July	Aug.	Sept.	Cct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
737	2138	1192	251	218	3	—	—	—	—	52	259	4850

(Rainfall data for 1961-1962).

C. Irrigation and drainage facilities :

(i) (a) and (b) Irrigation facilities are not available for new layout of experimental garden and nursery. There is irrigation facilities only for exiting garden since inception. (ii) Drainage system exists.

D. Soil type and soil analysis :

(i) Garden land : laterite, 5' deep, reddish brown, a mixture of sand and gravel. Wet land : sandy loam, 3' deep and grey in colour. (ii) Chemical analysis : pH 5.9, T.S.S. 0.22, organic carbon 0.71%, available P_2O_5 .24 lb./ac., available K_2O 122.7 lb./ac. (iii) Mechanic alanalysis —N.A.

E. No. of experiments :

Arecanut—18. Total=18.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(216).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'M'.**

Object :—To study the effect of different levels of N and basal dressings on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Masari. (b) N.A. (iii) N.A./4.9.1954. (iv) (a) Ploughing. (b) Transplanting. (c) 25 lb./ac. (d) 10" × 10". (e) 4—5. (v) Nil. (vi) Autarsal 90. (vii) Irrigated. (viii) Interculturing and weeding. (ix) 5.21". (x) 22.12.1954.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 4 levels of N as G.N.C. and A/S in 2 : 1 ratio : N_0=0, N_1=32, N_2=64 and N_3=96 lb./ac.

(2) 2 levels of B.D. : B_1=5000 and B_2=10,000 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 46.8' × 23.4'. (b) 40' × 15'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Germination was poor due to the poor quality of seed. Resowing was done by which time season was lost and hence poor yields. (ii) Nil. (iii) Moisture studies, grain and fodder yield. (iv) (a) 1954—1955. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 182 lb./ac. (ii) 95.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	N_3	Mean
B_1	136	171	194	181	171
B_2	160	171	285	157	193
Mean	148	171	239	169	182

S.E. of N marginal mean = 33.6 lb./ac.
S.E. of B marginal mean = 23.8 lb./ac.
S.E. of body of table = 47.6 lb./ac.

———

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(202).**

Site :- Govt. Agri Farm, Arbhavi. **Type :- 'M'.**

Object :—To study the effect of different levels of N and basal dressings on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Masari. (b) N.A. (iii) 1.7.1955. (iv) (a) Ploughing and harrowing. (b) Drilling (c) 40 lb./ac. (d) 12" between rows. (e) —. (v) Nil. (vi) Antarsal 90. (vii) Irrigated. (viii) Weeding. (ix) 20.58". (x) 23.11.1955.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 4 levels of N (source N.A.) : N_0=0, N_1=32, N_2=64 and N_3=96 lb./ac.

(2) 2 levels of F.Y.M. as B.D. : B_1=5 and B_2=10 C.L./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 40' × 33'. (b) 36' × 29'. (v) 2' × 2'. (vi) Yes.

4. GENERAL :

(l) Not satisfactory as the seed was of poor quality. (ii) Nil. (iii) Grain and fodder yield and moisture studies. (iv) (a) 1954—1955. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 734 lb./ac. (ii) 394.9 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	N_3	Mean
B_1	530	875	761	949	779
B_2	748	686	832	489	689
Mean	639	780	797	719	734

S.E. of B marginal mean = 99.0 lb./ac.
S.E. of N marginal mean = 139 6 lb./ac.
S.E. of body of table = 197.5 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- A.P. 58(66).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To study the optimum requirement of N and P for Paddy Crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) G.M. with 30 lb./ac. of P_2O_5+40 lb./ac. of N. (iii) (a) Medium black cotton. (b) N.A. (iii) 28.6.1958 (iv) (a) Cross ploughing and harrowing. (b) Drilling. (c) 40 lb./ac. (d) 12″×12″. (e) —. (v) Nil. (vi) *Kumud*. (vii) Irrigated. (viii) Interculturing and hand weeding. (ix) 10.78″. (x) 18.10.1958.

2. TREATMENTS :

All combinations of (1) and (2)+5 controls (no manure plots).

(1) 5 manurial treatments : M_1=20 lb./ac. of N, $M_2=M_1+5$ lb./ac. of P_2O_5, $M_3=M_1+10$ lb./ac. of P_2O_5, $M_4=M_1+15$ lb./ac. of P_2O_5 and $M_5=M_1+20$ lb./ac. of P_2O_5.

(2) 3 levels of application of manurial treatments : L_1=Single dose as in manurial treatments of (1) L_2=Double dose (double of the quantity of manures in L_1) and L_3=Triple dose (triple of the quantity of manures in L_1).

3. DESIGN :

(i) R.B.D. (ii) (a) 20. (b) N.A. (iii) 3. (iv) (a) and (b) 20′×22′ (v) Nil. (vi) Yes.

4. GENERAL :

(i) Not so good due to bad weather conditions. (ii) and (iii) Nil. (iv) (a) 1958—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1180 lb./ac. (ii) 255 lb./ac. (iii) Main effect of L and 'control *vs.* others' are highly significant. (iv) Av. yield of grain in lb/ac.

Control = 617 lb./ac.

	M_1	M_2	M_3	M_4	M_5	Mean
L_1	1100	942	1050	1100	850	1008
L_2	1267	1300	1458	1117	1308	1290
L_3	1317	1625	1917	1075	1642	1515
Mean	1228	1289	1475	1097	1267	1271

S.E. of L marginal mean = 65.8 lb./ac.
S.E. of M marginal mean = 85.0 lb./ac.
S.E. of body of the table = 147.2 lb./ac.
S.E. of control mean = 65.8 lb./ac.

Crop :- Paddy *(Kharif).* **Ref :- Ms. 59(95).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To study the optimum requirement of N and P for Paddy Crop.

1. BASAL CONDITIONS :

(i) (a) Paddy—paddy. (b) Paddy. (c) N.A. (ii) (a) **Medium black cotton.** (b) N.A. (iii) 11.6.1959. (iv) (a) Ploughing and harowing. (b) Drilling. (c) 40 lb./ac. (d) 12" between rows. (e) —. (v) Nil. (vi) *Kumud.* (vii) Irrigated. (viii) 2 interculturings and 3 hand weedings. (ix) 20.67". (x) 9, 10.11.1959.

2. TREATMENTS :

Same as in expt. no. 58(66) on page 2.

3. DESIGN :

(i) R.B.D. (ii) (a) 20. (b) N.A. (iii) 3. (iv) (a) 24'×25'. (b) 22'×20'. (v) 1'×2.5'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1958—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 996 lb./ac. (ii) 277.7 lb./ac. (iii) Only 'control *vs.* others' is highly significant. (iv) Av. yield of grain in lb./ac.

Control = 541 lb./ac.

	M_1	M_2	M_3	M_4	M_5	Mean
L_1	759	842	1122	842	858	885
L_2	842	1270	1238	990	1287	1125
L_3	1238	1534	1568	1330	1532	1440
Mean	946	1215	1309	1054	1226	1150

S.E. of M marginal mean = 92.6 lb./ac.
S.E. of L marginal mean = 71.7 lb./ac.
S.E. of body of table = 160.3 lb./ac.
S E. of control mean = 71.7 lb./ac.

Crop :- Paddy *(Kharif).* **Ref :- Ms. 54(161).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To compare the effect of different sources of N on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) N.A. (iii) N.A./4.8.1954. (iv) (a) 3 puddlings. (b) Transplanting. (c) N.A. (d) 8"×8". (e) 2 to 3. (v) Nil. (vi) HR—19 (medium). (vii) Irrigated. (viii) 3 to 4 weedings by Japanese weeder. (ix) 15.68". (x) 6.11.1954.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of P_2O_5 as Super : $P_0=0$, $P_1=25$ lb./ac.

(2) 5 sources of N at 50 lb./ac. : S_0=Control (2 plots), S_1=G.M., S_2=F.Y.M., S_3=G.N.C. and S_4=A/S.

Time and method of application N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 2. (iv) (a) and (b) 33'×28'. (v) No. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1954—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2863 lb./ac. (ii) 1009 lb./ac. (iii) Main effect of S alone is highly significant. (iv) Av. yield of grain in lb./ac.

	S_0	S_1	S_2	S_3	S_4	Mean
P_0	1579	3441	3606	5397	2475	3013
P_1	1473	2616	2404	3724	4596	2714
Mean	1526	3028	3005	4560	3535	2863

S.E. of P marginal mean = 291.3 lb./ac.
S.E. of S marginal mean (other than S_0) = 504.6 lb./ac.
S.E. of body of table (other than under S_0) = 713.7 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(134).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To compare the effect of different sources of N on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 5.7.1955. (iv) (a) 3 puddlings. (b) Drilling. (c) 30 lb./ac. (d) 8″×8″. (e) 2—3. (v) Nil. (vi) HR—19 (medium). (vii) Irrigated. (viii) 1 hand weeding and 3-4 weedings by Japanese weeder. (iv) 28.38″. (x) 6.10.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(161) on page 3.

4. GENERAL :

(i) Satisfactory. (ii) Severe attack of borer controlled by folidol spray. (iii) Yield of grain. (iv) (a) 1954 —contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2828 lb./ac. (ii) 263.8 lb./ac. (iii) Main effect of S alone is highly significant. (iv) Av. yield of grain in lb./ac.

	S_0	S_1	S_2	S_3	S_4	Mean
P_0	2027	3913	2074	3159	3606	2801
P_1	2015	3913	2310	3441	3441	2856
Mean	2021	3913	2192	3300	3523	2828

S.E. of P marginal mean = 76.2 lb./ac.
S.E. of S marginal mean (other than S_0) = 131.9 lb./ac
S.E. of body of the table (other than under S_0) = 186.5 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(33).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To compare the effect of different sources of N on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 2.8.1956. (iv) (a) 3 puddlings. (b) N.A. (c) 30 lb./ac. (d) 8″×8″. (e) 2 to 3. (v) Nil. (vi) HR—19 (medium). (vii) Irrigated. (viii) 1 hand weeding and 3 to 4 weedings by Japanese weeder. (ix) 25.13″. (x) 1.11.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(161) on page 3.

4. GENERAL :

(i) Satisfactory. (ii) Borer attack was severe and the crop was sprayed by folidol. (iii) Yield of grain. (iv) (a) 1954—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2583 lb./ac. (ii) 273.2 lb./ac. (iii) Main effect of S alone is significant. (iv) Av. yield of grain in lb./ac.

	S_0	S_1	S_2	S_3	S_4	Mean
P_0	1742	3373	1940	3060	3353	2535
P_1	1896	3427	2378	2896	3295	2631
Mean	1819	3400	2159	2978	3324	2583

S.E. of P marginal mean = 78.9 lb./ac.
S.E. of S marginal mean (other than S_0) = 136.6 lb./ac.
S.E. of body of table (other than under S_0) = 193.2 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(8).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To compare the effect of different sources of N on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) Nil. (iii) 20.7.1957. (iv) (a) 3 puddlings. (b) N.A. (c) 30 lb./ac. (d) 8″×8″. (e) 2 to 3. (v) Nil. (vi) HR—19 (medium). (vii) Irrigated. (viii) 1 hand weeding and 3 to 4 weedings by Japanese weeder. (ix) 20.75″. (x) 22.10.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(161) on page 3.

4. GENERAL :

(i) Satisfactory. (ii) Borer was the major pest and the folidol sprayed. (iii) Yield of grain. (iv) (a) 1954—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2056 lb./ac. (ii) 223.5 lb./ac. (iii) Main effect of S alone is highly significant. (iv) Av. yield of grain in lb./ac.

	S_0	S_1	S_2	S_3	S_4	Mean
P_0	1096	2864	1414	2357	2934	1960
P_1	1385	2817	1744	2310	3135	2129
Mean	1275	2841	1579	2333	3034	2056

S E. of P marginal mean = 64.5 lb./ac.
S.E. of S marginal mean (other than S_0) = 111.7 lb./ac.
S.E. of body of table (other than under S_0) = 158.0 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(81).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To compare the effect of different sources of N on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) N.A./3 to 7.7.1959. (iv) (a) 3 puddlings. (b) Transplanting. (c) N.A. (d) 8″×8″. (e) 2 to 3. (v) Nil. (vi) HR—19. (vii) Irrigated. (viii) Weeding by hand and Japanese weeder. (ix) 17.48″. (x) 17.10.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(161) on page 3.

4. GENERAL :

(i) Poor. (ii) Slight attack of stem borer. No control measures taken. (iii) Yield of grain. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1918 lb./ac. (ii) 387.4 lb./ac. (iii) Main effect of S alone is highly significant. (iv) Av. yield of grain in lb./ac.

	S_0	S_1	S_2	S_3	S_4	Mean
P_0	1055	2723	1615	2393	2852	1949
P_1	1403	2039	1403	2628	2451	1888
Mean	1229	2381	1509	2510	2651	1918

S.E. of P marginal mean = 111.8 lb./ac.
S.E. of S marginal mean (other than S_0) = 193.7 lb./ac.
S.E. of body of table (other than under S_0) = 273.9 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(116).**

Site :- Agri. College Farm, Dharwar. **Type :- 'M'.**

Object :—To study the effect of placement of fertilizers on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 30 lb./ac. of N+50 lb./ac. of P_2O_5. (ii) (a) Medium black. (b) Refer soil analysis, Dharwar, (iii) 29.6.1957. (iv) (a) Ploughing. (b) Transplanting. (c) 50 lb./ac. (d) 10″×10″. (e) 2 to 3. (v) 10 lb./ac. of N. (vi) A—200 (late). (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 65″. (x) 24.12.1957.

2. TREATMENTS :

3 methods of application of fertilizers : M_1=Pellet method, M_2=Ring method and M_3=Broadcasting.

3. DESIGN :

(i) R.B.D (ii) (a) 3. (b) N.A. (iii) 4. (iv) (a) and (b) 124′×7′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Grain yield. (iv) (a) 1957—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1418 lb./ac. (ii) 90.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	1418	1330	1505

S.E./mean = 45.2 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(129).**

Site :- Agri. College, Farm, Dharwar. **Type :- 'M'.**

Object :—To study the effect of spraying fertilizers on Paddy at the time of flowering.

1. BASAL CONDITIONS :

(i) (a) Nil (b) Paddy.(c) 3 C.L./ac. of F.Y.M.+20 lb./ac. of N+15 lb./ac. of P_2O_5. (ii) (a) Medium black. (b) Refer soil analysis, Dharwar. (iii) 27.5.1957. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 50 lb./ac. (d) 12″×12″. (e)—. (v) 3 C.L./ac. of F.Y.M.+20 lb./ac. of N+15 lb./ac. of P_2O_5. (vi) A—200 (late). (vii) Unirrigated. (viii) 2 interculturings and weedings. (ix) 65″. (x) 4.12.1957.

2. TREATMENTS :

5 fertilizer spraying treatments : F_0=Control (no spray), F_1=10 lb./ac. of Urea in 100 gallons of water, F_2=20 lb./ac. of Urea in 100 gallons of water, F_3=20 lb./ac. of Urea+20 lb./ac. of Super in 100 gallons of water and F_4=Same chemicals as in F_3+ 20 lb./ac. of K_2SO_4 in 100 gallons of water.

Date of spraying 19.9.1957.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 33′×33′. (b) 27′×27′. (v) 3 ×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of grain. (iv) (a) 1957—N.A. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5, RESULTS :

(i) 2802 lb./ac. (ii) 358.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Treatment	F_0	F_1	F_2	F_3	F_4
Av. yield	2525	2793	2659	2927	3107

S.E./mean = 179.3 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(115).**

Site :- Agri. College Farm, Dharwar. **Type :- 'M'.**

Object :—To study the effect of spraying fertilizers on Paddy at the time of flowering.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 20 lb./ac. of N+15 lb./ac. of P_2O_5+3 C.L./ac. of F.Y.M. (ii) (a) Medium black. (b) Refer soil analysis, Dharwar. (iii) 6.6.1958. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 50 lb./ac. (d) 12″×12″. (e)—. (v) Nil. (vi) A—200 (late). (vii) Unirrigated. (viii) 2 intercultrings and weedings. (ix) 17.5″. (x) 5.12.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(129) on page 6.

5. RESULTS :

(i) 1994 lb./ac. (ii) 375.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	F_0	F_1	F_2	F_3	F_4
Av. yield	1685	2044	2161	2069	2009

S.E./mean = 187.7 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(116).**

Site :- Agri. College Farm, Dharwar. **Type :- 'M'.**

Object :—To find out the suitable seedrate of Sannhemp to be sown with Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 3 C.L./ac. of F.Y.M.+20 lb./ac. of N+30 lb./ac. of P_2O_5. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 5, 6.6.1958. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 40 lb./ac. (d) 12″×12″. (e) —. (v) 3 C.L./ac. of F.Y.M.+20 lb./ac. of N+30 lb./ac. of P_2O_5. (vi) A—200. (vii) Unirrigated. (viii) 2 Interculturings and 1 weeding. (ix) 51.5″. (x) 2.12.1958.

2. TREATMENTS :

5 seed rates of Sannhemp to be mixed with Paddy and sown : R_1=2, R_2=4, R_3=6, R_4=8 and R_5=10 lb./ac.

Sannhemp buried on 29.7.1959.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 40′×20′. (b) 32′×14′. (v) 4′×4′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) and (iii) Nil. (iv) (a) 1958—N.A. (b) N.A. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1667 lb./ac. (ii) 378.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	R_1	R_2	R_3	R_4	R_5
Av. yield	2013	1648	1799	1519	1354

S.E./mean = 189.4 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(35).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To study the effect of different nitrogenous manures on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) N.A. (ii) (a) Sandy loam and clay loam. (b) N.A. (iii) 16.7.1958/12.8.1958. (iv) (a) 3 ploughings, 1 cultivator, 1 Paddy puddler and 1 levelling plank. (b) Transplanting. (c) 20 lb./ac. (d) 10″×9″. (e) 2 to 3. (v) Nil. (vi) S—701. (vii) Irrigated. (viii) 3 hand weedings. (ix) 29.02″. (x) 31.12.1958.

2. TREATMENTS :

8 manurial treatments : M_0=Control, M_1=150 lb./ac. of complesal at planting, M_2=150 lb./ac. of complesal : half at planting+half at 1st weeding, M_3=150 lb./ac. of A/S at planting, M_4=150 lb./ac. of A/S : half at planting+half at 1st weeding, M_5=75 lb./ac. of A/S at planting+100 lb./ac. of C/N a month after planting, M_6=75 lb./ac. of A/S at planting+C/A/N at 100 lb./ac. one month after planting and M_7=150 lb./ac. of A/S at planting+150 lb./ac. of Super ; half at planting+half one month after planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) and (b) 1/80 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1958—N.A. (b) N.A. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2098 lb./ac. (ii) 259.2 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7
Av. yield	1885	1902	2367	2182	2355	2173	2190	1731

S.E./mean = 129.6 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(57).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To study the effect of C/S on Paddy Crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 2 md./ac. of Super+10 C.L./ac. of F.Y.M. 4 md./ac. of A/S. (ii) (a) Sandy clay loam. (b) N.A. (iii) 14.7.1954/20.8.1954. (iv) (a) 3 ploughings, 1 puddling and levelling. (b)Transplanted (c) N.A. (d) 6" to 8" between plants and 8" to 10" between rows. (e) 2 to 3. (v) 5 C.L./ac. of F.Y.M.+3000 lb./ac. of G.M. applied 2 weeks prior to transplanting+40 lb./ac. of A/S+20lb./ac.of Super+56 lb /ac. of G.N.C. at planting+38 lb./ac. of A/S at 1st weeding. (vi) S—317 (late). (vii) Irrigated. (viiii) 1 weeding. (ix) 16.11". (x) 13.1.1955.

2. TREATMENTS :

4 levels of C/S : C_0=0, C_1=5, C_2=10 and C_3=15 lb./ac.
Time and method of application N.A.

3. DESIGN :

(i) R.B D. (ii) (a) 4. (b) N.A. (iii) 5 (iv) (a) and (b) 1/40 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Sprayed folidol against paddy thrips. (iii) Grain yield. (iv) (a) 1953—contd. (b) No. (c) Nil. (v) (a) Mandya. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2922 lb./ac. (ii) 212 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_0	C_1	C_2	C_3
Av. yield	2824	3024	2968	2872

S.E./mean = 94.8 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(170).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To study the effect of C/S on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Sandy loam to clay loam. (b) N.A. (iii) 30 6.1955./3 8.1955. (iv) (a) 3 ploughings cultivator/paddy puddler and 1 levelling plank. (b) Transplanting. (c) 20 lb./ac. (d) 10"×9". (e) 2 to 3. (v) Nil. (vi) S—749. (vii) Irrigated. (viii) 3 hand weedings. (ix) 20.58". (x) 31.12.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54 (57) above.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield (iv) (a) 1953—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3032 lb./ac. (ii) 364.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_0	C_1	C_2	C_3
Av. yield	3048	3048	3000	3032

S.E./mean = 162.9 lb./ac.

Crop :- Paddy *(Kharif).* **Ref :- Ms. 54(58).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To study the optimum time of application of N with and without P and G.M. to Paddy crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Turmeric and onion. (c) 15 C.L./ac. of F.Y.M . (ii) (a) Sandy loam to clay loam. (b) N.A. (iii) 19.7.1954/28 8.1954. (iv) (a) 3 ploughings in puddle condition, passing cultivator, puddler and levelling plank. (b) to (e) N.A. (v) 1200 lb./ac. of G.M. (sannhemp) before planting, 60 lb./ac. of A/S+ 10 lb./ac. of Super at planting+60 lb./ac. of A/S at 1st weeding. (vi) S—749 (late). (vii) Irrigated. (viii) 2 weedings by weeder and 1 hand weeding. (ix) 16.49". (x) 20.1.1955.

2. TREATMENTS:

All combinations of (1), (2) and (3)

(1) 2 times of application of 75 lb./ac. of N as A/S: T_1=At planting and T_2=At the time of applying G.M.

(1) 2 levels of P_2O_5 : P_0=0 and P_1=25 lb./ac. at planting.

(2) 2 levels of G M. : G_0=No G.M. and G_1=3000 lb./ac.

3. DESIGN :

(i) 2^3 Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) and (b) 1/40 ac. (v) Nil. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) The crop was sprayed against thrips. (iii) Yield of grain. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) Mandya and Hiriyur. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1709 lb./ac. (ii) 232 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	T_1	T_2	Mean	P_0	P_1
G_0	1785	1740	1763	1695	1830
G_1	1685	1625	1655	1610	1700
Mean	1735	1683	1709	1653	1765
P_0	1675	1630	1653		
P_1	1795	1735	1765		

S.E. of any marginal mean = 58 lb./ac.
S.E. of body of any table = 82 lb./ac.

Crop :- Paddy *(Kharif).* **Ref :- Ms. 55(171).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To study the optimum time of application of N with and without P and G.M. to Paddy crop.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) N.A. (ii) (a) Sandy loam to clay loam. (b) N.A. (iii) 23.6.1955/ 16.7.1955. (iv) (a) 3 ploughings, 1 cultivator, 1 paddy puddler and 1 levelling plank. (b) Transplanting. (c) 20 lb./ac. (d) 10"×9". (e) 2 to 3. (v) 15 lb./ac. of N as A/S applied 4 weeks after planting. (vi) S—749. (vii) Irrigated. (viii) 3 hand weedings. (ix) 21.11". (x) 27, 28.12.1955.

2. TREATMENTS and 3, DESIGN :

Same as in expt. no. 54(58) above.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) Mandya and Hiriyur. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2738 lb./ac. (ii) 251.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	T_1	T_2	Mean	P_0	P_1
G_0	2640	2800	2720	2600	2840
G_1	2820	2690	2755	2710	2800
Mean	2730	2745	2738	2655	2820
P_0	2720	2590	2655		
P_1	2740	2900	2820		

S.E. of any marginal mean = 62.8 lb./ac.
S.E. of body of any table = 125.6 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(79).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To study the optimum time of application of N with and without P and G.M. to Paddy crop.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 4 C.L./ac. of F Y.M.+44 lb./ac. of Super+15 lb./ac. of N as A/S. (ii) (a) Clay soil. (b) N.A. (iii) 22.7.1957. (iv) (a) 3 ploughings, 1 paddy puddler, 1 cultivator and 1 levelling plank. (b) Transplanting. (c) 20 lb./ac. (d) 10″×9″. (e) 2 to 3. (v) 15 lb./ac. of N as A/S applied 4 weeks after transplanting. (vi) S—661 (late). (vii) Irrigated. (viii) 3 hand weedings. (ix) 7.62″. (x) 2, 6.1.1958.

2. TREATMENTS :

Same as in expt. no. 54(58) on page 10.

3. DESIGN :

(i) 2^3 fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) and (b) 33′×33′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Crop affected by stem-borer. Sprayed with Gammaxene. (iii) Grain and straw yield. (iv) (a) 1954—1957. (b) No. (c) Nil (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3618 lb./ac. (ii) 283.2 lb./ac. (iii) T×P interaction alone is significant. (iv) Av. yield of grain in lb./ac.

	T_1	T_2	Mean	P_0	P_1
G_0	3585	3570	3578	3510	3645
G_1	3765	3550	3658	3600	3715
Mean	3675	3560	3618	3555	3680
P_0	3745	3365			
P_1	3605	3755			

S.E. of any marginal mean = 70.8 lb./ac.
S.E. of body of any table = 141.6 lb./ac.

Crop :- Paddy *(Rabi)*. **Ref :- Ms. 54(191).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To compare the effects of A/S and liquid ammonia on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Dhincha*. (c) Nil. (ii) (a) Clay soil. (b) N.A. (iii) 13.2.1954/N.A. (iv) (a) 3 ploughings, 1 paddy puddler, 1 cultivatior and 1 levelling plank. (b) Transplanting. (c) 20 lb./ac. (d) 10"×9". (e) 2 to 3. (v) 6000 lb./ac. of F.Y.M.+4000 lb./ac. of G.M. (vi) H—497 (medium). (vii) Irrigated. (viii) Hand weedings. (ix) N.A. (x) 17.8.1954.

2. TREATMENTS :

2 sources of N each applied in two equal doses : S_1=A/S at 80 lb./ac. and S_2=Liquid ammonia at 20 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 3. (iv) (a) and (b) 1/40 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2882 lb./ac. (ii) 122.8 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_1	S_2
Av. yield	2767	2997

S.E./mean = 70.9 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(168).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To compare the effects of A/S and liquid ammonia on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) G.M. crop. (c) Nil. (ii) (a) Clay soil. (b) N.A. (iii) 23.6.1955/22.7.1955. (iv) (a) 3 ploughings, 1 cultivator, 1 paddy puddler and 1 levelling plank. (b) Transplanting. (c) 20 lb./ac. (d) 10"×9". (e) 2 to 3. (v) 6000 lb./ac. of F.Y.M.+3000 lb./ac. of G.M. (vi) H—497 (medium). (vii) Irrigated. (viii) N.A. (ix) 12.21". (x) 27.12.1955.

2. TREATMENTS :

Same as in expt. no. 54(191) above.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 3. (iv) (a) and (b) 1/20 ac. (v) N.A. (vi) Yes.

4. GENERAL :

Same as in expt. no. 54(191) above.

5. RESULTS :

(i) 2780 lb./ac. (ii) 28.6 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_1	S_2
Av. yield	2807	2753

S.E./mean = 16.5 lb./ac.

Crop :- Paddy *(Rabi)*. **Ref :- Ms. 57(70).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To compare the effects of A/S and liquid ammonia on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Dhaincha* for G.M. (c) Nil. (ii) (a) Clay soil. (b) N.A. (iii) 17.1.1957/16.2.1957. (iv) (a) 3 ploughings, 1 puddler, 1 cultivator and 1 levelling plank. (b) Transplanting. (c) 20 lb./ac. (d) 10″×9″. (e) 2 to 3. (v) 4 C.L./ac. of F.Y.M.+44 lb./ac. of Super. (vi) H—497 (medium). (vii) Irrigated. (viii) 3 hand weedings. (ix) N.A. (x) 15.6.1957.

2. TREATMENTS :

Same as in expt. no. 54(191) on page 12.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 3. (iv) (a) and (b) 1/20 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nii. (iii) Grain and straw yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2717 lb./ac. (ii) 58.9 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_1	S_2
Av. yield	2753	2680

S.E./mean = 34.0 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(56).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object : –To study the effect of mixing Super with F.Y.M. on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) F.Y.M. at 10 C.L./ac.+Super at 2 cwt./ac.+A/S at 7 cwt./ac. (ii) (a) Sandy loam to clay loam. (b) N.A. (iii) 14.7.1954/20.8.1954. (iv) (a) 2 ploughings. Trampling green manure stalk, passing puddler once and levelling plank once. (b) Transplanting. (c) to (e) N.A. (v) 4090 lb /ac. of G.M.+37.5 lb./ac. of A/S applied before planting. (vi) S—317 (late). (vii) Irrigated. (viii) 1 weeding. (iv) 16.11″. (v) 12.1.1955.

2. TREATMENTS :

4 manurial treatments : M_1=4000 lb./ac. of F.Y.M., $M_2=M_1+112$ lb./ac. of Super applied separately, M_3=Super and F.Y.M. mixed thoroughly before applying at planting and M_4= Super composted with F.Y.M. one month before and applied.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) and (b) 1/40 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Folidol spraying against thrips. (iii) Grain yield. (iv) (a) 1953—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2516 lb./ac. (ii) 264.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3	M_4
Av. yield	2552	2528	2440	2544

S.E./mean = 116 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(169).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To study the effect af mixing Super with F.Y.M. on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) F.Y.M. at 6 C.L./ac.+172 lb./ac. of A/S+56 lb./ac. of Super. (ii) (a) Sandy loam and clay loam. (b) N.A. (iii) 30.6.1955/3.8.1955. (iv) (a) 3 ploughings, 1 cultivator, 1 paddy puddler and 1 levelling plank. (b) Transplanting. (c) 20 lb./ac. (d) 10″×9″. (e) 2 to 3. (v) 15 lb./ac. of N as A/S at planting+15 lb./ac. of N as A/S at 1st weeding. (vi) H—320 (late). (vii) Irrigated. (viii) 3 hand weedings. (ix) 20.58″. (x) 31.12.1955.

2. TREATMENTS :

4 manurial treatments : M_1=4000 lb./ac. of F.Y.M., M_2=M_1+25 lb./ac. of Triple Super applied separately, M_3=F.Y.M. and Triple Super mixed and applied and M_4=Triple Super composted with F.Y.M. one month before and applied.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) and (b) 1/40 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Grain yield. (iv) (a) 1953—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3223 lb./ac. (ii) 510.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb /ac.

Treatment	M_1	M_2	M_3	M_4
Av. yield	3120	3136	3280	3256

S E./mean = 228.5 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(80).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To study the effect of mixing Super with F.Y.M. on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) F.Y.M. at 6 C.L./ac.+172 lb./ac. of A/S+56 lb./ac. of Triple Super. (ii) (a) Sandy loam to clay loam. (b) N.A. (iii) 27.6.1957/25.7.1957. (iv) (a) 3 ploughings, 1 cultivator, 1 paddy puddler and 1 levelling plank. (b) Transplanting. (c) 20 lb./ac. (d) 10″×9″. (e) 2 to 3. (v) 15 lb./ac. of N as A/S at planting and 15 lb./ac. of N as A/S at 1st weeding. (vi) H—320 (late). (vii) Irrigated. (viii) 3 hand weedings. (ix) 8.93″. (x) 10.1.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(169) above.

5. RESULTS :

(i) 2948 lb./ac. (ii) 706.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3	M_4
Av. yield	2768	2880	2976	3168

S.E./mean = 316.0 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref Ms. 57(74).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To study the effect of different levels and sources of P on Paddy yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) F.Y.M. at 6 C.L./ac.+172 lb./ac. of A/S+56 lb./ac. of triple Super. (ii) (a) Clay soil. (b) N.A. (iii) 24.6.1957/24.7.1957. (iv) (a) 3 ploughings, 1 puddler, 1 cultivator and 1 levelling plank. (b) Transplanting. (c) 20 lb./ac. (d) 10"×9". (e) 2 to 3. (v) G.M. at 4000 lb./ac.+30 lb./ac. of N as A/S in 2 equal doses. (vi) S—1092 (late). (vii) Irrigated. (viii) 3 hand weedings. (ix) 8.93". (x) 11, 13.1.1958.

2. TREATMENTS :

All combinations of (1) and (2)+control (2 plots).

(1) 2 levels of P_2O_5 : P_1=20 and P_2=40 lb./ac.

(2) 2 sources of P_2O_5 : S_1=Dical. Phos. and S_2=Super.

P_2O_5 applied at planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) and (b) 1/40 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1957 only. (b) and (c)—. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3396 lb./ac. (ii) 591.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 3400 lb./ac.

	P_1	P_2	Mean
S_1	3264	3352	3308
S_2	3384	3576	3480
Mean	3324	3464	3394

S.E. of any marginal mean = 187.1 lb./ac.
S.E. of body of table = 264.7 lb./ac.
S.E. of control mean = 187.1 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(34).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To study the effect of different nitrogenous fertilizers on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) N.A. (ii) (a) Sandy loam to clay loam. (b) N.A. (iii) 23.6.1958/26.7.1958. (iv) (a) 3 ploughings, 1 cultivator, 1 paddy puddler and 1 levelling plank. (b) Transplanting. (c) 20 lb./ac. (d) 10"×9". (e) 2 to 3. (v) G.M. at 2600 lb./ac.+F.Y.M. at 2 tons/ac. (vi) Irrigated. (viii) 3 hand weedings. (ix) 30.4". (x) 6, 7.1.1959.

2. TREATMENTS :

7 sources of 30 lb./ac. of N : S_0=Control (no manure), S_1=A/S, S_2=C/A/N, S_3=A/C, S_4=Urea, S_5=A/S/N. and S_6=C/N.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) and (b) 1/80 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1958—1961. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 4626 lb./ac. (ii) 335.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_0	S_1	S_2	S_3	S_4	S_5	S_6
Av. yield.	4651	4781	4477	4295	4587	4979	4614

S.E./mean = 167.7 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(47).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To study the effect of different nitrogenous fertilizers on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 160 lb./ac. of A/S+100 lb./ac. of triple Super+150 lb./ac. of G.N.C. (ii) (a) Black loam. (b) N.A. (iii) 24, 25.8.1959. (iv) (a) 3 ploughings, and harrowings. (b) Transplanting. (c) 15 lb./ac. (d) 9″×9″. (e) 2. (v) 3 C.L./ac. of F.Y.M. (vi) S—1092. (vii) Irrigated. (viii) 5 weedings. (ix) 21.63″. (x) 19.1.1960.

2. TREATMENTS :

6 sources of N (N level N.A.) : S_0=Control (no maure), S_1=A/S, S_2=C/A/N, S_3=A/C, S_4=Urea and S_5=A/S/N.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 33′×16.5′. (b) 31.5′×15′. (v) One row. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) 0.04% Folidol was sprayed against thrips and borer. (iii) Height of plants, no. of tillers, straw and grain yield. (iv) (a) 1958—1961. .(b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2802 lb./ac. (ii) 317.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_0	S_1	S_2	S_3	S_4	S_5
Av. yield	2531	2705	2967	2632	2826	3150

S.E./mean = 158.8 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(36).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To find out the optimum combination of N, P and K for Paddy Crop.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) N.A. (ii) (a) Sandy loam to clay loam. (b) N.A. (iii) 23.6.1958/1.8.1958. (iv) (a) 3 ploughings, 1 cultivator, 1 paddy puddler and 1 levelling plank. (b) Transplanting. (c) 20 lb./ac. (d) 10″×9″. (e) 2 to 3. (v) F.Y.M. at 1½ tons/ac.+ Sannhemp G.M. at 6000 lb./ac. (vi) S—661. (vii) Irrigated. (viii) 3 hand weedings. (ix) 30.40″. (x) 24.12.1958.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 levels of N : N_0=0, N_1=30 and N_2=60 lb./ac.

(2) 3 levels of P_2O_5 : P_0=0, P_1=30 and P_2=60 lb./ac.

(3) 3 levels of K_2O : K_0=0, K_1=30 and K_2=60 lb./ac.

Source, time and method of application are N.A.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 2. (iv) (a) N.A. (b) 1/80 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1958—1961. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nii.

5. RESULTS :

(i) 4655 lb./ac. (ii) 213.2 lb./ac. (iii) Main effect of P and N×K interaction are highly significant. Interaction N×P is significant. (iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	4625	4563	4626	4604	4522	4814	4477
N_1	4833	4638	4432	4635	4604	4552	4747
N_2	4982	4457	4737	4725	4912	4598	4666
Mean	4813	4553	4598	4655	4679	4655	4630
K_0	4781	4563	4694				
K_1	4780	4550	4635				
K_2	4880	4546	4466				

S E. of any marginal mean = 50.2 lb./ac.

S.E. of body of any table = 87.0 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(43).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To study the optimum combination of N, P and K for Paddy Crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 150 lb./ac. of A/S+100 lb./ac. of Triple Super. (ii) (a) Black loam. (b) N.A. (iii) 15.7.1959/19.8.1959. (iv) (a) 3 ploughings, harrowing and puddling. (b) Transplanting. (c) 15 lb./ac. (d) 9"×9". (e) 2. (v) 2 C.L./ac. of F.Y.M. (vi) S—661. (vii) Irrigated. (viii) Rotary weedings and hand weeding. (x) 31.12.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 58(36) on page 16.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plants, no. of tillers, grain and straw yield. (iv) (a) 1958—1961. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2555 lb./ac. (ii) 355.5 lb./ac. (iii) Main effects of N and P are significant. (iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	2432	2221	2467	2373	2314	2533	2272
N_1	2480	2477	2725	2561	2559	2727	2396
N_2	2434	2713	3042	2730	2725	2632	2832
Mean	2449	2470	2745	2555	2533	2631	2500
K_0	2522	2355	2721				
K_1	2434	2594	2864				
K_2	2389	2462	2649				

S.E. of any marginal mean = 83.8 lb./ac.
S.E. body of any table = 145.1 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(44).**

Site :- Agri. Res. Stn., Hiriyur. **Type :- 'M'.**

Object :—To study the influence of G.M. on phosphate availability and its effect on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—G.M. crop. (b) Paddy. (c) 3000 lb./ac. of G.M.+5 C.L./ac. of compost. (ii) (a) Gravel mixed with clay loam. (b) Refer soil analysis, Hiriyur. (iii) 30,6.1954, 1.7.1954/28.7.1954. (iv) (a) 2 ploughings by improved plough and 2 by country plough, followed by levelling and puddling. (b) N.A. (c) 10 srs./ac. (d) N.A. (e) 3 to 4. (v) 5 C.L./ac. of compost. (vi) *Bangarakovi*, (late). (vii) Irrigated. (viii) 2 weedings. (ix) 8.98". (x) 16.1.1955.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 2 levels of G M. : G_0=0 and G_1=3000 lb./ac.
(2) 2 times of application of 75 lb./ac. of A/S.: T_1=At planting and T_2=At the time of applying G.M.
(3) 2 levels of Super : P_0=0 and P_1=½ cwt./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) and (b) 1/40 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Paddy stem borer was observed. Spraying with Folidol insecticide and putting up light traps during nights. (iii) Grain and straw yield. (iv) (a) 1953—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2041 lb./ac. (ii) 312.2 lb./ac. (iii) P×G interaction alone is significant. (iv) Av. yield of grain in lb./ac

	T_1	T_2	Mean	P_0	P_1
G_0	1969	2006	1988	2075	1900
G_1	2020	2171	2095	1930	2260
Mean	1995	2088	2041	2003	2080
P_0	1900	2106			
P_1	2089	2071			

S.E. of any marginal mean = 78.1 lb./ac.
S.E. of body of any table = 110.4 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(14).**

Site :- Agri. Res. Stn., Hiriyur. **Type :- 'M'.**

Object :—To find out the influence of G.M. on phosphate availability and its effect on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—G.M. crop. (b) Paddy. (c) 3000 lb./ac. of G.M.+5 C.L./ac. of compost. (ii) (a) Gravel mixed clay loam soils. (b) Refer soil analysis, Hiriyur. (iii) 10.7.1955/19.8.1955. (iv) (a) 2 ploughings by improved ploughs and 2 by country plough followed by levelling and pudding. (b) N.A. (c) 10 srs./ac. (d) N.A. (e) 3 to 4. (v) 5 C.L./ac. of compost. (vi) ***Bangarakovi*** (late). (viii) Irrigated. (viii) 2 weedings. (ix) 22.70". (x) 5.1.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(44) on page 18.

4. GENERAL :

(i) Satisfactory. (ii) Paddy stem borer was observed. Spraying with Folidol insecticide and putting up light traps during nights. (iii) Grain and straw yield. (iv) (a) 1953—cont d. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2578 lb./ac. (ii) 460 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	T_1	T_2	Mean	P_0	P_1
G_0	2420	2462	2441	2212	2670
G_1	2635	2835	2735	2645	2825
Mean	2527	2649	2578	2429	2747
P_0	2445	2413			
P_1	2610	2885			

S.E. of any marginal mean = 115.0 lb./ac.
S.E. of body of any table = 162.6 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(202).**

Site :- Agri. Res. Stn., Hiriyur. **Type :- 'M'.**

Object :—To study the influence of G.M. on phosphate availability and its effect on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) Compost at 5 C.L./ac.+8 mds./ac. of A/S+8 mds./ac. of Super. (ii) (a) Red and sandy loam. (b) Refer soil analysis, Hiriyur. (iii) 2.7.1957/10.8 1957. (iv) (a) Ploughing, harrowing and puddling. (b) Line planting. (c) 20 lb./ac. (d) 9"×9". (e) 2. (v) 5 C.L./ac. of compost. (vi) S—1092. (late). (vii) Irrigated. (viii) 2 weedings. (ix) 18.76". (x) 6.12.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(44) on page 18.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Ground and straw yield. (iv) (a) 1953—contd. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2126 lb./ac. (ii) 413.9 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	T_1	T_2	Mean	P_0	P_1
G_0	1959	2224	2091	2071	2111
G_1	2060	2262	2161	2075	2248
Mean	2010	2243	2126	2073	2180
P_0	1942	2204			
P_1	2076	2282			

S.E. of any marginal mean = 103.5 lb./ac.
S.E. of body of any table = 146.3 lb./ac

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(45).**

Site :- Agri. Res. Stn., Hiriyur. **Type :- 'M'.**

Object :—To study the effect of K on Paddy crop.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—G.M. crop. (b) Paddy. (c) 3000 lb./ac. of G.M.+5 C.L./ac. of compost. (ii) (a) Gravel mixed with clay loam. (b) Refer soil analysis, Hiriyur. (iii) 30.6.1954 ; 1.7.1954/28.7.1954. (iv) (a) 4 ploughings followed by levelling and puddling. (b) N.A. (c) 10 srs./ac. (d) N.A. (e) 3 to 4 (v) 3000 lb./ac. of G.M.+5 C.L./ac. of compost at puddling+112 lb./ac. of G.N.C. at planting. (vi) *Bangarakovi* (late). (vii) Irrigated. (viii) 2 weedings. (ix) 8.98". (x) 16.1.1955.

2. TREATMENTS :

3 manurial treatments : M_1=40 lb./ac. of A/S at planting+72 lb./ac. of A/S at 1st weeding, M_2=M_1+50 lb./ac. of Mur. Pot. at planting and M_3=60 lb./ac. of A/S+50 lb./ac. of Mur. Pot. at planting+100 lb./ac. of A/S at 1st weeding.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) and (b) 1/40 lb./ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Paddy stem borer was observed.Spraying with Folidol insecticide and putting up light traps during night. (iii) Grain and straw yield. (iv) (a) 1954—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2130 lb./ac. (ii) 249.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	2100	2117	2174

S.E./mean = 101.5 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(15).**

Site :- Agri. Res. Stn., Hiriyur. **Type :- 'M'.**

Object :—To study the effect of K on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—G.M. crop. (b) Paddy. (c) 3000 lb./ac. of G.M.+5 C.L./ac. of compost. (ii) (a) Gravel mixed clay loam. (b) Refer soil analysis. Hiriyur. (iii) 10.7.1955/21.8.1955. (iv) (a) 4 ploughings followed by levelling and puddling. (b) N.A. (c) 10 srs./ac. (d) N.A. (e) 3 to 4. (v) 112 lb./ac. of G.N.C. at planting+3000 lb./ac. of G M.+5 C.L./ac. of compost at puddling. (vi) *Bangarakovi* (late). (vii) Irrigated. (viii) 2 weedings. (ix) 22.70". (x) 5.1.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(45) on page 20.

5. RESULTS :

(i) 2241 lb./ac. (ii) 588.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	2395	2198	2130

S.E./mean = 240.2 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(185).**

Site :- Agri. Res. Stn., Hiriyur. **Type :- 'M'.**

Object : –To study the effect of K on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) Compost at 5 C.L./ac.+A/S at 8 mds./ac.+Super at 8 mds./ac. (ii) (a) Red sandy loam. (b) Refer soil analysis, Hiriyur. (iii) N.A./23.8.1956. (iv) (a) Ploughing, harrowing and puddling. (b) Line planting. (c) 10 srs./ac. (d) 9″×9″. (e) 2. (v) Compost at 5 C.L /ac.+G.M. at 3000 lb./ac.+4 mds./ac. of G.N.C. (vi) S—1092. (vii) Irrigated. (viii) 2 weedings. (ix) 18.76″. (x) 6.12.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(45) on page 20.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2258 lb./ac. (ii) 350.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	2280	2320	2173

S.E./mean = 143.0 lb./ac.

Crop :- Paddy *(Rabi)*. **Ref :- Ms. 57(215).**

Site :- Agri. Res. Stn., Hiriyur. **Type :- 'M'.**

Object :—To study the effect of K on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) Compost at 5 C.L./ac.+8 md./ac. of A/S+8 md./ac. of Super. (ii) (a) Red and sandy loam. (b) Refer soil analysis, Hiriyur. (iii) N A./19 to 23 8.1957. (iv) (a) Ploughing, harrowing and puddling. (b) Line planting. (c) 10 srs./ac. (d) 9″×9″. (e) N.A. (v) Compost at 5 C.L./ac.+G M. at 3000 lb./ac.+4 mds./ac. of G.N.C. (vi) S—1092. (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 23.12.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(45) on page 20.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2699 lb./ac. (ii) 284.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	2695	2636	2767

S.E./mean = 116.1 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(46).**

Site :- Agri. Res. Stn., Hiriyur. **Type :- 'M'.**

Object :—To study the effect of minor elements on Paddy crop.

1. BASAL CONDITIONS :

(i) (a) Paddy—G.M. crop—Paddy. (b) G.M. crop. (c) 3000 lb./ac. of G.M.+5 C.L./ac. of compost. (il) (a) Gravel mixed with clay Loam. (b) Refer soil analysis, Hiriyur. (iii) 30.6.1954 ; 1.7.1954/28.7.1954. (iv) (a) 2 ploughings by improved ploughs, 2 ploughings by country plough, levelling and puddling. (b) N.A. (c) 10 srs./ac. (d) N.A. (e) 3 to 4. (v) 3000 lb./ac. of G.M.+5 C.L./ac. of compost applied at the time of puddling +112 lb./ac. of G.N.C. +40 lb./ac. of A/S+56 lb./ac. of Super at planting+75 lb./ac. of A/S at first weeding. (vi) *Bangarakovi*. (vii) Irrigated. (viii) 2 weedings. (ix) 8.98". (x) 16.1.1955.

2. TREATMENTS :

6 treatments of minor elements T_0=No minor element, T_1=C/S at 5 lb./ac., T_2=C/S at 10 lb./ac. T_3= Borax at 20 lb./ac.. T_4=Zn SO_4 at 5 lb./ac. and T_5=Zn SO_4 at 10 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) and (b) 1/40 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Paddy stem borer, spraying with Folidol insecticide and putting up light traps during night. (iii) Grain and straw yield. (iv) (a) 1952—contd. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2037 lb./ac. (ii) 377.2 lb./ac. (iii) Treatment differences are not sighificant. (iv) Av. yield of grain in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5
Av. yield	1810	2071	1949	2222	2153	2015

S.E./mean = 68.7 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(16).**

Site :- Agri. Res. Stn., Hiriyur. **Type :- 'M'.**

Object :—To study the effect of minor elements on Paddy crop.

1. BASAL CONDITIONS :

(i) (a) Paddy—G.M. crop—Paddy. (b) G.M. crop. (c) 3000 lb./ac. of G.M.+5 C.L./ac. of compost. (ii) (a) Gravel mixed clay loam. (b) Refer soil analysis, Hiriyur. (iii) 10.7.1955/22.8.1955. (iv) (a) 2 ploughings by improved ploughs and 2 ploughings by country plough, levelling and puddling. (b) N.A. (c) 10 srs./ac. (d) N.A. (e) 3 to 4. (v) 3000 lb./ac. of G.M.+5 C.L./ac. of compost applied at the time of puddling+112 lb./ac. of G.N.C.+40 lb./ac. of A/S+56 lb./ac. of Super at planting+75 lb./ac. of A/S at 1st weeding. (vi) *Bangarakovi* (late). (vii) Irrigated. (viii) 2 weedings. (ix) 22.70". (x) 5.1.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(46) above.

5. RESULTS :

(i) 2244 lb./ac. (ii) 456 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5
Av. yield	2086	2360	2312	2068	2294	2348

S.E./mean = 203.9 lb./ac.

———

Crop :- Paddy *(Kharif).* **Ref :- Ms. 57(203).**

Site :- Agri. Res. Stn., Hiriyur. **Type :- 'M'.**

Object :—To study the effect of minor elements on Paddy crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L./ac. of compost+8 md./ac. of A/S+8 md./ac. of Super. (ii) (a) Red and sandy loam soil. (b) Refer soil analysis, Hiriyur. (iii) N.A./23.8.1957. (iv) (a) Ploughing, harrowing and puddling. (b) Line planting. (c) 20 lb./ac. (d) 9"×9". (e) 2. (v) 4 md./ac. of G.N.C +40 lb./ac. of A/S+2 md./ac. of Super at planting+75 lb./ac. of A/S at first weeding+3000 lb./ac. of G.M.+5 C L./ac. of compost at puddiing. (vi) S—1092 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 18.76". (x) 23.12.1957.

2. TREATMENTS :

Same as in expt. no. 54(46) on page 22.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) and (b) 1/40 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1952—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2926 lb./ac. (ii) 289.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5
Av. yield	2788	3151	2905	3004	2857	2851

S.E./mean = 129.2 lb./ac.

———

Crop :- Paddy *(Kharif).* **Ref :- Ms. 58(202).**

Site :- Agri. Res. Stn., Hiriyur. **Type :- 'M'.**

Object :—To study the effect of minor elements on Paddy crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L./ac. of compost+8 md./ac. of A/S+8 md./ac. of Super. (ii) (a) Red and sandy loam soil. (b) Refer soil analysis, Hiriyur. (iii) 2.7.1958/15.7.1958. (iv) (a) Ploughing, puddling and harrowing. (b) Line planting. (c) 20 lb./ac. (d) 9"×9". (e) 2. (v) 4 md./ac. of G.N.C.+40 lb./ac. of A/S+2 md./ac. of Super at planting+5 C.L./ac. of compost+3000 lb./ac. of G.M. at puddling+75 lb./ac. of A/S at first weeding. (vi) S— 1092 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 16.48". (x) 15.12.1958.

2. TREATMENTS :

Same as in expt. no. 54 (46) on page 22.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 57(203) on page 23.

5. RESULTS :

(i) 2774 lb./ac. (ii) 415.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5
Av. yield	2544	3004	2772	2760	2768	2794

S.E./mean = 185.6 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(31).**

Site :- Agri. Res. Stn., Kudige. **Type :- 'M'.**

Object :—To determine the optimum levels of N, P and K for the maximum yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 6 C.L./ac. of F.Y.M. (ii) (a) Black clay soil. (b) N.A. (iii) 12.8.1958 (iv) (a) 5 ploughings. (b) Line planting. (c) 12 lb./ac. (d) 12"×12". (e) 3 to 4. (v) 6 C.L./ac of F.Y.M. (vi) PS—1. (vii) Irrigated. (viii) 4 intercultivations and 2 hand weedings. (ix) 4.33". (x) 27.1.1959.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 levels of N as A/S : N_0=0, N_1=30 and N_2=60 lb./ac.
(2) 3 levels of P_2O_5 as Super : P_0=0, P_1=30 and P_2=60 lb./ac.
(3) 3 levels of K_2O as Mur. Pot. : K_0=0, K_1=30 and K_2=60 lb./ac.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block ; 3 blocks/replications. (b) N.A. (iii) 2. (iv) (a) 45½'×22'. (b) 43½'×20'. (v) 1' all around. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Blast attack—sprayed Bordeaux mixture. (iii) Height, no. of tillers and grain yield. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3123 lb./ac. (ii) 405.4 lb./ac. (iii) The main effect K and the interaction P×K are significant while the interaction N×P is highly significant. (iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	2837	3271	3738	3282	3622	2937	3288
N_1	3355	2921	2971	3082	3188	2921	3138
N_2	3204	2954	2854	3004	3238	3054	2720
Mean	3132	3049	3188	3123	3349	2971	3049
K_0	3455	3455	3138				
K_1	2754	2704	3455				
K_2	3188	2987	2971				

S.E. of any marginal mean = 95.6 lb./ac.
S.E. of body of any table = 165.5 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(236).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'M'.**

Object :—To study the effect of $CuSO_4$ on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Fallow—Paddy. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Laterite soil. (b) Refer soil analysis, Kumta. (iii) 26 5.1954/10.7.1954. (iv) (a) Ploughing. (b) Transplanted. (c) 40 lb./ac. (d) 8″×8″. (e) 4 to 5. (v) 5 C.L./ac. of F.Y.M. (vi) Red *Halaga*—244. (vii) Unirrigated. (viii) Weeding. (ix) 175.96″. (x) 5.11.1964.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of $CuSO_4$: C_0=No $CuSO_4$ and C_1=1 lb./ac. of $CuSO_4$.

(2) 2 levels of lime : L_0=No lime and L_1=Lime (Amount N.A.)

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) 20′×14′8″. (b) 15′×12′. (v) 2′×1′4″ left as border. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Attacked severely by *Kone pest*. (iii) Grain yield. (iv) (a) to (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 1629 lb./ac. (ii) 285.8 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

	C_0	C_1	Mean
L_0	1509	1883	1696
L_1	1496	1629	1562
Mean	1502	1756	1629

S.E. of any marginal mean = 90.4 lb./ac.
S.E. of body of the table = 127.8 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(235).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'M'.**

Object :—To study the effect of Calcium Cynamide on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Fallow—Paddy. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Laterite soil. (b) Refer soil analysis, Kumta. (iii) 26.5.1954/14.7.1954. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 8″×8″. (e) 4 to 5. (v) 5 C.L./ac. of F.Y.M.+3 lb./ac. of P_2O_5 as B.M. (vi)Red *Halaga*—244. (vii) Unirrigated. (viii) Weeding. (ix) 175.96′. (x) 9.11.1954.

2. TREATMENTS :

4 sources of N at 32 lb /ac. : S_1=A/S, S_2=A/S+G.N.C., S_3=Cal. Cynamide, S_4=G.N.C.+Cal. Cynamide in 2 : 1.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 2. (iv) (a) 23′4″×17′4″. (b) 18′×12′. (v) 2′8″×2′8″. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) No. (b) and (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1251 lb./ac. (ii) 187.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_1	S_2	S_3	S_4
Av. yield	1235	1210	1273	1286

S.E./mean = 132.7 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(231).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'M'.**

Object :—To study the effect of fish manure on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Fallow—Paddy. (b) Pandy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Laterite soil. (b) Refer soil analysis, Kumta. (iii) 26.5 1955/14.7.1955. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 10″×10″. (e) 4. (v) 5 C.L./ac. of F.Y.M. (vi) Red *Halaga*—244. (vii) Unirrigated. (viii) Weeding. (ix) 175.06″. (x) 8.11.1955.

2. TREATMENTS :

9 manurial treatments : M_0=No manure (2 plots), M_1=300 lb./ac. of F.M., M_2=600 lb./ac. of F.M., M_3 =900 lb./ac. of F.M., M_4=A/S and Super to supply N and P as contained in M_1, M_5=A/S and Super to supply N and P as contained in M_2, M_6=A/S and Super to supply N and P as contained in M_3, M_7 = 30 lb./ac. of N as A/S+30 lb./ac. of P_2O_5 as Super and M_8=30 lb./ac. of N as A/S+60 lb./ac. of of P_2O_5 as Super.

3. DESIGN :

(i) R B.D. (ii) (a) 10. (b) N.A. (iii) 2. (iv) (a) 20′×15′. (b) 18′4″×13′4″. (v) 2 rows. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1955—1957. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1081 lb./ac. (ii) 106.7 lb./ac. (iii) Treatment differences are not significant. (vi) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8
Av. yield	939	992	1088	1238	1142	1014	1221	1056	1184

S.E./mean (other than M_0) = 75.4 lb./ac.

S.E./M_0 mean = 53.4 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(127).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'M'.**

Object :—To study the effect of fish manure on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy (c) As per treatments. (ii) (a) Laterite soil. (b) Refer soil analysis, Kumta. (iii) 6.6.1956/10.7.1956. (iv) (a) Ploughing. (b) Transplanting. (c) 75 lb./ac. (d) 10″×10″. (e) 4. (v) Nil. (vi) RH—244(late). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 45.8″. (x) 4.11.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(231) above.

5. RESULTS :

(i) 1433 lb./ac. (ii) 138.5 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8
Av. yield	1350	1269	1387	1195	1546	1749	1643	1333	1504

S.E./mean (other than M_0) = 97.9 lb./ac.

S.E./M_0 mean = 69.2 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(244).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'M'.**

Object :—To study the effect of fish manure on P addy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Fallow—Paddy. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Laterite soil. (b) Refer soil analysis, Kumta. (iii) 22.5.1957/6.7.1957. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 10″×10″. (e) 4. (v) 5 C.L./ac. of F.Y.M. (vi) Red *halaga*—244. (vii) Unirrigated. (viii) Weeding. (ix) 115.04″. (x) 4.11.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(231) on page 26.

5. RESULTS :

(i) 1489 lb./ac. (ii) 141.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8
Av. yield	1472	1583	1380	1598	1621	1342	1395	1583	1444

S.E./mean (other than M_0) = 100.2 lb./ac.

S.E. of M_0 mean = 70.8 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(237).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'M'.**

Object :—To study the response of Paddy to the application of Lime.

1. BASAL CONDITIONS :

(i) (a) Paddy—Fallow—Paddy. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Laterite soil. (b) Refer soil analysis, Kumta. (iii) 26.5.1954/11.7.1954. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb /ac. (d) 8″×8″. (e) N.A. (v) 40 lb./ac. as A/S. (vi) Red *halaga*—244. (vii) Unirrigated. (viii) Weeding. (ix) 176.09″. (x) 11.11.1954.

2. TREATMENTS :

All combinations of (1) and (2)+control (no lime)

(1) 4 levels of lime : L_1=300, L_2=900, L_3=1800 and L_4=3600 lb./ac.

(2) 3 frequencies of application : T_1=Every year, T_2=Once in two years and T_3=Once in 3 years.

3, DESIGN :

(i) R.B.D. (ii) (a) 13. (b) N.A. (iii) 2. (iv) (a) 38′×18′. (b) 32′×12′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of grain. (iv) (a) 1949—1956. (b) N.A. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1841 lb./ac. (ii) 175.2 lb./ac. (iii) Main effect of L is highly significant and main effect of T is significant. (iv) Av. yield of grain in lb./ac.

Control = 1950 lb./ac.

	L_1	L_2	L_3	L_4	Mean
T_1	1598	2050	1737	2138	1881
T_2	1486	2092	2116	2155	1962
T_3	1692	1621	1449	1855	1654
Mean	1592	1921	1767	2049	1832

S.E. of marginal means of L = 71.5 lb./ac.
S.E. of marginal means of T = 61.9 lb./ac.
S.E. of body of table or control mean = 123.9 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(233).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'M'.**

Object :—To study the response of Paddy to application of Lime.

1. BASAL CONDITIONS :

(i) (a) Paddy—Fallow—Paddy. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Laterite. (b) Refer soil analysis, Kumta. (iii) 26.5.1955/30.6.1955. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 8″×8″. (e) N.A. (v) 40 lb./ac. of A/S. (vi) Red *halaga*—244. (vii) Unirrigated. (viii) Weeding. (ix) 175.06″. (x) 21.10.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(237) on page 27.

5. RESULTS :

(i) 2099 lb./ac. (ii) 78.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 1914 lb./ac.

	L_1	L_2	L_3	L_4	Mean
T_1	1645	2113	2070	2028	1964
T_2	1943	2198	2035	2482	2164
T_3	2177	2120	2177	2382	2214
Mean	1922	2144	2094	2297	2144

S.E. of marginal means of L = 32.1 lb./ac.
S.E. of marginal means of T = 27.8 lb./ac.
S.E. of body of table or control mean = 55.6 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(129).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'M'.**

Object :—To study the response of Paddy to the application of Lime.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Kumta. (iii) 2.6.1956/N.A. (iv) (a) Ploughing and harrowing. (b) Transplanting. (c) 75 lb./ac. (d) 8″ between rows and 8″ between plants. (e) 8. (v) Nil. (vi) R.H.—224. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 45.8″. (x) 10.11.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(237) on page 27.

5. RESULTS :

(i) 1136 lb./ac. (ii) 290.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 1326 lb./ac.

	L_1	L_2	L_3	L_4	Mean
T_1	837	1028	1361	1021	1062
T_2	1602	993	1063	1276	1234
T_3	1000	964	1205	1084	1063
Mean	1146	995	1210	1127	1120

S.E. of marginal means of L = 118.6 lb./ac.
S.E. of marginal means of T = 102.7 lb./ac.
S.E. of body of table or control mean = 205.3 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(247).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'M'.**

Object :—To study the response of Paddy to the application of Lime.

1. BASAL CONDITIONS :

(i) (a) Paddy—Fallow—Paddy. (b)Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Laterite soil. (b) Refer soil analysis, Kumta. (iii) 22.5.1957/4.7.1957. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 8"×8". (e) N.A. (v) 40 lb./ac. of A/S. (vi) Red *halaga*—244. (vii) Unirrigated. (viii) Weeding. (ix) 115.04". (x) 4.11.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(237) on page 27.

5. RESULTS :

(i) 1357 lb./ac. (ii) 194.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 1567 lb./ae.

	L_1	L_2	L_3	L_4	Mean
T_1	1489	1360	1286	1397	1383
T_2	1468	1234	1156	1241	1275
T_3	1347	1364	1371	1361	1361
Mean	1435	1319	1271	1333	1340

S.E. of marginal means of L = 79.3 lb./ac.
S.E. of marginal means of T = 68.7 lb./ac.
S.E. of body of table = 137.4 lb./ac.

Crop :- Paddy. **Ref :- Ms. 54(12).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of different times of application of N with and without P and G.M. on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Sandy loam soil. (b) Refer soil analysis, Mandya. (iii) N.A. (iv) (a) 3 ploughings under puddled condition and levelling. (b) Transplanted. (c) 20 srs/ac. (d) Rows 9" apart. (e) 2 to 3. (v) Nil. (vi) S—661 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) and (x) N.A.

2. TREATMENTS :

All combinations of (1), (2) and (3).

(1) 2 times of application of 75 lb./ac. of A/S : T_1=At planting and T_2=At the time of application of G.M.

(2) 2 levels of Super : P_0=0 and P_1=56 lb./ac.

(3) 2 levels of G.M. : G_0=0 and G_1=3000 lb./ac.

3. DESIGN :

(i) 2^3 Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) and (b) 1/40 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3899 lb./ac. (ii) 261.2 lb./ac. (iii) Main effect of G and T×P interaction are highly significant. P×G interaction is significant. (iv) Av. yield of grain in lb./ac.

	T_1	T_2	Mean	G_0	G_1
P_0	3700	4020	3860	3565	4155
P_1	4080	3795	3938	3850	4025
Mean	3890	3908	3899	3708	4090
G_0	3660	3755	3708		
G_1	4120	4060	4090		

S.E. of any marginal mean = 65.3 lb./ac.
S.E. of body of any table = 92.3 lb./ac.

Crop :- Paddy. **Ref :- Ms. 55(4).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of different times of application of N with and without P and G.M. on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Mandya. (iii) N.A./19.8.1955. (iv) (a) 3 ploughings under puddled condition and levelling. (b) Transplanting. (c) 20 srs./ac. (d) Rows 9″ apart. (e) 2 to 3. (v) Nil. (vi) S—661 (medium). (vii) Irrigated. (viii) 2 weedings on 4th and 8th weeks after transplanting. (ix) 15.17″. (x) 25.12.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(12) on page 29.

4. GENERAL :

(i) Good. (ii) Light attack of stem borers—Attacked earheads were removed and crop dusted with Hexalene. (iii) Grain and straw yield. (iv) (a) 1953—contd. (b) Yes. (c) Nil. (v) to) (vii) Nil.

5. RESULTS :

(i) 1689 lb./ac. (ii) 241.2 lb./ac. (iii) Main effect of G alone is highly significant. (iv) Av. yield of grain in lb./ac.

	T_1	T_2	Mean	G_0	G_1
P_0	1555	1725	1640	1455	1825
P_1	1875	1600	1738	1580	1895
Mean	1715	1663	1689	1518	1860
G_0	1585	1450			
G_1	1845	1875			

S.E. of any marginal mean = 60.2 lb./ac.
S.E. of body of any table = 85.3 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(151).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of different times of application of N with and without P and G.M. on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam soil. (b) Refer soil analysis Mandya. (iii) N.A./17.8.1956. (iv) (a) 3 ploughings and levelling. (b) Transplanting. (c) 40 lb./ac. (d) Rows 9" to 10" apart. (e) 2 to 3. (v) Nil. (vi) S—661 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 25.48". (x) 23.12.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(12) on page 29.

5. RESULTS :

(i) 2880 lb./ac. (ii) 384.3 lb./ac. (iii) The main effect of T alone is significant. (iv) Av. yield of grain in lb./ac.

	T_1	T_2	Mean	G_0	G_1
P_0	2895	2835	2865	2800	2930
P_1	3185	2605	2895	2955	2835
Mean	3040	2720	2880	2878	2882
G_0	3070	2685			
G_1	3010	2755			

S.E. of any marginal mean = 96.1 lb./ac.
S.E. of body of any table = 135.9 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(138).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of different times of application of N with and without P and G.M. on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam soil. (b) Refer soil analysis, Mandya. (iii) N.A./23.8 1957. (iv) (a) 3 ploughings and levelling for incorporations of G.M. (b) Transplanting. (c) 40 lb./ac. (d) 9" to 10" between rows. (e) 2 to 3. (v) Nil. (vi) S—661 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 18.17". (x) 18.12.1957.

2. TREATMENTS to GENERAL :

Same as in expt. no. 54(12) on page 29.

5. RESULTS :

(i) 2849 lb./ac. (ii) 321.5 lb./ac. (iii) Main effect of G alone is significant. (iv) Av. yield of grain in lb./ac.

	T_1	T_2	Mean	G_0	G_1
P_0	2720	2885	2803	2555	3050
P_1	2940	2850	2895	2855	2935
Mean	2830	2868	2849	2705	2993
G_0	2700	2710			
G_1	2960	3025			

S.E. of any marginal mean = 80.4 lb./ac.
S.E. of body of any table = 113.7 lb./ac.

Crop :- Paddy **Ref :- Ms. 54(10).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of potash on Paddy.

1. BASAL CONDITIONS :

(i) (a) No. (b) Paddy. (c) As per treatments. (ii) (a) Clayey alkaline soil. (b) Refer soil analysis Mandya. (iii) N.A./23.8. 1954. (iv) (a) 3 ploughings and levelling. (b) Transplanted. (c) 20 srs./ac. (d) Rows 9" to 10" apart. (e) 2 to 3. (v) Sannhemp grown with 56 lb./ac. of Super and ploughed in as manure to paddy. (vi) S—749 (medium). (vii) Irrigated. (viii) 2 weedings, 4 and 8 weeks after transplanting. (ix) 13.49". (x) 4.1.1955.

2. TREATMENTS :

All combinations of (1) and (2)
(1) 2 levels of N as A/S : N_1=30 and N_2=40 lb./ac.
(2) 2 levels of K_2O as Mur. Pot. : K_0=0 and K_1=30 lb./ac.

3. DESIGN :

(i) L. Sq. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) and (b) 1/40 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Attack of stem-borer—attacked ear-heads were removed and dusted with Hexalene. (iii) Grain and straw yield. (iv) (a) 1953—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2128 lb./ac. (ii) 126.8 lb./ac. (iii) Main effect of N alone is significant. (iv) Av. yield of grain in lb./ac.

	K_0	K_1	Mean
N_1	2330	2070	2200
N_2	2000	2110	2055
Mean	2165	2990	2128

S.E. of any marginal mean = 44.8 lb./ac.
S.E. of body of the table = 63.4 lb./ac.

Crop :- Paddy. **Ref :- Ms. 55(2).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of potash on Paddy.

BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clayey soil with traces of alkalinity. (b) Refer soil analysis, Mandya. (iii) N.A./14.8.1955. (iv) (a) Three ploughings and levelling. (b) Transplanting. (c) 20 srs./ac. (d) Rows 9″ to 10″ apart. (e) 2 to 3. (v) Sannhemp was grown after application of 1 cwt./ac. of Super and ploughed in before transplanting. (vi) S—749 (medium). (vii) Irrigated. (viii) 2 weedings at 4th and 8th week after transplanting. (ix) 16.95″. (x) 28.12·1955.

2. TREATMENTS and 3. DESIGN:

Same as in expt. no. 54(10) on page 32.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3078 lb./ac. (ii) 147.2 lb./ac. (iii) Main effect of N alone is significant. (iv) Av. yield of grain in lb./ac.

	K_0	K_1	Mean
N_1	3120	2760	2930
N_2	3200	3230	3215
Mean	3160	2995	3078

S.E. of any marginal mean = 52.0 lb./ac.
S.E. of body of table = 73.6 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(147).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of potash on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clayey soil with trace of alkalinity. (b) Refer soil analysis, Mandya. (iii) N.A./26.8.1956. (iv) (a) 3 ploughings and levelling. (b) Transplanting. (c) 40 lb./ac. (d) Rows 9″ to 10″ apart. (e) 2 to 3. (v) Sannhemp was grown in the plot after the application of 1 cwt./ac. of Super and ploughed in before transplantation. (vi) S—749. (vii) Irrigated. (viii) 2 weedings on 4th and 8th week after transplanting. (ix) 26.94″. (x) 23.12.1956.

2. TREATMENTS to 4. GENERAL :

Same a in expt. no. 55(2) on page 32.

5. RESULTS :

(i) 2235 lb./ac. (ii) 210.1 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

	K_0	K_1	Mean
N_1	2270	2200	2235
N_2	2180	2290	2235
Mean	2225	2245	2235

S.E. of any marginal mean = 74.2 lb./ac.
S.E. of body of table = 105.0 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(136).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of potash on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clayey soil with traces of alkalinity. (b) Refer soil analysis, Mandya. (iii) N.A./26.8.1957. (iv) (a) 3 ploughings and levelling. (b) Transplanting. (c) 40 lb./ac. (d) Rows 9″ to 10″ apart. (e) 2 to 3. (v) Sannhemp was grown in the plot after application of 1 cwt./ac. of Super and ploughed in before transplantation. (vi) S –749. (vii) Irrigated. (viii) 2 weedings on 4th and 8th week after transplanting. (ix) 18.17″. (x) 25.12.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(2) on page 32.

5. RESULTS :

(i) 2252 lb./ac. (ii) 272.7 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb /ac.

	K_0	K_1	Mean
N_1	2020	2240	2130
N_2	2390	2360	2375
Mean	2205	2300	2252

S.E. of any marginal mean = 96.4 lb./ac.

S.E. of body of the table = 136.4 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(155).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of P applied to G.M. Sannhemp as a pure crop combined with different levels of lime on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—*Ragi*—Sugarcane. (b) Sannhemp. (c) P_2O_5 as per treatments. (ii) (a) Sandy. (b) Refer soil analysis, Mandya. (iii) N.A./28.7.1956. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 10″×6″. (e) 2 to 3. (v) G.M. applied in *situ*. (vi) S—749 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 27.10″. (x) 14.12.1956.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 levels of P_2O_5 as Super applied to G.M. crop preceding Paddy crop : $P_0=0$, $P_1=20$ and $P_2=40$ lb./ac.

(2) 3 levels of lime applied to Paddy crop : $L_0=0$, $L_1=200$ and $L_2=400$ lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 30′×19.2′. (b) 27′×16.2′. (v) 1½′ alround the plot. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 4150 lb./ac. (ii) 181.2 lb./ac. (iii) Main effect of P is significant and P×L interaction is highly significant. (iv) Av. yield of grain in lb./ac.

	L_0	L_1	L_2	Mean
P_0	3934	3784	4407	4042
P_1	4257	4382	3735	4125
P_2	4407	4083	4357	4282
Mean	4199	4083	4166	4150

S.E. of any marginal mean = 52.3 lb./ac.
S.E. of body of the table = 45.3 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(143).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of P applied to G.M. sannhemp as a pure crop combined with different levels of lime on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—*Ragi*—Sugarcane. (b) Sannhemp. (c) As per treatments. (ii) (a) Sandy. (b) Refer soil analysis, Mandya. (iii) 25.7.1957. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 10″×6″. (e) 2 to 3. (v) G.M. (vi) S—749 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 18.17″. (x) 12.12.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(155) on page 34.

5. RESULTS :

(i) 2877 lb./ac. (ii) 59.1 lb./ac. (iii) All effects are highly significant. (iv) Av. yield of grain in lb./ac.

	L_0	L_1	L_2	Mean
P_0	3137	2540	2589	2755
P_1	3486	2788	2739	3004
P_2	3486	2291	2838	2872
Mean	3370	2540	2722	2877

S.E. of any marginal mean = 17.1 lb./ac.
S.E. of body of the table = 29.5 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(134).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of P applied to G.M. sannhemp as a pure crop combined with different levels of lime on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—*Ragi*—Sugarcane. (b) Sannhemp. (c) As per treatments. (ii) (a) Sandy. (b) Refer soil analysis, Mandya. (iii) 26.7.1958/N.A. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 10″×6″. (e) 2 to 3. (v) G.M. (vi) S—749 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 23·7″. (x) 14.12.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(155) on page 34.

5. RESULTS :

(i) 2024 lb./ac. (ii) 507.2 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

	L_0	L_1	L_2	Mean
P_0	1867	1954	2096	1972
P_1	1859	2200	1911	1990
P_2	2042	2079	2208	2110
Mean	1923	2078	2072	2024

S.E. of any marginal mean = 146.4 lb./ac.
S.E. of body of the table = 253.6 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(149).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of application of different sources and levels of N on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—*Ragi*—Sugarcane. (b) Sugarcane. (c) 150 lb./ac. of A/S+250 lb./ac. of Super+150 lb./ac. of Pot. Sul. (ii) (a) Sandy soil. (b) Refer soil analysis, Mandya. (iii) N.A./8.8.1956. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 10″×6″. (e) 2 to 3. (v) G.M. (vi) S—749 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 25.48″. (x) 22.12.1956.

2. TREATMENTS :

All combinations of (1) and (2)+control
(1) 2 levels of N : N_1=40 and N_2=80 lb./ac.
(2) 4 sources of N : S_1=A/S, S_2=Hongey leaves S_3=Horsegram leaves and S_4=Cowpea leaves.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 30′×19.2′. (b) 27′×16.2′. (v) 1½′ on all sides. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2944 lb./ac. (ii) 335.0 lb./ac. (iii) Main effect of S, S×N interaction and 'control *vs.* rest' are highly significant. (iv) Av. yield of grain in lb./ac.

Control = 2375 lb./ac.

	S_1	S_2	S_3	S_4	Mean
N_1	3500	2625	2850	2675	2912
N_2	3500	3425	2450	3100	3119
Mean	3500	3025	2650	2888	3015

S.E. of N marginal mean = 83.8 lb./ac.
S.E. of S marginal mean = 118.4 lb./ac.
S.E. of body of the table or control mean = 167.5 lb./ac.

Crop :- Paddy *(Kharif).* **Ref :- Ms. 57(163).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of application of different sources and levels of N on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—*Ragi*—Sugarcane. (b) and (c) N.A. (ii) (a) Sandy soil. (b) Refer soil analysis, Mandya. (iii) N A./12.7.1957. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb /ac. (d) 10″×6″. (e) 2 to 3. (v) N.A. (vi) S—749 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 18 17″. (x) 15.12.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(149) on page 36.

5. RESULTS :

(i) 2258 lb./ac. (ii) 350.0 lb./ac. (iii) Main effect of N is highly significant and that of S is significant. (iv) Av. yield of grain in lb /ac.

Control = 2147

	S_1	S_2	S_3	S_4	Mean
N_1	2700	2525	2450	2400	2519
N_2	2025	2300	1625	2150	2025
Mean	2362	2412	2038	2275	2272

S.E. of N marginal mean = 87.5 lb./ac.
S.E. of S marginal mean = 123.7 lb./ac.
S.E. of body of the table or control mean = 175.0 lb./ac.

Crop :- Paddy *(Kharif).* **Ref :- Ms. 58(152).**

Site :- Agri Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of application of different sources and levels of N on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy - *Ragi*—Sugarcane. (b) Sugarcane. (c) 150 lb./ac. of A/S+150 lb./ac. of Super+150 lb./ac. of Pot. Sul. (ii) (a) Sandy soil. (b) Refer soil analysis, Mandya. (iii) N.A./5.7.1958. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d 10″×6″. (e) 2 to 3. (v) 112 lb./ac. of Super. (vi) S—749 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 23.7″. (x) 13.12.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(149) on page 36.

5. RESULTS :

(i) 1762 lb./ac. (ii) 245.3 lb./ac. (iii) Main effect of S alone is highly significant. (iv) Av. yield of grain in lb./ac.

	S_1	S_2	S_3	S_4	Mean
N_1	2078	1989	1626	1675	1842
N_2	1662	2159	1481	1625	1732
Mean	1870	2074	1554	1650	1787

S.E. of N marginal mean = 61.3 lb./ac.
S.E. of S marginal mean = 86.7 lb./ac.
S.E. of body of table = 122.7 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(142).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To find out the effect of different levels and sources of P on the yield of Paddy.

1. BASAL CONDITIONS:

(i) (a) Paddy—*Ragi*—Sugarcane. (b) Sugarcane. (c) 150 lb./ac. of A/S+150 lb./ac. of Super+150 lb./ac. of Pot. Sul. (ii) (a) Sandy soil. (b) Refer soil analysis, Mandya. (iii) 7.8.1957. (iv) (a) 3 ploughings and levellings. (b) Transplanting. (c) 40 lb./ac. (d 10″×6″. (e) 2 to 3. (v) 4000 lb./ac. of G.M. ploughed in and puddled a fortnight before sowing. 30 lb./ac. of N as A/S in two equal doses : one at planting and another at weeding. (vii) Unirrigated. (viii) 2 weedings. (ix) 18.17″. (x) 3.1.1958.

2. TREATMENTS :

All combinations of (1) and (2)+2 control/plots replication
(1) 3 levels of P_2O_5 : P_1=20 and P_2=40 lb./ac.
(2) 2 sources of P_2O_5 : S_1=Dical. phos. and S_2=Super.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) and (b) 1/40 ac. (v) Nil. (vi) Yes.

4. GENERAL

(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) No. (b) and (c)—. (v) to (vii) Nil.

5. RESULTS :

(i) 2577 lb./ac. (ii) 641.4 lb./ac. (iii) Only the main effect of P is significant. (iv) Av. yield of grain in lb./ac.

Control = 2456 lb./ac.

	S_1	S_2	Mean
P_1	2480	2120	2300
P_2	3024	2928	2976
Mean	2752	2524	2638

S.E. of any marginal or control mean = 202.8 lb./ac.
S.E. of body of table = 286.8 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(192).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of different G.M. crops on Paddy.

1. BASAL CONDITIONS :

(i) (a) G.M. crops as per treatments. (b) As per treatments. (c) Nil. (ii) (a) Sandy soil. (b) Refer soil analysis, Mandya. (iii) N.A./27.7.1955. (iv) (a) 2 ploughings. (b) Transplanting. (c) 40 lb./ac. (d) 10″×6″. (e) 2 to 3. (v) 112 lb /ac. of Super (vi) S—661 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 17.10″. (x) 11.12.1955.

2. TREATMENTS :

6 types of G.M. crops grown and ploughed in *situ* : G_0=No G.M., G_1=Cowpea, G_2=Horsegram, G_3=Green gram, G_4=Sannhemp, G_5=Mixture of cowpea, horse gram, green gram, sannhemp and black gram.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 29.0′+15.0′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) No. (b) and (c) —. (v) to (vii) Nil.

5. RESULTS :

(i) 2985 lb./ac. (ii) 243.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	G_0	G_1	G_2	G_3	G_4	G_5
Av. yield	2813	3014	2987	3057	3168	2865

S.E /mean = 99.3 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(148).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of different G.M. crops on Paddy.

1. BASAL CONDITIONS :

(i) (a) and (b) As per treatments. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Mandya. (iii) N.A./27.7.1956. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 10″×6″. (e) 2 to 3. (v) 112 lb./ac. of Super. (vi) S—749 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 17.10″. (x) 15.2.1956.

2. TREATMENTS :

9 types of G.M. crops grown and applied in *situ* : G_0=No G.M., G_1=Cowpea, G_2=Horse gram, G_3= Green gram, G_4=Sannhemp, G_5=Mixture of cowpea, Horse gram and green gram, $G_6=G_5+10\%$ of Sannhemp of G_4, $G_7=G_5+25\%$ of Sannhemp of G_4 and $G_8=G_5+50\%$ of Sannhemp.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 30′×19.2′. (b) 27′×16.2′. (v) 1½′ on all sides. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3430 lb./ac. (ii) 234.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	G_0	G_1	G_2	G_3	G_4	G_5	G_6	G_7	G_8
Av. yield	2950	3425	3300	2950	4100	3125	3850	3825	3350

S.E./mean = 117.5 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(164).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of different G.M. crops on Paddy.

1. BASAL CONDITIONS :

(i) (a) and (b) As per treatments. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Mandya. (iii) N.A./23.7.1957. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 10″×6″. (e) 2 to 3. (v) 112 lb./ac. of Super. (vi) S—749 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 18.17″. (x) 14.12.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(148) above.

5. RESULTS :

(i) 2528 lb./ac. (ii) 5 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	G_0	G_1	G_2	G_3	G_4	G_5	G_6	G_7	G_8
Av. yield	2025	2450	2275	2600	2850	2700	2950	2675	2225

S.E./mean = 27.4 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(153).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of different G.M. crops on Paddy.

1. BASAL CONDITIONS :

(i) (a) and (b) As per treatments. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Mandya. (iii) N.A./20.7.1958. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 10″×6″. (e) 2 to 3. (v) 112 lb./ac. of Super. (vi) S—749 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 23.7″. (x) 13.12.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(148) on page 39.

5 RESULTS :

(i) 2027 lb./ac. (ii) 223.2 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	G_0	G_1	G_2	G_3	G_4	G_5	G_6	G_7	G_8
Av. yield	1652	2158	1803	1931	2078	2149	2334	2058	2059

S.E /mean = 111 6 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(135).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of different G.M. crops on Paddy.

1. BASAL CONDITIONS :

(i) (a) and (b) As per treatments. (c) Nil. (ii) (a) Sandy. (b) Refer soil analysis, Mandya. (iii) N A./13.8.1958. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 10″×6″. (e) 2 to 3. (v) 112 lb./ac. of Super. (vi) S—661. (vii) Irrigated. (viii) 2 weedings. (ix) 23.7″. (x) 13.12.1958.

2. TREATMENTS :

4 types of G.M. crops preceeding paddy : G_0=No G.M., G_1=Sannhemp, G_2=*Dhaincha* and G_3=Sesbania specicosa.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 46½′×19′. (b) 43½′×15′. (v) 2 rows. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1958—1961. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1466. (ii) 162.3. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	G_0	G_1	G_2	G_3
Av. yield	1282	1666	1496	1420

S.E./mean = 66.2 lb./ac.

Crop :- Paddy. **Ref :- Ms. 54(11).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To find out the effect of $CuSo_4$ on Paddy yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clayey alkaline soil. (b) Refer soil analysis, Mandya. (iii) N.A./23.8.1954. (iv) (a) 3 ploughings and 1 levelling. (b) Transplanting. (c) 20 srs./ac. (d) Rows 9"×10" apart. (e) 2 to 3. (v) Sannhemp was grown in the plot after the application of 1 cwt./ac. of Super and ploughed in before transplanting. 4 mds./ac. of G.N.C. and 40 lb./ac. of A/S were applied at planting and 75 lb./ac. of A/S was applied at the time of weeding. (vi) S—749 (medium). (vii) Irr gated. (viii) 2 weedings. (ix) 13.49". (x) 4.1.1955.

2. TREATMENTS :

4 levels of $CuSo_4$: L_0=0, L_1=5, L_2=10 and L_3=15 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) and (b) 1/40 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Attack of stem-borer. Attacked ear-heads were removed. Crop dusted with hexalene. (iii) Grain and straw yield. (iv) (a) 1953—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3066 lb./ac. (ii) 409.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	L_0	L_1	L_2	L_3
Av. yield	3000	2856	3336	3072

S.E./mean = 182.8 lb./ac.

Crop :- Paddy. **Ref :- Ms. 55(3).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To find out the effect of $CuSo_4$ on Paddy yield.

1. BASAL CONDITIONS :

(i) (a) No. (b) Paddy. (c) As per treatments. (ii) (a) Clayey soil with traces of alkalinitly. (b) Refer soil analysis, Mandya. (iii) N.A./14.8.1955. (iv) (a) 3 ploughings and levelling. (b) Transplanting. (c) 20 srs./ac. (d) Rows 9"×10" apart. (e) 2—3. (v) Sunnhemp was grown after application of one cwt./ac. of Super and ploughed in before transplanting. 4 mds/ac. of G.N.C. and 40 lb./ac. of A/S applied at planting and 75 lb./ac. of A/S applied at the time of 1st weeding. (vi) S—749 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 16.95". (x) 28.12.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(11) above.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953 - contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3550 lb /ac. (ii) 358 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	L_0	L_1	L_2	L_3
Av. yield	3576	3400	3680	3544

S.E./mean = 160 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(150).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of $CuSo_4$ on Paddy.

1. BASAL CONDITIONS

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Alkaline clayey soil. (b Refer soil analysis, Mandya. (iii) N.A./26.8 1956. (iv) (a) 3 ploughings and levelling. (b) Transplanting. (c) 40 lb./ac. (d) Rows 9" to 10" apart. (e) 2 to 3. (v) Sunnhemp was grown in the plot after the application of 1 cwt./ac. of Super and ploughed in before transplanting. 112 lb./ac. of G.N.C. and 40 lb./ac. of A/S was applied at planting and 75 lb./ac. of A/S at the time of 1st weeding. (vi) S—749. (vii) Irrigated. (viii) 2 weedings. (ix) 25.48". (x) 23.12 1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(3) on page 41 except that the no. of replications is 4.

5. RESULTS :

(i) 2646 lb./ac. (ii) 407.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	L_0	L_1	L_2	L_3
Av. yield	2752	2720	2720	2392

S.E /mean = 203.8 lb./ac.

Crop :- Paddy. **Ref :- Ms. 57(137).**

Site :- Agri. Res., Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of $CuSo_4$ on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Alkaline clayey soil. (b) Refer soil analysis, Mandya. (iii) N.A /26.8.1957. (iv) (a) 3 ploughings and levelling. (b) Transplanting. (c) 40 lb./ac. (d) 9 to 10" between rows. (e) 2 to 3. (v) Sunnhemp was grown in the plot after the application of 1 cwt./ac. of Super and ploughed in before transplanting. 112 lb./ac. of G.N.C.+40 lb./ac. of A/S was applied at planting+75 lb./ac. of A/S at the time of Ist weeding. (vi) S—749. (vii) Irrigated. (viii) 2 weedings. (ix) 18.17". (x) 25.12.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(3) on page 41 except that the no. of replications is 4.

5. RESULTS :

(i) 2634 lb./ac. (ii) 321.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	L_0	L_1	L_2	L_3
Av. yield	2528	2640	2744	2624

S E./mean = 160.9 lb./ac.

Crop :- Paddy. **Ref :- Ms. 54(9).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To find out the effect of liquid ammonia on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Ragi*. (c) 2 tons/ac. of compost. (ii) (a) Sandy soil. (b) Refer soil analysis, Mandya. (iii) N.A./28.7.1954. (iv) (a) 3 ploughings and levelling. (b) Transplanting. (c) 7½ srs/ac. (d) 9" to 10" between rows. (e) 2. (v) 3000 lb./ac. of F.Y.M. and one cwt./ac. of Super at planting. (vi) S—718 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 16.30". (x) 20.12.1954.

2. TREATMENTS :

2 sources of 30 lb./ac. of N in 2 equal doses one at planting and the other at 1st weeding : S_1=A/S and S_2=Liquid Ammonia.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 4. (iv) (a) and (b) 1/40 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3735 lb./ac. (ii) 327.6 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_1	S_2
Av. yield	3830	3640

S.E./mean = 163.8 lb./ac.

Crop :- Paddy. **Ref :- Ms. 55(1).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To find out the effect of liquid ammonia on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Sandy soil. (b) Refer soil analysis, Mandya. (iii) N.A./1.8.1955. (iv) (a) Three ploughings and levelling. (b) Transplanting. (c) 7½ srs./ac. (d) Rows 10" apart. (e) 2. (v) 3000 lb./ac. of compost and 3000 lb./ac. of G.M. with one cwt./ac. of Super applied at planting. (vi) S—749 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 17.10". (x) 25.12.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(9) on page 42.

5. RESULTS :

(i) 3945 lb./ac. (ii) 572.4 lb./ac. (iii) The treatment difference is not significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_1	S_2
Av. yield	4330	3560

S.E./mean = 286.2 lb./ac.

Crop :- Paddy. **Ref :- Ms. 56(52).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'M'.**

Object :—To study the relative merits of A/C and A/S as manures for Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) C.M. at 5000 lb./ac.+lime at 100 lb./ac.+150 lb./ac. of A/S+66⅔ lb./ac. of triple Super+25 lb./ac. of Mur. Pot. (ii) (a) Loam. (b) Refer soil analysis, Mangalore. (iii) 15 5.1956/26, 27.6.1956. (iv) (a) 6 to 8 ploughings. (b) N.A. (c) 40 to 60 lb./ac. (d) N.A. (e) 3. (v) Nil. (vi) Mbh—1 (medium). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 131.28". (x) 18.10.1956.

2. TREATMENTS :

All combinations of (1) and (2)+control (No N).

(1) 2 sources of N : S_1=A/S and S_2=A/C.

(2) 4 levels of N : L_1=15, L_2=30, L_3=45 and L_4=60 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a) 40½′×8½′. (b) 38′×7′. (v) 15″×9″. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2059 lb./ac. (ii) 112.1 lb./ac. (iii) Main effect of S alone is highly significant. (iv) Av. yield of grain in lb /ac.

Control = 1866 lb./ac.

	L_1	L_2	L_3	L_4	Mean
S_1	2145	2264	2194	2129	2183
S_2	2087	1899	2014	1932	1983
Mean	2116	2081	2104	2030	2083

S.E. of S marginal mean = 25.1 lb./ac.
S.E. of L marginal mean = 35.4 lb./ac.
S.E. of body of table or control mean = 50.1 lb./ac.

Crop :- Paddy. **Ref :- Ms. 57(43).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'M'.**

Object :—To study the relative merits of A/C and A/S as manures for Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Laterite, loamy in texture. (b) Refer soil analysis, Mangalore. (iii) 19.5.1957/27.5.1957. (iv) (a) 5 ploughings with country plough. (b) Transplanting. (c) 40 to 60 lb /ac. (d) 6″×6″. (e) 3. (v) 5000 lb./ac. of G.L.+190 lb./ac. of Super (vi) MGL—1 (late). (vii) Unirrigated. (viii) Weeding once. (ix) 108.94″. (x) 14.10.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(52) on page 43.

4. GENERAL :

(i) Fair. (ii) Slight attack of thrips. (iii) Tiller counts, height measurement grain and straw yield. (iv) (a) 1957—1958. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2246 lb./ac. (ii) 117 0 lb./ac. (iii) Main effect of L, control *vs.* rest are significant. (iv) Av. yield of grain in lb./ac.

Control = 2129 lb./ac.

	L_1	L_2	L_3	L_4	Mean
S_1	2301	2374	2247	2149	2268
S_2	2194	2325	2280	2219	2254
Mean	2248	2350	2264	2184	2261

S.E. of L marginal mean = 37.0 lb./ac.
S.E. of S marginal mean = 26.2 lb./ac.
S.E. of body of the table or control mean = 52.3 lb./ac.

Crop :- Paddy. **Ref :- Ms. 58(19).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'M'.**

Object :—To study the relative merits of A/C and A/S as manures on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Loamy. (b) Refer soil analysis, Mangalore. (iii) N.A./16.7.1958. (iv) (a) 2 rounds of ploughing and digging with mammutty twice. (b) Transplanting. (c) 40 to 60 lb./ac. (d) 6″×6″. (e) 3. (v) G.L. at 5000 lb./ac.+30 lb./ac. of P_2O_5 as Super. (vi) MGL—1 (medium). (vii) Unirrigated. (viii) Nil. (ix) 124.47″. (x) 23.10.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(52) on page 43.

5. RESULTS:

(l) 1491 lb./ac. (ii) 167.8 lb./ac. (iii) Control *vs.* others and S×L interaction are significant. (iv) Av. yield of grain in lb./ac.

Control = 1338 lb./ac.

	L_1	L_2	L_3	L_4	Mean
S_1	1554	1465	1586	1271	1469
S_2	1420	1603	1564	1619	1552
Mean	1487	1534	1575	1445	1510

S.E. of L marginal mean = 53.1 lb./ac.
S.E. of S marginal mean = 37.5 lb./ac.
S.E. of body of the table or control mean = 75.1 lb./ac.

Crop :- Paddy. **Ref :- Ms. 54(99).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'M'.**

Object :—To study the effect of the continuous application of A/S on Paddy crop.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Mangalore. (iii) 12.5.1954/17.6.1954. (iv) (a) 6 to 8 ploughings. (b) Planting bulk. (c) 50 to 70 lb./ac. (d)—. (e) 2. (v) As per treatments. (vi) PTB—14 (medium). (vii) Unirrigated. (viii) 1 weeding. (ix) 118.25″. (x) 23.9.1954.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of G.M. : G_0=0 and G_1=2500 lb./ac.
(2) 2 levels of N as A/S : N_0=0 and N_1=100 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 28′×12′. (b) 26′×10′. (v) 1′×1′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1951—1955 (both the seasons). (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1978 lb./ac. (ii) 177.7 lb./ac. (iii) All effects are significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	Mean
G_0	1708	2063	1886
G_1	2070	2070	2070
Mean	1889	2067	1978

S.E. of any marginal mean = 51.4 lb./ac.
S.E. of body of table = 72.7 lb./ac.

Crop :- Paddy. **Ref :- Ms. 55(138).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'M'.**

Object :—To study the effect of continuous application of A/S on Paddy yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Mangalore. (iii) 5.9.1955/1.10.1955. (iv) (a) 6 to 8 ploughings. (b) Planted in bulk. (c) 40 to 60 lb./ac. (d) Nil. (e) 2 seeds/hole. (v) Nil. (vi) GEB—24 (short duration). (vii) Unirrigated. (viii) 1 hand weeding. (ix) 35.09". (x) 28.12.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(99) on page 45 except that the net plot size is 27'×11' and gross is 29'×13'.

5. RESULTS :

(i) 1563 lb./ac. (ii) 106.0 lb./ac. (iii) Main effects of N and G are highly significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	Mean
G_0	1335	1530	1433
G_1	1583	1803	1693
Mean	1459	1667	1563

S.E. of any marginal mean = 30.6 lb./ac.
S.E. of body of table = 43.3 lb./ac.

Crop :- Paddy. **Ref :- Ms. 58(18).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'M'.**

Object :—To find out the effect of different types of B.D. on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—G.M. crop. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super+25 lb./ac. of Mur. Pot.+200 lb./ac of lime. (ii) (a) Laterite, loamy in texture. (b) Refer soil analysis, Mangalore. (iii) N.A./27.10.1958. (iv) (a) 4 ploughings and digging with mammutty twice to incorporate the manuer into the soil. (b) Transplanting. (c) N.A. (d) 8"×5". (e) 3. (v) 200 lb./ac. of A/S+200 lb./ac. of Super. (vi) CO—25 (late). (vii) Irrigated. (viii) Intercultured by rotary weeder. (ix) 12.98". (x) 6.2.1959.

2. TREATMENTS :

10 types of B D. : B_0=Control (No B.D.), B_1=Fresh mango leaf at 5000 lb./ac., B_2=Rotton mango leaf at 5000 lb./ac., B_3=Fresh glyricidea at 5000 lb./ac., B_4=Rotten glyricidea at 5000 lb./ac., $B_5=B_4+1000$ lb./ac. of ash, $B_6=B_4+1000$ lb./ac. of factory ash, $B_7=B_4+$Coffee husk at 5000 lb./ac , B_8=Cattle dung at 5000 lb./ac. and B_9=C.M. at 5000 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 5. (iv) (a) and (b) 35'×8'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Stem borer in the last stages despite spraying. (iii) Height measurements, tiller counts and grain yield . (iv) (a) 1958—N.A. (b) and (c) N.A. (v) and (vi) Nil. (vii) The crop was planted slightly late in the season due to delay of harvest of the 1st crop of p addy.

5. RESULTS :

(i) 2087 lb./ac. (ii) 239.6 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	B_0	B_1	B_2	B_3	B_4	B_5	B_6	B_7	B_8	B_9
Av. yield	1855	1876	2292	2030	1941	2178	2292	2213	2088	2102

S.E./mean = 107.2 lb./ac.

Crop :- Paddy. **Ref :- Ms. 58(14).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'M'.**

Object :—To study the effect of different sources of N on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Pulse crop. (b) Paddy. (c) 5000 lb /ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super+25 lb./ac. of Mur. Pot.+100 lb./ac. of lime. (ii) (a) Laterite, loamy in texture. (b) Refer soil analysis, Mangalore. (iii) N.A./8.11.1958. (iv) (a) 4 ploughings and incorporation of F.Y.M. with *mammutties* by digging twice. (b) Transplanting. (c) N.A. (d) 8″×4″. (e) 3 (v) 3 tons/ac. of F.Y.M. broadcast+Super at 30 lb./ac. of P_2O_5 broadcast. (vi) Culture—8360 (medium). (vii) Irrigated. (viii) Intercultured by rotary weeder. (ix) 12.98″. (x) 30.1.1959.

2. TREATMENTS :

7 sources of N at 30 lb./ac. : S_0=0, S_1=A/S, S_2=C/A/N, S_3=A/C, S_4=Urea, S_5=A/S/N and S_6=C/N.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) and (b) 30′×16′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Severe attack of leaf roller. No control measures. (iii) Height measurements tiller counts and grain yield. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) and (vi) Nil. (vii) The planting was delayed due to the late harvest of the first crop.

5. RESULTS :

(i) 1331 lb./ac. (ii) 131.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_0	S_1	S_2	S_3	S_4	S_5	S_6
Av. yield	1280	1363	1327	1385	1363	1288	1310

S.E./mean = 65.6 lb./ac.

Crop :- Paddy. **Ref :- Ms. 59(145).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'M'.**

Object :—To study the effect of different sources of N on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.M.+190 lb./ac. of Super+50 lb./ac. of Mur. Pot. (ii) (a) Laterite, loamy in texture. (b) Refer soil analysis, Mangalore. (iii) N.A./19.6.1959. (iv) (a) Ploughing, puddling and levelling. (b) Transplanting. (c) 30 to 40 lb./ac. (d) 8″×8″. (e) 4. (v) 5000 lb./ac. of G.M. +190 lb./ac. of Super+50 lb./ac. of Mur. Pot. (vi) Mgl—5. (vii) Unirrigated. (viii) One interculturing by rotary weeder. (ix) 150.45″. (x) 22.9.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 58(14) above except that the net plot size is 24½′×24½′.

4. GENERAL :

(i) Fair. (ii) Severe attack of gallfly. Controlled by spraying technical Dieldrine. (iii) Grain and straw yield. (iv) (a) 1959—1961. (b) No. (c) Nil. (v) (a) Mugad, Siriguppa and Bailhongal. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2090 lb./ac. (ii) 111.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_0	S_1	S_2	S_3	S_4	S_5	S_6
Av. yield	2120	2165	1952	2129	2152	2018	2090

S.E./mean = 55 9 lb./ac.

Crop :- Paddy. **Ref :- Ms. 59(144).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'M'.**

Object :—To study the effect of different sources of N on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.M.+190 lb./ac. of Super+50 lb./ac. of Mur. Pot. (ii) (a) Laterite, loamy in texture. (b) Refer soil analysis, Mangalore. (iii) N.A./28.10.1959. (iv) (a) Ploughing, puddling and levelling. (b) Transplanting. (c) 30 to 40 lb./ac. (d) 8″×8″. (e) 4. (v) 5000 lb./ac. of G.M.+190 lb./ac. of Super+50 lb./ac. of Mur. Pot. (vi) CO—25. (vii) Unirrigated. (viii) One interculturing by rotary weeder. (ix) 9.74″. (x) 8.2.1960.

2. TREATMENTS and 3. DESIGN :

Same as in expt no. 58(14) on page 47 except that the net plot size is $19\frac{1}{2}' \times 19\frac{1}{2}'$.

4. GENERAL :

(i) Fair. (ii) Severe attack of gallfly was observed. Dieldrine applied. (iii) Grain and straw yield. (iv) (a) 1958—1961. (b) No. (c) Nil. (v) (a) Mugad, Siriguppa and Bailhongal. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2416 ib./ac. (ii) 286.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_0	S_1	S_2	S_3	S_4	S_5	S_6
Av. yield	2464	2414	2479	2532	2273	2317	2432

S.E./mean = 143.2 lb./ac.

Crop :- Paddy. **Ref :- Ms. 54(101).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'M'.**

Object :—To compare the effects of C/N and A/S on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Loamy. (b) Refer soil analysis, Mangalore. (iii) 26 4.1954/3.7.1954 (iv) (a) 6 to 8 ploughings. (b) Transplanted. (c) 40 to 60 lb./ac. (d) N.A. (e) 2. (v) Nil. (vi) MGL—2 (medium). (vii) Unirrigated. (viii) Nil. (ix) 118.25″. (x) 6.10.1954.

2. TREATMENTS :

All combinations of (1), (2) and (3)+extra treatment T.

(1) 2 levels of B.D. : B_0=0, B_1=3 tons/ac. of C.M.+450 lb./ac. of lime+30 lb./ac. of P_2O_5 as Super.

(2) 2 sources of N : S_1=A/S and S_2=C/N.

(3) 2 levels of N : N_1=40 and N_2=60 lb./ac.

†=3 tons/ac. of C.M.+450 lb./ac. of lime+30 lb./ac. of P_2O_5 as Super.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a) 42′×8′. (b) 40′×6′. (v) 1′×1′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) and (iii) Nil. (iv) (a) 1952—1954. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1946 lb./ac. (ii) 138.5 lb./ac. (iii) Main effect of B is highly significant and main effect of S is significant. (iv) Av. yield of grain in lb./ac.

T = 199.2 lb./ac.

	S_1	S_2	Mean	N_1	N_2
B_0	1883	1677	1780	1770	1790
B_1	2101	2099	2100	2126	2074
Mean	1992	1888	1940	1948	1932
N_1	1981	1915			
N_2	2003	1861			

S.E. of any marginal mean = 30.8 lb./ac.
S.E. of body of any table = 43.8 lb./ac.
S.E. of extra treatment mean = 61 6 lb./ac.

Crop :- Paddy. **Ref :- 54(100).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'M'.**

Object :—To compare the effects of C/N and A/S on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Loamy soil. (b) Refer soil analysis, Mangalore. (iii) 13.9.1954/20.10.1954. (iv) (a) 8 to 10 ploughings. (b) Transplanting. (c) 40 to 60 lb./ac. (d) N.A. (e) 2. (v) Nil. (vi) PTB—20 (medium). (vii) Unirrigated. (viii) One weeding at one month of planting. (ix) 6.16″. (x) 12.1.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(101) on page 48.

5. RESULTS :

(i) 1779 lb./ac. (ii) 248.2 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

T = 1622 lb./ac.

	S_1	S_2	Mean	N_1	N_2
B_0	1698	1526	1612	1542	1682
B_1	2098	1874	1986	1952	2020
Mean	1898	1700	1799	1747	1851
N_1	1834	1660			
N_2	1962	1740			

S.E. of any marginal mean = 55.5 lb./ac.
S.E. of body of any table = 78.5 lb./ac.
S.E. of extra treatment mean = 111.0 lb./ac.

Crop :- Paddy (1st crop). **Ref :- Ms. 59(150).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'M'.**

Object :—To find the optimum combination of N, P and K for Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Laterite loamy in texture. (b) Refer soil analysis, Mangalore. (iii) N.A./12.7.1959. (iv) (a) Ploughing, puddling and levelling. (b) Transplanting. (c) 30 to 40 lb./ac. (d) 8″×8″. (e) 4. (v) 2300 lb./ac. of G.M. (vi) PTB−9. (vii) Unirrigated. (viii) One intercultivation by rotary weeder. (ix) 150.45″. (x) 25.10.1959.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 levels of N as A/S : N_0=0, N_1=30 and N_2=60 lb./ac.
(2) 3 levels of P_2O_5 as Super : P_0=0, P_1=30 and P_2=60 lb./ac.
(3) 3 levels of K_2O as Mur. Pot. : K_0=0, K_1=30 and K_2=60 lb./ac.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 2. (iv) (a) 25′×11′. (b) 23′8″×9′8″. (v) 8″×8″. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Leafroller and gallfly were observed—Controlled by dusting Gammaxene and Technical Deldrine. (iii) Height of plants, tiller counts and grain and straw yield. (iv) (a) 1959—1962. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1092 lb./ac. (ii) 359.3 lb./ac. (iii) Main effect of N alone is highly significant. (iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	1254	1569	1431	1418	1331	1440	1483
N_1	1159	720	1110	996	931	1158	899
N_2	746	771	1068	862	698	753	1135
Mean	1053	1020	1203	1092	987	1117	1172
K_0	987	889	1085				
K_1	937	985	1429				
K_2	1235	1186	1095				

S.E. of any marginal mean = 84.7 lb./ac.
S.E. of body of any table = 146.7 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(4).**

Site :- Govt. Agri. Farm, Mercara. **Type :- 'M'.**

Object :—To study the effect of Mn application on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) N.A. (iii) 15.5.1954/30.6.1954. (iv) (a) 6 ploughings and 1 puddling. (b) Transplanting. (c) 30 lb./ac. (d) and (e) N.A. (v) 20 lb./ac. of N as G.N.C.+20 lb./ac. of P_2O_5 as Super+20 lb./ac. of K_2O as Mur. Pot. (vi) Kiggattubitiya (late). (vii) Unirrigated. (viii) 1 interculturing and 2 hand weedings. (ix) N.A. (x) 1.1.1955.

2. TREATMENTS :

5 Mn treatments : M_0=Control, M_1=1 lb./ac. of $MnSO_4$, M_2=2 lb./ac. of $MnSO_4$, M_3=Spray of 1% $MnSO_4$ solution and M_4=Spray of 2% $MnSO_4$ solution.

(Mn sprayed on 14.9.1954).

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 3. (iv) (a) 30′×18′. (b) 27′×16′. (v) 1.5′×1′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954 only. (b) and (c) —. (v) to (vii) Nil.

5. RESULTS :

(i) 2292 lb./ac. (ii) 220.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4
Av. yield	2319	2319	2151	2252	2420

S.E./mean = 127.0 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(1).**

Site :- Govt. Agri. Farm, Mercara. **Type :- 'M'.**

Object :—To find the optimum doses of K and P for Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) N.A. (iii) 3.6.1954/15.7.1954. (iv) (a) 6 ploughings and 1 puddling. (b) Transplanting. (c) 30 lb./ac. (d) and (e) N.A. (v) 3 tons/ac. of F.Y.M. (vi) Kiggattubitiya. (vii) Unirrigated. (viii) 1 interculturing and 2 weedings. (ix) N.A. (x) 27.1.1955.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 levels of K_2O as Mur. Pot. : K_0=0, K_1=25 and K_2=50 lb./ac.

(2) 3 levels of P_2O_5 as B.M. : P_0=0, P_1=25 and P_2=50 lb./ac.

Time and method of application N.A.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 9. (b) N.A. (iii) 3. (iv) (a) 30′×18′. (b) 27′×16′ (v) 1.5′×1′. (vi) Yes.

4. GENERAL :

(i) Lodged. (ii) Heavy attack of blast disease. Bordeaux mixture sprayed. (ii) Grain and straw yield. (iv) (a) 1954 only. (b) and (c) —. (v) to (vii) Nil.

5. RESULTS :

(i) 536 lb./ac. (ii) 302.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	K_0	K_1	K_2	Mean
P_0	739	353	336	476
P_1	403	807	537	583
P_2	689	437	521	549
Mean	611	532	465	536

S.E. of any marginal mean = 100.8 lb/.ac.
S.E. of body of any table = 174.4 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(2).**

Site :- Govt. Agri. Farm, Mercara. **Type :- 'M'.**

Object :—To study the effect of different levels and sources of P on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) N.A. (iii) 3.6.1954/22.7.1954. (iv) (a) 6 ploughings and 1 puddling. (b) Transplanting. (c) 30 lb./ac. (d) and (e) N.A. (v) 3 tons/ac. of F.Y.M. (vi) N.A. (vii) Unirrigated. (viii) 1 interculturing and 2 weedings. (ix) N.A. (x) 3.2.1955.

2. TREATMENTS :

All combinations of (1) and (2)+one control
(1) 3 sources of P_2O_5 : S_1=Hyper Phos., S_2=B.M. and S_3=Super.
(2) 2 levels of P_2O_5 : P_1=25 and P_2=50 lb./ac.
Time and method of application N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 3. (iv) (a) 30′×18′. (b) 27′×16′. (v) 1.5′×1′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954 only. (b) and (c)—. (v) to (vii) Nil.

5. RESULTS :

(i) 1536 lb./ac. (ii) 541.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 1647 lb./ac.

	S_1	S_2	S_3	Mean
P_1	1613	1479	1344	1479
P_2	1983	1445	1244	1557
Mean	1798	1462	1294	1518

S.E. of S marginal mean = 221.1 lb./ac.
S.E. of P marginal mean = 180.5 lb./ac.
S.E. of body of table or control mean = 312.6 lb./ac.

Crop :- Paddy. **Ref :- Ms. 54(3).**

Site :- Govt. Agri. Farm, Mercara. **Type :- 'M'.**

Object :—To study the effect of Lime on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) N.A. (iii) 15.5.1954/30.6.1954. (iv) (a) 6 ploughings and 1 puddling. (b) Transplanting. (c) 30 lb./ac. (d) and (e) N.A. (v) One bag/ac. of B.M.+ 50 lb./ac. of Mur. Pot. (vi) Kiribitiya (late). (vii) Unirrigated. (viii) 1 interculturing and 2 weedings. (ix) N.A. (x) 31.1.1955.

2. TREATMENTS :

All combinations of (1) and (2)
(1) 2 levels of N as G.N.C. : N_0=0 and N_1=40 lb./ac.
(2) 2 levels of lime : L_0=0 and L_1=500 lb./ac. of quick lime.

3. DESIGN:

(i) Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 30′×18′. (b) 27′×16′. (v) 1.5′×1′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954 only. (b) and (c)—. (v) to (vii) Nil.

5. RESULTS :

(i) 1506 lb./ac. (ii) 365 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	L_0	L_1	Mean
N_0	1966	1260	1613
N_1	1512	1286	1399
Mean	1739	1273	1506

S.E. of any marginal mean = 129.0 lb./ac.
S.E. of body of table = 182.5 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(207).**

Site :- Agri. Res. Stn., Mugad. **Type :- 'M'.**

Object :—To study the residual effect of leguminous crop grown with varying doses of P on the succeeding crop of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Mugad. (iii) 25.5.1954/ N.A. (iv) (a) Ploughing and harrowing. (b) Transplanting. (c) 60 lb./ac. (d) 15″×15″. (e) N.A. (v) Nil. (vi) M—141 (late). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 40″. (x) 10, 11.12.1954.

2. TREATMENTS :

5 manurial treatments : M_0=Control (no legume), M_1=No manure+G.M. (wal), M_2=50 lb./ac. of P_2O_5+ G.M., M_3=100 lb./ac. of P_2O_5+G.M. and M_4=150 lb./ac. of P_2O_5+G.M.

3. DESIGN:

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 23′×12′. (b) 20′×9′. (v) 1.5′×1.5′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Attack of blue beetle noticed. Gammaxene dusted. (iii) Grain yield. (iv) (a) 1949—1954. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2715 lb./ac. (ii) 396.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4
Av. yield	2771	2749	2614	2623	2814

S.E./mean = 177.5 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(188).**

Site :- Agri. Res. Stn., Mugad. **Type :- 'M'.**

Object :—To study the residual effect of N and P applied to preceding crop of Paddy on the present Paddy crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Medium black. (b) Refer soil analysis, Mugad. (iii) 31.5.1955/ (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) N.A. (d) 12″×12″. (e) 6. (v) Nil. (vi) M—141 (late). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 42.5″. (x) 12.12.1955.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 4 levels of N : N_0=0, N_1=32, N_2=64 and N_3=96 lb./ac.

(2) 4 levels of P_2O_5 : P_0=0, P_1=32, P_2=64 and P_3=96 lb./ac.

Time and method of application N.A.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 16. (b) N.A. (iii) 4. (iv) (a) 20′×13′. (b) 16′×9′. (v) 2′×2′. (vi) Yes.

4. GENERAL :

(i) (a) Delay in monsoon rain affected the development of the crop in the early stage. (ii) Nil. (iii) Yield of grain. (iv) (a) 1953—1955. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1908 lb./ac. (ii) 602.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	N_3	Mean
P_0	2039	1479	2087	1791	1849
P_1	2369	1739	2042	2193	2086
P_2	2254	1219	2124	1960	1889
P_3	2084	2329	1407	1413	1808
Mean	2187	1692	1915	1839	1908

S.E. of any marginal mean = 150.5 lb./ac.
S.E. of body of table = 301.0 lb./ac.

Crop :- Paddy *(Kharif).* **Ref :- Ms. 56(139).**

Site :- Agri. Res. Stn , Mugad. **Type :- 'M'.**

Object :—To study the effect of applying P to the G.M. crop on the succeeding crop of Paddy manured with different levels of N.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Mugad. (iii) 27.5.1956. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 60 lb./ac. (d) 12″ between rows. (e) N.A. (v) 5 C.L./ac. of F.Y.M. (vi) A—200 (late). (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 52″. (x) 13.12.1956.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of G.M. : G_0=0 and G_1=Sannhemp as G.M.

(2) 4 levels of N : N_0=0, N_1=16, N_2=24 and N_3=32 lb./ac.

30 lb./ac. of P_2O_5 was applied to G.M. crop in the case of G_1 and to paddy crop in the case of G_0.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) 264′×32′. (iii) 5. (iv) (a) 33′×22′. (b) 26′×14′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vi) Nil.

5. RESULTS :

(i) 2290 lb./ac. (ii) 727.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	N_3	Mean
G_0	2921	2344	1925	1836	2256
G_1	1942	2306	2415	2628	2323
Mean	2431	2325	2170	2232	2290

S.E. of G marginal mean = 162.7 lb./ac.
S.E. of N marginal mean = 230.1 lb./ac.
S.E. of body of table = 325.4 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(98).**

Site :- Agri. Res. Stn., Mugad. **Type :- 'M'.**

Object :—To find out the effect of different levels of N and P with and without G.M. on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black. (b) Refer soil analysis, Mugad. (iii) 4.6.1958/N.A. (iv) (a) Ploughing and harrowing. (b) Transplanting. (c) 60 lb./ac. (d) 9″×9″. (e) N.A. (v) 5 C.L./ac. of F.Y.M (vi) M—141 (late). (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 49.70″. (x) 4.12.1958.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of G.M. : G_0=0 and G_1=3000 lb./ac.

(2) 3 manurial treatments : M_0=0, M_1=15 lb./ac. of N as A/S+15 lb./ac. of P_2O_5 as Super and M_2= 30 lb./ac. of N as A/S+32 lb./ac. of P_2O_5 as Super.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) 132′×20′. (iii) 4. (iv) (a) 22′×20′. (b) 15′×12′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—1960. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3241 lb./ac. (ii) 320.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	M_0	M_1	M_2	Mean
G_0	2787	3409	3473	3223
G_1	3274	3052	3455	3260
Mean	3030	3230	3464	3241

S.E. of G marginal mean = 92.5 lb./ac.
S.E. of M marginal mean = 113.3 lb./ac.
S.E. of body of table = 160.2 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(8).**

Site :- Agri. Res. Stn., Mugad. **Type :- 'M'.**

Object :—To find out the effect of different levels of N and P with and without G.M. on the yield of Paddy.

BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Medium black. (b) Refer soil analysis, Mugad. (iii) 23.5.1959/N.A. (iv) (a) Ploughing, harrowing and clod crushing. (b) Transplanting. (c) 60 lb./ac. (d) 9″×9″. (e) N.A. (v) 5 C.L./ac. of F.Y.M. (vi) M—141 (late). (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 54.60″. (x) 17.12.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(98) on page 55.

5. RESULTS :

(i) 3670 lb./ac. (ii) 373.2 lb./ac. (iii) Main effect of M alone is significant. (iv) Av. yield of grain in lb./ac.

	M_0	M_1	M_2	Mean
G_0	3388	3751	3872	3670
G_1	3025	3993	3993	3670
Mean	3206	3872	3932	3670

S.E. of G marginal mean = 107.7 lb./ac.
S E. of M marginal mean = 131.9 lb./ac.
S.E. of body of table = 186.6 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(9).**

Site :- Agri. Res. Stn., Mugad. **Type :- 'M'.**

Object :—To study the effect of different sources of N on the yield of Paddy.

1. BASAL CONDITIONS :

(i) Nil. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black. (b) Refer soil analysis, Mugad. (iii) 29.5.1955/N.A. (iv) (a) Ploughing, harrowing clod cruhsing. (b) Transplanting. (c) 60 lb./ac. (d) 9′×9″. (e) N.A. (v) 5 C.L./ac. of F.Y.M. (vi) M—141 (late). (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 54.60″. (x) 29.12.1959.

2. TREATMENTS:

8 manurial treatments : M_0=Control (no manure), M_1=150 lb./ac. of complesal at planting, M_2=150 lb./ac. of complesal, half at planting+half one month after planting, M_3=150 lb./ac. of A/S at planting, M_4=150 lb./ac.of A/S half at planting+half one month after planting, M_5=75 lb./ac. of A/S at planting+100 lb./ac. of C/N one month after planting, M_6= 75 lb./ac. of A/S at planting+75 lb./ac. of C/A/N one month after planting, M_7= 150 lb./ac. of A/S+180 lb./ac. of Super, half at planting+half one month after planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) 160′×15′. (iii) 4. (iv) (a) 20′×15′. (b) 15′×11′. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1959—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2863 lb./ac. (ii) 377.3 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7
Av. yield	2574	2574	2508	2442	3300	3300	2772	3432

S.E./mean = 188.6 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(7).**

Site :- Agri. Res. Stn., Mugad. **Type :- 'M'.**

Object :—To study the effect of different sources of N on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black. (b) Refer soil analysis, Mugad. (iii) 19.5.1959/N.A. (iv) (a) Ploughing, harrowing and clod crushing. (b) Transplanting. (c) 60 lb./ac. (d) 9″×9″. (e) N.A. (v) 5 C.L./ac. of F.Y.M. (vi) M—141 (late). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 54.60″. (x) 16.12.1959.

2. TREATMENTS

7 sources of N at 30 lb./ac. : S_0=Control (no manure), S_1=A/S, S_2=C/A/N, S_3=A/C, S_4=Urea, S_5=A/S/N and S_6=C/N.

3. DESIGN :

(i) R B.D. (ii) (a) 7. (b) 238′×24′. (iii) 4. (iv) (a) 34′×24′. (b) 28′×16′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1959—N.A. (b) N.A. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3132 lb./ac. (ii) 358.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_0	S_1	S_2	S_3	S_4	S_5	S_6
Av. yield	3087	2990	3111	3160	3355	3257	2966

S.E./mean = 179.4 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(73).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of Kotka phos, in comparison with Super.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 3000 lb./ac. of G.M.+4000 lb./ac. of compost+56 lb./ac. of Super+100 to 150 lb./ac. of A/S. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 24.7.1954/28.7.1954. (iv) (a) Ploughing with iron mould board plough and levelling with country *halube*. (b) Transplanting. (c) 15 srs/ac. (d) 6″ to 8″ between rows. (e) 2 to 3. (v) 3000 lb./ac. of G.M.+3000 lb./ac. of compost+150 lb./ac. of A/S half at planting and half after 4 weeks. (vi) 5.661 (medium). (vii) Irrigated. (viii) 1 hand weeding. (ix) 22.96″. (x) 20.12.1954.

2. TREATMENTS :

3 sources of P_2O_5 at 20 lb./ac. : S_0=Control (no P_2O_5), S_1=Super and S_2=Kotka phos.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 4. (iv) (a) and (b) 1/33.3 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height, no. of tillers, yield of gram and straw. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

(i) 2769 lb./ac. (ii) 205.8 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain n lb./ac.

Treatment	S_0	S_1	S_2
Av. yield	3091	2649	2566

S.E./mean = 102.9 lb./ac.

Crop :- Paddy *(Kharif).* **Ref :- Ms. 55(52).**

Site :- Agri Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of Kotka Phos. in comparison with Super.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 3000 lb./ac. of G.M.+3000 lb./ac. of Farm compost+150 lb./ac. of A/S+ P_2O_5 as per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 18.6.1955/22.7.1955. (iv) (a) Ploughing with iron mould board plough and levelling with country *halube*. (b) Transplanting. (c) 15 srs./ac. (d) 6″ to 8″ between rows. (e) 2 to 3. (v) 4000 lb./ac. of Farm compost+150 lb./ac. of A/S half at planting and half after first weeding. (vi) S—661 (medium). (vii) Irrigated. (viii) Hand weeding. (ix) 23.75″. (x) 6.12.1955.

2. TREATMENTS :

3 sources of P_2O_5 at 20 lb./ac. : S_0=Control (no P_2O_5), S_1=Triple Super and S_2=Kotka phos.
Time and method of application—N.A.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 54(73) on page 57.

5. RESULTS :

3143 lb./ac. (ii) 230.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_0	S_1	S_2
Av. yield	3032	3115	3282

S.E./mean = 115.4 lb./ac.

Crop :- Paddy *(Kharif).* **Ref :- Ms. 56(74).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of Kotka Phos. in comparison with Super.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 4000 lb./ac. of Farm compost+150 lb./ac. of A/S+P_2O_5 as per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 3.7.1956/3.8.1956. (iv) (a) Ploughing with iron mould board plough and levelling. (b) Transplanting. (c) 15 srs./ac. (d) 6″ to 8″ between rows. (e) 2 to 3. (v) 4000 lb./ac. of compost+75 lb./ac. of A/S at planting and 75 lb./ac. of A/S after weeding. (vi) S—661 (medium). (vii) Irrigated. (viii) Hand weeding. (ix) 16.29″. (x) 15.12.1956.

2. TREATMENTS :

3 sources of 20 lb./ac. of P_2O_5 : S_0=Control (no P_2O_5), S_1=Triple Super and S_2=Kotka phos.
P_2O_5 applied at planting.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 54(73) on page 57.

5. RESULTS :

(i) 2930 lb./ac. (ii) 168.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_0	S_1	S_2
Av. yield	2849	2959	2982

S.E./mean = 84.0 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(20).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of Kotka Phos. in comparison with Super.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 4000 lb./ac. of Farm compost+150 lb./ac. of A/S+P_2O_5 as per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 6.7.1957/12.8.1957. (iv) (a) Ploughing with iron mould board plough and levelling. (b) Transplanting. (c) 15 srs./ac. (d) 6″×8″ between rows. (e) N.A. (v) G.M. at 4000 lb./ac.+Farm compost at 4000 lb./ac.+A/S at 150 lb./ac. half at planting and half at 1st weeding. (vi) S—661 (medium). (vii) Irrigated. (viii) Hand weeding. (ix) 8.74″. (x) 12.12.1957.

2. TREATMENTS :

Same as in expt. no. 55(52) on page 58.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 4. (iv) (a) and (b) 1/50 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Suffered from neck rot. Control measures taken N.A. (iii) Yield of grain. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3166 lb./ac. (ii) 247.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_0	S_1	S_2
Av. yield	3016	3200	3283

S.E./mean = 123.6 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(65).**

Site :- Agri. Res. Stn., Nagenahalli **Type :- 'M'.**

Object :—To study the effect of K on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 3000 lb./ac. of G.M.+4000 lb./ac. of Farm compost+56 lb./ac of Super+75 lb./ac. of A/S. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 23.6.1954/26.7.1954. (iv) (a) Ploughing with iron plough and levelling with country harrow. (b) Transplanting. (c) 15 srs./ac. (d) 6″ to 8″ between rows. (e) 2 to 3. (v) 3000 lb./ac. of G.M.+50 lb./ac. of Triple Super at p'anting. (vi) S—661 (medium). (vii) Irrigated. (viii) 1 hand weeding. (ix) 22.96″. (x) 20.12.1954.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of N as A/S : N_1=30 and N_2=40 lb./ac.

(2) 2 levels of K_2O as Pot. Chloride : K_0=No K_2O and K_1=30 lb./ac.

3. DESIGN :

(i) L. Sq. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) and (b) 1/33.3 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height of plants, no. of tillers, yield of grain and straw. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (iv) (a) Mandya. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2597 lb./ac. (ii) 119.9 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	K_0	K_1	Mean
N_1	2532	2549	2541
N_2	2599	2716	2653
Mean	2566	2638	2597

S.E. of any marginal mean = 42.4 lb./ac.
S.E. of body of table = 59.9 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(46).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of K on Paddy.

1. BASAL CONDITIONS :

(i) (a) No. (b) Paddy. (c) G.M. at 3000 lb./ac.+Triple Super at 50 lb./ac.+A/S and Pot. chloride as per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 18.6.1955/23.7.1955. (iv) (a) Ploughing with iron ploughs and levelling with country *halube*. (b) Transplanting. (c) 15 srs./ac. (d) 6″ to 8″ between rows. (e) 2 to 3. (v) Farm compost at 4000 lb./ac.+Triple Super at 50 lb./ac. at planting. (vi) S—661 (medium). (vii) Irrigated. (viii) Hand weeding. (ix) 23.75″. (x) 6.12.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(65) on page 59.

5. RESULTS :

(i) 2953 lb./ac. (ii) 336.7 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	K_0	K_1	Mean
N_1	2681	3104	2893
N_2	2855	3171	3013
Mean	2768	3138	2953

S.E. of any marginal mean = 119.0 lb./ac.
S.E. of body of table = 168.3 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(78).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of K on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) Farm compost at 4000 lb./ac.+A/S at 75 lb./ac. at one month after planting (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 3.7.1956/2.8.1956. (iv) (a) Ploughing with iron mould board plough and levelling. (b) Transplanting. (c) 158 srs./ac. (d) 6″ to 8″ between rows. (e) 2 to 3. (v) Mysore compost at 4000 lb./ac.+Triple Super at 50 lb./ac. at planting. (vi) S—661(medium). (vii) Irrigated. (viii) Hand weeding. (ix) 16.29″. (x) 15.12.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(65) on page 59.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Yield of grain. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2858 lb./ac. (ii) 153.9 lb./ac. (iii) Main effects of N and K are significant. (iv) Av. yield of grain in lb./ac.

	K_0	K_1	Mean
N_1	2616	2883	2750
N_2	2866	3066	2966
Mean	2741	2975	2858

S.E. of any marginal mean = 54.4 lb./ac.
S.E. of body of table = 77.0 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(18).**

Site :- Agri. Res. Stn , Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of K on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) Farm compost at 4000 lb./ac.+Triple Super at 50 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 6.7.1957/14.8.1957. (iv) (a) Ploughing with iron mould board plough and levelling. (b) Transplanting. (c) 15 srs./ac. (d) 6" to 8" between rows. (e) 2 to 3. (v) Farm compost at 4000 lb./ac.+G.M. at 4000 lb./ac.+Triple Super at 50 lb./ac. at planting. (vi) S—661 (medium). (vii) Irrigated. (viii) Hand weeding. (ix) 8.74". (x) 13.12.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(65) on page 59.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Yield of grain. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2973 lb./ac. (ii) 174.4 lb./ac. (iii) Main effect of K alone is significant. (iv) Av. yield of grain in lb./ac.

	K_0	K_1	Mean
N_1	2725	3033	2879
N_2	2992	3142	3067
Mean	2858	3088	2973

S.E. of any marginal mean = 61.7 lb./ac.
S.E. of body of the table = 87.2 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(62).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of mixing Super with F.Y.M. on Paddy.

1. BASAL CONDITIONS :

(i) (a) No. (b) Paddy. (c) 3000 lb./ac. of G.M.+4000 lb./ac. of Farm compost+56 lb./ac. of Super+75 lb./ac. of A/S. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 24.6.1954/27.7.1954. (iv) (a) Ploughing with iron mould board plough and levelling with country harrow. (b)Transplanting. (c)15 srs./ac. (d) 6" to 8" between rows. (e) 2 to 3. (v) G.M. at 3000 lb./ac.+A/S at 75 lb./ac. 4 weeks after planting. (vi) S—661 (medium). (vii) Irrigated. (viii) Hand weeding. (ix) 22.96". (x) 20.12.1954.

2. TREATMENTS :

4 methods of application of 56 lb./ac. of Super+4000 lb./ac. of F.Y.M. : M_1=F.Y.M. at planting, M_2=Both applied separately at planting, M_3= Both mixed thoroughly and then applied at planting and M_4=Both mixed one month prior to application at planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) and (b) 1/33.3 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height of plants, no. of tillers, yield of grain and straw. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) (a) Hebbal. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2549 lb./ac. (ii) 388 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3	M_4
Av. yield	2410	2470	2597	2717

S.E./mean = 173.5 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(47).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of mixing Super with F.Y.M. on Paddy.

1. BASAL CONDITIONS :

(i) (a) No. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 18.6.1955/23.7.1955. (iv) (a) Ploughing with iron mould board ploughed and levelling with country harrow. (b) Transplanting. (c) 15 srs/ac. (d) 6" to 8" between rows. (e) 2 to 3. (v) A/S at 75 lb./ac. one month after planting. (vi) S—661 (medium). (vii) Irrigated. (viii) Hand weeding. (ix) 23.75". (x) 6.12.1955.

2. TREATMENTS :

4 methods of application of 25 lb./ac. of Triple Super and 4000 lb./ac. of F.Y.M. : M_1=F.Y.M. only at planting, M_2=Both applied separately at planting, M_3=Both mixed thoroughly and applied at planting and M_4=Both mixed one month before application at planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) and (b) 1/33.3 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height, no. of tillers, yield of grain and straw. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3078 lb./ac. (ii) 389.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3	M_4
Av. yield	2861	3081	3135	3255

S.E./mean = 173.2 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(79).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To find out the effect of mixing Super with F.Y.M. on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) Farm compost at 4000 lb./ac.+A/S at 75 lb./ac. one month after planting. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 3.7.1956/2.8.1956. (iv) (a) Ploughing with iron mould plough and levelling. (b) Transplanting. (c) 15 srs./ac. (d) 6" to 8" between rows. (e) 2 to 3. (v) Mysore compost at 5000 lb./ac.+A/S at 75 lb./ac. applied one month after planting. (vi) S—661 (medium). (vii) Irrigated. (viii) Hand weeding. (ix) 16.29". (x) 15.12.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(47) on page 62.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2987 lb./ac. (ii) 220.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3	M_4
Av. yield	2746	2973	3040	3187

S.E./mean = 98·6 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(19).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of mixing Super with F.Y.M. on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) Mysore compost at 5000 lb./ac.+A/S at 75 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 6.7.1957/13.8.1957. (iv) (a) Ploughing with iron mould board plough and levelling. (b) Transplanting. (c) 15 srs/ac. (d) 6" to 8" between rows. (e) 2 to 3. (v) G.M. at 4000 lb./ac.+A/S at 75 lb./ac. 4 weeks after planting. (vi) S—661 (medium). (vii) Irrigated. (viii) Hand weeding. (ix) 8.74". (x) 13.12.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(47) on page 62.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3048 lb./ac. (ii) 258.6 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3	M_4
Av. yield	2720	3040	3040	3373

S.E./mean = 115.6 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(74).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of different levels of G.M. on Paddy.

1. BASAL CONDITIONS :

(i) (a) No. (b) Paddy. (c) G.M. at 3500 lb./ac.+Farm compost at 4000 lb./ac.+A/S at 150 lb./ac.+ Super at 112 lb./ac.+lime at 224 lb./ac. (ii) (a) Stoney and gravelly. (b) Refer soil analysis, Nagenahalli. (iii) 9.6.1954/16.7.1954. (iv) (a) Ploughing by iron mould board plough and levelling with country harrow. (b) to (e) N.A. (v) Triple Super at 50 lb./ac. at the time of sowing of green manure crop seeds. (vi) S—701 (medium). (vii) Irrigated. (viii) 1 hand weeding. (ix) 22.96". (x) 7.12.1954.

2. TREATMENTS :

G_1=3000 lb./ac. of G.M.+150 lb./ac. of A/S, G_2=6000 lb./ac. of G.M., G_3=9000 lb./ac. of G.M., G_4= 12000 lb./ac. of G.M. and G_5=15000 lb./ac. of G.M.

3. DESIGN :

(i) L. Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) and (b) 1/50 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height, no. of tillers, yield of grain and straw. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3218 lb./ac. (ii) 363.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Trearment	G_1	G_2	G_3	G_4	G_5
Av. yield	3120	3160	3330	3250	3230

S.E./mean = 162.5 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(54).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of different levels of G.M. on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) Triple Super at 50 lb./ac. G.M. and A/S as per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 9.6.1955/14.7.1955. (iv) (a) Ploughing with iron mould board plough and levelling with country *halube*. (b) Transplanting. (c) 10 srs./ac. (d) 10"×10". (e) 2 to 3. (v) Triple Super at 50 lb./ac at sowing of G.M. crop. (vi) S—701 (late). (vii) Irrigated. (viii) Hand weeding and weeder passed. (ix) 23.75". (x) 3.12.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(74) above.

5. RESULTS:

(i) 3248 lb./ac. (ii) 407.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	G_1	G_2	G_3	G_4	G_5
Av. yield	3000	3440	3480	3400	2920

S.E./mean = 182.0 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(71).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of different levels of G.M. on Paddy.

1. BASAL CONDITIONS :.

(i) (a) Nil. (b) Paddy. (c) Triple Super at 50 lb./ac.+G.M. as per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 19.6.1956/16.7.1956. (iv) (a) Ploughing with iron mould board plough and levelling. (b) Transplanting. (c) 10 srs./ac. (d) 10″×10″. (e) 2 to 3. (v) Triple Super at 50 lb./ac. at transplanting+A/S at 150 lb./ac. (vi) S—701 (medium). (vii) Irrigated. (viii) Hand weeding. (ix) 16.29″. (x) 7.12.1956.

2. TREATMENTS :

5 levels of G.M. : G_1=3000, G_2=6000, G_3=9000, G_4=12000 and G_5=15000 lb./ac.

3. DESIGN :

(i) L. Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) and (b) 1/50 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Yield of grain. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3404 lb./ac. (ii) 369.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	G_1	G_2	G_3	G_4	G_5
Av. yield	3310	3650	3570	3270	3220

S.E./mean = 165.1 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(17).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of different levels of G.M. on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) Triple Super at 50 lb./ac.+A/S at 150 lb./ac.+G.M. as per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 18.6.1957/22.7.1957. (iv) (a) Ploughing with iron mould board plough and levelling. (b) Transplanting. (c) 10 srs./ac. (d) N.A. (e) 2 to 3. (v) Triple Super applied at 50 lb /ac. at the time of planting *Sesbania*. (vi) S—701 (medium). (vii) Irrigated. (viii) Hand weeding. (ix) 11.74″. (x) 4.12.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(74) on page 64.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3744 lb./ac. (ii) 249.1 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	G_1	G_2	G_3	G_4	G_8
Av. yield	3500	4000	3940	3780	3500

S.E./mean = 111.4 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(5).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To compare the effects of Complesal and A/S on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 24.7.1958/19.8.1958. (iv) (a) Ploughing with iron mould board plough and levelling. (b) Transplanting. (c) 20 lb./ac. (d) 6″×8″. (e) 2 to 3. (v) 4000 lb./ac. of G.M. (vi) S—701. (vii) Irrigated. (viii) Nil. (ix) 13.14″. (x) 5.1.1959.

2. TREATMENTS :

8 manurial treatments : M_0=Control (no manure), M_1=150 lb./ac. of Complesal at planting, M_2=150 lb./ac. of Complesal, half at planting+half one month later, M_3=150 lb./ac. of A/S at planting, M_4=150 lb./ac. of A/S, half at planting and half one month later, M_5=75 lb./ac. of A/S at planting+100 lb./ac. of C/N one month later, M_6=75 lb./ac. of A/S at planting+75 lb./ac. of C/A/N one month later and M_7=150 lb./ac. of A/S+180 lb./ac. of Super, half at planting and half one month later.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—N.A. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2222 lb./ac. (ii) 324.2 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7
Av. yield	1750	2050	1850	2475	2575	2450	1825	2850

S.E./mean = 162.1 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(167).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To compare the effect of Complesal and A/S on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—G.M. crop.—Paddy. (b) G.M. crop. (c) Nil. (ii) (a) Red sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 9.6.1959/10.7.1959. (iv) (a) 4 ploughings. (b) Transplanting. (c) 20 lb./ac. (d) 6″ to 8″ between rows. (e) 2 to 3. (v) 2000 lb./ac. of G.M. applied 8 to 10 days before planting. (vi) S—701 (medium). (vii) Irrigated. (viii) Weeding. (ix) 12.19″. (x) 17.12.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 58(6) above.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Height measurements, tiller counts and grain yield. (iv) (a) 1958—N.A. (b) Yes. (c) Nil. (v) (a) Mugad. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 2275 lb./ac. (ii) 153.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7
Av. yield	1900	2100	2275	2425	2575	2400	2025	2500

S.E./mean = 77.0 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(75).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of different methods of application of A/S on Paddy.

1. BASAL CONDITIONS :

(i) (a) No. (b) Paddy. (c) G.M. at 4000 lb./ac.+Farm compost at 4000 lb./ac.+A/S at 150 lb./ac. (ii) (a) Clayey loam. (b) Refer soil analysis, Nagenahalli. (iii) 9.6.1954/12.7.1954. (iv) (a) Ploughing with iron mould board plough and levelling with country *halube*. (b) Transplanting. (c) 15 srs./ac. (d) 6" to 8" between rows. (e) 2 to 3. (v) G.M. at 6000 lb./ac.+Triple Super at 50 lb./ac. at sowing of G.M.+A/S at 50 lb /ac. one month after planting. (vi) S—701 (medium). (vii) Irrigated. (viii) 1 Hand weeding. (ix) 22.96". (x) 7.12 1954.

2. TREATMENTS :

3 methods of application of 20 lb./ac. of N as A/S : M_1=By placement just before transplanting, M_2=By placement at green manuring and M_3=By broadcasting.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1/50 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height, no. of tillers, yield of grain and straw. (iv) (a) 1953—1957. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3830 lb./ac. (ii) 325.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	4083	3716	3691

S.E./mean = 144.0 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(50).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of different methods of application of A/S on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.M. at 6000 lb./ac.+Triple Super at 50 lb./ac.+30 lb./ac. of N as A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Nagenahalli. (iii) 9.6.1955/12.7.1955. (iv) (a) Ploughing with iron mould board plough and levelling with country *halube*. (b) Transplanting. (c) 10 srs./ac. (d) 8"×10". (e) 2 to 3. (v) G.M. at 4000 lb./ac.+Triple Super at 50 lb./ac. at sowing of G.M. seeds. A/S at 75 lb./ac. one month after planting. (vi) S—701 (medium). (vii) Irrigated. (viii) Hand weeding. (ix) 23.75". (x) 3.12.1955.

2. TREATMENES :

3 methods of application of 75 lb./ac. of A/S : M_1=By placement just before planting, M_2=By placement at green manuring and M_3=By Broadcasting.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 54(75) on page 67.

5. RESULTS :

(i) 3966 lb./ac. (ii) 406.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	4150	3950	3752

S.E./mean = 166.0 lb./ac.

Crop :- Paddy *(Kharif).* **Ref :- Ms. 56(63).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :— To study the effect of different methods of application of A/S on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.M. at 6000 lb./ac.+Triple Super at 50 lb./ac.+A/S at 150 lb./ac. (ii) (a) Clayey loam. (b) Refer soil analysis, Nagenahalli. (iii) 19.6.1956/17.7.1956. (iv) (a) Ploughing with iron ploughs and levelling. (b) Transplanting. (c) 10 srs./ac. (d) 8″×10″. (e) 2 to 3. (v) G.M. at 4000 lb./ac.+ Triple Super at 50 lb./ac. at sowing of G.M. seeds+A/S at 50 lb./ac. (vi) S—701 (medium). (vii) Irrigated. (viii) Weeding by hand. (ix) 18.39″ (x) 8.12.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(50) on page 67.

4. GENERAL :

(i) Fair. (ii) Nil. (ii) Grain yield. (iv) (a) 1953—1957. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3008 lb./ac. (ii) 553.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	3267	2983	2775

S.E./mean = 226.1 lb./ac.

Crop - Paddy *(Kharif).* **Ref :- Ms. 57(16).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of different methods of application of A/S on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.M. at 4000 lb./ac.+Triple Super at 50 lb./ac. at sowing of G.M. seeds. (ii) (a) Clayey loam. (b) Refer soil analysis, Nagenahalli. (iii) 18.6.1957/18.7.1957. (iv) (a) Ploughing with iron mould board plough and levelling. (b) Transplanting. (c) 10 srs./ac. (d) 8″×10″. (e) 2—3. (v) Triple Super at 100 lb./ac.+G.M. at 5000 lb./ac. (vi) S—701 (medium). (vii) Irrigated. (viii) Hand weeding. (ix) 11.47″. (x) 4.12.1957.

2. TREATMENTS :

3 methods of application of 100 lb./ac. of A/S : M_1=By placement just before transplanting, M_2=By placement at green manuring and M_3=Broadcasting just before transplanting.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) and (b) 1/50 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1953—1957. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 4172 lb./ac. (ii) 354.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	4465	4148	3898

S.E./mean = 144.8 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(66).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To compare the effects of liquid ammonia and A/S on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 3000 lb./ac. of G.M.+4000 lb./ac. of farm compost+56 lb./ac. of Super+75 to 200 lb./ac. of A/S. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 24.6.1954/27.7.1954. (iv) (a) Ploughing with iron mould board plough and levelling with country harrow. (b) Transplanting. (c) 15 srs./ac. (d) 6" to 8" between rows. (e) 2 to 3. (v) G.M. at 3000 lb./ac.+farm compost at 3000 lb./ac.+ Triple Super at 50 lb./ac. at planting. (vi) S—661 (medium). (vii) Irrigated. (viii) Hand weeding, and passing Japanese weeder. (ix) 22 96". (x) 20.12.1954.

2. TREATMENTS :

2 sources of N at 30 lb./ac. half at planting and half one month later : S_1=Liquid ammonia and S_2=A/S.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 4. (iv) (a) and (b) 1/33.3 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height of plants, no. of tillers, yield of grain and straw. (iv) (a) Yes. (b) 1954—1957. (b) Yes. (c) Nil. (v) (a) Mandya. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2841 lb./ac. (ii) 381.6 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_1	S_2
Av. yield	2766	2916

S.E./mean = 190.8 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(53).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To compare the effects of liquid ammonia and A/S on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) No. (b) Paddy. (c) 3000 lb./ac. of G.M.+3000 lb./ac. of Farm compost+50 lb./ac. of Triple Super+30 lb./ac. of N as per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 18.6.1955/1.8.1955. (iv) (a) Ploughing with iron mould board plough and levelling with country *halube*. (b) Transplanting. (c) 10 srs./ac. (d) 10"×10". (e) 2 to 3. (v) Farm compost at 4000 lb./ac.+Triple Super at 50 lb./ac. at planting. (vi) S—661 (medium). (vii) Irrigated. (viii) Hand weeding. (ix) 23.75". (x) 6.12.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(66) on page 69.

5. RESULTS :

(i) 2831 lb./ac. (ii) 264.4 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_1	S_2
Av. yield	2988	2673

S.E./mean = 132.2 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(72).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To compare the effects of liquid ammonia and A/S on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) Farm compost at 4000 lb./ac.+Triple Super at 50 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 26.7.1956/N.A. (iv) (a) Ploughing with iron mould board plough and levelling. (b) Transplanting. (c) 10 srs./ac. (d) 10″×10″. (e) 2 to 3. (v) Mysore compost at 4000 lb./ac.+Triple Super at 50 lb./ac. at planting. (vi) S—661 (medium). (vii) Irrigated. (viii) Hand weeding. (ix) 16.29″. (x) 15.12.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(66) on page 69.

5. RESULTS :

(i) 2658 lb./ac. (ii) 201.4 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_1	S_2
Av. yield	2750	2566

S.E./mean = 100.7 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(15).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To compare the effects of liquid ammonia and A/S on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) Farm compost at 4000 lb./ac.+Triple Super at 50 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 6.7.1957/13.8.1957. (iv) (a) Ploughing with iron mould board plough and levelling. (b) Transplanting. (c) 10 srs./ac. (d) 10″×10″. (e) 2 to 3. (v) G M. at 4000 lb./ac. +Farm compost at 4000 lb./ac.+Triple Super at 50 lb./ac. at planting. (vi) S—661 (medium). (vii) Irrigated. (viii) Hand weeding. (ix) 8.74″. (x) 13.12.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(66) on page 69.

5. RESULTS :

(i) 3037 lb./ac. (ii) 89.0 lb./ac. (iii) Treatment difference is significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_1	S_2
Av. yield	3150	2925

S.E./mean = 44.5 lb./ac.

Crop :- Paddy *(Kharif).* **Ref :- Ms. 57(26).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of different levels and sources of P on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) Mysore compost at 4000 lb./ac.+Triple Super at 50 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 1.7.1957/13.8.1957. (iv) (a) Ploughing with iron mould board plough and levelling. (b) Transplanting. (c) 10 srs./ac. (d) N.A. (e) 2 to 3. (v) G.M. at 4000 lb./ac +Farm compost at 4000 lb./ac.+A/S at 150 lb./ac.—half at planting and half at weeding. (vi) S—661 (medium). (vii) Irrigated. (viii) Hand weeding. (ix) 8.74". (x) 13.12.1957.

2. TREATMENTS :

All combinations of (1) and (2)+control (2 plots)

(1) 2 levels of P_2O_5 : P_1=20 and P_2=40 lb./ac.

(2) 2 sources of P_2O_5 : S_1=Dical. Phos. and S_2=Triple Super.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) and (b) 1/66.7 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Suffered by neck rot. Control measures taken—N.A. (iii) Yield of grain. (iv) (a) No. (b) and (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2600 lb./ac. (ii) 137.3 lb./ac. (iii) Main effect of P is highly significant. 'Control *vs.* others' is significant. (iv) Av. yield of grain in lb./ac.

Control = 2467 lb./ac.

	S_1	S_2	Mean
P_1	2587	2560	2574
P_2	2693	2827	2760
Mean	2640	2694	2667

S.E. of any marginal mean or control mean = 43.4 lb./ac.
S.E. of body of table = 61.4 lb./ac.

Crop :- Paddy *(Kharif).* **Ref :- Ms. 57(27).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of applying A/S/N in different split doses on Paddy.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Paddy (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 6.7.1957/14.8.1957. (iv) (a) to (e) N.A. (v) Farm compost at 4000 lb./ac.+G.M. at 3000 lb./ac+Triple Super at 50 lb./ac.+Mur. Pot. at 50 lb./ac. (vi) S—661 (medium). (vii) Irrigated. (viii) No. (ix) 8.74". (x) 12.12.1957.

2. TREATMENTS :

5 times of application of 30 lb./ac. of N as A/S/N in split doses : $T_1=\frac{2}{3}$ N at planting+$\frac{1}{3}$ N at flowering, $T_2=\frac{1}{2}$ at planting+$\frac{1}{2}$ at flowering, T_3= Full dose at planting, $T_4=\frac{1}{3}$ at planting+$\frac{1}{3}$ at 1st weeding+$\frac{1}{3}$ at flowering and $T_5=\frac{1}{2}$ at planting+$\frac{1}{2}$ at 1st weeding.

3. DESIGN :

(i) L. Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) and (b) 1/50 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) (a) Suffered from neck rot. Control measures taken N.A. (iii) Grain yield. (iv) (a) 1957 only. (b) and (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2908 lb./ac. (ii) 620.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	2730	3130	3060	2810	2810

S.E./mean = 277.6 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(169).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To find out the effect of different sources of N on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—G.M. crop—Paddy. (b) G.M. crop. (c) Nil. (ii) (a) Red sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 9.6.1959/9.7.1959. (iv) (a) 4 ploughing. (b) Transplanting (c) 20 lb./ac. (d) 8″ to 6″. (e) 2 to 3. (v) 2000 lb./ac. of *glyricidia* leaves applied 8 to 10 days before planting. (vi) S—701 (medium). (vii) Irrigated. (viii) Weeding. (ix) 12.19″. (x) 17.12.1959.

2. TREATMENTS :

7 sources of N at 30 lb./ac. : S_0=Control (no manure), S_1=A/S, S_2=C/A/N, S_3=A/C, S_4=Urea, S_5=A/S/N and S_6=C/N.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Height measurement, tiller count and grain yield. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) (a) Mugad, Siruguppa, Hebbal and Ponnampet. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1811 lb./ac. (ii) 131.2 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_0	S_1	S_2	S_3	S_4	S_5	S_6
Av. yield	1575	2250	1675	1925	1750	1950	1550

S.E./mean = 65.6 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(7).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To find out the effect of different sources of N on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 24.7.1958/ 23 8.1958. (iv) (a) Ploughing with iron mould board plough and levelling. (b) Transplanting. (c) 20 lb./ac. (d) 6″ to 8″ between rows. (e) 2 to 3. (v) G.M. at 5000 lb./ac. (vi) S—701. (vii) Irrigated. (viii) Nil. (ix) 13.14″. (x) 5.1.1959.

2. TREATMENTS :

7 sources of N : S_0=Control (no manure), S_1=A/S at 150 lb./ac., S_2=C/A/N at 150 lb./ac., S_3=A/C at 125 lb./ac., S_4=Urea at 65½ lb./ac., S_5=A/S/N at 115 lb./ac. and S_6=C/N at 187 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) and (b) 1/100 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—N.A. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2732 lb./ac. (ii) 283.6 lb./ac. (iii) Treatment differences are highiy significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_0	S_1	S_2	S_3	S_4	S_5	S_6
Av. yield	2300	2475	2850	2550	3050	2900	3000

S.E./mean = 141.8 lb./ac.

Crop :- Paddy *(Kharif).* **Ref :- Ms. 55(49).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of different G.M. on Paddy yield.

1. BASAL CONDITIONS :

(i) (a) No. (b) Paddy. (c) Triple Super at 50 lb./ac.+A/S at 150 lb./ac. (ii) (a) Clayey loam. (b) Refer soil analysis, Nagenahalli. (iii) 15.7.1955/12.8.1956. (iv) (a) Ploughing with iron mould board plough and levelling with country harrow. (b) Transplanting. (c) 15 srs./ac. (d) 6" to 8" between rows. (e) 2 to 3. (v) Ammo. Phos. at 50 lb./ac.+A/S at 75 lb./ac. at planting+A/S at 50 lb /ac. after one month. (vi) S—66!(medium). (vii) Irrigated. (viii) 1 hand weeding. (ix) 23.75". (x) 25.12.1955.

2. TREATMENTS :

6 types of G.M. : G_1=*Kolingi* at 1092 lb./ac., G_2=*Sesbania speciosa* at 2150 lb./ac., G_3=*Dhaincha* at 1533 lb./ac., G_4=Crotolaria at 467 lb./ac., G_5=Sannhemp at 2366 lb./ac. and G_6=Cowpea+ Horsegram+sannhemp at 1600 lb./ac

3. DESIGN :

(i) L. Sq. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 1/50 to 1/25 ac. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height, no. of tillers, yield of grain and straw. (iv) (a) 1955—N.A. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3117 lb./ac. (ii) 465.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	G_1	G_2	G_3	G_4	G_5	G_6
Av. yield	3049	3115	3065	3015	3249	3199

S.E./mean = 190.0 lb./ac.

Crop :- Paddy *(Kharif).* **Ref :- Ms. 59(168).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of different G.L. on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—G.M. crop—Paddy. (b) G.M. crop. (c) Nil. (ii) (a) Red sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 25.7.1959/24.8.1959. (iv) (a) 4 ploughings. (b) Transplanting. (c) 20 lb./ac. (d) 6" to 8" between rows. (e) 2. (v) Nil. (vi) SR—26 B (medium). (vii) Irrigated. (viii) Weeding. (ix) 12.19". (x) 24.12.1959.

2. TREATMENTS :

7 kinds of G.L. at 6000 lb./ac. : G_0=Control (no G.L.), G_1=*Sesbania*, G_2=*Honge*, G_3=*Glyricidia*, G_4= Sannhemp, G_5=Cowpea and G_6=Horsegram.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/200 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Height measurement, tiller count and grain yield. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2893 lb./ac. (ii) 599.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	G_0	G_1	G_2	G_3	G_4	G_5	G_6
Av. yield	2150	2900	3250	3050	2850	3200	2850

S.E./mean = 299.5 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(63).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of C/S on Paddy.

1. BASAL CONDITIONS :

(i) (a) No. (b) Paddy. (c) G.M. at 3000 lb./ac.+Farm compost at 4000 lb./ac+G.N C. at 187 lb /ac.+ Super at 56 lb./ac.+A/S at 56 lb./ac. (ii) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 24.6.1954/27.7.1954. (iv) (a) Ploughing with iron mould board plough and levelling with country *halube*. (b) Transplanting. (c) 15 srs/ac. (d) 6" to 8" between rows. (e) 2 to 3. (v) G.M. at 3000 lb./ac.+Triple Super at 50 lb./ac. at planting+A/S at 150 lb./ac. applied in 2 doses. (vi) S—661(medium). (vii) Irrigated. (viii) 1 weeding. (ix) 22·96". (x) 20.12.1254.

2. TREATMENTS :

4 levels of C/S : C_0=0, C_1=5, C_2=10 and C_3=15 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) and (b) 1/33.3 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height of plants, no of tillers, yield of grain and straw. (iv) (a) 1954—N.A. (b) Yes. (c) Nil. (v) (a) Hebbal and Mandya. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2877 lb./ac. (ii) 159.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_0	C_1	C_2	C_3
Av. yield	2964	2770	2870	2904

S.E./mean = 69.9 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(51).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of C/S on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.M. at 3000 lb./ac.+Triple Super at 50 lb./ac.+A/S at 150 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 18.6.1955/27.7.1955. (iv) (a) Ploughing with iron mould board plough and levelling with country *halube*. (b) Transplanting. (c) 15 srs./ac. (d) 6" to 8" between rows. (e) 2 to 3. (v) Farm compost at 4000 lb./ac.+Triple Super at 50 lb./ac. at planting+A/S at 75 lb./ac. at planting and 75 lb./ac. after 4 weeks. (vi) S—661 (medium). (vii) Irrigated. (viii) 1 hand weeding. (ix) 23.75". (x) 6.12.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54 (63) on page 74.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height, no. of tillers, yield of grain and straw. (iv) (a) 1954—N.A. (b) Yes. (c) Nil. (v) (a) Mandya. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2944 lb./ac. (ii) 265.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_0	C_1	C_2	C_3
Av. yield	3024	2824	2917	3010

S.E./mean = 118.6 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(73).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To find out the effect of C/S on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) Farm compost at 4000 lb./ac.+Triple Super at 50 lb./ac. at planting+A/S at 75 lb./ac. at planting and 75 lb./ac. after weeding. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 3.7.1956/3.8.1956. (iv) (a) Ploughing with iron mould board plough and levelling. (b) Transplanting. (c) 15 srs./ac. (d) 6" to 8" between rows. (e) 2 to 3. (v) Mysore compost at 4000 lb./ac.+Triple Super at 50 lb./ac. at planting+A/S at 75 lb./ac. at planting and 75 lb./ac. one month later. (vi) S—661 (medium). (vii) Irrigated. (viii) 1 hand weeding. (ix) 16.29". (x) 15.12.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(63) on page 74.

4. GENERAL :

(i) Fair. (ii) Height of plants, no. of tillers and grain and straw yield. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3137 lb./ac. (ii) 192.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_0	C_1	C_2	C_3
Av. yield	3240	3093	3187	3027

S.E./mean = 86.1 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(64).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of time of application of N and influence of G.M. on P utilization.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.M. at 3000 lb./ac.+Farm compost at 4000 lb./ac.+A/S at 115 lb./ac.+ G.N.C. at 112 lb./ac.+Super at 56 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 24.6.1954/28.7.1954. (iv) (a) Ploughing by means of iron mould board ploughs and levelling with country harrow. (b) Transplanting. (c) 15 srs./ac. (d) 6″ to 8″ between rows. (e) 2 to 3. (v) A/S at 75 lb./ac. 4 weeks after transplanting. (vi) S—661 (medium). (vii) Irrigated. (viii) 1 weeding. (ix) 22.96″. (x) 20.12.1954.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 2 times of application of 75 lb./ac. of A/S : T_1=At planting and T_2=At green manuring.

(2) 2 levels of Triple Super : P_0=0 P_1=25 lb./ac.

(3) 2 levels of G.M. : G_0=0 and G_1=3000 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) and (b) 1/33.3 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height of plant, no. of tillers, yield of grain and straw. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) (a) Hebbal, Mandya and Hiriyur. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2572 lb./ac. (ii) 392.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	T_1	T_2	Mean	P_0	P_1
G_0	2567	2546	2556	2496	2617
G_1	2587	2583	2585	2621	2550
Mean	2577	2565	2572	2558	2583
P_0	2687	2429			
P_1	2467	2700			

S.E. of any marginal mean = 98.1 lb./ac.
S.E. of body of any table = 138.5 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(48).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of time of application of N and influence of G.M. on P lutilization.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 18.6.1955/23.7.1955. (iv) (a) Ploughing with iron mould board plough and levelling with country *halube*. (b) Transplanting. (c) 15 srs./ac. (d) 6″ to 8″ between rows. (e) 2 to 3. (v) Farm compost at 4000 lb./ac.+A/S at 75 lb./ac. after weeding. (ix) 23.75″. (x) 6.12.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(64) on page 75.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height of plants, no. of tillers and yield of grain and straw. (iv) (a) 1954—1957. (b Yes. (c) Nil. (v) (a) Mandya and Hiriyur. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 3222 lb./ac. (ii) 521.1 lb./ac (iii) Main effects of T and G are significant. (iv) Av. yield of grain in lb./ac.

	T_1	T_2	Mean	P_0	P_1
G_0	3170	2804	2987	2845	3128
G_1	3719	3195	3457	3444	3469
Mean	3444	3000	3222	3145	3299
P_0	3403	2887			
P_1	3486	3112			

S.E. of any marginal mean = 130.3 lb./ac.
S.E. of body of any table = 184.2 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(75).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of time of application of N and influence of G.M. on P utilization.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 4000 lb./ac. of Farm compost+as per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 3.7.1956/3.8.1956. (iv) (a) Ploughing with iron mould board plough. (b) Transplanting. (c) 15 srs./ac. (d) 6" to 8" between rows. (e) 2. (v) Mysore compost at 4000 lb./ac.+ A/S at 75 lb./ac. one month after planting. (vi) S—661 (medium). (vii) Irrigated. (viii) Hand weeding. (ix) 16.29". (x) 15.12.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(64) on page 75.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2924 lb /ac. (ii) 316.3 lb./ac. (iii) Main effects of G and T are significant. Interaction G×P is highly significant. (iv) Av. yield of grain in lb./ac.

	T_1	T_2	Mean	P_0	P_1
G_0	2808	2725	2767	2683	2850
G_1	3275	2887	3081	3233	2929
Mean	3042	2806	2924	2958	2890
P_0	3075	2842			
P_1	3008	2771			

S.E. of any marginal mean = 79.1 lb./ac.
S.E. of body of any table = 111.8 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(14).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To study the effect of time of application of N and influence of G.M. on P utilization.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) Mysore compost at 4000 lb./ac.+as per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 6.7.1957/12.8.1957. (iv) (a) Ploughing with iron mould plough and levelling. (b) Transplanting. (c) 15 srs./ac. (d) 6″ to 8″ between rows. (e) 2 to 3. (v) Farm compost at 4000 lb./ac.+A/S at 75 lb./ac. at 1st weeding. (vi) S—661 (medium). (vii) Irrigated. (viii) Hand weeding. (ix) 8.74″. (x) 13.12.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(64) on page 75.

4. GENERAL :

(i) Good. (ii) No. (iii) Grain yield. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3142 lb./ac. (ii) 305.2 lb./ac. (iii) G×T interaction alone is highly significant. (iv) Av. yield of grain in lb./ac.

	T_1	T_2	Mean	P_0	P_1
G_0	2842	3158	3000	2933	3066
G_1	3516	3050	3283	3208	3358
Mean	3179	3104	3142	3071	3212
P_0	3150	2992			
P_1	3208	3217			

S.E. of any marginal mean = 76.3 lb /ac.
S.E. of body of any table = 107.9 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(41).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M'.**

Object :—To find out the optimum doses of N, P and K for Paddy crop.

1. BASAL CONDITIONS :

(i) (a) Paddy—G.M.—Paddy. (b) Paddy. (c) Super at 75 lb./ac. while sowing G.M. crops and 150 lb./ac. of A/S to the main crop of Paddy. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 24.7.1958/21.8.1958. (iv) (a) N.A. (b) Transplanting. (c) N.A. (d) 10″×9″. (e) 2. (v) G.M. at 5000 lb /ac.+3000 lb./ac. of farm compost. (vi) S—701 (vii) Irrigated. (viii) Passing Japanese weeder followed by hand weeding. (ix) 16.33″. (x) 5.1.1959.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 levels of N as A/S N_0=0, N_1=30 and N_2=60 lb./ac.
(2) 3 levels of P_2O_5 as Super : P_0=0, P_1=30 and P_2=60 lb./ac.
(3) 3 levels of K_2O as Mur. Pot. : K_0=0, K_1=30 and K_2=60 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 27. (b) N.A. (iii) 2. (iv) (a) N.A. (b) 1/100 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Attack of stem-borer. Control measures taken are N.A. (iii) Grain yield, height and final earhead counts. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) (a) Hebbal. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2189 lb./ac. (ii) 353.1 lb./ac. (iii) Only main effects of N and P are highly significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean	K_0	K_1	K_2
P_0	1483	2033	2250	1922	1983	2117	1666
P_1	1783	2183	2650	2205	2033	2233	2349
P_2	1950	2550	2817	2439	2183	2583	2551
Mean	1739	2255	2572	2189	2066	2311	2189
K_0	1717	1800	2681				
K_1	1667	2567	2699				
K_2	1833	2398	2336				

S.E. of any marginal mean = 83.2 lb./ac.
S.E. of body of any table = 144.2 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(180).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'M',**

Object :—To find out the optimum doses of N, P and K for Paddy crop.

1. BASAL CONDITIONS :

(i) (a) Paddy—G.M.—Paddy. (b) G.M. crop. (c) Nil. (ii) (a) Red sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 9.6.1959/9.7.1959. (iv) (a) 4 ploughings and 2 puddlings. (b) Transplanting. (c) 16 lb./ac. (d) 10″×9″. (e) 2. (v) 5000 lb./ac. of G.M. (vi) S—701. (vii) Irrigated. (vii) Passing of Japanese weeder 3 times and 2 hand weedings. (ix) 12.19″. (x) 10.12.1959.

2. TREATMENTS :

Same as in expt. no. 58(41) on page 78.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 2. (iv) (a) 1/66.6 ac. (b) 1/100 ac. (v) N.A (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Height measurements, tiller counts and grain yield. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) (a) Hebbal. (b) Nil. (vi) Nil. (vii) The expt. was laid out as R.B.D. in 1958.

5. RESULTS :

(i) 1893 lb./ac. (iii) 340.9 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean	K_0	K_1	K_2
P_0	1867	1817	1850	1845	1800	1900	1833
P_1	1703	1967	1933	1867	1883	1833	1883
P_2	1800	2067	2033	1967	2067	1983	1850
Mean	1789	1950	1939	1893	1917	1906	1855
K_0	1850	1983	1917				
K_1	1717	1983	2017				
K_2	1800	1883	1883				

S.E. of any marginal mean = 80.4 lb./ac.
S.E. of body of any table = 139.1 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(94).**

Site :- Rice Breeding Stn., Ponnampet. **Type :- 'M'.**

Object :—To study the effect of different sources of N on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) F.Y.M. at 9 C.L./ac.+G.L. at 2500 lb./ac.+Super at 150 lb./ac.+A/S at 150 lb./ac. (ii) (a) Sandy clay. (b) N.A. (iii) 4.6.1959/17.7.1959. (iv) (a) Ploughings. (b) Transplanting. (c) 40 lb./ac. (d) 9″×9″. (e) 2. (v) 9 C.L./ac. of F.Y.M.+200 lb./ac. of B.M.+2500 lb./ac. of G L. (vi) KB—356 (late). (vii) Unirrigated. (viii) 2 weedings and 1 interculturing. (ix) 118.6″. (x) 25 12.1959.

2. TREATMENTS :

6 sources of N (level N.A.) : S_0=Control (no manure), S_1=A/S, S_2=A/C, S_3=Urea, S_4=A/N and S_5=C/N.

3. DESIGN :

(i) R.B D. (ii) (a) 6. (b) 35′×108′. (iii) 4. (iv) (a) 34.5′×18′. (b) 33′×16.5′. (v) 9″×9″ left as border. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Height, tiller counts and grain yield. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3100 lb./ac. (ii) 222.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_0	S_1	S_2	S_3	S_4	S_5
Av. yield	2760	3200	3280	3040	3200	3120

S.E./mean = 111.0 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(5).**

Site :- Rice Breeding Stn., Ponnampet. **Type :- 'M'.**

Object :—To find out the effect of different levels and sources of P on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) F.Y.M. at 3½ tons/ac.+G.L. at 2000 lb./ac.+B.M. at 200 lb./ac.+Manure mixture at 150 lb./ac. (ii) (a) Sandy loam. (b) N.A. (iii) 26.6.1954/27.7.1954. (iv) (a) 2 dry ploughings and 3 puddlings and levelling. (b) Transplanting. (c) 30 lb./ac. (d) and (e) N.A. (v) 3 tons/ac. of F.Y.M. (vi) KB—(late). (vii) Unirrigated. (viii) 3 weedings. (ix) 41.85″. (x) 28.12.1954.

2. TREATMENTS :

All combinations of (1) and (2)+Control

(1) 2 levels of P_2O_5 : P_1=25 and P_2=50 lb./ac.

(2) 3 sources of P_2O_5 : S_1=Hyper Phos., S_2=B.M. and S_3=Super.

3. DESIGN :

(i) R B.D. (ii) (a) 7. (b) N.A. (iii) 3. (iv) (a) 1/80 ac. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Light infection of leaf spots ; 1% Perenox sprayed. (iii) Tiller counts, plant height and grain yield. (iv) (a) No. (b) and (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1780 lb./ac. (ii) 316 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 2123 lb./ac.

	S_1	S_2	S_3	Mean
P_1	1754	1673	1923	1783
P_2	1572	1750	1667	1663
Mean	1663	1712	1795	1723

S.E. of P marginal mean = 105.3 lb./ac.
S.E. of S marginal mean = 129.0 lb./ac.
S.E. of body of table = 182.4 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(6).**

Site :- Rice Breeding Stn., Ponnampet. **Type :- 'M'.**

Object :—To find out the effect of different levels of P and K on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) F.Y.M. at 3½ C.L./ac.+G.L. at 2000 lb./ac.+B.M. at 200 lb./ac.+Manure mixture at 150 lb./ac. (ii) (a) Sandy loam. (b) N.A. (iii) 26.6.1954/24.7.1954. (iv) (a) 2 dry ploughings and 3 puddlings and levelling. (b) Transplanting. (c) 30 lb./ac. (d) and (e) N.A. (v) F.Y.M. at 3 tons/ac. (vi) *Kiribilitya* (late). (vii) Unirrigated. (viii) 3 weedings. (ix) 41.85". (x) 25.12.1954.

2. TREATMENTS :

All combinations of (1) and (2)
(1) 3 levels of K_2O as Mur. Pot. : $K_0=0$, $K_1=25$ and $K_2=50$ lb./ac.
(2) 3 levels of P_2O_5 as B.M. : $P_0=0$, $P_1=25$ and $P_2=50$ lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 9. (b) N.A. (iii) 3. (iv) (a) 1/80 ac. (b) 1/100 ac. (iv) 1½' alround. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Light infection of leaf spots and neck infection. 1% perenox sprayed. (iii) Tiller counts, plant height and grain yield. (iv) (a) 1954 only. (b) and (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2140 lb /ac. (ii) 529 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	K_0	K_1	K_2	Mean
P_0	1967	2567	2300	2278
P_1	1767	2300	2100	2056
P_2	1867	2200	2200	2089
Mean	1867	2356	2200	2140

S.E. of any marginal mean = 176.3 lb./ac.
S.E. of body of table = 305.4 lb./ac.

Crop :- Paddy. **Ref :- Ms. 54(7).**

Site :- Rice Breeding Stn., Ponnampet. **Type :- 'M'.**

Object :—To find the effect of Lime on Paddy.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) F.Y.M. at 3½ ton/ac.+G.L. at 2000 lb./ac.+B.M. at 200 lb./ac.+Manure mixture at 157 lb./ac. (ii) (a) Sandy loam. (b) N.A. (iii) 26.6.1954/20.7.1954. (iv) (a) 2 dry ploughings and 3 puddlings. (b) Transplanting. (c) 30 lb./ac. (d) and (e) N.A. (v) B.M. at 224 lb./ac.+Mur. Pot. at 50 lb./ac. (vi) Local (late). (vii) Unirrigated. (viii) 2 weedings. (ix) 41.85". (x) 22.12.1954.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of Lime : L_0=0 and L_1=500 lb./ac.

(2) 2 levels of N as G.N.C. : N_0=0 and N_1=40 lb./ac.

Treatments applied at planting.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) 1/80 ac. (b) 1/100 ac. (v) 1½' around. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Light infection of leaf spots. Stray attack of stem borer ; 1% perenox was sprayed against leaf spots. (iii) Tiller counts, plant height and grain yield. (iv) (a) 1954 only. (b) and (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3410 lb./ac. (ii) 447 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	Mean
L_0	3240	3400	3320
L_1	3480	3520	3500
Mean	3360	3460	3410

S.E. of any marginal mean = 141.4 lb./ac.
S.E. of body of the table = 199.9 lb./ac.

Crop :- Paddy. **Ref :- Ms. 57(81).**

Site :- Rice Breeding Stn., Ponnampet. **Type :- 'M'.**

Object :—To study the effect of trace elements on Paddy yield and their ability to control blast disease.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 9 C.L./ac. of F.Y.M.+2500 lb./ac. of G.L.+200 lb./ac. of G.N.C. (ii) (a) Sandy clay. (b) N.A. (iii) 11.6.1957/20.7.1957. (iv) (a) 2 ploughings in dry condition followed by 5 ploughings in wet condition and levelling. (b) Transplanting. (c) 30 to 40 lb./ac. (d) 9"×9". (e) 3 to 4. (v) 9 C.L./ac. of F.Y.M.+2500 lb./ac. of G.L.+200 lb./ac. of G.N.C. (vi) BAM—3 (late). (vii) Unirrigated. (viii) 3 hand weedings. (ix) 80". (x) 17.12.1957.

2. TREATMENTS :

All combinations of (1), (2), (3) and (4)

(1) 2 levels of K_2O as Mur. Pot. : K_0=0 and K_1=50 lb./ac.

(2) 2 levels of Boron : B_0=0 and B_1=15 lb./ac.

(3) 2 levels of Mg as $MgSO_4$: M_0=0 and M_1=15 lb./ac.

(4) 2 levels of Zn. : Z_0=0 and Z_1=15 lb./ac.

Treatments applied at planting.

3. DESIGN :

(i) 2^4 Fact. in R.B.D. (ii) (a) 16. (b) 19.5'×120'. (iii) 2. (iv) (a) 19.5'×7.5'. (b) 18'×6'. (v) 9" around. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Blast was observed in all the treatments. No control measures were taken. (iii) Grain yield and tiller counts. (iv) (a) 1957—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 5344 lb./ac. (ii) 799.6 lb./ac. (iii) K×M, K×Z and K×M×B interactions are significant. (iv) Mean and differential responses in lb./ac.

Factor	Mean response	Differential responses							
		B		K		M		Zn	
		Pr.	Ab.	Pr.	Ab.	Pr.	Ab.	Pr.	Ab.
B	0	—	—	—154.9	+154.9	—203.8	+203.8	—154.9	+154.9
K	+154.9	0.0	+309.8	—	—	—611.3	+921.1	—562.4	872.2
M	+203.8	0.0	+407.6	—558.4	+966.0	—	—	—154.9	+562.5
Zn	— 53.0	—203.8	+97.8	—766.2	+660.2	—407.6	+301.6	—	—

S.E. of mean response = 282.7 lb./ac.

S.E. of differential response = 399.8 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(47).**

Site :- Rice Breeding Stn., Ponnampet. **Type :- 'M'.**

Object :—To study the effect of trace elements on Paddy yield and their ability to control blast disease.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 9 C.L./ac. of F.Y.M.+2500 lb./ac. of G.L.+G.N.C. at 200 lb./ac. (ii) (a) Sandy loam. (b) N.A. (iii) 27.6.1958/25.7.1958. (iv) (a) 2 ploughings in dry condition followed by 5 ploughing in wet condition and levelled. (b) Transplanting. (c) 30 to 40 lb./ac. (d) 9″×9″. (e) 3 to 4. (v) 9 C.L./ac. of F.Y.M.+2500 lb./ac. of G.L. (vi) *Kiribilia*—365 (late). (vii) Unirrigated. (viii) 3 hand weedings. (ix) 80.02″. (x) 25.12.1958.

2. TREATMENTS :

All combinations of (1), (2), (3) and (4)

(1) 2 levels of K_2O as Mur. Pot. : K_0=0 and K_1=50 lb./ac.

(2) 2 levels of Cobalt : C_0=0 and C_1=15 lb./ac.

(3) 2 levels of Boron : B_0=0 and B_1=15 lb./ac.

(4) 2 levels of Magnesium as $MgSO_4$: M_0=0 and M_1=15 lb./ac.

Treatments applied at planting.

3. DESIGN :

(i) 2^4 Fact. in R.B.D. (ii) (a) 16. (b) 19.5′×120′. (iii) 2. (iv) (a) 19.5′×7.5′. (b) 18′×6′. (v) 1½ around. (vi) Yes.

4. GENERAL :

(i) Not satisfactory (ii) Blast was observed in all treatments. No control measures were taken. (iii) Tiller counts, height measurements and grain yield. (iv) (a) 1957—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 407.6 lb./ac. (ii) 130.5 lb./ac. (iii) Interaction B×K and K×M are significant. (iv) Mean and differential responses in lb./ac.

Factor.	Mean response	Differental responses							
		K		C		B		M	
		−	+	−	+	−	+	−	+
K	−578.8	−	−	−629.2	−528.4	−1536.7	379.1	427.5	+1585.1
C	163.3	112.9	213.7	−	−	0	326 6	125.0	201.6
B	−389.2	−1347.1	+568.7	−552.6	−225.8	—	—	229.9	−1008.3
M	139.1	1145.4	−867.2	100.8	177.4	758.2	−480.0	—	—

S.E./mean response = 46.1 lb./ac.
S.E. of differential responses = 65.2 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(8).**

Site :- Rice Breeding Stn., Ponnampet. **Type :- 'M'.**

Object :—To find the effect of Manganese application on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) F.Y.M. at 3½ ton/ac.+G.L. at 2000 lb./ac.+B.M. at 200 lb./ac.+Manure mixture at 150 lb./ac. (ii) (a) Sandy loam. (b) N.A. (iii) 26.6.1954/24.7.1954. (iv) (a) 2 dry ploughings and 3 puddlings and levelling. (b) Transplanting. (c) to (e) N.A. (v) 20 lb./ac. of N as G.N.C.+20 lb./ac. of P_2O_5 as Super+20 lb./ac. of K_2O as Mur. Pot. (vi) *Andraosoil* (medium). (vii) Unirrigated. (viii) 3 weedings. (ix) 41.85". (x) 12.12.1954.

2. TREATMENTS :

5 applications of Manganese : M_0=Control, M_1=1, M_2=2 lb./ac. of Manganese sulphate at puddled state, M_3=1% and M_4=2% solution spray of Manganese sulphate.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 1/80 ac. (b) 1/100 ac. (v) 1½' border on all sides. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) Nil. (iii) Height, tiller counts, and yield of grain and straw. (iv) (a) 1954 only. (b) and (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3080 lb./ac. (ii) 690 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4
Av. yield	2975	2525	3200	3175	3525

S.E./mean = 345 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(36).**

Site :- Agri. Res. Stn., Sirsi. **Type :- 'M'.**

Object :—To fix up the optimum doses of N, P and K for Paddy under local conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L./ac. of F.Y.M.+100 lb./ac. of A/S+120 lb./ac. of Super. (ii) (a) Sandy soil. (b) Refer soil analysis, Sirsi. (iii) 1.6.1959/N.A. (iv) (a) Ploughing. (b) Transplanting. (c) N.A. (d) 9"×9". (e) 4. (v) N.A. (vi) WH—1690. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 141.43". (x) 17.12.1959.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 levels of N : N_0=0, N_1=30 and N_2=60 lb./ac.

(2) 3 levels of P_2O_5 : P_0=0, P_1=30 and P_2=60 lb./ac.

(3) 3 levels of K_2O : K_0=0, K_1=30 and K_2=60 lb./ac.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 2. (iv) (a) 18′×12′. (b) 16′8″×10′8″. (v) One row left. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Blue beetle incidence noticed in the early stages—B.H.C. sprayed. (iii) No. of tillers and panicle length and grain yield. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2465 lb./ac. (ii) 230.7 lb./ac. (iii) Main effect of N alone is highly significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	K_0	K_1	K_2	Mean
P_0	2152	2367	2719	2338	2421	2482	2413
P_1	2126	2564	2773	2317	2519	2626	2487
P_2	2207	2509	2786	2436	2563	2504	2501
Mean	2162	2480	2759	2362	2501	2537	2465
K_0	2018	2388	2681				
K_1	2212	2553	2738				
K_2	2254	2498	2858				

S.E. of any marginal mean = 54.4 lb./ac.
S.E. of body of any table = 94.2 lb./ac.

Crop :- Paddy. **Ref :- Ms. 59(64).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the optimum doses of N, P and K for Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+40 lb./ac. of P_2O_5+40 lb./ac. of N. (ii) (a) Black soil (clayey). (b) Refer soil analysis, Siruguppa. (iii) 28 and 29.8.1959. (iv) (a) 2 Ploughings. (b) Transplanting. (c) 25 lb./ac. (d) 6″ to 8″ between rows. (e) —. (v) 3 C.L./ac. of F.Y.M. (vi) GEB—24. (vii) Irrigated. (viii) Hand weeding. (ix) 24.41″. (x) 22 and 23.12.1959.

2. TREATMENTS :

All combinations of (1) (2) and (3)

(1) 3 levels of N as A/S : N_0=0, N_1=30 and N_2=60 lb./ac.

(2) 3 levels of P_2O_5 as Super : P_0=0, P_1=30 and P_2=60 lb./ac.

(3) 3 levels of K_2O as Pot. Sul. : K_0=0, K_1=30 and K_2=60 lb./ac.

P_2O_5 and K_2O applied at planting and N one month after planting.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 2. (iv) (a) 38′×14′4″. (b) 36′×12′1″. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2736 lb./ac. (ii) 480.3 lb./ac. (iii) Main effect of N alone is highly significant. (iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	K_0	K_1	K_2	Mean
N_0	2534	2217	2441	2303	2288	2601	2397
N_1	2510	2925	2812	2729	2695	2823	2749
N_2	2676	3440	3071	3246	3135	2806	3062
Mean	2573	2861	2775	2759	2706	2743	2736
K_0	2814	2810	2653				
K_1	2416	2712	2991				
K_2	2491	3060	2679				

S.E. of any marginal mean = 113.2 lb./ac.
S.E. of body of any table = 196.1 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(112).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the requirement of P for Paddy in combination with N.

1. BASAL CONDITIONS :

(i) (a) Paddy—G.M. crop. (b) Sannhemp. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) N.A./23.7.1956. (i) (a) Ploughing. (b) Transplanting. (c) 7½ srs./ac. (d) 10″×10″. (e) 2. (v) 5000 lb./ac. of G.L. (vi) GEB—24 (medium). (vii) Irrigated. (viii) Weeding and mulching. (ix) 32.30″. (x) 27.12.1956.

2. TREATMENTS :

6 manurial treatments : M_0=Control (no fertilizer), M_1=20 lb./ac. of N, M_2=30 lb /ac. of P_2O_5, M_3=M_1+20 lb./ac. of P_2O_5, M_4=M_1+M_2 and M_5=20 lb./ac. of N+40 lb./ac. of P_2O_5.

N is applied as A/S.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 24′×27′3″. (b) 20′×21′9″. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—N.A. (b) No. (c) Nil (v) to (vii) Nil.

5. RESULTS :

(i) 3268 lb./ac. (ii) 362.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	2987	3234	3668	3431	3109	3175

S.E./mean = 181.2 lb./ac.

Crop :- Paddy. **Ref :- Ms. 54(61).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the effect of different manure mixtures on Paddy.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Heavy black clayey soil. (b) Refer soil analysis, Siruguppa. (iii) 13.1.1954/3.3.1954. (iv) (a) Ploughing, levelling and bund forming etc. (b) to (e) N.A. (v) 5000 lb./ac. of G L. (vi) CO—13. (vii) Irrigated. (viii) Intercultivation and weeding twice. (ix) 2.09". (x) 30.5.1954.

2. TREATMENTS :

3 manure mixtures : M_0=Control (no manure), M_1=150 lb./ac. of A/S+168 lb./ac. of Super and M_2=75 lb./ac. of A/S+200 lb./ac. of G.N.C.+168 lb./ac. of Super.

3. DESIGN :

i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 5. (iv) (a) 45'×24'9". (b) 30'×21'9". (v) 7½'×1½'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) to (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 944 lb./ac. (ii) 151.5 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2
Av. yield	704	1019	1110

S E./mean = 67.4 lb./ac.

Crop :- Paddy. **Ref :- Ms. 59(68).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To study the effect of different sources of N on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+40 lb./ac. of N+40 lb./ac. of P_2O_5. (ii) (a) Black clayey soil. (b) Refer soil analysis, Siruguppa. (iii) N.A./26.8.1959. (iv) (a) Ploughing. (b) Transplanting. (c) 25 lb./ac. (d) 6"×8" between lines. (e) 2 to 3. (v) 5000 lb./ac. of G.L.+3 C.L./ac of F.Y.M. +40 lb./ac. of P_2O_5 as Super. (vi) GEB—24. (vii) Irrigated. (viii) 1 weeding. (ix) 24.41". (x) 19.12.1959.

2. TREATMENTS :

7 sources of N at 40 lb./ac. : S_0=Control (No N), S_1=A/C, S_2=A/S, S_3=A/S/N, S_4=Urea, S_5=C/N and S_6=C/A/N.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) 54'×12'1½". (b) 44'×9'11". (v) 5'×1'¼". (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2576 lb./ac. (ii) 239.4 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_0	S_1	S_2	S_3	S_4	S_5	S_6
Av. yield	2003	2848	2932	2736	2708	2237	2570

S.E./mean = 119.7 lb./ac.

Crop :- Paddy. **Ref :- 54(26).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the effect of different methods of application of A/S on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—G.M. crop—Paddy. (b) Paddy. (c) G.M. applied in *situ*+40 lb./ac. of N as A/S. (ii) (a) Heavy black clay soil. (b) Refer soil analysis, Siruguppa. (iii) 5.7.1954/5.8.1954. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) GEB—24 (late). (vii) Irrigated. (viii) Two weedings. (ix) 15.05". (x) 18.12.1954.

2. TREATMENTS :

3 methods of application of 30 lb./ac. of A/S : M_1=By broadcast one month after planting, M_2=By mixing with clay and placing 2" to 3" below surface in 2 doses : $\frac{2}{3}$ at planting and $\frac{1}{3}$ one month after planting and M_3=By mixing with soil and applying by broadcast method in 2 doses as in M_2

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 1/50 ac. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield, tiller counts. (iv) (a) 1954—1956. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2293 lb./ac. (ii) 558 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	2173	2375	2331

S.E./mean = 227 lb./ac.

Crop :- Paddy. **Ref :- Ms. 55(38).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the effect of different methods of application of A/S on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Heavy black clayey soil. (b) Refer soil analysis, Siruguppa. (iii) 27.6.1955/26.7.1955. (iv) (a) 3 to 4 puddlings and trampling green leaf just 10 days before planting. (b) Transplanting. (c) to (e) N.A. (v) 5000 lb./ac. of G.L.+40 lb./ac. of P_2O_5 as Super applied to G.M. crop. (vi) GEB—24 (late). (vii) Irrigated. (viii) Two weedings. (ix) 27.8.47. (x) 7.12.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(26) on page 87.

5. RESULTS :

(i) 2854 lb./ac. (ii) 551 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	2792	2973	2797

S.E./mean = 225 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(108).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the effect of different methods of application of A/S on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) G.M crop. (c) Nil. (ii) (a) Deep black clayey soil. (b) Refer soil analysis, Siruguppa. (iii) 20.7.1956. (iv) (a) Ploughing. (b) N.A. (c) 7½ srs./ac. (d) 10 × 10". (e) 2 seedlings/hole. (v) 5000 lb./ac. of G.L.+40 lb./ac. of P_2O_5 as Super. (vi) GEB—24 (medium). (vii) Irrigated. (viii) Weeding and mulching. (ix) 32.66". (x) 19.12.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(26) on page 87.

5. RESULTS :

(i) 2704 lb./ac. (ii) 302.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	2800	2676	2635

S.E./mean = 123.57 lb./ac.

Crop :- Paddy. **Ref :- Ms. 54(27).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To study the effect of different levels of N on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—G.M. crop—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+40 lb./ac of P_2O_5 as Super+Phosphoric acid at 40 lb./ac. of N as A/S. (ii) (a) Heavy black clay soil. (b) Refer soil analysis, Siruguppa. (iii) 5.7.1954/9.8.1954. (iv) (a) 3 puddlings. (b) Transplanting. (c) to (e) N.A. (v) 5000 lb./ac. of G.L.+40 lb./ac. of P_2O_5 as Super. (vi) GEB—24 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 15.05". (x) 10.1.1955.

2. TREATMENTS :

4 levels of N as A/S applied at planting : N_0=0, N_1=30, N_2=60 and N_3=90 lb./ac.

3. DESIGN :

(I) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) 1/66.7 ac. (b) 1/133.3 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Lodging was noticed in N_3 plots. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954—1956. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2546 lb./ac. (ii) 496 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	N_0	N_1	N_2	N_3
Av. yield	1852	2497	3002	2832

S.E./mean = 221.8 lb./ac.

Crop :- Paddy. **Ref :- Ms. 55(39).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To study the effect of different levels of N on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Heavy black clayey soil. (b) Refer soil analysis, Siruguppa. (iii) 27.6.1955/26 7.1955. (iv) (a) Puddling 3 to 4 times and transplanting green leaf. (b) Transplanting. (c) to (e) N.A. (v) 5000 lb./ac. of G.L.+40 lb./ac. of P_2O_5. (vi) GEB—24 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 23.84". (x) 13.12.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(27) above except that the net plot size is 1/100 ac. and gross 1/66 7 ac.

5. RESULTS :

(i) 3093 lb./ac. (ii) 524 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	N_0	N_1	N_2	N_3
Av. yield	2814	3213	3290	3057

S.E./mean = 234 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(118).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To study the effect of different levels of N on Paddy.

1. BASAL CONDITIONS :

(i) (a) G.M —crop Paddy. (b) G.M. crop. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) 17.7.1956/N.A. (iv) (a) Ploughing and puddling. (b) Transplanting. (c) 20 lb./ac. (d) 10″×9″. (e) 2 to 3. (v) 5000 lb./ac. of G.L.+40 lb./ac. of P_2O_5 as Super. (vi) GEB—24 (medium). (vii) Irrigated. (viii) Weeding. (ix) 33.71″. (x) 17.12.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(27) on page 89 except that the net plot size is 1/100 ac. and gross 1/66.7 ac.

5. RESULTS :

(i) 2654 lb./ac. (ii) 724.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	N_0	N_1	N_2	N_3
Av. yield	2530	2681	2860	2544

S.E./mean = 324.2 lb./ac.

Crop :- Paddy. **Ref :- Ms. 54(25).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the relative merits of Kotka Phos. and Super on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Heavy black clay soil. (b) Refer soil analysis, Siruguppa. (iii) 5.7.1954/6.8.1954. (iv) (a) 3 to 4 puddlings. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) GEB—24 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 15.05″. (x) 27.12.1954.

2. TREATMENTS :

6 manurial treatments : M_0=Control (No manure), M_1=40 lb./ac. of N as 5000 lb./ac. of G.L.+A/S, $M_2=M_1+60$ lb./ac. of P_2O_5 as Super broadcasted, $M_3=M_1+60$ lb./ac. of P_2O_5 as Kotka Phos. broadcasted, $M_4=M_1+60$ lb./ac. of P_2O_5 as Super applied by placement and $M_5=M_1+60$ lb./ac. of P_2O_5 as Kotka phos. applied by placement.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) 1/80 ac. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—1956. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2028 lb./ac. (ii) 196 lb./ac (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	1233	1751	2305	2210	2304	2364

S.E./mean = 87.6 lb./ac.

Crop :- Paddy. **Ref :- Ms. 55(37).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the relative merits of Kotka Phos. and Super on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Heavy black clayey soil. (b) Refer soil analysis, Siruguppa. (iii) 27.6.1955/26.7.1955. (iv) (a) 3 puddlings. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) GEB—24 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 27.84". (x) 5.12.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(25) on page 90.

5. RESULTS :

(i) 2521 lb./ac. (ii) 152 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	1775	2474	2681	2656	2798	2744

S.E./mean = 68 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(117).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the relative merits of Kotka Phos. and Super on Paddy.

1. BASAL CONDITIONS :

(i) (a) G.M. crop—Paddy. (b) Sannhemp. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) 18.7.1956/N.A. (iv) (a) Ploughing and puddling. (b) Transplanting. (c) 20 lb./ac. (d) 10"×9". (e) 2 to 3. (v) Nil. (vi) GEB—24 (medium). (vii) Irrigated. (viii) Weeding. (ix) 33.71". (x) 17.12.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(25) on page 90.

5. RESULTS :

(i) 2136 lb./ac. (ii) 410.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	1631	2167	2270	2250	2224	2275

S.E./mean = 183.4 lb./ac.

Crop :- Paddy *(Rabi)*. **Ref :- Ms. 58(61).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the requirement of N for summer season Paddy.

1. BASAL CONDITIONS :

(i) (a) G.M. crop—Paddy. (b) and (c) N.A. (ii) (a) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) 12.2.1958. (iv) (a) Ploughing. (b) N.A. (c) 7½ srs./ac. (d) 10"×10". (e) 2. (v) 40 lb./ac. of P_2O_5 as Super broadcasted. (vi) CO—13. (vii) Irrigated. (viii) Hand weeding and mulching. (ix) 9.51". (x) 26.6.1958.

2. TREATMENTS :

4 levels of N as A/S : N_0=0, N_1=20, N_2=40 and N_3=60 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) 1/66.7 ac. (b) 1/133.3 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1641 lb./ac. (ii) 304.3 lb./ac. (iii) The treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	N_0	N_1	N_2	N_3
Av. yield	1438	1635	1716	1776

S.E./mean = 136.7 lb./ac.

Crop :- Paddy *(Rabi)*. **Ref :- Ms. 58(78).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the requirement of N for summer season Paddy.

1. BASAL CONDITIONS :

(i) (a) G.M. crop—Paddy. (b) *Sesbania*. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) 15.9.1958/N.A. (iv) (a) Ploughing. (b) Transplanting. (c) 20 lb./ac. (d) 10″×9″. (e) 2 to 3. (v) 5000 lb./ac. of G.L.+40 lb./ac. of P_2O_5. (vi) CO—13 (medium). (vii) Irrigated. (viii) Hand weeding and mulching. (ix) 8.73″. (x) 17.2.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(61) on page 91 except that the net plot size is 1/133.3 ac. and gross is 1/100 ac.

5. RESULTS :

(i) 2077 lb./ac. (ii) 256.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	N_0	N_1	N_2	N_3
Av. yield	1791	2017	2213	2285

S.E./mean = 96.8 lb./ac.

Crop :- Paddy. **Ref :- Ms. 59(65).**

Site :- Agri Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the requirement of N for Paddy in summer season.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+40 lb./ac. of N+40 lb./ac. of P_2O_5. (ii) (a) Black soil. (b) Refer soil analysis, Siruguppa. (iii) N.A./17.2.1959. (iv) (a) Ploughing. (b) Transplanting. (c) 25 lb./ac. (d) 9″×10″ between rows. (e) 2 to 3. (v) 5000 lb./ac. of G.L.+40 lb./ac. of P_2O_5. (vi) CO—13. (vii) Irrigated. (viii) Hand weeding. (ix) 3.58″. (x) 22.5.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no 58(78) above.

5. RESULTS :

(i) 2087 lb./ac. (ii) 257.3 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	N_0	N_1	N_2	N_2
Av. yield	1799	2027	2224	2298

S.E./mean = 97.3 lb./ac.

Crop :- Paddy. **Ref :- Ms. 59(MAE).**

Site :- M.A.E. Farm, Mercara. **Type :- 'M'.**

Object :—Type II—To study the long term effect of N, P, K and F.Y.M. on Paddy.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Heavy loam. (b) N.A. (iii) August, 1959. (iv) (a) 6 ploughings. (b) N.A. (c) 20 lb./ac. (d) 10″×10″. (e) N.A. (v) Nil. (vi) BAM—3 (PSI), (late). (vii) Unirrigated. (viii) 2 weedings and 6 intercultures. (ix) 131″. (x) 2nd week of February, 1960.

2. TREATMENTS :

All combinations of (1), (2), (3) and (4)

(1) 3 levels of N as A/S : N_0=0, N_1=30 and N_2=60 lb./ac.
(2) 3 levels of P_2O_5 as Super : P_0=0, P_1=30 and P_2=60 lb./ac.
(3) 3 levels of K_2O Pot. Sul. : K_0=0, K_1=30 and K_2=60 lb./ac.
(4) 2 levels of F.Y.M. : F_0=0 and F_1=5000 lb./ac.

Fertilizers broadcast at planting.

3. DESIGN :

(i) 3^3×2. (ii) (a) 9 plots/block ; 6 blocks/replication. (b) N.A. (iii) 1. (iv) (a) 1/80 ac. (b) 28.5′×12′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) Blast disease and stem-borer. (iii) Grain yield. (iv) (a) 1959—contd. (b) Yes. (c) Nil. (v) Heavy rains damaged the crop. (vii) Nil.

5. RESULTS :

(i) 2412 lb./ac. (il) 316.6 lb./ac. (iii) Main effect of N and interaction F×N are significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean	K_0	K_1	K_2	F_0	F_1
P_0	2337	2403	2181	2307	2312	2255	2353	2433	2181
P_1	2368	2683	2271	2441	2378	2378	2567	2404	2478
P_2	2453	2641	2370	2488	2337	2501	2625	2516	2460
Mean	2386	2576	2274	2412	2342	2378	2515	2451	2373
F_0	2584	2600	2170	2451	2413	2474	2465		
F_1	2189	2551	2378	2373	2271	2282	2565		
K_0	2394	2410	2222						
K_1	2386	2436	2312						
K_2	2377	2881	2288						

S.E. of marginal mean of N, P or K = 74.6 lb./ac.
S.E. of marginal mean of F = 60.9 lb./ac.
S.E. of body of N×P, N×K or P×K table = 129.2 lb./ac.
S.E. of body of N×F, P×F or K×F table = 105.5 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(MAE).**

Site :- M.A.E. Farm, Mercara. **Type :- 'M'.**

Object :—Type V—To study the most suitable time of application of N.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (il) (a) Heavy loam. (b) N.A. (iii) August, 1959. (iv) (a) 6 ploughings. (b) N.A (c) 20 lb./ac. (d) 10″×10″. (e) N A. (v) Nil. (vi) BAM—3. (vii) Unirrigated. (viii) 2 weedings and 6 intercultures. (ix) 131″. (x) 2nd week of February, 1960.

2. TREATMENTS :

All combinations of (1) and (2)+a control.

(1) 2 sources of 30 lb./ac. of N : S_1=Urea and S_2=A/S.

(2) 7 times of application of N : T_1=Before planting, T_2=At planting, T_3=At tillering, T_4=Half before planting+half at planting, T_5=Half at planting+half at tillering, T_6=⅓ before planting+⅓ at planting+⅓ a week before flowering and T_7=⅓ at planting+⅓ at tillering+⅓ a week before flowering.

3. DESIGN :

(i) R.B.D. (ii) (a) 15. (b) N.A. (iii) 3. (iv) (a) 1/80 ac. (b) 28½′×12′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) Blast disease and stem-borer. (iii) Grain yield. (iv) (a) 1959—contd. (b) N.A. (c) Nil. (v) Ponnampet and Shimoga. (vi) Heavy rains damaged the crop. (vii) Nil.

5. RESULTS :

(i) 2937 lb./ac. (ii) 397.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 3184 lb./ac.

	T_1	T_2	T_3	T_4	T_5	T_6	T_7	Mean
S_1	3086	3333	3127	2847	2641	2608	3390	3005
S_2	2740	2715	2674	2715	3267	2929	2798	2834
Mean	2913	3024	2900	2781	2954	2768	3094	2919

S.E. of marginal mean of T = 162.4 lb./ac.
S.E. of marginal mean of S = 86.8 lb./ac.
S.E. of body of table or control mean = 229.7 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(MAE).**

Site :- M.A.E. Farm, Ponnampet. **Type :- 'M'.**

Object :—Type V—To study the most suitable time of application of N.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Sandy loam (laterite). (b) N.A. (iii) June—July. (iv) (a) to (e) N.A. (v) 20 lb./ac. of P_2O_5. (vi) *Kiribilia* (local). (vii) Unirrigated. (viii) and (ix) N.A. (x) Nov.—Dec.

2. TREATMENTS :

All combinations of (1) and (2)+a control.

(1) 2 source of 30 lb./ac. of N : S_1=Urea and S_2=A/S.

(2) 7 times of application of N : T_1=Before planting, T_2=At planting, T_3=At tillering. T_4=Half before planting+half at planting, T_5=Half at planting+half at tillering, T_6=⅓ before planting+⅓ at planting+⅓ a week before flowering and T_7=⅓ at planting+⅓ at tillering+⅓ a week before flowering.

3. DESIGN :

(i) R.B.D. (ii) (a) 15. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 1/108 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Considerable lodging occurred specially in plots receiving higher doses of nitrogen. (ii) Severe infection of blast. (iii) Grain yield. (iv) (a) 1954—contd. (b) N.A. (c) Nil. (v) Mercara and Shimoga. (vi) N.A. (vii) Nil.

5. RESULTS :

(i) 2345 lb./ac. (ii) 357.0 lb./ac. (iii) Main effect of S alone is highiy significant. (iv) Av. yield of grain in lb./ac.

Control = 2534 lb./ac.

	T_1	T_2	T_3	T_4	T_5	T_6	T_7	Mean
S_1	2633	2378	2444	2715	2370	2534	2724	2543
S_2	2304	2008	2106	1489	2411	2279	2238	2119
Mean	2468	2193	2275	2102	2390	2406	2481	2331

S.E. of marginal mean of T = 145.7 lb./ac.
S.E. of marginal mean of S = 77.9 lb./ac.
S.E. of body of table or control mean = 206.1 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(MAE).**

Site :- M.A.E. Farm, Ponnampet. **Type :- 'M'.**

Object :—Type V—To study the most suitable time of application of N.

1. BASAL CONDITIONS to 4. GENERAL :

Same as in expt. no. 54(M.A.E.) type V on page 94.

5. RESULTS :

(i) 3002 lb./ac. (ii) 363.6 lb./ac. (iii) 'Control *vs.* others' effect is highly significant. (iv) Av. yield of grain in lb./ac.

Control = 2246 lb./ac.

	T_1	T_2	T_3	T_4	T_5	T_6	T_7	Mean
S_1	2938	2938	3497	2822	3250	2880	3045	3053
S_2	2913	2880	2913	2954	3308	3291	3152	3059
Mean	2926	2909	3205	2888	3279	3085	3098	3056

S.E. of marginal mean of T = 148.4 lb./ac.
S.E. of marginal mean of S = 79.3 lb./ac.
S.E. of body of table or control mean = 209.9 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref Ms. :- 56(MAE).**

Site :- M.A.E. Farm, Ponnampet. **Type :- 'M'.**

Object :—Type V—To study the most suitable time of application of N.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Sandy loam (laterite). (b) N.A. (iii) Middle of Aug. 1956. (iv) (a) and (b) N.A. (c) 20 lb./ac. (d) 9″×9″. (e) N.A. (v) Cattle manure at 5000 lb./ac. (vi) N.A. (vii) Unirrigated. (viii) N.A. (ix) 30″ during the year. (x) End of Dec. 1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(MAE) type V on page 94.

4. GENERAL :

(i) N.A. (ii) Mild attack of blast and thrips. (iii) Grain yield. (iv) (a) 1954—contd. (b) N.A. (c) Nil. (v) Mercara and Shimoga. (vi) N.A. (vii) Nil.

5. RESULTS :

(i) 1267 lb./ac. (ii) 537.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 977 lb./ac.

	T_1	T_2	T_3	T_4	T_5	T_6	T_7	Mean
S_1	1152	1103	1539	1489	1794	1317	1333	1390
S_2	1086	1251	913	1637	1259	815	1341	1186
Mean	1119	1177	1226	1563	1526	1066	1337	1288

S.E. of marginal mean of T = 219.5 lb./ac.
S.E. of marginal mean of S = 117.3 lb./ac.
S.E. of body of table or control mean = 310.4 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(MAE).**

Site :- M.A.E. Farm, Ponnampat. **Type :- 'M'.**

Object :—Type VI (T.C.M.)—To study the direct, residual and cumulative effects of phosphate application to Paddy.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Sandy loam. (b) N.A. (iii) Middle of Aug. 1956. (iv) (a) and (b) N.A. (c) 20 lb./ac. (d) 9″×9″. (e) N.A. (v) Cattle manure at 5000 lb./ac. (vi) N.A. (vii) Unirrigated. (viii) and (ix) N A. (x) End of December 1956.

2. TREATMENTS :

Treatment	1	2	3	4	5	6	7	8	9	10	11	12
Firs year	0	c	c	p_1	p_2	0	0	0	0	$p_{\frac{1}{2}}$	p_1	p_2
Second year	0	c	c	0	0	p_1	p_2	0	0	$p_{\frac{1}{2}}$	p_1	p_2
Third year	0	c	c	0	0	0	0	p_1	p_2	$p_{\frac{1}{2}}$	p_1	p_2

Treatments are three-year rotations with 11 district treatments. Phos. under one treatment do not receive any fertilizer N or P. Plote under other ten treatments receive a basal application of N. One of the ten treatments consists of the application of basal dose of N only. This treatment which serves as control is applied to two plots in each block. Various symbols denote : $p_{\frac{1}{2}}$ =10 lb./ac., p_1=20 lb./ac. and p_2=40 lb./ac. of P_2O_5.

3. DESIGN :

(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) and (b) N.A. (v) N.A. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) Mild attack of blast and thrips. (iii) Grain yield. (iv) (a) 1956. (b) No. (c) Nil. (v) Shimoga. (vi) and (vii) Nil.

5. RESULTS :

(i) 3695 lb./ac. (ii) 292.8 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2,3	4	5	6	7	8	9	10	11	12
Av. yield	3165	3823	3844	3592	3599	3397	3872	3674	3975	3716	3858

S.E./mean (except 2, 3) = 146.4 lb./ac. ; S.E./mean for 2, 3 = 103.5 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(MAE).**

Site :- M.A.E. Farm, Shimoga. **Type :- 'M'.**

Object :—Type II—To study the long term effects of N, P, K and F.Y.M. on Paddy.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam gravel. (b) N.A. (iii) N.A./2nd to 4th week of September, 1957. (iv) (a) 1 dry and 2 wet ploughings, 2 puddlings and levelling. (b) N.A. (c) 28 lb./ac. (d) 6″×9″. (e) N.A. (v) 5000 lb./ac. of F.Y.M. (vi) E. 701 (Coimbatore *sanna*). (vii) Irrigated. (viii) 2 weedings. (ix) 8″ to 20″. (x) 1st—2nd week of January, 1958.

2. TREATMENTS :

All combinations of (1), (2), (3) and (4)

(1) 3 levels of N as A/S : N_0=0, N_1=30 and N_2=60 lb./ac.

(2) 3 levels of P_2O_5 as Super : P_0=0, P_1=30 and P_2=60 lb./ac.

(3) 3 levels of K_2O as Pot. Sul. : K_0=0, K_1=30 and K_2=60 lb./ac.

(4) 2 levels of F.Y.M. : F_0=0 and F_1=5000 lb./ac.

Fertilizers broadcast at planting.

3. DESIGN :

(i) 3^3×2. (ii) (a) 9 plots/block ; 6 blocks/replication. (b) N.A. (iii) 1. (iv) (a) N.A. (b) 15′×29½′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) Attack of stemborer and blast disease—controlled by spraying thrice with Folidol and Cupriart. (iii) Grain yield. (iv) (a) 1957—contd. (b) Yes. (c) Nil. (v) Mercara. (vi) and (vii) Nil.

5. RESULTS :

(i) 1158 lb./ac. (ii) 220.2 lb./ac. (iii) Main effect of P alone is highly significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean	K_0	K_1	K_2	F_0	F_1
P_0	766	717	939	807	826	826	770	409	1206
P_1	1322	1363	1411	1365	1426	1421	1248	1149	1581
P_2	1223	1407	1276	1302	1480	1204	1223	1096	1508
Mean	1104	1162	1209	1158	1244	1150	1081	885	1432
F_0	847	919	889	885	991	900	764		
F_1	1361	1406	1528	1432	1497	1400	1397		
K_0	1219	1156	1357						
K_1	1104	1164	1182						
K_2	988	1167	1087						

S.E. of marginal mean of N, P or K = 51.9 lb./ac.
S.E. of marginal mean of F = 42.4 lb./ac.
S.E. of body of N×P, N×K or P×K table = 89.9 lb./ac.
S.E. of body of N×F, P×F or K×F table = 73.4 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(MAE).**

Site :- M.A.E. Farm, Shimoga. **Type :- 'M'.**

Object :—Type II—To study the long term effects of N, P, K and F.Y.M. on Paddy.

1. BASAL CONDITIONS :.

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) N.A. (iii) August, 1958. (iv) (a) 1 ploughing and 2 puddlings. (b) N.A. (c) N.A. (d) 6″×9″. (e) N.A. (v) 5000 lb./ac. of compost. (vi) S—661 (late). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) December, 1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(MAE) type II on page 97.

4. GENERAL :

(i) N.A. (ii) Worm and stem-borer attacks controlled. (iii) Grain yield. (iv) (a) 1957—contd. (b) Yes. (c) Nil. (v) Mercara. (vi) Stray cattle attack. (vii) Nil.

5. RESULTS :

(i) 2733 lb./ac. (ii) 403.1 lb./ac. (iii) Main effects of N and interaction F×K are highly significant. Interaction F×P is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean	K_0	K_1	K_2	F_0	F_1
P_0	2180	2198	2603	2327	2348	2557	2077	1851	2803
P_1	2808	2867	3407	3027	3015	3043	3023	2950	3104
P_2	2635	2820	3080	2845	3035	2673	2827	2677	3013
Mean	2541	2628	3030	2733	2799	2758	2642	2493	2974
F_0	2269	2466	2743	2493	2803	2530	2144		
F_1	2813	2791	3317	2974	2796	2986	3140		
K_0	2787	2632	2980						
K_1	2427	2590	3257						
K_2	2410	2663	2853						

S.E. of marginal mean N, P or K	=	95.0 lb./ac.
S.E. of marginal mean of F	=	77.6 lb./ac.
S.E. of body of N×P, N×K or P×K table	=	164.6 lb./ac.
S.E. of body of N×F, P×F or K×F table	=	134.4 lb./ac.

Crop :- Paddy. **Ref :- Ms. 59(MAE).**

Site :- M.A.E. Farm, Shimoga. **Type :- 'M'.**

Object :—Type II—To study the long term effect of N, P, K and F.Y.M. on Paddy.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) N.A. (iii) 4th week of July/1st week of Aug. 1999. (iv) (a) 1 ploughing and 4 puddlings (b) and (c) N.A. (d) 6″×9″. (e) N.A. (v) 5000 lb./ac. of compost. (vi) S—701 (Coimbatore *sanna*). (vii) Irrigated. (viii) 2 weedings. (ix) 30″. (x) 1st to 3rd week of Dec. 1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(MAE) type II on page 97.

4. GENERAL:

(i) N.A. (ii) Stem borer attack controlled. (iii) Grain yield. (iv) (a) 1957—contd. (b) Yes. (c) Nil. (v) Mercara. (vi) Attack of wild animals. (vii) N.A.

5. RESULTS :

(i) 3570 lb./ac. (ii) 337.5 lb./ac. (iii) Main effect of P is highly significant and effect of N is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean	K_0	K_1	K_2	F_0	F_1
P_0	3234	3143	3579	3319	3291	3308	3358	3003	3635
P_1	3546	3711	3876	3711	3629	3738	3766	3513	3908
P_2	3464	3834	3744	3681	3802	3612	3629	3645	3717
Mean	3415	3563	3733	3570	3574	3553	3584	3387	3753
F_0	3209	3407	3546	3387	3349	3530	3283		
F_1	3621	3719	3920	3753	3799	3576	3884		
K_0	3505	3654	3563						
K_1	3349	3472	3837						
K_2	3390	3563	3799						

S.E. of marginal mean of N, P or K = 79.6 lb./ac.
S.E. of marginal mean of F = 65.0 lb./ac.
S.E. of body of N×P, N×K or P×K table = 137.8 lb./ac.
S.E. of body of N×F, P×F or K×F table = 112.5 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(MAE).**

Site :- M.A.E. Farm, Shimoga. **Type :- 'M'.**

Object :—Type V—To study the most suitable time of application of N.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly. (b) N.A. (iii) 2nd week of August 1956. (iv) (a) and (b) N.A. (c) 30 lb./ac. (d) 6″×9″. (e) N.A. (v) 6000 lb./ac. of town compost. (vi) N.A. (vii) Irrigated. (viii) and (ix) N.A. (x) 1st week of Feb. 1957.

2. TREATMENTS :

Same as in expt. no. 54(MAE) type V on page 94.

3. DESIGN :

(i) R.B.D. (ii) (a) 15. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 29′3″×15′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Growth and tillering were affected due to poor quality of seedling and want of irrigation. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—contd. (b) N.A. (c) Nil. (v) Mercara and Ponnampet. (vi) and (vii) Nil.

5. RESULTS :

(i) 302 lb./ac. (ii) 148.7 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 232 lb./ac.

	T_1	T_2	T_3	T_4	T_5	T_6	T_7	Mean
S_1	323	273	256	265	323	298	215	279
S_2	347	314	389	240	364	306	381	334
Mean	335	293	323	252	344	302	298	307

S.E. of marginal mean of S = 32.4 lb./ac.
S.E. of marginal mean of T = 60.7 lb./ac.
S.E. of body of table or control mean = 85.9 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(MAE).**

Site :- M.A.E. Farm, Shimoga. **Type :- 'M'.**

Object :—Type V—To study the most suitable time of application of N.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam gravel. (b) N.A. (iii) N.A./2nd to 4th week of Sept. 1957. (iv) (a) 1 dry and 2 wet ploughings, 2 puddlings and levelling. (b) N.A. (c) 28 lb /ac. (d) 6″×9″. (e) N.A. (v) 5 000 lb./ac. of F.Y.M. (vi) E—701 (Coimbatore *sanna*). (vii) Irrigated. (viii) 2 weedings. (ix) 18″×20″. (x) 1st and 2nd week of Jan. 1958.

2. TREATMENTS :

Same as in expt. no. 54(MAE) type V on page 94.

3. DESIGN :

(i) R.B.D. (ii) (a) 15. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) Attack of stemborer and blast—controlled by spraying thrice with Folidol and Cupriart. (iii) Grain yield. (iv) (a) 1956—contd. (b) N.A. (c) Nil. (v) Mercara and Ponnampet. (vi) and (vii) Nil.

5. RESULTS :

(i) 1151 lb./ac. (ii) 212.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 1039 lb./ac.

	T_1	T_2	T_3	T_4	T_5	T_6	T_7	Mean
S_1	1179	1069	1282	1258	1454	1033	1217	1213
S_2	1316	1091	1175	1029	1054	969	1106	1106
Mean	1248	1080	1228	1144	1254	1001	1162	1159

S.E. of marginal mean of S = 46.3 lb./ac.
S.E. of marginal mean of T = 86.6 lb./ac.
S.E. of body of table or control mean = 122.5 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(MAE).**

Site :- M.A.E. Farm, Shimoga. **Type :- 'M'.**

Object :—Type V—To study the most suitable time for the application of N.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) N.A. (iii) Aug. 1958. (iv) (a) 1 ploughing and 2 puddlings. (b) and (c) N.A. (d) 6″×9″. (e) N.A. (v) 5000 lb./ac. of compost. (vi) S—661 (late). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) Dec., 1958.

2. TREATMENTS :

Same as in expt. no. 54(MAE) type V on page 94.

3. DESIGN :

(i) R.B.D. (ii) (a) 15. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) Worm and stem borer attacks controlled. (iii) Grain yield. (iv) (a) 1956—contd. (b) N.A. (c) Nil. (v) Mercara and Ponnampet. (vi) Stray cattle attack. (vii) Nil.

5. RESULTS :

(i) 3544 lb./ac. (ii) 734.3 lb./ac, (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 3730 lb./ac.

	T_1	T_2	T_3	T_4	T_5	T_6	T_7	Mean
S_1	3510	3347	2970	4490	2563	3177	3417	3353
S_2	3320	3070	3563	4013	4293	3623	4083	3709
Mean	3415	3208	3266	4252	3428	3400	3750	3531

S.E. of marginal mean of S = 160.2 lb./ac.
S.E. of marginal mean of T = 299.8 lb./ac.
S.E. of body of table or control mean = 424.0 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(MAE).**

Site :- M.A.E. Farm, Shimoga. **Type :- 'M'.**

Object :—Type V—To study the most suitable time of application of N.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) N.A. (iii) 4th week of July/1st week of Aug. 1959. (iv) (a) 1 ploughing and 4 puddlings. (b) and (c) N.A. (d) 6″×9″. (e) N.A. (v) Compost at 4600 lb./ac. (vi) S—701. (vii) Irrigated. (viii) 2 weedings. (ix) 30″. (x) 1st to 3rd week of Dec. 1959.

2. TREATMENTS :

Same as in expt. no. 54(M.A.E.) type V on page 94.

3. DESIGN :

(i) R.B.D. (ii) (a) 15. (b) N.A. (iii) 3. (iv) (a) 18′×33′. (b) $14\frac{1}{3}$′×$29\frac{3}{4}$′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Crop lodged. (b) Stem-borer attack controlled. control measures—N.A. (iii) Grain yield. (iv) (a) 1956—contd. (b) N.A. (c) Nil. (v) Mercara and Ponnampet. (vi) Nil. (vii) Crop damaged by wild animals.

5. RESULTS :

(i) 4658 lb./ac. (ii) 630.9 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 4583 lb./ac.

	T_1	T_2	T_3	T_4	T_5	T_6	T_7	Mean
S_1	4600	5093	4838	5073	4901	4835	4378	4817
S_2	4581	4188	4295	4007	5282	4640	4574	4509
Mean	4590	4640	4567	4540	5092	4738	4476	4663

S.E. of marginal mean of T = 257.6 lb./ac.
S.E. of marginal mean of S = 137.7 lb./ac.
S.E. of body of table or control mean = 364.7 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(MAE).**

Site :- M.A.E. Farm, Shimoga. **Type :- 'M'.**

Object :—Type VI—To find out the best source and method of application of P.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly. (b) N.A. (iii) 2nd week of Aug. 1956. (iv) (a) and (b) N.A. (c) 30 lb./ac (d) 6″ to 9″. (e) N.A. (v) 6000 lb./ac. of compost. (vi) N.A. (vii) Irrigated. (viii) and (ix) N.A. (x) 1st week of Feb. 1957.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 sources of P_2O_5 : S_1=Super, S_2=Dical. Phos. and S_3=Ammo. Phos.

(2) 2 levels of P_2O_5 : P_1=20 and P_2=40 lb./ac.

(3) 3 methods of application of P_2O_5 : M_1=Broadcast at puddling, M_2=Dipping the seedlings in mudsulsh mixed with the fertilizers before transplanting and M_3=Application in the form of pellets to be placed near the roots at the time of planting.

N equalised by applying A/S to make up 30 lb./ac. of N at planting.

3. DESIGN :

(i) $3^2 \times 2$ Fact. confd. (ii) (a) 6 plots/block ; 3 blocks/replication. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Growth was affected due to poor quality of seedlings and want of irrigation. (ii) Nil. (iii) Grain yield. (iv) 1956—contd. (b) N.A. (c) Nil. (v) to (vii) Nil.

5. RESULTS:

(i) 701 lb./ac. (ii) 251.4 lb./ac. (iii) Interaction M×S is significant. (iv) Av. yield of grain in lb./ac.

	M_1	M_2	M_3	Mean	S_1	S_2	S_3
P_1	717	681	587	662	633	615	737
P_2	852	558	808	739	644	810	765
Mean	785	620	698	701	639	713	751
S_1	819	419	678				
S_2	866	666	606				
S_3	669	775	809				

S.E. of marginal mean of M or S = 51.3 lb./ac.
S.E. of marginal mean of P = 41.9 lb./ac.
S.E. of body of M×S table = 88.9 lb./ac.
S.E. of body of M×P or S×P table = 72.6 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(MAE).**

Site :- M.A.E. Farm, Shimoga. **Type :- 'M'.**

Object :—Type VI—To find out the best source and method of application of P.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) N.A. (iii) N.A./2nd to 4th week of Sept. 1957. (iv) (a) 1 dry and 2 wet ploughings, 2 puddlings and levelling. (b) N.A. (c) 28 lb./ac. (d) 6″×9″. (e) N.A. (v) 5000 lb./ac. of F.Y.M. (vi) E—701 (Coimbatore *sanna*). (vii) Irrigated. (viii) 2 weedings. (ix) 18″ to 20″. (x) 1st and 2nd week of Jan. 1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. 56(MAE) type VI on page 102.

4. GENERAL :

(i) N.A. (ii) Attack of stem-borer and blast disease. Controlled by spraying thrice with Folidol and Cupriart. (iii) Grain yield. (iv) (a) 1956—contd. (b) N.A. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1062 lb./ac. (ii) 232.7 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	M_1	M_2	M_3	Mean	S_1	S_2	S_3
P_1	983	1003	1091	1026	1085	979	1013
P_2	1030	1082	1180	1097	1134	1036	1122
Mean	1007	1043	1135	1062	1110	1007	1068
S_1	1047	1153	1129				
S_2	920	867	1235				
S_3	1053	1108	1042				

S.E. of marginal mean of M or S = 47.5 lb./ac.
S.E. of marginal mean of P = 38.8 lb./ac.
S.E. of body of M×S table = 82.3 lb./ac.
S E. of body of M×P or S×P table = 67.2 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(MAE).**

Site :- M.A.E. Farm, Shimoga. **Type :- 'M'.**

Object :—Type VI—To find out the best source and method of application of P.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) N.A. (iii) Aug. 1958. (iv) (a) 1 ploughing and 2 puddlings. (b) and (c) N.A. (d) 6″×9″. (e) N.A. (v) 5000 lb./ac. of compost. (vi) S—661 (late). (vii) Irrigated, (viii) 2 weedings. (ix) N.A. (x) Dec. 1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt no. 56(MAE) type VI on page 102.

4. GENERAL :

(i) N.A. (ii) Worm and stem-borer attack controlled. (iii) Grain yield. (iv) (a) 1956—contd. (b) N.A. (c) Nil. (v) Nil. (vi) Stray cattle attack. (vii) Nil.

5. RESULTS :

(i) 1791 lb./ac. (ii) 479.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	M_1	M_2	M_3	Mean	S_1	S_2	S_3
P_1	1862	1751	1844	1819	1814	1746	1897
P_2	1764	1744	1780	1763	1587	1960	1740
Mean	1813	1748	1812	1791	1701	1853	1813
S_1	1856	1474	1773				
S_2	1668	1976	1916				
S_3	1915	1794	1746				

S.E. of marginal mean of M or S	=	97.9 lb./ac.
S.E. of marginal mean of P	=	79.9 lb./ac.
S.E. of body of M×S table	=	169.6 lb./ac.
S.E. of body of M×P or S×P table	=	138.4 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(MAE).**

Site :- M.A.E. Farm, Shimoga. **Type :- 'M'.**

Object :—Type VI—To find out the best source and method of application of P.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam soil. (b) N.A. (iii) 4th week of July/1st week of Aug. 1959. (iv) (a) 1 ploughing and 4 puddlings. (b) and (c) N.A. (d) 6"×9". (e) N.A. (v) Town compost at 4600 lb./ac. (vi) S—701 (Coimbatore *sanna*). (vii) Irrigated. (viii) 2 weedings. (ix) 30". (x) 1st to 3rd week of Dec. 1959.

2. TREATMENTS :

Same as in expt. no. 56(MAE) type VI on page 102.

3. DESIGN :

(i) $3^2 \times 2$ Fact. confd. (ii) (a) 6 plots/block ; 3 blocks/erplication (b) N.A. (iii) 4. (iv) (a) 18'×33'. (b) 14⅝ ×29¾'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Crop lodged. (ii) Stem borer attack. Control measures—N.A. (iii) Grain yield. (iv) (a) 1956—contd. (b) N.A. (c) Nil. (v) and (vi) Nil. (vii) Crop damaged by wild animals.

5. RESULTS :

(i) 3675 lb./ac. (ii) 422.3 lb./ac. (iii) Interaction M×P and 'control *vs* others' are significant. (iv) Av. yield of grain in lb./ac.

	M_0	M_1	M_2	Mean	S_1	S_2	S_3
P_1	3515	3651	3744	3637	3594	3597	3720
P_2	3994	3475	3671	3713	3712	3939	3490
Mean	3755	3563	3708	3675	3653	3768	3605
S_1	3683	3545	3730				
S_2	4065	3499	3739				
S_3	3516	3644	3654				

S.E. of marginal mean of M or S	=	86.2 lb./ac.
S.E. of marginal mean of P	=	70.4 lb./ac.
S.E. of body of M×S table	=	149.3 lb./ac.
S.E. of body of M×P or S×P table	=	121.9 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(MAE).**

Site :- M.A.E. Farm, Shimoga. **Type :- 'M'.**

Object :—Type VI (TCM)—To study the direct, residual and cumulative effects of phosphate application to Paddy.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly soil. (b) N.A. (iii) 2nd week of Aug. 1956. (iv) (a) and (b) N.A. (c) 30 lb./ac. (d) 6" to 9". (e) N.A. (v) 6000 lb./ac. of town compost. (vi) N.A. (vii) Irrigated. (viii) and (ix) N.A. (x) 1st week of Feb. 1957.

2. TREATMENTS :

Treatment	1	2	3	4	5	6	7	8	9	10	11	12
First year	0	c	c	p_1	p_2	0	0	0	0	$p_{\frac{1}{2}}$	p_1	p_2
Second year	0	c	c	0	0	p_1	p_2	0	0	$p_{\frac{1}{2}}$	p_1	p_2
Third year	0	c	c	0	0	0	0	p_1	p_2	$p_{\frac{1}{2}}$	p_1	p_2

Treatments are three-year rotations with 11 distinct treatments. Plots under one treatment do not receive any fertilizer N or P. Plots under other ten treatments receive a basal application of N. One of the ten treatments consists of the application of basal dose of N only. This treatment which serves as control is applied to two plots in each block. Various symbols denote : $p_{\frac{1}{2}}$=10 lb./ac., p_1=20 lb /ac. and p_2=40 lb./ac. of P_2O_5.

3. DESIGN :

(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) 36'×33'. (b) 25'×29'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—contd. (b) Yes. (c) Nil. (v) Ponnampet. (vi) and (vii) Nil.

5. RESULTS :

(i) 577 lb./ac. (ii) 189.7 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2, 3	4	5	6	7	8	9	10	11	12
Av. yield	348	555	397	808	546	763	554	486	509	785	613

S E./mean (except 2, 3) = 94.8 lb./ac.
S.E./mean for 2, 3 = 67.1 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(MAE).**

Site :- M.A.E. Farm, Shimoga. **Type :- 'M'.**

Object :—Type VI (TCM) :—To study the direct, residual and cumulative effects of phosphate application to Paddy.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam gravel soil. (b) N.A. (iii) N.A./2nd to 4th week of September, 1957. (iv) (a) 1 dry and 2 wet ploughings, 2 puddlings and levelling. (b) N.A. (c) 28 lb./ac. (d) 6"×9". (e) N.A. (v) 5,000 lb /ac. of F.Y.M. (vi) E—701 (Coimbatore *sanna*). (vii) Irrigated. (viii) 2 weedings. (ix) 18" to 20". (x) 1st to 2nd week of January, 1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(MAE) type VI (TCM) on page 104.

4. GENERAL :

(i) N.A. (ii) Attack of stemborer and blast disease. Controlled by spraying thrice with Folidol and Cupriart. (iii) Grain yield. (iv) (a) 1957—contd (new site). (b) Yes. (c) Nil. (v) Ponnampet. (vi) and (vii) Nil.

5. RESULTS :

(i) 1518 lb./ac. (ii) 233.6 lb./ac. (iii) Treatment differences and 'control *vs.* others' are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2, 3, 6 to 9	10	4, 11	5, 12
Av. yield	1196	1456	1558	1534	1831

S.E./mean for 1, 10 = 116.8 lb./ac.
S.E./mean for 2, 3, 6 to 9 = 47.7 lb./ac.
S.E /mean for 4, 5, 11, 12 = 82.6 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(MAE).**

Site :- M.A.E. Farm, Shimoga. **Type :- 'M'.**

Object :—Type VI (TCM)—To study the direct, residual and cumulative effects of phsophate application to Paddy.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam gravel soil. (b) N.A. (iii) N.A./22 to 24.8.1958. (iv) (a) 1 ploughing, 2 puddlings, twice working with cultivator and levelling. (b) Nil. (c) N.A. (d) 6″×9″. (e) N.A. (vi) Town compost at 125 lb./plot. (vi) S—661 (coimbatore *sanna*). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 21 to 24.12.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(MAE) type VI (T.C.M) on page 104.

4. GENERAL :

(i) Normal. (ii) Case worm and stemborer attacks controlled by spraying thrice with Folidol. (iii) Grain yield. (iv) (a) 1957—contd. (b) Yes. (c) Nil. (v) Ponnampet. (vi) and (vii) Nil.

5. RESULTS :

(i) 2477 lb./ac. (ii) 422.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2, 3, 8, 9	4	5	6	7	10	11	12
Av. yield	2250	2519	2639	2885	2369	2349	2408	2214	2532

S.E./mean except 2, 3, 8, 9 = 211.3 lb./ac.

S.E./mean for 2, 3, 8, 9 = 105.6 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(MAE).**

Site :- M.A.E. Farm, Shimoga. **Type :- 'M'.**

Object :—Type VI (TCM)—To study the direct, residual and cumulative effect of phos. Phate application to Paddy.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam soil. (b) N.A. (iii) 4th week of July/1st week of Aug. 1959. (iv) (a) 1 ploughing and 4 puddlings. (b) and (c) N.A. (d) 6″×9″. (e) N.A. (v) Town compost at 4,600 lb./ac. (vi) S—701 (Coimbatore *sanna*). (vii) Irrigated. (viii) 2 weedings. (ix) 30″. (x) 1st to 3rd week of Dec. 1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no 56 (MAE) type VI (TCM) on page 104.

3. GENERAL :

(i) Crop lodged. (ii) Stemborer attack controlled. Control measures—N.A. (iii) Grain yield. (iv) 1957—contd. (b) Yes. (c) Nil. (v) and (vi) Nil. (vii) Crop damaged by wild animals.

5. RESULTS :

(i) 3915 lb./ac. (ii) 594.8 lb./ac. (iii) 'Control *vs* others' effect is highly significant. (iv) Av. yield of grain nl b./ac.

Treatment	1	2,3	4	5	6	7	8	9	10	11	12
Av. yield.	3184	4394	4040	3983	3514	3950	3867	4188	3769	3686	4016

S.E./mean(except 2,3) = 297.4 lb./ac.

S.E./mean 2,3 = 210.3 lb./ac.

Crop :- Paddy (1st crop). **Ref :- Ms. 54(TCM).**

Site :- M.A.E. Farm, Ponnampet. **Type :- 'M'.**

Object :—I (b) (i)—To study the effect of sources and levels of N on acidic soils.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Laterite sandy loam soil. (b) N.A. (iii) N.A./end of July 1954. (iv) (a) N.A. (b) Transplanting. (c) to (e) N.A. (v) 20 lb./ac. of P_2O_5. (vi) N.A. (vii) Unirrigated. (viii) N.A. (ix) 60". (x) End of Dec. 1954.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 sources of N : S_1=A/S, S_2=A/N and S_3=Urea.

(2) 3 levels of N : N_0=0, N_1=20 and N_2=40 lb./ac.

(3) 3 varieties : V_1=Local, V_2 and V_3=Improved.

Fertilizers applied just before puddling.

3. DESIGN :

(i) 3^3 Fact. confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 1. (iv) (a) N.A. (b) 27'×27'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) No. (iii) Grain yield. (iv) (a) 1953—1956. (b) No. (c) Yes. (v) to (vii) Nil.

5. RESULTS :

(i) 2670 lb./ac. (ii) 404.8 lb./ac. (iii) Main effect of N alone is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean	S_1	S_2	S_3
V_1	2648	3236	2667	2850	2449	2994	3117
V_2	2318	2459	2738	2505	2320	2594	2601
V_3	2144	3187	2633	2655	2934	2394	2637
Mean	2370	2961	2679	2670	2568	2657	2785
S_1	—	2815	2570				
S_2	—	3051	2500				
S_3	—	3017	2967				

S.E. of any marginal mean in V×N or V×S table = 134.9 lb./ac.
S.E. of marginal mean of S in S×N table = 165.3 lb./ac.
S.E. of body of any table = 233.7 lb./ac.

Crop :- Paddy (2nd crop). **Ref :- Ms. 55(TCM).**

Site :- M.A.E. Farm, Ponnampet. **Type :- 'M'.**

Object :—I (b) (i)—To study the effect of sources and levels of N on acidic soil.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Laterite sandy loam soil. (b) N.A. (iii) N.A./June—July 1955. (iv) (a) N.A. (b) Transplanted. (c) to (e) N.A. (v) and (vi) N.A. (vii) Unirrigated. (viii) and (ix) N.A. (x) Nov.—Dec. 1955.

2 TREATMENTS :

Same as in expt. no. 54(TCM) type I (b) (i) above.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 1. (iv) and (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1953—1956. (b) No. (c) Yes. (v) and (vi) Nil.

5. RESULTS :

(i) 3523 lb./ac. (ii) 434.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean	S_0	S_1	S_2
V_1	3375	3305	3237	3306	3155	3529	3234
V_2	3587	3570	3587	3581	3817	3704	3222
V_3	3399	3477	4169	3682	3364	3723	3959
Mean	3454	3451	3664	3523	3445	3652	3472
S_0	—	3229	3710				
S_1	—	3560	3706				
S_2	—	3564	3576				

S.E. of any marginal mean in V×N or V×S table = 144.8 lb./ac.
S.E. of marginal mean of S in N×S table = 177.4 lb./ac.
S.E. of body of any table = 250.9 lb./ac.

Crop :- Paddy (1st crop). **Ref :- Ms. 54(TCM)**

Site :- M.A.E. Farm, Ponnampet. **Type :- 'M'.**

Object :— I (b) (ii)—To study the effect of type and levels of P and N on acidic soils.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Laterite sandy loam soil. (b) N.A. (iii) N.A./end of July 1954. (iv) (a) N.A. (b) **Transplanting.** (c) to (e) N.A. (v) and (vi) N.A. (vii) Unirrigated. (viii) N.A. (ix) 60". (x) End of Dec. 1954.

2. TREATMENTS

All combinations of (1), (2) and (3)+3 extra treatments.

(1) 3 sources of P_2O_5 : S_1 = Super, S_2 = B.M. and S_3 = Super+Rock Phos. in 1 : 1 ratio.

(2) 3 levels of P_2O_5 : P_0=0, P_1= 20 and P_2 = 40 lb./ac.

(3) 3 levels of N : N_0 = O, N_1 = 23 and N_2 = 40 lb./ac.

Extra treatments : T_1 = 60 lb./ac. of N as A/S+40 lb./ac. of P_2O_5 as super, T_2=40 lb./ac. of N as A/S+80 lb./ac. of P_2O_5 as Super and T_3 = 60 lb./ac. of N as A/S+80 lb./ac. of P_2O_5 as super.
Fertilizers applied just before puddling.

3. DESIGN :

(i) 3[3] confd. in th 3 extra treatments in each block. (ii) (a) 12 plots/block ; 3 blocks/replications. (b) N.A. (iii) 1. (iv) and (v) N.A. (vi) Yes.

4. GENERAL :

(i) **Normal.** (ii) No. (iii) Grain yield. (iv) (a) 1953—1955. (b) No. (c) Yes. (v) and. (vi) Nil. (vii) **Yield of extra** treatments—N.A.

5. RESULTS :

(i) 2821 lb./ac. (ii) 364.6 lb./ac. (iii) Main effects of N and S and interaction N×P are highly significant. **(iv) Av. yield of grain in lb./ac.**

	P_0	P_1	P_2	Mean	S_1	S_2	S_3
N_0	3146	3268	3049	3154	3043	3333	3086
N_1	2906	2733	2181	2607	2571	2264	2985
N_2	1799	2664	3640	2701	2995	2015	3092
Mean	2617	2888	2957	2821	2870	2537	3054
S_1	—	2778	3187				
S_2	—	2799	2585				
S_3	—	3088	3099				

S.E. of any marginal means in N×P or N×S table = 121.5 lb./ac.
S.E. of marginal mean of S in P×S table = 148.8 lb./ac.
S.E. of body of any table = 210.5 lb./ac.

Crop :- Paddy (2nd crop). **Ref :- Ms. 55(TCM).**

Site :- M.A.E. Farm, Ponnampet. **Type :- 'M'.**

Object :—I (b) (ii)—To study the effect of type and levels of P and N on acidic soils.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (a) Laterite—sandy loam. (b) N.A. (iii) N.A./June—July 1955. (iv) (a) N.A. (b) Transplanted. (c) to. (e) N.A. (v) and (vi) N.A. (vii) Unrrigated. (viii) and (ix) N.A. (x) Nov. —Dec. 1955.

2. TREATMENTS :

Same as in expt. no. 54 (TCM) type I (b) (ii) on page 108.

3. DESIGN :

(i) 3^3 confd. with 3 extra treatments in each block. (ii) (a) 12 plots/block ; 3 blocks/replications (b) N.A. (iii) 1. (iv) to (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) No. (iii) Grain yield. (iv) (a) 1953-1956. (b) No. (c) Yes. (v) to (vi) Nil. (vii) Lodging in plots receiving N. Yield of extra treatments and N×S table—N.A.

5. RESULTS :

(i) 3326 lb./ac. (ii) 419.7 lb./ac. (iii) N.A. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean	S_1	S_2	S_3
P_0	3050	3370	3532	3317	—	—	—
P_1	2934	3216	3407	3186	3505	3084	2970
P_2	3282	3398	3746	3475	3473	3398	3554
Mean	3089	3328	3562	3326	3489	3241	3262

S.E. of marginal mean of N or P = 139.9 lb./ac.
S.E. of marginal mean of S = 171.3 lb./ac.
S.E. of body of any trble = 242.3 lb./ac.

Crop :- Paddy (1st crop). **Ref :- Ms. 54(TCM).**

Site :- M.A.E. Farm, Ponnampet. **Type :- 'M'.**

Object :—Type II—To study the effect of time of application of N to Paddy.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Laterite sandy loam. (b) N.A. (iii) N.A./end of July 1954. (iv) (a) N.A. (b) Transplanted. (c) to (e) N.A. (v) 20 lb./ac. of P_2O_5. (vi) N.A. (vii) Unirrigated. (vii) N.A. (ix) 60". (x) End of Dec. 1954.

2. TREATMENTS :

Same as in expt. no. 54(MAE) type V on page 94.
N applied at 30 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 27'×27'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) No. (iii) Grain yield. (iv) (a) 1953—1956. (b) No. (c) Yes. (v) to (vii) Nil.

5. RESULTS :

(i) 2344 lb./ac. (ii) 357.0 lb./ac. (iii) Main effect of S alone is highly significant. (iv) Av. yield of grain in lb./ac.

Control = 2537 lb./ac.

	T_1	T_2	T_3	T_4	T_5	T_6	T_7	Mean
S_1	2632	2375	2441	2715	2367	2534	2727	2542
S_2	2301	2010	2110	1488	2408	2280	2235	2119
Mean	2466	2193	2275	2102	2388	2407	2481	2330

S.E. of marginal mean of S = 77.9 lb./ac.
S.E. of marginal mean of T = 145.7 lb./ac.
S.E. of body of table or control mean = 206.1 lb./ac.

———

Crop :- Paddy (2nd crop). **Ref :- Ms. 55(TCM).**

Site :- M.A.E. Farm, Ponnampet. **Type :- 'M'.**

Object :—Type II—oT study the effect of time of application of N to Paddy.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Laterite—sandy loam. (b) N.A. (iii) N.A./June-July 1955. (iv) (a) N.A. (b) Transplanting. (c) to (e) N.A. (v) and (vi) N.A. (vii) Unirrigated. (viii) and (ix) N.A. (x) Nov.—Dec. 1955.

2. TREATMENTS :

Same as in expt. no. 54(MAE) type V on page 94.
N applied at 30 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 15. (b) N.A. (iii) 2. (iv) and (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal (ii) Nil. (iii) Grain yield. (iv) (a) 1953—1956. (b) No. (c) Yes. (v) and (vi) Nil. (vii) Crop lodged.

5. RESULTS :

(i) 2999 lb./ac. (ii) 282.2 lb./ac. (iii) 'Control *vs.* others' alone is highly significant. (iv) Av. yield of grain in lb /ac.

Control = 2245 lb./ac.

	T_1	T_2	T_3	T_4	T_5	T_6	T_7	Mean
S_1	2938	3492	2932	2820	3245	2877	3043	3050
S_2	2910	2910	2878	2948	3303	3290	3151	3056
Mean	2924	3201	2905	2884	3274	3084	3097	3053

S.E. of marginal mean of S = 75.4 lb /ac.
S.E. of marginal mean of T = 141.1 lb./ac.
S.E. of body of table or control mean = 199.5 lb./ac.

Crop :- Paddy (1st crop.). **Ref :- Ms. 54(TCM).**

Site :- Ponnampet. **Type :- 'M'.**

Object :—V—To study the effect of N, P and lime on the yield of Paddy on acidic soils.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Laterite sandy loam. (b) N.A. (iii) N.A./2nd July 1954. (iv) (a) N.A. (b) Transplanted. (c) to (e) N.A. (v) and (vi) N.A. (vii) Unirrigated. (viii) and (ix) N.A. (x) 2nd of Dec. 1954.

2. TREATMENTS :

All combinations of (1), (2) and (3)
(1) 3 levels of lime : L_0=0, L_1=1 and L_2=2 tons/ac.
(2) 3 levels of N : N_0=0, N_1=20 and N_2=40 lb./ac.
(3) 3 levels of P_2O_5 : P_0=0 P_1=20 and P_2=40 lb./ac.
Fertilizers applied just before puddling.

3. DESIGN :

(i) 3^3 Fact. confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 1. (iv) (a) N.A. (b) 21'×21'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) No. (iii) Grain yield. (iv) (a) 1953—1956. (b) No. (c) Yes. (v) to (vii) Nil.

5. RESULTS :

(i) 2628 lb./ac. (ii) 435.2 lb./ac. (iii) Main effect of L alone is highly significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean	L_0	L_1	L_2
P_0	2381	2557	2595	2511	2144	2311	3078
P_1	2775	2469	2731	2658	2301	2532	3141
P_2	2841	2766	2735	2714	2488	2522	3132
Mean	2666	2597	2620	2628	2311	2455	3117
L_0	2245	2424	2265				
L_1	2717	2148	2501				
L_2	3036	3219	3094				

S.E. of any marginal mean = 145.1 lb./ac.
S.E. of body of any table = 251.3 lb./ac.

Crop :- Paddy (2nd crop). **Ref :- Ms. 55(TCM).**

Site :- M.A.E. Farm, Ponnampet. **Type :- 'M'.**

Object :—Type V—To study the effect of N, P and lime on the yield of Paddy on acidic soils.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Laterite sandy loam. (b) N.A. (iii) N.A./June—July 1955. (iv) (a) N.A. (b) Transplanting. (c) to (e) N.A. (v) and (vi) N.A. (vii) Unirrigated. (viii) and (ix) N.A. (x) Nov.—Dec. 1955.

2. TREATMENTS :

Same as in expt. no. 54(TCM) type V on page 111.

3. DESIGN :

(i) 3^3 Fact. confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 1. (iv) and (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1953—1956. (b) No. (c) Yes. (v) to (vii) Nil.

5. RESULTS :

(i) 2734 lb./ac. (ii) 149.8 lb./ac. (iii) Main effects of N and L are highly significant. Effect of P is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean	L_0	L_1	L_2
P_0	2130	2710	2988	2609	2474	2572	2781
P_1	2543	2830	2850	2741	2641	2534	3048
P_2	2613	2852	3093	2853	2702	2646	3211
Mean	2429	2797	2977	2734	2606	2584	3013
L_0	2257	2641	2920				
L_1	2262	2564	2926				
L_2	2768	3186	3085				

S.E. of any marginal mean = 49.9 lb./ac.
S.E. of body of any table = 86.5 lb./ae.

Crop :- Paddy (1st crop). **Ref :- Ms. 54 (TCM).**

Centre :- M.A.E. Farm, Ponnampet. **Type :- 'M'.**

Object :—Type VI—To study the residual effect of P on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Laterite—sandy loam. (b) N.A. (iii) N.A./end of July, 1954. (iv) (a) N.A. (b) Transplanted. (c) to (e) N.A. (v) and (vi) N.A. (vii) Unirrigated. (viii) and (ix) N.A. (x) End of December, 1954.

2. TREATMENTS :

Same as in expt. no. 56(MAE) type VI (TCM) on page 105.

3. DESIGN :

(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 21'×21'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) No. (iii) Grain yield. (iv) (a) 1953—1956. (b) No. (c) Yes. (v) to (vii) Nil.

5. RESULTS :

(i) 2989 lb./ac. (ii) 398.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	0	C	$p_{\frac{1}{2}}$	p_1	p_2
Av. yield	2425	2960	3319	3155	3087

S.E. of 0 or $p_{\frac{1}{2}}$ mean = 199.4 lb./ac.
S.E. of p_1 or p_2 mean = 141.0 lb./ac.
S.E. of C mean = 81.4 lb./ac.

Crop :- Paddy (2nd crop). **Ref :- Ms. 55(TCM).**

Centre :- M.A.E. Farm, Ponnampet. **Type :- 'M'.**

Object :—Type VI—To study the residual effect of P on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (i) (a) Laterite—Sandy loam. (b) N.A. (iii) N.A./June—July, 1955. (iv) (a) N.A. (b) Transplanted. (c) to (e) N.A. (v) and (vi) N.A. (vii) Unirrigated. (viii) and (ix) N.A. (x) November—December, 1955.

2. TREATMENTS :

Same as in expt. no. 56(MAE) type VI (TCM) on page 105.

3. DESIGN :

(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) and (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) No. (iii) Grain yield. (iv) (a) 1953—1956. (b) No. (c) Yes. (v) and (vi) Nil. (vii) Crop lodged.

5. RESULTS :

(i) 3540 lb./ac. (ii) 447.6 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	00	cc	cp_1	cp_2	p_1c	p_2c	$p_{\frac{1}{2}}p_{\frac{1}{2}}$	p_1p_1	p_2p_2
Av. yield	2914	3761	3617	3410	3494	3705	3971	3490	3498_e

S.E./mean except cc = 223.8 lb./ac.
S.E./mean for cc = 111.9 lb./ac.

Crop :- Paddy (1st crop). **Ref :- Ms. 54(TCM).**

Centre :- M.A.E. Farm, Shimoga. **Type :- 'M'.**

Object :—I (b) (i)—To study the effect of sources and levels of N on acidic soils.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly—Sandy to sandy loam. (b) N.A. (iii) N.A./middle of July, 1954. (iv) (a) N.A. (b) Transplanted. (c) to (e) N.A. (v) 10 C.L./ac. of F.Y.M. (vi) N.A. (vii) Irrigated. (viii) N.A. (ix) 24". (x) End of December, 1954.

2. TREATMENTS :

Same as in expt. no: 54(TCM) type I (b) (i) on page 107.

3. DESIGN :

(i) 3^3 Fact. confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 1. (iv) (a) and (b) N.A. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Severe incidence of hispa and gallfly. (iii) Grain yield. (iv) (a) 1953—1956. (b) No. (c) Yes. (v) to (vii) Nil.

5. RESULTS :

(i) 2191 lb./ac. (ii) and (iii) N.A. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	V_3	Mean	S_1	S_2	S_3
N_0	1764	2174	3103	2347	—	—	—
N_1	1897	1429	2691	2006	2039	2362	1616
N_2	1551	2154	2952	2219	2269	2154	2234
Mean	1737	1919	2915	2191	2154	2258	1925

Crop :- Paddy (1st crop). **Ref :- Ms. 54(TCM).**

Centre :- M.A.E. Farm, Shimoga. **Type :- 'M'.**

Object :—I (b) (ii)—To study the effect of types and levels of P and N on acidic soils.

1. BASAL CONDITIONS :

(i) (a) to (e) N.A. (ii) Red gravelly—Sandy to sandy loam. (iii) 10 C.L./ac. of F.Y.M. (iv) (a) N.A. (b) Transplanted. (c) to (e) N.A. (v) and (vi) N.A. (vii) Irrigated. (viii) N.A. (ix) 24". (x) End of December, 1954.

2. TREATMENTS :

Same as in expt. no. 54(T.C.M.) type I (b) (ii) on page 108.

3. DESIGN :

(i) 3^3 Fact. confd. with 3 extra treatments in each block. (ii) (a) 12 plots/block ; 3 blocks/replication. (b) N.A. (iii) 1. (iv) and (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Severe incidence of hispa and gallfly. (iii) Grain yield. (iv) (a) 1953—1956. (b) No. (c) Yes. (v) and (vi) Nil. (vii) Yield of extra treatments—N.A.

5. RESULTS :

(i) 1786 lb./ac. (ii) 695.3 lb./ac. (iii) Main effect of P alone is significant. (iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	Mean	S_1	S_2	S_3
N_0	820	2054	2020	1631	2201	1282	1411
N_1	1505	1952	1969	1809	1851	2311	1265
N_2	1321	2223	2208	1917	1703	2016	2033
Mean	1215	2076	2066	1786	1918	1870	1570
S_1	—	2385	2175	2280			
S_2	—	1918	2308	2113			
S_3	—	1925	1715	1820			

S.E of any marginal mean in N×P or N×S table = 231.8 lb./ac.
S.E. of marginal mean of S in P×S table = 283.9 lb./ac.
S.E. of body of any table = 401.4 lb./ac.

Crop :- Paddy (1st crop). **Ref :- Ms. 54(TCM).**

Site :- M.A.E. Farm, Shimoga. **Type :- 'M'.**

Object :—Type IX—To study the effect of N, P and organic manures on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravely—sandy to sandy loam. (b) N.A. (iii) N.A./middle of July 1954. (iv) (a) N.A. (b) Transplanted. (c) to (e) N.A. (v) 10 C.L./ac. of F.Y.M. (vi) N.A. (vii) Irrigated. (viii) N.A. (ix) 24". (x) End of Dec. 1954.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 levels of N : N_0=0, N_1=20 and N_2=40 lb./ac.
(2) 3 levels of P_2O_5 : P_0=0, P_1=20 and P_2=40 lb./ac.
(3) 3 levels of F.Y.M. : F_0=0, F_1=10 and F_2=20 C.L./ac.

3. DESIGN :

(i) 3^3 fact. confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 1. (iv) (a) N.A. (b) 25'×29'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) Severe incidence of hispa and gallfly. (iii) Grain yield. (iv) (a) 1953—1956. (b) No. (c) Yes. (v) to (vii) Nil.

5. RESULTS :

(i) 1887 lb./ac. (ii) 172.4 lb./ac. (iii) Main effects of N, P and F are highly significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean	F_0	F_1	F_2
P_0	1335	1543	1935	1604	1252	1765	1795
P_1	1918	2014	2064	1999	2014	1882	2101
P_2	1713	2083	2377	2058	1741	2104	2329
Mean	1655	1880	2125	1887	1669	1917	2075
F_0	1531	1552	1923				
F_1	1698	2022	2032				
F_2	1736	2066	2420				

S.E. of any marginal mean = 57.5 lb./ac.
S.E. of body of any table = 99.5 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(SFT).**

Centre :- Belgaum (c.f.). **Type :- 'M'.**

Object :—Type A—To study the response of Paddy to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Black and mixed red. (iii) Nil. (iv) N.A. (v) (a) N.A. (b) Transplanting. (c) —. (d) and (e) N.A. (vi) September—1959. (vii) to (ix) N.A. (x) January—1960.

2. TREATMENTS :

0 =Control (no manure).
n =20 lb./ac. of N as A/S.
p =20 lb./ac. of P_2O_5 as Super.
np =20 lb./ac. of N as A/S+20 lb./ac. of P_2O_5 as Super.
k =20 lb./ac. of K_2O as Mur. Pot.
nk =20 lb./ac. of N as A/S+20 lb./ac. of K_2O as Mur. Pot.
pk =20 lb./ac. of P_2O_5 as Super+20 lb./ac. of K_2O as Mur. Pot.
npk=20 lb./ac. of N as A/S+20 lb./ac. of P_2O_5 as Super+20 lb./ac. of K_2O as Mur. Pot.

3. DESIGN :

(i) and (ii) The district has been divided into four agriculturally homogeneous zones and one field assistant posted in each zone. The field assistant conducts the trials in one revenue circle or thana in the zone and the circle/thana is changed once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year, 8 on *kharif* cereal, 8 on *rabi* cereal, 8 on cash crops, 4 on an oilseed crop and 3 on a leguminous crop. Half the number of trials conducted are of type A and the other half of type B on crops other than the legumes. The three trials on legumes are of type C. Residual effects of phosphate application are studied on type C trials in two out of the four zones in each district every year. The experiments are laid out in randomly located fields in randomly selected villages in each of the 4 zones at the rate of one experiment per village. (iii) (a) 1/40 ac. (b) 1/80 ac. (iv) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield, (iv) (a) 1958—contd. (b) No. (c) N.A. (v) As per design. (vi) and (vii) Nil.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	370	222	115	32.1	41	16	33	91	32

Control mean = 1646 lb./ac.; and no. of trials = 12.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(SFT).**

Centre :- Chukmagalur. (c.f.). **Type :- 'M'.**

Object :— Type A —To study the response of Paddy to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red and laterite. (iii) Nil. (iv) N.A. (v) (a) N.A. (b) Transplating. (c)—. (d) and (e) N.A. (vl) September 1959. (vii) to (ix) N.A. (x) January, 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59 (SFT) type A on page 115 conducted at Belgaum.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	280	263	148	78.2	—49	—214	—66	189	57.6

Control mean = 2995 lb./ac. and no. of trials. = 16.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(SFT).**

Centre :- Coorg (c.f.). **Type :- 'M'.**

Object :— Type A —To study the response of Paddy to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS:

(i) (a) to (c) N.A. (ii) Red loam. (iii) Nil. (iv) N.A. (v) (a) N.A. (b) Transplanting. (c) —. (d) and (e) N.A. (vi) September 1958. (vii) to (ix) N.A. (x) January 1959.

2. TREATMENTS to 4. GENERAL:

Same as in expt. No. 59 (SFT) type A on page 115 conducted at Belgaum.

5. RESULTS:

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	304	255	91	30.4	107	—91	74	0	37.0

Control yield = 1333 lb./ac. and no. of trials = 19

Crop :- Paddy. **Ref :- Ms. 59(SFT).**

Centre :- Coorg (c.f.). **Type :- 'M'.**

Object :—Type A—To study the response of Paddy to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red loam. (iii) Nil. (iv) N.A. (v) (a) N.A. (b) Transplanting. (c) —. (d) and (e) N.A. (vi) September 1959. (vii) to (ix) N.A. (x) January 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59(SFT) type A on page 115 conducted at Belgaum.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	206	288	272	35.4	25	66	33	58	39.5

Control mean = 1695 lb./ac. and no. of trials = 19.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(SFT).**

Center :- Mandya (c.f.). **Type :- 'M'.**

Object :—Type A—To study the response of Paddy to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red loam. (iii) Nil. (iv) N.A. (v) (a) N.A. (b) Transplanting. (c) —. (d) and (e) N.A. (vi) September 1958. (vii) to (ix) N.A. (x) January 1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59(SFT) type A on page 115 conducted at Belgaum.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	181	165	91	50.2	—58	—8	—25	0	60.1

Control yield = 1761 lb./ac. and no. of trials = 9.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(SFT).**

Centre :- Mandya (c.f.). **Type :- 'M'.**

Object :—Type A—To study the response of Paddy to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red soil. (iii) Nil. (iv) N.A. (v) (a) N.A. (b) Transplanting. (c) —. (d) and (e) N.A. (vi) September 1959. (vii) to (ix) N.A. (x) January 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59 (SFT) type A on pape 115 conducted at Belgaum.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	214	510	222	62.5	91	123	74	107	44.4

Control mean = 3217 lb./ac. and no. of trials = 17.

———

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(SFT).**

Centre :- Mysore (c.f.). **Type :- 'M'.**

Object :—Type A—To study the response of Paddy to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red and black soil. (iii) Nil. (iv) N.A. (v) (a) N.A. (b) Transplanting. (c) —. (d) and (e) N.A. (vi) September 1959. (vii) to (ix) N.A. (x) January 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59(SFT) type A on page 115 conducted at Belgaum.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	551	453	173	108.6	—33	8	—33	82	69.1

Control mean = 2929 lb./ac. and no. of trials = 16.

———

Crop :- Paddy *(Rabi* **and** *Kharif)*. **Ref :- Ms. 59(SFT).**

Centre :- North Kanara (c.f.). **Type :- 'M'.**

Object :—Type A—To study the response of Paddy to levels of N, P and K applied individually and in combinations.

1 BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Coastal and laterite. (iii) Nil. (iv) N.A. (v) (a) N.A. (b) Transplanting. (c) —. (d) and (e) N.A. (vi) *Rabi* May 1959 while *kharif* September 1959. (viii) to (ix) N.A. (x) *Rabi* Aug. 1959 and *kharif* in January 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59(SFT) type A on page 115 conducted at Belgaum.

5. RESULTS :

Kharif

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	206	263	181	28.0	—16	16	74	49	19.7

Control mean = 1893 lb./ac. and no. of trials = 18.

Rabi

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	148	140	91	28.8	25	0	—16	16	22.2

Control mean = 905 lb./ac. and no. of trials = 4.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(SFT).**

Centre :-Shimoga (c.f.). **Type :- 'M'.**

Object :—Type A—To study the response of Paddy to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red loam. (iii) Nil. (iv) N.A. (v) (a) N.A. (b) Transplanting. (c) —. (d) and (e) N.A. (vi) September 1958. (vii) to (ix) N.A. (x) January 1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59(SFT) type A on page 115 conducted at Belgaum.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	428	321	197	42.0	—16	115	49	66	41.1

Control yield = 2526 lb./ac. and no. of trials = 16.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(SFT).**

Centre :- Shimoga (c.f.). **Type :- 'M'.**

Object :—Type A—To study the response of Paddy to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Laterite and forest. (iii) Nil. (iv) N.A. (v) (a) N.A. (b) Transplanting. (c) —. (d) and (e) N.A. (vi) September 1959. (vii) to (ix) N.A. (x) January 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59(SFT) type A on page 115 conducted at Belgaum.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	239	313	239	35.4	8	—8	—8	—16	24.7

Control yield = 2296 lb./ac. and no. of trials = 31.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(SFT).**

Centre :- South Kanara (c.f.). **Type :- 'M'.**

Object :—Type—A To study the response of Paddy to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Coastal and laterite. (iii) Nil. (iv) N.A. (v) (a) N.A. (b) Transplanting. (c) —. (d) and (e) N.A. (vi) September 1959. (vii) to (ix) N.A. (x) January 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59(SFT) type A on page 115 conducted at Belgaum.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	263	140	99	28.8	—58	33	66	33	34.6

Control mean = 1827 lb./ac. and no. of trials = 20.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(SFT).**

Centre :- Bangalore (c.f.). **Type :- 'M'.**

Object :—Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Laterite. (iii) Nil. (iv) N.A. (v) (a) N.A. (b) Transplanting. (c) —. (d) and (e) N.A. (vi) September 1959. (vii) to (ix) N.A. (x) January 1960.

2. TREATMENTS :

0 =Control (no manure).
n_1 =20 lb./ac. of N as A/S.
n_2 =40 lb./ac. of N as A/S.
n_1' =20 lb./ac. of N as Urea.
n_2' =40 lb./ac. of N as Urea.
n_1'''=20 lb./ac. of N as C/A/N.
n_2'''=40 lb./ac. of N as C/A/N.

3. DESIGN :

(i) and (ii) The district has been divided into four agriculturally homogeneous zones and one field assistant posted in each zone. The field assistant conducts the trials in one revenue circle or thana in the zone and the circle/thana is changed once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year, 8 on *kharif* cereal, 8 on *rabi* cereal, 8 on cash crops, 4 on an oilseed crop and 3 on a leguminous crop. Half the number of trials conducted are of type A and the other half of type B on crops other than the legumes. The three trial on legumes are of type C. Residual effects of phosphate application are studied on type C trials in two out of the four zones in each district every year. The experiments are laid out in randomly located fields in randomly selected villages in each of the 4 zones at the rate of one experiment per village. (iii) (a) 1/40 ac. (b) 1/80 ac. (iv) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—contd. (b) No. (c) N.A. (v) As per design. (vi) and (vii) Nil.

5. RESULTS:

Treatment	0	n_1	n_2	n_1'	n_2'	n_1'''	n_2'''
Av. yield in lb./ac.	3522	3390	4081	4016	4032	4945	4962

G.M. = 4135 lb./ac. ; S.E./mean = 257.2 lb./ac. and no. of trials = 4.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(SFT).**

Centre :- Balgaum (c.f.). **Type :- 'M'.**

Object :—Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Black mixed red. (iii) Nil. (iv) N.A. (v) (a) N.A. (b) Transplanting. (c)—. (d) and (e) N.A. (vi) September, 1959. (vii) to (ix) N.A. (x) January, 1960.

2. TREATMENTS :

0 =Control.
n'_1 =20 lb./ac. of N as Urea.
n_2' =40 lb./ac. of N as Urea.
n_1'' =20 lb./ac. of N as A/S/N.
n_2'' =40 lb./ac. of N as A/S/N.

n_1'' =20 lb./ac. of N as C/A/N.
n_2''' =40 lb./ac. of N as C/A/N.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 59(SFT) type B on page 120 conducted at Bangalore.

5. RESULTS :

Treatment	0	n_1'	n_2'	n_1''	n_2''	n_1'''	n_2'''
Av. yield in lb./ac.	1399	1613	1827	1810	1917	1736	1868

G.M. = 1739 lb./ac. ; S.E. = 320 lb./ac. and no. of trlals = 11.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(SFT).**

Centre :- Chikhamagalur (c.f.). **Type :- 'M'.**

Object :—Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red and laterite. (iii) Nil. (iv) N.A. (v) (a) N.A. (b) Transplanting. (c)—(d) and (e) N.A. (vi) September, 1959. (vii) to (ix) N.A. (x) January, 1960.

2. TREATMENTS :

0 =Control (no manure).
n_1 =20 lb./ac. of N as A/S.
n_2 =40 lb./ac. of N as A/S.
n_1' =20 lb./ac. of N as Urea.
n_2' =40 lb./ac. of N as Urea.
n_1'' =20 lb./ac. of N as A/S/N.
n_2'' =40 lb./ac. of N as A/S/N.
n_1''' =20 lb./ac. of N as C/A/N.
n_2''' =40 lb./ac. of N as C/A/N.

3. DESIGN and 4. GENERAL :.

Same as in expt. no. 59(SFT) type B on page 120 conducted at Bangalore.

5. RESULTS :

Treatment	0	n_1	n_2	n_1'	n_2'	n_1''	n_2''	n_1'''	n_2'''
Av. yield in lb./ac.	2979	3489	3760	3407	3604	3530	3752	3522	3547

G.M. = 3510 lb./ac. ; S.E. = 219.4 lb./ac. and no. of trials = 15.

Crop :- Paddy. **Ref :- Ms. 58(SFT).**

Site :- Coorg (c.f.). **Type :- 'M'.**

Object :—Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red loam. (iii) Nil. (iv) N.A. (v) (a) N.A. (b) Transplanting. (c)—. (d) and (e) N.A. (vi) September, 1959. (vii) to (ix) N.A. (x) January, 1960.

2. TREATMENTS :

0 =Control (no manure).
n_1' =20 lb./ac. of N as Urea.
n_2' =40 lb./ac. of N as Urea.
n_1'' =20 lb./ac. of N as A/S/N.
n_2'' =40 lb./ac. of N as A/S/N.
n_1''' =20 lb./ac. of N as C/A/N.
n_2''' =40 lb./ac. of N as C/A/N.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 59(SFT) type B on page 120 conducted at Bangalore.

5. RESULTS :

Treatment	0	n_1'	n_2'	n_1''	n_2''	n_1'''	n_2'''
Av. yield in lb./ac.	1136	1407	1481	1465	1621	1399	1473

G.M. = 1426 lb./ac. ; S.E. = 50.6 lb./ac. and no. of trials = 15.

Crop :- Paddy. **Ref :- Ms. 59(SFT).**

Centre :- Coorg (c.f.). **Type :- 'M'.**

Object :—Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red loam. (iii) Nil. (iv) N.A. (v) (a) N.A. (b) Transplanting. (c)—. (d) and (e) N.A. (vi) September, 1959. (vii) to (ix) N.A. (x) January, 1960.

2. TREATMENTS :

0 =Control.
n_1' =20 lb./ac. of N as Urea.
n_2' =40 lb./ac. of N as Urea.
n_1'' =20 lb./ac. of N as A/S/N.
n_2'' =40 lb./ac. of N as A/S/N.
n_1''' =20 lb./ac. of N as C/A/N.
n_2''' =40 lb./ac. of N as C/A/N.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 59(SFT) Type B on page 120 conducted at Bangalore.

5. RESULTS :

Treatment	0	n_1'	n_2'	n_1''	n_2''	n_1'''	n_2'''
Av. yield in lb./ac.	2032	2213	2304	2353	2534	2510	2765

G.M. = 2387 lb./ac. ; S.E. = 52.9 lb./ac. and no. of trials = 25.

Crop :- Paddy *(Rabi* **and** *Kharif)*. **Ref :- Ms. 58(SFT).**

Centre :- Mandya (c.f.). **Type :- 'M'.**

Object :—Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red loam. (iii) Nil. (iv) N.A. (v) (a) N.A. (b) Transplanting. (c)—. (d) and (e) N.A. (vi) *Rabi* in May, 1958 and *kharif* in September, 1959. (vii) to (ix) N.A. (x) *Rabi* in August, 1959 and *kharif* in January, 1959.

2. TREATMENTS :

0 =Control (no manure).
n_1' =20 lb./ac. of N as Urea.
n_2' =40 lb./ac. of N as Urea.
n_1'' =20 lb./ac. of N as A/S/N.
n_2'' =40 lb./ac. of N as A/S/N.
n_1''' =20 lb./ac. of N as C/A/N.
n_2''' =40 lb./ac. of N as C/A/N.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 59(SFT) type B on page 120 conducted at Bangalore.

5. RESULTS :

Kharif

Treatment	0	n_1'	n_2'	n_1''	n_2''	n_1'''	n_2'''
Av. yield in lb./ac.	1917	2123	2082	2131	2172	2098	2008

G.M. = 2076 lb./ac. ; S.E. = 83.8 lb./ac. and no. of trials = 11.

Rabi

Treatment	0	n_1'	n_2'	n_1''	n_1''	n_1'''	n_2'''
Av. yield in lb./ac.	2526	2732	2864	2641	2757	2674	2781

G.M. = 2711 lb./ac. ; S.E. = 23.9 lb./ac. and no. of trials = 7.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(SFT).**

Centre :- Mandya (c.f.). **Type :- 'M'.**

Object :—Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red loam. (iii) Nil. (iv) N.A. (v) (a) N.A. (b) Transplanting. (c)—. (d) and (e) N.A. (vi) September, 1959. (vii) to (ix) N.A. (x) January, 1960.

2. TREATMENTS :

0 =Control (no manure).
n_1 =20 lb./ac. of N as A/S.
n_2 =40 lb./ac. of N as A/S.
n_1' =20 lb./ac. of N as Urea.
n_2' =40 lb./ac. of N as Urea.
n_1'' =20 lb./ac. of N as A/S/N.
n_2'' =40 lb./ac. of N as A/S/N.
n_1''' =20 lb./ac. of N as C/A/N.
n_2''' =40 lb./ac. of N as C/A/N.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 59(SFT) type B on page 120 conducted at Bangalore.

5. RESULTS :

Treatment	0	n_1	n_2	n_1'	n_2'	n_1''	n_2''	n_1'''	n_2'''
Av. yield in lb./ac.	3036	3102	3308	3259	3678	3168	3374	3374	3653

G.M. = 3328 lb./ac. ; S.E. = 44.2 lb./ac. and no. of trials = 12

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(SFT).**

Centre :- Mysore (c.f.). **Type :- 'M'.**

Object :—Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red and black soil. (iii) Nil. (iv) N.A. (v) (a) N.A. (b) Transplanting. (c)—. (d) and (e) N.A. (vi) September 1959. (vii) to (ix) N.A. (x) January 1960.

2. TREATMENTS :

0 =Control (no manure).
n_2'=20 lb./ac. of N as A/S.
n_2'=40 lb./ac. of N as A/S.
n_1'=40 lb./ac. of N as Urea.
n_2 =40 lb./ac. of N as Urea.
n_1'' =20 lb./ac. of N as A/S/N.
n_2'' =40 lb./ac. of N as A/S/N.
n_1'' =20 lb./ac. of N as C/A/N.
n_2'' =40 lb./ac. of N as C/A/N.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 59(SFT) tyye B on page 120 conducted at Bangalore.

5. RESULTS :

Treatment	0	n_1	n_2	n_1'	n_2'	n_1''	n_2''	n_1'''	n_5'''
Av. yield in lb./ac.	2946	3357	3760	3440	3802	3374	3571	3481	3810

G.M. = 3505 lb./ac. S.E. = 64.6 lb./ac. and no. of trials = 12.

Crop :- Paddy. **Ref :- Ms. 59(SFT).**

Centre :- North Kanara (c.f.). **Type :- 'M'.**

Object :—Type B—To investigate the relative efficiency of different nitrogenous fritilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Costal and laterite. (iii) Nil. (iv) N.A. (v) (a) N.A. (b) Transplanting. (c)—. (d) and (e) N A. (vi) *Kharif* in September 1959 and *Rabi* in May 1959 (vii) to (ix) N.A. (x) *Kharif* in Jan. 1960 and *Rabi* in August 1959.

2. TREATMENTS :

0 =Control (no manure).
n_1 =20 lb./ac. of N as A/S.
n_2 =40 lb./ac. of N as A/S.
n_1' =20 lb./ac. of N as Urea.
n_2' =40 lb./ac. of N as Urea.
n_1'' =20 lb./ac. of N as A/S/N.
n_2'' =40 lb./ac. of N as A/S/N.
n_1'''=20 lb./ac. of N as C/A/N.
n_2'''=40 lb./ac. of N as C/A/N.

3. DESIGN and 4. GENERAL

Same as in expt. no. 59 (SFT) type B on page 120 conducted at Bangalore.

5. RESULTS :

Kharif

Treatment	0	n_1	n_2	n_1'	n_2'	n_1''	n_2''	n_1'''	n_2'''
Av. yield in lb./ac.	1868	2238	2395	2181	2345	2139	2189	2205	2617

G.M. = 2242 lb./ac. S.E. 27.3 lb./ac. and no of trials = 18.

Rabi

Treatment	0	n_1	n_2	n_1'	n_2'	n_1''	n_2''	n_1'''	n_2'''
Av. yield in lb./ac.	1103	1349	1366	1300	1317	1300	1415	1424	1333

G.M. = 1323 ib./ac. S.E. = 27.3 lb./ac. and no of trails = 3.

Crop :- Paddy. **Ref :- Ms. 58(SFT).**

Centre :- Shimoga (c.f.). **Type :- 'M'.**

Object :—Type B —To investigate the relative efficiency of different nitrogenous fritilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red loam. (iii) Nil. (iv) N.A. (v) (a) N.A. (b) Transplanting. (c)—. (d) and (e) N.A. (vi) September 1959. (vii) to (iv) N.A. (x) January 1959.

2. TREATMENTS :

0 =Control (no manure).
n_1' =20 lb./ac. of N as Urea.
n_2' =40 lb./ac. of N as Urea.
n_1'' =20 lb./ac. of N as A/S/N.
n_2'' =40 lb./ac. of N as A/S/N.
n_1'''=20 lb./ac. of N as C/A/N.
n_2'''=40 lb./ac.. of N as C/A/N.

3. DESIGN and 4. GENERAL :

Same as in expt. no 59(SFT) type B on page 120 conducted at Bangalore.

RESULTS :

Treatment	0	n_1'	n_2'	n_1''	n_2''	n_1'''	n_2'''
Av. yield in lb./ac.	2395	2806	2962	2913	3176	2880	3053

G.M. = 2884 lb./ac. S.E. = 71.0 lb./ac. and no. of trials = 15.

Crop :- Paddy *(Kharif).* **Ref :- Ms. 59(SFT).**

Centre :- Shimoga (c.f.). **Type :- 'M'.**

Object :—Type B—To investigate the relative efficiency of different nitrogenous fritilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Laterite and forest. (iii) Nil. (iv) N.A. (v) (a) N.A. (b) Transplanting. (c)—. (d) and (e) N.A. (vi) September 1959. (vii) to (ix) N.A. (x) January 1960.

2. TREATMENTS :

0 =Control (no manure).
n_1' =20 lb./ac. of N as Urea.
n_2' =40 lb./ac. of N as Urea.
n_1'' =20 lb./ac. of N as A/S/N.
n_2'' =40 lb./ac. of N as A/S/N.
n_1'''=20 lb./ac. of N as C/A/N.
n_2'''=40 lb./ac. of N as C/A/N.

3. DESIGN and 4. GENERAL:

Same as in expt. no. 59(SFT) type B on page 120 conducted at Bangalore.

5. RESULTS :

Treatment	0	n_1'	n_2'	n_1''	n_2''	n_1'''	n_2'''
Av. yield in lb./ac.	2501	2789	2921	2905	3077	2864	3036

G.M. = 2870 lb./ac. S.E. = 22.1 lb./ac. and no. of trials = 28.

Crop - Paddy. **Ref :- Ms. 59(SFT).**

Centre :- South Kanara (c.f.). **Type :- 'M'.**

Object :—TypeB—To investigate the relative efficiency of different nitrogenous fritilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Coastal and laterite. (iii) Nil. (iv) N.A. (v) (a) N.A. (b) Transplanting. (c)—.(d) and (e) N.A. (vi) September 1959. (vii) to (ix) N.A. (x) January 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59(SFT) type B on page 120 conducted at Bangalore.

5. RESULTS :

Treatment	0	n_1	n_2	n_1'	n_2'	n_1'''	n_2'''
Av. yield in lb./ac.	2123	2411	2518	2403	2477	2436	2551

G.M. = 2417 lb./ac., S.E. = 54.1 lb./ac. and no of trials = 18.

Crop :- Paddy (1st crop). **Ref :- Ms. 54(103).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'MV'.**

Object :—To study the effects of high yielding strains on soil fertility under Ryots' manuring and heavy manuring conditions.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clay loam. (b) Refer soil analysis, Mangalore. (iii) 1.5.1954/22.6.1954. (iv) (a) 6 to 8 ploughings. (b) Transplanting. (c) 50 to 75 lb./ac. (d) —. (e) 2. (v) Nil. (vi) As per rteatments. (vii) Unirrigated. (viii) Nil. (ix) 139.71". (x) 25.9.1954.

2. TREATMENTS :

Main-plot treatments :

2 manurial treatments : M_1=Ryots' manuring : 2000 lb./ac. of C.M. and M_2=Heavy manuring : 4000 lb./ac. of G.L.+200 lb./ac. of B.M.+56 lb./ac. of A/S.

Sub-plot treatments :

4 varietal treatments : V_1=Local Kayama to be followed by Local Athithaya, V_2=Local Kayama to be followed by CO—3, V_3=High yielder MGL—1 to be followed by local Athithaya and V_4=High yielder MGL_1 to be followed by high yielder CO—3.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication ; 4 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 19'×13'. (b) 17'×11'. (v) 1' alround. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1951—1955. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2269 lb./ac. (ii) (a) 355.3 lb./ac. (b) 199.3 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	V_3	V_4	Mean
M_1	1975	2160	2257	2277	2167
M_2	2165	2375	2300	2640	2370
Mean	2070	2268	2279	2459	2269

S.E. of difference of two

1. M marginal means = 105.4 lb./ac.
2. V marginal means = 81.4 lb./ac.
3. V means at the same level of M = 115.1 lb./ac.
4. M means at the same level of V = 145.1 lb./ac.

Crop :- Paddy (2nd crop). **Ref :- Ms. 54(102).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'MV'.**

Object :—To study the effects of high yielding strains on soil fertility under Ryots' manuring and heavy manuring conditions.

1. BASAL CONDITIONS : .

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Mangalore. (iii) 11.9.1954/17.10.1954. (iv) (a) 6 to 8 ploughings. (b) Transplanting. (c) 50 to 75 lb./ac. (d) N.A. (e) 2. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) Weeding one month after planting. (ix) 12.46". (x) 20.1.1955.

2. TREATMENTS to GENERAL :

Same as in expt. no. 54(103) above.

5. RESULTS :

(i) 1685 lb./ac. (ii) (a) 319.1 lb./ac. (b) 161.4 lb./ac. (iii) Main effect of M alone is significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	V_3	V_4	Mean
M_1	1546	1476	1521	1561	1516
M_2	1834	1868	1771	1901	1844
Mean	1690	1672	1646	1731	1685

S.E. of difference of two

1. M marginal means = 92.1 lb./ac.
2. V marginal means = 65.9 lb./ac.
3. V means at the same level of M = 93.2 lb./ac.
4. M means at the same level of V = 122.5 lb./ac.

Crop :- Paddy (2nd crop). **Ref :- Ms. 55(136).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'MV'.**

Object :—To study the effects of high yielding strains on soil fertility under Ryots' manuring and heavy manuring conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Mangalore. (iii) 5.9.1955/15.10.1955. (iv) (a) 6 to 8 ploughings. (b) Transplanting in bulk. (c) 40 to 60 lb./ac. (d) —. (e) 2. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) Hand weeding at the time of top dressing. (ix) 35.09". (x) 18.1.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(103) on page 126 except that the net plot size is 18'×11' and gross is 20'×13'.

5. RESULTS :

(i) 2085 lb./ac. (ii) (a) 163.8 lb./ac. (b) 201.3 lb./ac. (iii) Main effect of M is highly significant. anal V×M interaction is significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	V_3	V_4	Mean
M_1	1795	1798	1942	1741	1819
M_2	2329	2361	2216	2500	2351
Mean	2062	2080	2079	2121	2085

S.E. of difference of two

1. M marginal means = 47.3 lb./ac.
2. V marginal means = 82.2 lb./ac.
3. V means at the same level of M = 116.2 lb./ac.
4. M means at the same level of V = 111.2 lb./ac.

Crop :- Paddy (1st crop). **Ref :- Ms. 59(147).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'MV'.**

Object :—To study the varietal response to different methods of manuring at nursery stage.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+190 lb./ac. of Super+50 lb./ac. of Mur. Pot.+22 lb./ac. of Urea. (ii) (a) Laterite loamy in texture, (b) Refer soil analysis, Mangalore. (iii) Japanese method 22.5 1959, local method 30.4.1959/N.A. (iv) (a) Ploughing, puddling and levelling. (b) Transplanting. (c) 30 to 40 lb./ac. (d) 8″×8″. (e) 4. (v) 5000 lb./ac. of G.L.+190 lb./ac. of Super+50 lb./ac. of Mur. Pot.+22 lb./ac. of Urea. (vi) As per treatments. (vii) Unirrigated. (viii) Nil. (ix) 150.45″. (x) 16.10.1959.

2. TREATMENTS :

Main-plot treatments :

3 varieties : V_1=Mgl. 3, V_2=Mgl. 5 and V_3=Ptb 9.

Sub-plot treatments :

2 methods of manuring the nursery : M_1=Japanese method : 40 C.L./ac. of F.Y.M.+2000 lb./ac. of ash+2000 lb./ac. of compost+A/S+Super equal to the quantity of seed as basal dressing+another dose of A/S+Super 15 days after sowing and M_2=Local method : 2000 lb./ac. of ash only.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 20′×13′4″. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1959—1961. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2177 lb./ac. (ii) (a) 327.8 lb./ac. (b) 172.1 lb./ac. (iii) Main effect of V is highly significant and M×V interaction is significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	V_3	Mean
M_1	2084	2252	2576	2304
M_2	2126	1874	2174	2049
Mean	2105	2063	2362	2177

S.E. of difference of two

1. M marginal means = 163.9 lb./ac.
2. V marginal means = 70.3 lb./ac.
3. V means at the same level of M = 121.7 lb./ac.
4. M means at the same level of V = 185.1 lb./ac.

Crop :- Paddy *(Tabi)*. **Ref :- Ms. 56(37).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'C'.**

Object :—To find out the suitable method of sowing Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sannhemp. (c) N.A. (ii) (a) Sandy loam. (b) N.A. (iii) 1st week of January, 1956. (iv) (a) 3 to 4 times puddling by bullock and levelling. (b) As per treatments. (c) N A. (d) 8″×8″. (e) 2 to 3 plants/hill. (v) G.M. with sannhemp. (vi) RDR—7 (early). (vii) Irrigated. (viii) Weeding by hand and rotary weeder. (ix) 2.03″. (x) May, 1956.

2. TREATMENTS :

T_1=Dibbling dry seed at 20 lb./ac.
T_2=Dibbling soaked seed at 20 lb./ac.
T_3=Dibbling sprouted seed at 20 lb./ac.
T_4=Broadcasting dry seed at 80 lb./ac.
T_5=Broadcasting soaked seed at 80 lb./ac.
T_6=Broadcasting sprouted seed at 80 lb./ac.
T_7=Transplanting by cultivators method at 40 lb./ac.
T_8=Transplanting by Japanese method at 20 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 21′×10′. (b) N.A. (v) 10″ alround. (vi) Yes.

4. GENERAL :

(i) Broadcast crop lodged just before flowering. (ii) Stem-borer attack—No control measures taken. (iii) Yield data. (iv) (a) 1956—contd. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 745 lb./ac. (ii) 293.0 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8
Av. yield	531	456	674	966	769	980	864	718

S.E./mean = 146.5 lb./ac.

Crop :- Paddy *(Tabi)*. **Ref :- Ms. 57(10).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'C'.**

Object :—To find out the suitable method of sowing Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sannhemp. (c) N.A. (ii) (a) Sandy loam. (b) N.A. (iii) 1st week of January, 1957. (iv) (a) 3 to 4 times puddling by bullock power and levelled. (b) As per treatments. (c) N.A. (d) 8″×8″. (e) 2 to 3 plants. (v) G.M. only. (vi) Rudrur—2 (medium). (vii) Irrigated. (viii) Weeding by hand and rotary weeder. (ix) 7.78″. (x) 1st week of May.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(37) on page 128.

5. RESULTS :

(i) 348 lb./ac. (ii) 115.2 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8
Av. yield	221	214	385	419	320	613	378	238

S.E./mean = 57.6 lb./ac.

Crop :- Paddy *(Abi)*. **Ref :- Ms. 59(89).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To find out the optimum spacing and the no. of seedlings/hill of the late maturing crop.

1. BASAL CONDITIONS :

(i) (a) Paddy–G.M.—Paddy. (b) G.M.—crop. (c) N.A. (ii) (a) Light sandy loam. (b) N.A. (iii) 25, 26.7.1959. (iv) (a) Ploughing. (b) Transplanting. (c) N.A. (d) and (e) As per treatments. (v) G.M.+60 lb./ac. of N as A/S+30 lb./ac. of P_2O_5. (vi) HR–35 (late). (vii) Irrigated. (viii) Hand weeding. (ix) 21.60″. (x) 11.12.1959.

2. TREATMENTS :

Main-plot treatments :

3 seedling/hill : $S_1=1$, $S_2=2$ and $S_3=3$.

Sub-plot treatments :

5 spacings : $D_1=6″\times6″$, $D_2=6″\times9″$. $D_3=6″\times12″$, $D_4=9″\times9″$ and $D_5=12″\times12″$.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication : 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 22′×9′. (b) 20′×9′. (v) 1′ on both sides along the breadth. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Height, no. of tillers, length of panicles and yield of grain. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3470 lb./ac. (ii) (a) 752.3 lb./ac. (b) 571.3 lb./ac. (iii) Main effect of S is significant. (iv) Av. yield of grain in lb./ac.

	S_1	S_2	S_3	Mean
D_1	3191	3910	4398	3833
D_2	3070	3501	3395	3322
D_3	3210	3350	4205	3588
D_4	2715	3346	4307	3456
D_5	3017	3320	3122	3153
Mean	3041	3485	3885	3470

S.E. of difference of two

1. S marginal means = 238.0 lb./ac.
2. D marginal means = 233.2 lb./ac.
3. D means at the same level of S = 404.0 lb./ac.
4. S means at the same levels of D = 432.6 lb./ac.

Crop :- Paddy. **Ref :- Ms. 59(90.)**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'C'.**

Object :—To find out the most suitable method of sowing Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—G.M.—Paddy. (b) G.M.—crop. (c) N.A. (ii) (a) Sandy loam. (b) N.A. (iii) 1.7.1959. (iv) (a) Ploughing and puddling. (b) and (c) As per treatments. (d) 10″×10″. (e) —. (v) G.M. only. (vi) HR—35 (late). (vii) Irrigated. (viii) Weeding by rotary and hand weeder. (ix) 16.36″. (x) 30.11.1959.

2. TREATMENTS :

Same as in expt. no. 56(37) on page 128.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 22′×12′. (b) 20′×10′. (v) 1′×1′. (vi) Yes.

4. GENERAL :

(i) Slight lodging in broadcasted plots. (ii) Stem borer attack—Folidol was sprayed once. (iii) Height, tiller counts and length of panicles. (iv) (a) 1959—N.A. (b) N.A. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2794 lb./ac (ii) 629.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8
Av. yield	2709	2886	3104	2682	2464	2722	2886	2899

S.E./mean = 314.5 lb./ac.

Crop :- Paddy *(Kharif).* **Ref :-Ms. 59(42).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'C'.**

Object :—To find out the optimum spacing for Paddy.

1. BASAL CONDITIONS :

(i) (a) and (b) Paddy. (c) A/S at 160 lb./ac. of Triple Super at 100 lb./ac. + G.N.C. at 150 lb./ac. (ii) (a) Black loam. (b) N.A. (iii) 21.7.1959/23.8.1959. (iv) (a) Ploughing, harrowing and puddling. (b) Transplanting. (c) 15 lb./ac. (d) As per treatments. (e) 2. (v) 3 C.L./ac. of F.Y.M. (vi) S—749. (vii) Irrigated. (viii) 1 hand weeding and 4 rotary weedings. (ix) 17.87". (x) 13.1.1960.

2. TREATMENTS :

4 spacings : S_1=9"×6", S_2=9"×9", S_3=9"×12" and S_4=9"×15".

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 33'×13'. (b) 32'×12' (v) 6"×6". (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height of plants, no. of tillers, grain and straw yield. (iv) (a) 1959—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2602 lb./ac. (ii) 149.96 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_1	S_2	S_3	S_4
Av. yield	2850	2571	2492	2495

S.E./mean = 75.0 lb./ac.

Crop :- Paddy *(Kharif).* **Ref :- Ms. 59(46).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'C'.**

Object :—To find the suitable number of seedlings/hole for Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) A/S at 160 lb./ac.+100 lb./ac. of Triple Super+G.N.C. at 150 lb./ac. (ii) (a) Black loam. (b) N.A. (iii) 20.7.1959/24.8.1959. (iv) (a) 3 ploughings, harrowing and puddling. (b) Transplanting. (c) 15 lb./ac. (d) 9"×9". (e) As per treatments. (v) 20 C.L./ac. of F.Y.M. (vi) S—749. (vii) Irrigated. (viii) Hand rotary weedings. (ix) 21.63". (x) 15, 18.1.1960.

2. TREATMENTS :

4 treatments : S_1=1, S_2=2, S_3=3 and S_4=4 seedlings/hole.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 33'×13'. (b) 32'×12'. (v) 6"×6". (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Attack of Aphids and Thrips—Folidol sprayed. (iii) Height of plants, no. of tillers, grain and straw yield. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2322 lb./ac. (ii) 328.6 lb./ac. (iii) Treatment differences not significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_1	S_2	S_3	S_4
Av. yield	2198	2479	2352	2258

S.E./mean 164.3 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(232).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'C'.**

Object :—To study the effect of time of harvesting on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Fallow—Paddy. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Laterite. (b) Refer soil analysis, Kumta. (iii) 26.5.1955/18.7.1955. (iv) (a) Ploughing and clod crushing. (b) Transplanting. (c) 40 lb./ac. (d) 8″×8″. (e) 4 to 5. (v) 5 C.L./ac. of F.Y.M. (vi) Red *Halaga*—244. (vii) Unirrigated. (viii) Weeding. (ix) 175.06″. (x) As per treatments.

2. TREATMENTS :

3 times of harvesting : T_1=Normal harvesting, T_2=5 days earlier and T_3=10 days earlier.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 24′×40′. (b) 20′×36′. (v) 2′×2′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1541 lb./ac. (ii) 382.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3
Av. yield	1538	1539	1546

S.E./mean = 135.1 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(130).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'C'.**

Object :—To study the effect of harvesting time on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Laterite soil. (b) N.A. (iii) 2.6.1956. (iv) (a) Ploughing. (b) Broadcasting. (c) 75 lb./ac. (d) —. (e) 8. (v) 5 C.L./ac. of F.Y.M. (vi) RH—244 (late). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 45.8″. (x) 19, 24 and 29.10.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(232) above.

5. RESULTS :

(i) 1364 lb./ac. (ii) 114.0 lb./ac. (iii) Treatment effects are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3
Av. yield	1491	1377	1223

S.E./mean = 40.3 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(245).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'C'.**

Object :—To study the effect of time of harvesting on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Fallow—Paddy. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Laterite. (b) Refer soil analysis, Kumta. (iii) 20.5.55.4.7.57. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 9″×9″. (e) —. (x) 4 to 6. (v) N.A. (vi) Red *Halaga*—44. (vii) Unirrigated. (viii) Weeding. (ix) 115.04″. (x) As per treatments.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55 (232) on page 132.

5. RESULTS :

(i) 1985 lb./ac. (ii) 215.1 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3
Av. yield	2153	2024	1778

S.E./mean = 76.0 lb./ac.

Crop :- Paddy (1st crop). **Ref :- Ms. 57(45).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To find out the suitability of wave shaped method of cultivation of Paddy against Japanese and local methods.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) G.M. crop., (c) Nil. (ii) (a) laterite, loamy in texture. (b) Refer soil analysis, Mangalore. (iii) 11.5.1957/10, 11.6.1957. (iv) (a) About 5 ploughings with country plough. (b) Transplanting. (c) N.A. (d) and (e) As per treatments. (v) G.L. at 5000 lb./ac.+Super at 150 lb./ac. Top dressed with 150 lb./ac. of A/S one month after transplanting. (vi) MGL—2 (medium duration). (vii) Unirrigated. (viii) N.A. (ix) 108.94″. (x) 4.10.1957.

2. TREATMENTS :

6 cultural treatments : T_1=Modified Japanese method of planting with 4 seedlings/hole, T_2=local method of planting with 2 seedings/hole, T_3=Wave shaped method with 18″×4″ spacing and 4 seedlings/hole, T_4=T_3 with 30″×2½″ spacing, T_5=T_3 with 10″×5″ spacing and 4 seedlings/hole. and T_6=Japanese method of planting with 10″×5″ spacing and 4 seedlings/hole.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 8. (iv) (a) 6′8″×45′. (b) 5′×37½′. (v) 1′ row alround. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Slight attack—control measures N.A. (iii) Tiller counts, height measurement, grain and straw yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3350 lb./ac. (ii) 393.8 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6
Av. yield	3655	3528	3314	2443	3557	3604

S.E./mean = 139.2 lb./ac.

Crop :- Paddy. **Ref :- 58(15).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To find out suitability of wave shaped method of cultivation of Paddy against Japanese and local methods.

1 BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Pulse crop. (b) Pulse crop. (c) No manure applied. (ii) (a) Laterite, loamy in texture. (b) Refer soil analysis, Mangalore. (iii) 7; 8.7.1958. (iv) (a) 8 ploughings with country plough. (b) Transplanting. (c)—. (d) As per treatments. (e) 2 in T_2 and 4 in other treatments. (v) G.L. 5000 lb./ac. applied and ploughed a week before planting. Super 150 lb./ac. applied and ploughed on the day of planting. A/S at 150 lb./ac. broadcasting one month after planting. (vi) MGL—2 (medium). (vii) Unirrigated. (viii) As per treatments. (ix) 124.47". (x) 9.10.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(45) on page 133 except that the net plot size is 6'8"×45'.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height measurements, tiller counts and grain yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) The monsoon started late during the year and hence planting operation was delayed. (vii) Nil.

5. RESULTS :

(i) 2787 lb./ac. (ii) 127.5 lb./ac. (iii) Treatment effects are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6
Av. yield	3026	2870	2720	2248	2954	2906

S.E./mean = 45.1 lb./ac.

Crop :- Paddy. **Ref :- Ms. 57(44).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To find out the relative merits of bulk planting and line planting for Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—G.M. (b) G.M. (*Kolingi*). (c) Nil. (ii) (a) Laterite, loamy in texture. (b) Refer soil analysis, Mangalore. (iii) 8.5.1957/planting on 8.6.1957. (iv) (a) 5 ploughings with country plough. (b) Transplanting. (c) N.A. (d) As per treatments. (e) N.A. (v) G.L. at 5000 lb./ac.+Super at 150 lb./ac. and A/S at 150 lb./ac. (vi) MGL—1 (long duration). (vii) Rainfed. (viii) Nil. (ix) 108 94". (x) 12.10.1957.

2. TREATMENTS :

T_1=Spacing 10" between rows, T_2=Spacing 12" between rows and T_3=Bulk planting (no lines).

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) 15'×19'. (iii) 10. (iv) (a) N.A. (b) 5'×15'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Slight attack. Other details—N.A. (iii) Grain yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2944 lb./ac. (ii) 194.1 lb./ac. (iii) Treatment effects are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3
Av. yield	2932	2861	3039

S.E./mean = 61.4 lb./ac.

Crop :- Paddy (2nd crop). **Ref :- Ms. 58(17).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To find out the role of interculture and spacing on yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of super+224 lb./ac. of lime and 25 lb./ac. Mur. Pot. (ii) (a) Laterite, loamy in texture. (b) Refer soil analysis, Mangalore. (iii)28.10.1958. (iv) (a) 8 ploughings. (b) Transplanting. (c) —. (d) As per treatments. (e) 3. (v) 5600 lb./ac. of G.L. +200 lb./ac. of Super+100 lb./ac. of A/S and 25 lb./ac. Mur. Pot. (vi) PTB—20 (medium). (vii) Irrigated. (viii) As per treatments. (ix) 12.98". (x) 22.1.1959.

2. TREATMENTS :

All combinations of (1) and (2)+a control (bulk planting, no lines, cultivators usual method).

(1) 2 spacings : S_1=8" and S_2=10".

(2) 4 cultural treatments : C_1=One way without interculture, C_2=One way with interculture, C_3=Two way without interciulture and C_4=Two way with interculture.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) and (b) 20'×10'. (v) No. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height measurements, tiller counts and grain yield. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) and (vi) Nil. (vii) The crop was planted late due to the late harvest of the first crop.

5. RESULTS :

(i) 2119 lb./ac. (ii) 300.3 lb./ac. (iii) Main effect of C and 'control *vs.* others' effect are highly significant while main effect of S is significant. (iv) Av. yield of grain in lb./ac.

Control = 2709 lb./ac.

	C_0	C_1	C_2	C_3	Mean
S_1	2463	2314	2093	1739	2152
S_2	2423	2341	1575	1416	1938
Mean	2443	2328	1834	1578	2045

S.E. of C marginal mean = 106.2 lb./ac.
S.E. of S marginal mean = 75.1 lb./ac.
S.E. of body of table = 150.1 lb./ac.

Crop :- Paddy (1st crop). **Ref :- Ms. 59(134).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To study the role of interculturing and optimum spacing on the Paddy yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) G.M. crop. (c) Nil. (ii) (a) Laterite, loamy in texture. (b) Refer soil analysis, Mangalore. (iii) 13.6.1959. (iv) (a) Ploughing, puddling and levelling. (b) Transplanting. (c) 15 to 18 kg./ac. (d) As per treatments. (e) 4. (v) 2300 kg. of G.M +86 kg. of Super+23 kg. of Mur. Pot. and 10 kg. of Urea. (vi) Mgl—5. (vii) Unirrigated. (viii) As per treatments. (ix) 150.45". (x) 23.9.1959.

2. TREATMENTS :

All combinations of (1) and (2)+a control (Bulk planting).

(1) 4 spacings : S_1=8"×4", S_2=8"×8", S_3=10"×4" and S_4=10"×8".

(2) 2 intercultures : I_0=0 and I_1=With intercultures.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) and (b) 13'4"×10'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Moderate attack of gallfly—Folidol sprayed. (iii) Height of plants, no. of tillers, grain and straw yield. (iv) (a) 1959—1961. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2537 lb./ac. (ii) 166.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb /ac.

Control = 2435 lb./ac.

	S_1	S_2	S_3	S_4	Mean
I_0	2486	2655	2479	2732	2588
I_1	2463	2533	2581	2471	2512
Mean	2474	2594	2530	2601	2550

S.E. of S marginal mean = 58.7 lb./ac.
S.E. of I marginal mean = 41.5 lb./ac.
S.E. of body of table = 83.0 lb./ac.

Crop :- Paddy (2nd crop). **Ref :- Ms. 59(133).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To study the role of interculturing and optimum spacing on the Paddy yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) G.M. crop. (c) Nil. (ii) (a) Laterite, loamy in texture. (b) Refer soil analysis, Mangalore. (iii) 9.11.1959. (iv) (a) Ploughing, puddling and levelling. (b) Transplanting. (c) 15 to 18 Kg./ac. (d) As per treatments. (e) 4. (v) 5070 lb./ac. of G.M.+190 lb./ac. of Super+51 lb./ac. of Mur. Pot.+22 lb./ac. of Urea. (vi) CO—25. (vii) Unirrigated, (viii) As per treatments. (ix) 9.74". (x) 12.2.1960.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 59(134) on page 135.

4. GENERAL :

(i) Fair. (ii) Stem-borer attack—controlled by spraying Folidol. (iii) Height of plants, no. of tillers, grain and straw yield. (iv) (a) 1959—1961. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2134 lb./ac. (ii) 224.2 lb./ac. (iii) S effect is significant while 'control *vs* others' are highly significant. (iv) Av. yield of grain in lb./ac.

Control = 2553 lb./ac.

	S_1	S_2	S_3	S_4	Mean
I_0	2037	1914	2211	2396	2140
I_1	2078	1907	1948	2164	2024
Mean	2058	1910	2079	2280	2082

S.E. of S marginal mean = 79.3 lb./ac.
S.E. of I marginal mean = 56.0 lb./ac.
S.E. of body of table = 112.1 lb./ac.

Crop :- Paddy (1st crop). **Ref :- Ms. 59(135).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To study the role of interculturing and the optimum spacing on the Paddy yield.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) G.M. crop. (c) Nil. (ii) (a) Laterite, loamy in texture. (b) Refer soil analysis, Mangalore. (iii) 3.6.1959. (iv) (a) Ploughing, puddling and levelling. (b) Transplanting. (c) 15 to 18 kg./ac. (d) As per treatments. (e) 4. (v) 5070 lb./ac. of G.M.+190 lb./ac. of Super+51 lb./ac. of Mur. Pot.+22 lb./ac. of Urea. (vi) MTU—3. (vii) Unirrigated. (viii) As per treatments. (ix) 150.45". (x) 4.10.1959.

2. TREATMENTS to 4. GENERAL

Same as in expt. no. 59(134) on page 135 except that the net plot size is 10'×10'.

5. RESULTS:

(i) 2705 lb./ac. (ii) 272.7 lb./ac. (iii) Only S effect is significant. (iv) Av. yield of grain in lb./ac.

Control = 2942 lb./ac.

	S_1	S_2	S_3	S_4	Mean
I_0	2246	2716	2868	2776	2700
I_1	2617	2732	2854	2596	2652
Mean	2432	2724	2861	2686	2676

S.E. of S marginal mean = 96.4 lb./ac.
S.E. of I marginal mean = 63.2 lb./ac.
S.E. of body of table = 136.4 lb./ac.

Crop :- Paddy (1st crop). **Ref :- Ms. 59(136).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To study the role of interculturing and optimum spacing on the Paddy yield.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) G.M. crop. (c) Nil. (ii) (a) Laterite, loamy in texture. (b) Refer soil analysis, Mangalore. (iii) 27.6.1959. (iv) (a) Ploughing, puddling and levelling. (b) Transplanting. (c) 15 to 18 kg./ac. (d) As per treatments. (e) 4. (v) 5070 lb./ac. of G.M.+190 lb./ac. of Super+51 lb./ac. of Mur. Pot.+22 lb./ac. of Urea. (vi) Mgl—1. (vii) Unirrigated. (viii) As per treatments. (ix) 150.45". (x) 14.10 1959.

2. TREATMENTS to 4. GENERAL:

Same as in expt. no. 59(134) on page 135.

5. RESULTS:

(i) 3203 lb./ac. (ii) 397.7 lb /ac. (iii) S effects and 'control *vs.* others' are significant. (iv) Av. yield of grain in lb./ac.

Control = 2759 lb./ac.

	S_1	S_2	S_3	S_4	Mean
I_0	2724	3354	3160	3631	3217
I_1	3188	3318	3043	3655	3301
Mean	2956	3336	3102	3643	3259

S.E. of S marginal mean = 140.6 lb./ac.
S.E. of S marginal mean = 99.4 lb./ac.
S.E. of body of table = 198.8 lb./ac.

Crop :- Paddy (1st crop). **Ref :- Ms. 59(137).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To study the role of interculturing and optimum spacing on the Paddy yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) G.M. crop. (c) Nil. (ii) (a) Laterite, loamy in texture. (b) Refer soil analysis, Mangalore. (iii) 7.7.1959. (iv) (a) Ploughing, puddling and levelling. (b) Transplanting. (c) 15 to 18 kg./ac. (d) As per treatments. (e) 4. (v) 5070 lb./ac. of G.M.+190 lb./ac. of Super+51 lb./ac. of Mur. Pot.+22 lb./ac. of Urea. (vi) PTB—9. (vii) Unirrigated. (viii) As per treatments. (ix) 150.45". (x) 21.10.1959.

2. TREATMENTS to 4 GENERAL :

Same as in expt. no. 59(134) on page 135.

5. RESULTS :

(i) 1232 lb./ac. (ii) 292.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 1202 lb./ac.

	S_1	S_2	S_3	S_4	Mean
I_0	1225	1212	1164	1414	1254
I_1	1307	1394	1110	1061	1218
Mean	1266	1303	1137	1238	1236

S.E. of S marginal mean = 103.4 lb./ac.
S.E. of I marginal mean = 73.1 lb./ac.
S.E. of body of table = 146.2 lb./ac.

Crop :- Paddy (1st crop). **Ref :- Ms. 59(138).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To study the role of interculturing and optimum spacing on the Paddy yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) G.M. crop. (c) Nil. (ii) (a) Laterite, loamy in texture. (b) Refer soil analysis, Mangalore. (iii) 4.6.1959. (iv) (a) Ploughing, puddling and levelling. (b) Transplanting. (c) 15 to 18 kg./ac. (d) As per treatments. (e) 4. (v) 5070 lb./ac. of G.M.+190 lb./ac. of Super+51 lb./ac. of Mur. Pot.+22 lb./ac. of Urea. (vi) Mgl - 3. (vii) Unirrigated. (viii) As per treatments. (ix) 150.45". (x) 22.10.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59(134) on page 135.

5. RESULTS :

(i) 2279 lb./ac. (ii) 362.1 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

Control = 2415 lb./ac.

	S_1	S_2	S_3	S_4	Mean
I_0	2346	2169	2210	2272	2249
I_1	2172	2178	2399	2354	2276
Mean	2259	2173	2304	2313	2262

S.E. of S marginal mean = 128.0 lb./ac.
S.E. of I marginal mean = 90.5 lb./ac.
S.E. of body of table = 181.0 lb./ac.

Crop :- Paddy (2nd crop). **Ref :- Ms. 59(139).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To study the role of interculturing and optimum spacing on the Paddy yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5070 lb./ac. of G.M.+51 lb./ac. of Mur. Pot.+22 lb./ac. of Urea. (ii) (a) Laterite, loamy in texture. (b) Refer soil analysis, Mangalore. (iii) 9.10.1959. (iv) (a) Ploughing, puddling and levelling. (b) Transplanting. (c) 15 to 18 kg./ac. (d) As per treatments. (e) 4. (v) 5070 lb./ac. of G.M.+51 lb./ac. of Mur. Pot.+22 lb./ac. of Urea. (vi) Mgl—7. (vii) Unirrigated. (viii) As per treatments. (ix) 9.74". (x) 16.1.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59(134) on page 135 except that the net plot size is 20'×10'.

5. RESULTS :

(i) 1745 lb./ac. (ii) 244.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 1770 lb./ac.

	S_1	S_2	S_3	S_4	Mean
I_0	1712	1774	1654	1752	1723
I_1	1560	1735	1694	2053	1760
Mean	1636	1754	1674	1902	1742

S.E. of S marginal mean = 86.4 lb./ac.
S.E. of I marginal mean = 61.1 lb./ac.
S.E. of body of table = 122.2 lb./ac.

Crop :- Paddy (2nd crop). **Ref :- Ms. 59(140).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To study the role of interculturing and optimum spacing on the Paddy yield.

1. BASAL CONDITIONS :

(i) Nil. (b) G.M. crop. (c) N.A. (ii) (a) Laterite, loamy in texture. (b) Refer soil analysis, Mangalore. (iii) 29.10.1959. (iv) (a) Ploughing, puddling and levelling. (b) Transplanting. (c) 15 to 18 kg./ac. (d) As per treatments. (e) 4. (v) 5070 lb./ac. of G.M.+190 lb./ac. of Super+51 lb./ac of Mur. Pot.+22 lb./ac. of Urea. (vi) CO—14. (vii) unirrgated. (viii) As per treatments. (ix) 9.74". (x) 4.2.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59 (134) on page 135.

5. RESULTS :

(i) 1746 lb./ac. (ii) 285.3 lb./ac. (iii) None of the effects is significant.(iv) Av. yield of grain in lb./ac.

Control = 1925 lb./ac.

	S_1	S_2	S_3	S_4	Mean
I_0	1619	1798	1764	1881	1766
I_1	1641	1539	1950	1593	1681
Mean	1630	1668	1857	1737	1723

S.E. of S marginal mean = 100.9 lb./ac.
S.E. of I marginal mean = 71.3 lb./ac.
S.E. of body of the table = 142.6 lb./ac.

Crop :- Paddy (2nd crop). **Ref :- Ms. 59(141).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To study the effect of applying N fertilizer as top dressing when the crop is young and at the time of flowering on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5070 lb./ac. of G.L.+190 lb./ac. of Super+51 lb./ac. of Mur. Pot.+22 lb./ac. of Urea. (ii) (a) Laterite, loamy in texture. (b) Refer soil analysis, Mangalore. (iii) 19.9.1959. (iv) (a) Ploughing, puddling and levelling. (b) Transplanting. (c) 15 to 18 kg./ac. (d) 8″×8″. (e) 4. (v) 5070 lb./ac. of G.L.+190 lb./ac. of Super+51 lb./ac. of Mur. Pot. (vi) PTB—20. (vii) Unirrigated. (viii) As per treatments. (ix) 9.74″. (x) 6.1. 1960.

2. TREATMENTS :

8 cultural treatments : T_1=A/S at t_1 and no interculturing after that, T_2=A/S at t_1 followed by interculturing, T_3=A/S at t_1 and interculturing at t_2, T_4=T_2 and interculturing at t_2 also, T_5=A/S at t_2 and no interculturing after that, T_6=A/S at t_2 followed by interculturing, T_7=T_2+T_5 and T_8=T_2+T_6.

A/S applied at 50 lb./ac, t_1=Planting time and t_2=Shot blade period.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 21′×19′. (b) 21′×12′4″. (v) 1 row. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Leaf spot in early stages. Folidol and Fungi Copper mixture sprayed. (iii) Grain and straw yield. (iv) (a) No. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2390 lb./ac. (ii) 129.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8
Av. yield	2342	2381	2298	2362	2456	2393	2472	2420

S.E./mean = 64.7 lb./ac.

Crop :- Paddy. **Ref :- Ms. 59(143).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To compare the effect of seedlings raised from heavy and light seeds on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) G.M. crop. (c) N.A. (ii) (a) Laterite, loamy in texture. (b) Refer soil analysis, Mangalore. (iii) 23.10.1959. (iv) (a) Ploughing, puddling and levelling. (b) Transplanting. (c) 15 to 18 kg./ac. (d) 8″×8″. (e) 4. (v) 5070 lb./ac. of G.M.+190 lb./ac. of Super+51 lb./ac. of Mur. Pot.+22 lb./ac. of Urea. (vi) Mgl—6. (vii) Unirrigated. (viii) One intercultivation by rotary weeder. (ix) 9.74″. (x) 27.1.1960.

2. TREATMENTS :

T_1=Heavy seed which sinks in 20% salt solution.
T_2=Light seed which sinks in 10% salt solution.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 18. (iv) (a) and (b) 2′×10′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Earhead bugs were observed—Controlled by dusting Gammexane. (iii) Height measurements of plants and no. of tillers. Grain and straw yield. (iv) (a) 1959—1962. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3418 lb /ac. (ii) 276.6 lb./ac. (iii) Treatment difference is significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2
Av. yield	3519	3318

S.E./mean = 65.2 lb./ac.

Crop :- Paddy. **Ref :- Ms. 59(142).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To compare the effect of seedlings raised from heavy and light seeds on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) G.M. crop. (c) N.A. (ii) (a) Laterite, loamy in texture. (b) Refer soil analysis, Mangalore. (iii) As per treatments. (iv) (a) Ploughing, puddling and levelling. (b) Transplanting. (c) 15 to 18 kg /ac. (d) 8″×8″. (e) 4. (v) 5070 lb./ac. of G.M.+190 lb./ac. of Super+51 lb./ac. of Mur. Pot.+22 lb./ac. of Urea. (vi) MTU—3. (vii) Unirrigated. (viii) Intercultivation by rotary weeder once. (ix) 150.45″. (x) 4.10.1959.

2. TREATMENTS :

Same as in expt. no. 59(143) on page 140.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 4. (iv) (a) and (b) $21\frac{1}{2}' \times 11\frac{5}{8}'$. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Earhead bugs were observed—Controlled by dusting Gammexane. (iii) Height of plants, no. of tillers, grain and straw yield. (iv) (a) 1959—1962. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2431 lb./ac. (ii) 289.4 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2
Av. yield	2641	2220

S.E./mean = 144.9 lb./ac.

Crop :- Paddy *(Kharif).* **Ref :- Ms. 57(125).**

Site :- Agri. Res. Stn., Mugad. **Type :- 'C'.**

Object :—To find out the economic seed rate as a major factor under improved method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Mugad. (iii) 17.6.1957. (iv) (a) Ploughing, harrowing and clod crushing. (b) to (e) As per treatments. (v) 5 C.L./ac. of F.Y.M. (vi) M—141 (late) (vii) Unirrigated. (viii) Weeding, intercultur.ng and *hodatha*. (ix) 44.10″. (x) 7.12.1957.

2. TREATMENTS :

T_1=Drilling 12″ apart+60 lb. of seeds/ac. T_2=Dibbling 9″×9″ apart+32 lb. of seeds/ac. with 6 seeds/dibble, and T_3=Dibbling 12″×6″ apart+24 lb./ac. of seed with 4 seeds/dibble.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) 40′×36′. (iii) 6. (iv) (a) 40′×12′. (b) For T_1=27′×8′, T_2=24′×9′ and T_3=27′×8′. (v) 4 rows. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1957—N.A. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2309 lb./ac. (ii) 363.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3
Av. yield	2161	2173	2594

S.E./mean = 148.4 lb./ac.

Crop :- Paddy *(Kharif).* **Ref :- Ms. 58(99).**

Site :- Agri. Res. Stn., Mugad. **Type :- 'C'.**

Object :—To find out the economic seed rate as a major factor under improved method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Mugad. (iii) 1.6.1958. (iv) Ploughing, harrowing and clod crushing. (b) to (e) As per treatments. (v) 5 C.L./ac. of F.Y.M. (vi) M—141 (late). (vii) Unirrigated. (viii) Weeding, interculturing and *hodatha.* (ix) 49.70". (x) 26.11.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(125) on page 141.

5. RESULTS :

(i) 2742 lb./ac. (ii) 493.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3
Av. yield	2745	2885	2596

S.E./mean = 201.5 lb./ac.

Crop :- Paddy *(Kharif).* **Ref :- Ms. 59(6).**

Site :- Agri. Res. Stn., Mugad. **Type :- 'C'.**

Object :—To find out the economic seed rate under improved method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Medium black. (b) Refer soil analysis, Mugad. (iii) 23.5.1959. (iv) (a) Ploughing, harrowing and clod crushing. (b) to (e) As per treatments. (v) 5 C.L./ac. of F.Y.M. (vi) M—141 (late). (vii) Unirrigated. (viii) Interculturing. (ix) 54.60". (x) 18.12.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 27(125) on page 141 except that in T_1 the spacing is 18" instead of 12".

3. RESULTS :

(i) 4504 lb./ac. (ii) 285.2 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3
Av. yield	4638	4571	4302

S.E./mean = 116.4 lb./ac.

Crop :- Paddy. **Ref :- Ms. 54(68).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'C'.**

Object :—To test the merits of line planting over ordinary planting.

1. BASAL CONDITIONS :

(i) (a) No. (b) G.M. crop. (c) 50 lb./ac. of Triple Super. (ii) (a) Stoney and gravelly. (b) Refer soil analysis, Nagenahalli. (iii) 28.5.1954/28.6.1954. (iv) (a) Ploughing with iron mould board plough and levelling with country *halube*. (b) Transplanting behind final ploughing. (c) 15 srs./ac. (d) As per treatments. (e) 2 to 3. (v) G.M.+100 lb./ac. of A/S at planting+50 lb./ac. of A/S on 25.8.1954. (vi) S—1092 (late). (vii) Irrigated. (viii) Weeding. (ix) 22.96". (x) 4.12.1954.

2. TREATMENTS :

T_1=Ordinary planting (local method) with 6" to 8" of spacing.
T_2=Line planting with 8" to 10" spacing.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/50 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height of plant, no. of tillers, grain and straw yield. (iv) (a) 1954—1957. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 2913 lb./ac. (ii) 458.0 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2
Av. yield	2763	3063

S.E./mean = 229.0 lb./ac.

Crop :- Paddy. **Ref :- Ms. 54(69).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'C'.**

Object :—To test the merits of line planting over ordinary planting.

1. BASAL CONDITIONS :

(i) (a) No. (b) G.M. crop. (c) 50 lb./ac. of Triple Super. (ii) (a) Stoney and gravelly. (b) Refer soil analysis, Nagenahalli. (iii) 23.6.1954/24.7.1954. (iv) (a) Ploughing with iron mould board plough and levelling with country *halube*. (b) Transplanting behind final ploughing. (c) 25 seers/ac. (d) As per treatments. (e) 2 to 3 seedlings. (v) G.M.+100 lb./ac. of A/S at planting+50 lb./ac. of A/S on 15.4.1954. (vi) S—1092 (late). (vii) Irrigated. (viii) Weeding. (ix) 22.96". (x) 21.12.1954.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(68) above except that the no. of replication is 5.

5. RESULTS :

(i) 3495 lb./ac. (ii) 372.0 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2
Av. yield	3550	3440

S.E./mean = 166.4 lb./ac.

Crop :- Paddy. **Ref :- Ms. 55(61).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'C'.**

Object :—To test the merits of line planting over ordinary planting.

1. BASAL CONDITIONS :

(i) (a) No. (b) G.M. crop. (c) 50 lb./ac. of Triple Super. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 1.6.1955/27.6.1955. (iv) (a) Ploughing with iron mould board plough and levelling with country *halube*. (b) Planting behind final ploughing. (c) 15 srs/ac. (d) As per treatments. (e) 2 to 3. (v) G.M.+100 lb./ac. of A/S at planting+50 lb./ac. of A/S after another one month. (vi) S—1092 (late). (vii) Irrigated. (viii) Weeding. (ix) 23.75". (x) 7.12.1955.

2. TREATMENTS to 4. GENERAL :

Sams as in expt. no. 54(68) on page 143.

5. RESULTS :

(i) 2605 lb./ac. (ii) 141.2 lb./ac. (iii) Treatment difference is significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2
Av. yield	2420	2790

S.E./mean = 70.6 lb./ac.

Crop :- Paddy. **Ref :- Ms. 56(64).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'C'.**

Object :—To test the merits of line planting over ordinary planting.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) G.M. crop. (c) 50 lb./ac. of Triple Super. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 12.6.1956/6.7.1956. (iv) (a) Ploughing with iron mould board plough and levelling. (b) N.A. (c) 10 to 15 srs./ac. (d) As per treatments. (e) 2 to 3. (v) G.M.+100 lb./ac. of A/S at planting+50 lb./ac. of A/S after another 1 month. (v) S—1092 (late). (vii) Irrigated. (viii) Hand weeding. (ix) 18.39". (x) 11.12.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(68) on page 143.

5. RESULTS :

(i) 3350 lb./ac. (ii) 614.4 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2
Av. yield	3125	3375

S.E./mean = 307.2 lb./ac.

Crop :- Paddy. **Ref :- Ms. 57(21).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'C'.**

Object :—To study the merits of line planting over ordinary planting.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) F.Y.M at 5000 lb./ac.+G.M. at 2000 lb./ac.+Triple Super at 50 lb./ac.+A/S at 150 lb./ac. (ii) (a) Sandy loam. (b) N.A. (iii) 12.6.1957/6.7.1957. (iv) (a) Ploughing with iron mould board plough and levelling. (b) N.A. (c) 10 to 15 srs./ac. (d) 6"×10" to 8"×10". (e) 2 to 3. (v) Triple Super at 50 lb./ac. at the time of sowing G.M. on 2.4.1957 and G.M. at 5000 lb./ac.+$(NH_4)_2SO_4$ at 100 lb./ac. just before planting. (vi) S—1092 (late). (vii) Irrigated. (viii) Hand weeding. (ix) 11.74", (x) 7.12.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(68) on page 143.

4. GENERAL :

(i) Satisfactory (ii) Crop suffered from neck rot—no control measures taken. (iii) Yield data. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3025 lb./ac. (ii) 428.2 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2
Av. yield	2875	3175

S E /mean = 214.1 lb./ac.

Crop :- Paddy. **Ref :- Ms. 54(71).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'C'.**

Object :—To find the relative merits of weeding with hand rake and Japanese weeder.

1. BASAL CONDITIONS :

(i) (a) No. (b) G.M. crop. (c) 50 lb./ac. of Triple Super. (ii) (a) Sandy loam, stony and gravelly. (b) Refer soil analysis, Nagenahalli. (iii) 29.5. 1954/29.6.1954. (iv) (a) Ploughing by means of iron mould board plough and levelling with country halube. (b) Transplanting behind final ploughing. (c) 15 srs/ac. (d) 8″×10″. (e) 2 to 3. (v) G.M.+150 lb./ac. of A/S at planting and 4 weeks later. (vi) S.—749 (late). (vii) Irrigated. (viii) As per treatments. (ix) 22.96″. (x) 18.12.1954.

2. TREATMENTS :

2 methods of weeding : M_1=With Japanese weeder and M_2=With hand rake.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 4. (iv) (a) 1/20 ac. (b) 1/25 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height of plants, no. of tillers, grain and straw weight. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3231 lb./ac. (ii) 323.0 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2
Av. yield	3375	3088

S.E./mean = 161.5 lb./ac.

Crop :- Paddy. **Ref :- A.P. 55(59).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'C'.**

Object :—To find the relative merits of weeding with hand rake and Japanese weeder.

1. BASAL CONDITIONS :

(i) (a) No. (b) G.M. crop. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 6.6.1955/1.7.1955. (iv) (a) Ploughing with iron mould board plough and levelling with country halube. (b) Transplanting behind final ploughing. (c) 10 srs/ac. (d) 10″×10″. (e) 2 to 3. (v) G.M.+100 lb./ac. of A/S at planting+50 lb./ac. of A/S another 1 month afterwards. (vi) S.—749 (late). (vii) Irrigated. (viii) As per treatments. (ix) 23.75″. (x) 10.12.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no 54(71) above except that the net plot sige is 1/40 ac.

5. RESULTS :

(i) 344.0 lb./ac. (ii) 209.2 lb./ac. (iii) Treatment differences are not significant.

Treatment	M_1	M_2
Av. yield	4020	3660

S.E./mean = 104.6 lb./ac.

Crop :- Paddy. **Ref :- Ms. 56(66).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'C'.**

Object :—To find the relative merits of weeding with hand rake and Japanese weeder.

1. BASAL CONDITIONS :

(i) (a) No. (b) G.M. crop. (c) 50 lb./ac. of Triple Super. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 13.6.1956/9.7.1956. (iv) (a) Ploughing with iron mould board plough and leveling. (b) N.A. (c) 10 srs./ac. (d) 10"×10". (e) 2 to 3. (v) 5000 lb./ac. of F.Y.M.+100 lb./ac. of A/S at planting +50 lb./ac. of A/S after 4 weeks. (vi) S—749 (late). (vii) Irrigated. (viii) As per treatments. (ix) 18.39". (x) 14.12.1956.

2. TREATMENTS :

Same as in expt. no. 54(71) on page 145.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 4. (iv) (a) and (b) 1/50 ac. (v) No. (vi) Yes.

4. GENERAL :

(i) G.M. crop had failed. (ii) Nil. (iii) Yield data. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3837 lb./ac. (ii) 530.3 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2
Av. yield	4075	3600

S.E./mean = 265.2 lb./ac.

Crop :- Paddy. **Ref :- Ms. 57(22).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'C'.**

Object :—To find the relative merits of weeding with hand rake and Japanese weeder.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) G.M. crop. (c) 50 lb./ac. of Triple Super. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 14.6.1957/10.7.1957. (iv) (a) Ploughing with iron mould board plough and levelling. (b) Planting behind final ploughing (c) 10 srs./ac. (d) 10"×10". (e) 2 to 3. (v) G.M.+100 lb /ac. of A/S at planting+50 lb./ac. of A/S 4 weeks later. (vi) S—749 (late). (vii) Irrigated. (viii) As per treatments. (ix) 11.47". (x) 7.12.1957.

2. TREATMENTS :

Same as in expt. no. 54(71) on page 145.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 4. (iv) (a) and (b) 1/50 ac. (v) No. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Infected by stem-borer—No control measures taken. (iii) Grain yield. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3375 lb./ac. (ii) 219.8 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2
Av. yield	3500	3250

S.E./mean = 109.9 lb./ac.

Crop :- Paddy. **Ref :- Ms. 54(70).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'C'.**

Object :—To test the efficiency of Japanese weeder over hand weeding.

1. BASAL CONDITIONS :

(i) (a) No. (b) G.M. crop. (c) 50 lb./ac. of Triple Super. (ii) (a) Stoney and gravelly. (b) Refer soil analysis. Nagenahalli. (iii) 28.5.1954/25.6.1954. (iv) (a) Ploughing by means of iron mould board plough. Levelling by means of country halube. (b) Transplanting behind final ploughing. (c) 15 srs./ac. (d) 8″×10″. (e) 2 to 3. (v) G.M.+100 lb./ac. of A/S at planting.+50 lb./ac. of A/S 4 weeks later. (vi) S—1092 (late). (vii) Irrigated. (viii) As per treatments. (ix) 22.96″. (x) 8.12.1954.

2. TREATMENTS :

2 methods of weeding : M_1=With Japanese weeder and M_2=Hand weeding.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 4. (iv) (a) 1/20 ac. (b) 1/25 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height, no. of tillers, grain and straw weight (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2956 lb./ac. (ii) 450.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2
Av. yield	2994	2919

S.E./mean = 225.4 lb./ac.

Crop :- Paddy. **Ref :- Ms. 55(60).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'C'.**

Object :—To test the efficiency of Japanese weeder over hand weeding.

1. BASAL CONDITIONS :

(i) (a) No. (b) G.M. crop. (c) Triple Super at 50 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 1.6.1955/27.6.1955. (iv) (a) Ploughing with iron mould board plough. Levelling with country halube. (b) Planting behind final ploughing. (c) 10 srs./ac. (d) 10″×10″. (e) 2 to 3. (v) G.M.+100 lb./ac. of A/S at planting and 50 lb./ac. after 4 weeks. (vi) S—1092 (late). (vii) Irrigated. (viii) As per treatments. (ix) 23.75″. (x) 8.12.1955.

2. TREATMENTS :

Same as in expt. no 54(70) above.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 4. (iv) (a) 1/25 ac. (b) 1/40 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height, no. of tillers, grain and straw weight. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3515 lb./ac. (ii) 794 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2
Av. yield	3720	3310

S.E./mean = 397 lb./ac.

Crop :- Paddy. **Ref :- Ms. 56(65).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'C'.**

Object :—To test the efficiency of Japanese weeder over hand weeding.

1. BASAL CONDITIONS :

(i) (a) No. (b) G.M. crop. (c) 50 lb./ac. of Triple Super. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 12.6.1956/7.7.1956. (iv) (a) Ploughing with iron mould board ploughs. (b) N.A. (c) 10 srs./ac. (d) 10″×10″. (e) 2 to 3. (v) G.M.+5000 lb./ac. of F.Y.M.+100 lb./ac. of A/S at planting and 50 lb./ac. after 4 weeks. (vi) S—1092(late). (vii) Irrigated. (viii) As per treatments. (ix) 18.39″. (x) 12.12.1956.

2. TREATMENTS :

Same as in expt. no. 54(70) on page 147.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 4. (iv) (a) and (b) 1/50 ac. (v) No. (vi) Yes.

4. GENERAL :

(i) G.M. crop failed. (ii) Nil. (iii) Yield data. (iv) (a) 1954—1957. (b) Yes. (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 3919 lb./ac. (ii) 101.6 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2
Av. yield	4087	3780

S.E./mean = 50.8 lb./ac.

Crop :- Paddy. **Ref :- Ms. 57(30).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'C'.**

Object :—To find out the relative efficiency of Japanese weeder over hand weeding.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) G.M. crop. (c) 50 lb./ac. of Triple Super. (ii) (a) Sandy loam. (b) N.A. (iii) 12.6.1957/8.7.1957. (iv) (a) Ploughing with iron mould board ploughs and levelling. (b) N.A. (c) 10 srs./ac. (d) 10″×10″. (e) 2 to 3. (v) G.M.+100 lb./ac. of A/S at planting and 50 lb./ac. on 22.8.1957. (vi) S—1092 (late). (vii) Irrigated. (viii) As per treatments. (ix) 11.47″. (x) 7.12.1957.

2. TREATMENTS :

Same as in expt. no. 54(70) on page 147.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 4. (iv) (a) and (b) 1/50 ac. (v) No. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Neck rot attack. (iii) Grain yield. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3473 lb./ac. (ii) 768.6 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2
Av. yield	3633	3313

S.E./mean = 384.3 lb./ac.

Crop :- Paddy. **Ref :- Ms. 54(67).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'C'.**

Object :—To find out the comparative merits of various methods of sowing.

1. BASAL CONDITIONS :

(i) (a) No. (b) Paddy. (c) 4000 lb./ac. of farm compost+3000 lb./ac. of G.M.+150 lb./ac. of A/S+112 lb./ac. of Super. (ii) (a) Stoney and gravelly. (b) Refer soil analysis, Nagenahalli. (iii) 9.7.1954/14.8.1954. (iv) (a) Ploughing with iron mould board plough levelling with country halube. (b) As per treatments. (c) 15 srs/ac. (d) 6″×8″. (e) 2 to 3. (v) F.C. at 4000 lb./ac.+50 lb./ac. Triple Super+100 lb./ac. of A/S at planting and 50 lb./ac. of A/S 4 weeks after planting. G.M. at 4000 lb./ac. (vi) S—749 (late). (vii) Irrigated. (viii) Weeding. (ix) 22.96″. (x) 13.1.1955.

2. TREATMENTS :

3 methods of sowing : T_1=Broadcasting, T_2=Drilling and T_3=Transp'anting.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) and (b) 1/50 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height of plant, no. of tillers, grain and straw weight. (iv) (a) 1954—1958. (b) and (c) Yes. (v) to (vii) Nil.

5. RESULTS :

(i) 1244 lb./ac. (ii) 231.0 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3
Av. yield	1216	1233	1283

S.E./mean = 94.3 lb./ac.

Crop :- Paddy. **Ref :- Ms. 55(62).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'C'.**

Object :—To find out the comparative merits of various methods of sowing.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) F.C. at 4000 lb./ac., Sewage scum at 4000 lb./ac., Triple Super at 50 lb./ac.+A/S at 150 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 6.7.1955/11.8.1955. (iv) (a) Ploughing with iron mould board plough and levelling with country halube. (b) As per treatments. (c) 20 srs/ac. (d) 6″×8″. (e) 2 to 3. (v) A/S at 100 lb./ac. at sowing and 50 lb./ac. triple Super at planting. (vi) S—749 (late). (vii) Irrigated. (viii) Hand weeding once and drilled plots ridged. (ix) 23.75″. (x) 18, 22.12.1955.

2. TREATMENTS :

Same as in expt. no. 54(67) above.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1/100 ac. (v) N.A. (vi)Yes.

4. GENERAL :

(i) Satisfactory. (b) Nil. (iii) Height of plants, no. of tillers, grain and straw weight. (iv) (a) 1954—1958. (b) and (c) Yes. (v) to (vii) Nil.

5. RESULTS :

(i) 1678 lb./ac. (ii) 501 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3
Av. yield	1400	1750	1883

S.E./mean = 204.5 lb./ac.

Crop :- Paddy. **Ref :- Ms. 56(76).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'C'.**

Object :—To find out the comparative merits of various methods of sowing.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) A/S at 100 lb./ac. and triple Super at 50 lb./ac. at sowing and transplanting (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 4.7.1956/16.8.1956. (iv) (a) Ploughing with iron mould board plough and levelling. (b) As per treatments. (c) 20 srs/ac. (d) 6″.×8″. (e) 2 to 3. (v) A/S at 100 lb./ac. at sowing and 50 lb./ac. at planting. Triple Super at 50 lb./ac. at sowing and planting, 5000 lb./ac. of F.W.C. (vi) S—749. (late). (vii) Irrigated. (viii) Hand weeding. (ix) 16.29″ (x) 19 to 21.12.1956.

2. TREATMENTS :

T_1=Broadcasting on 16.8.1956, T_2=Drilling and T_3=Transplanting on 16.8.1956.
Drilled plots ridged on 25.8.1956 .

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) and (b) 1/100 ac. (v) No. (vi) Yes.

4. GENERAL :

(i) Seasonal conditions unfavourable. (ii) Nil. (iii) Height of plants, no. of tillers, Grain and straw yield. (iv) (a) 1954—1958. (b) and (c) Yes. (v) to (vii) Nil.

5. RESULTS :

(i) 1250 lb./ac. (ii) 200.8 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3
Av. yield	1017	1333	1400

S.E./mean = 82.0 lb./ac.

Crop :- Paddy. **Ref :-Ms. 57(29).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :. 'C'.**

Object :—To find out the comparative merits of various methods of sowing.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) A/S at 150 lb./ac.+Triple Super at 50 lb./ac.+Farm Compost at 5000 lb./ac. (ii) (a) Sandly loam. (b) Refer soil analysis, Nagenahalli. (iii) 18.6.1957/27.7.1957. (iv) (a) Ploughing with iron mould board plough and leveling. (b) Planting behind final ploughing. (c) 20 lb./ac. (d) 6″×8″. (e) 2 to 3. (v) Farm Compost applied at 5000 lb./ac. on 10.6.1957. A/S at 100 lb./ac. Triple Super at 50 lb./ac. at the time of G.M. seed sowing. A/S at 100 lb./ac. on 22.8 1957. Drilled plots ridged on 19.8.1957. (vi) S—749 (Medium) (vii) Irrigated. (viii) Hand weeding. (ix) 8.74″. (x) 19.12.1957.

2. TREATMENTS :

Same as in expt. 54(67) on page 149.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) and (b) 1/100 ac. (v) No. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Impeded by stem borer—No control measures were taken. (ili) Grain yield. (iv) (a) 1954—1958. (b) and (c) Yes. (v) to (vii) Nil.

5. RESULTS :

(i) 1489 lb /ac. (ii) 137.5 lb./ac. (iii) Treatments differ significantly (iv) Av. yield of grain in lb./ac.

Treatments	T_1	T_2	T_3
Av. yie'd	1300	1500	1667

S.E./mean = 56.1 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(5).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'C'.**

Object :—To find out the comparative merits of various methods of sowing.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) A/S at 150 lb./ac.+Triple Super at 50 lb./ac.+Farm compost at 5000 lb./ac. (ii) (a) Sandy loam. (ii) (b) N.A. (iii) 24.6.1958/24.7.1958. (iv) (a) Ploughing with iron mould board plough and levelling. (b) Planting behind the final ploughing. (c) 20 lb./ac. (d) 6"×8". (e) 2 to 3. (v) Farm Compost applied at 5000 lb./ac. on 23.6.1951. A/S at 100 lb./ac.+Super at 75 lb /ac. at the time of G.M. seeds sowing. A/S given at the time of 1st weeding for broadcast and transplanted plots, surface application and within the ridge in the drilled plots. Drilled plots ridged at 3 times for a fortnight interval. (vi) S—749. (vii) Irrigated. (viii) Nil. (ix) 17.71". (x) 21.12.1958.

2. TREATMENTS :

Same as in expt. no. 54(67) on page 149.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) and (b) 1/100 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—1958. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1633 lb./ac. (ii) 215.2 lb./ac. (iii) The treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3
Av. yield	1466	1550	1883

S.E/mean = 87.9 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(192).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'C'.**

Object :—To study the merits of different methods of Paddy cultivation on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy. (b) G.M.crop. (c) 75 lb./ac. of Super. (ii) Red sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 10.7.1959/4,5.8.1959. (iv) (a) to (e) As per treatments. (v) 5000 lb./ac. of G.M. and 5000 lb./ac. of F.C. (vi) S—1092 (late). (vii) Irrigated. (viii) As per treatments. (ix) 14.08". (x) 26.12.1959.

2. TREATMENTS :

3 methods of manuring : M_1=Chinese method : 1. Seed selection by use of 20% concentration of salt solution. 2. Steeping of seed in sodium bicarbonate solution of 4.8 strength for 2 days. 3. Seed rate 22 lb./ac. 4. A/S applied at 5—11 lb./ac. 5 days before transplanting or dipping seedlings in Am. sulphate solution just before transplanting. 5. Close planting 6"×9" and 4—5 seedling/hill. 6. A/S at 100 lb./ac. at planting. Top dressing 50 lb./ac. at first weeding and 50 lb./ac. at the time of emergence of panicles. 7. Passing weeder. 2 weeks after planting and small implements, hand weeding after 6 weeks.

M_2=Japanese method : 1; Seed selection by use of 20% concentration of common salt. 2. Seed rate 15 lb./ac. 3. Nursery. A/S at 8 lb./ac. and at 12 lb./ac. 4. Planting 10"×9" apart and 2 seedlings per hill. 5. A/S applied 100 lb./ac. after one month. 6. Passing Japanese weeder after 3 weeks and 6 weeks.

and M_3=Local method : Seed rate 30 lb./ac. Flat beds, bulk planting, hand weeding, 3—4 Seedlings/hill.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) 32'×98'. (iii) 6. (iv) (a) 30'×30'. (b) for M_1 : 28'×28' : for M_2 : 26'8"×26'8" and for M_3 : 27'2"×27'2". (v) and (vi) Yes.

4. GENERAL :

(i) The crop under M_1 lodged at flowering stage and that under M_2 after grain formation. (ii) Severe *piricularia* in chinese, mild in Japanese and local—sprayed Solbar. (iii) No. of ears and length of individual ears, height measurements and tiller counts of plants. (iv) (a) 1957—1961. (b) Yes. (c) Nil. (v) (a) Mangalore. (b) N.A. (vi) Heavy rain during Oct. and Nov., 1959. (vii) Nil.

5. RESULTS :

(i) 3500 lb./ac. (ii) 225.8 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	3398	3757	3344

S.E./mean = 92.2 lb./ac.

Crop :- Paddy. **Ref :- Ms. 55(40).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'C'.**

Object :—To compare Japanese method of line planting and working paddy weeder with normal planting and hand weeding.

1. BASAL CONDITIONS :

(i) (a) Paddy—G.M.—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+40 lb./ac. of P_2O_5 as B.D.+40 lb./ac. of N as top dressing. (ii) (a) Heavy black clayey soil. (b) Refer soil analysis, Siruguppa. (iii) 2.7.1955/ 4.8.1955. (iv) (a) Puddling 3 to 4 times, applying 5000 lb./ac. of G.L. and 40 lb./ac. of phos. phoric acid and transplanting. (b) As per treatments. (c) —. (d) and (e) N.A. (v) 5000 lb./ac. of G.L.+40 lb./ac. of P_2O_5 as B.D.+40 lb./ac. of N as top dressing. (vi) GEB—24 (long duration). (vii) Irrigated. (viii) As per treatments. (ix) 27.84″. (x) 21.12.1955.

2. TREATMENTS :

T_1=Bulk planting and weeding by human labour.
T_2=Japanese method of line planting and working paddy weeder.
T_3=Line planting and weeding by human labour.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 1/100 ac. (b) 1/200 ac. (v) Yes ; Dimensions N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—1957. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 3429 lb./ac. (ii) 294 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3
Av. yield	3406	3530	3352

S.E./mean = 103.9 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(109).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'C'.**

Object :—To compare Japanese method of line planting and working paddy weeder with normal planting and hand weeding.

1. BASAL CONDITIONS :

(i) (a) G.M. crop. (b) G.M. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) 21.7.1956 (iv) (a) Ploughing. (b) N.A. (c) 7½ srs/ac. (d) 10″×10″. (e) 2. (v) Basal dressing of 10,000 lb./ac. of G L.+40 lb./ac. of P_2O_5. (vi) GEB—24 (medium). (vii) Irrigated. (vii) As per treatments. (ix) 32.42″ (x) 20.12.1956.

2. TREATMENTS :

T_1=Normal planting (local method).
T_2=Line planting and working paddy hand weeder.
T_3=Line planting and hand weeding.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 22′×18′10″. (b) 12′2″×18′. (v) 2 rows on either side. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) and (iii) Nil. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3001 lb./ac. (ii) 483.1 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3
Av. yield	2416	3412	3176

S.E./mean = 170.8 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(95).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'C'.**

Object :—To find out whether increased yields are obtained by Japanese method of line planting of Paddy and working hand weeder.

1. BASAL CONDITIONS :

(i) (a) G.M. crop. (b) G.M. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) 31.7.1957. (iv) (a) Plouging and puddling. (b) Transplanting. (c) 7½ srs/ac. (d) 10″×10″. (e) 2. (iv) (v) 5000 lb. of G.L. and 40 lb./ac. P_2O_5+40 lb./ac. of N as A/S top dressed. (vi) GEB—24 (medium). (vii) Irrigated. (viii) As per treatments. (ix) 18.27″. (x) 15.12.1957.

2. TREATMENTS :

Same as in expt. no. 55(40) on page 152.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 22′×19′10″. (b) 11′×9′11″. (v) N.A. (v) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain and fodder yield. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2974 lb./ac. (ii) 280.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grainin lb./ac.

Treatment	T_1	T_2	T_3
Av. yield	2769	3074	3078

S.E./mean = 99.0 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(37).**

Site :- Agri. Res. Stn., Sirsi. **Type :- 'C'.**

Object :—To study the optimum combination of spacing and the number of seedilngs per hole for Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L./ac. of F.Y.M.+100 lb./ac. of A/S+120 lb./ac. of Super. (ii) (a) Sandy soil. (b) N.A. (iii) 1.6.1959. (iv) Ploughing. (b) Transplanting. (c) N.A. (d) and (e) As per treatments. (v) 5 C L. ac. of F.Y.M.+50 lb./ac. A/S+120 lb./ac. Super. (vi) WH—1690. (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 141.43″. (x) 7.12.1959.

2. TREATMENTS :

Main-plot treatments :

5 levels of seedings/hole : $S_1=2$, $S_2=4$, $S_3=6$, $S_4=8$ and $S_5=10$.

Sub-plot treatments :

5 spacings : $S_1'=6''\times6''$, $S_2'=6''\times9''$, $S_3'=6''\times12''$, $S_4'=9''\times9''$ and $S_5'=12''\times12''$.

3. DESIGN :

(i) Split-plot. (ii) (a) 5 main-plots/replication ; 5 sub-plots/main-plot. (b) 60′×45′. (iii) 4. (iv) (a) and (b) 12′×9′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Fairly good. (ii) Blue beetle incidence in the early stages—B.H.C. sprayed. (iii) No. of effective tillers and panicle length. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2739 lb./ac. (ii) (a) 338 0 lb./ac. (b) 431.0 lb./ac. (iii) S effects are significant and S′ effects are highly significant. (iv) Av. yield of grain in lb./ac.

	S_1	S_2	S_3	S_4	S_5	Mean
S_1'	3146	2872	2758	3324	3281	3076
S_2'	2683	2922	2827	2729	2895	2811
S_3'	2538	2754	2824	3001	3032	2830
S_4'	2426	2750	2731	2885	2671	2693
S_5'	1918	2250	2327	2603	2329	2285
Mean	2542	2710	2693	2908	2841	2739

S.E. of difference of two

1. S marginal means = 106.9 lb./ac.
2. S′ marginal means = 136.3 lb./ac.
3. S′ means at the same level of S = 304.7 lb./ac.
4. S means at ths same level of S′ = 292.7 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(86).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'CV'.**

Object :—To find out the best period for sowing, best variety and optimum spacing for Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Groundnut—Gram. (b) Gram. (c) 20 lb./ac. of P_2O_5. (ii) (a) Medium black. (b) N.A. (iii) As per treatments. (iv) (a) 1 ploughing and 4 harrowings. (b) Drilling. (c) 50 lb./ac. (d) As per treatments. (e) N.A. (v) N.A. (vi) As per treatments. (vii) Irrigated. (viii) Hoeing and hand weeding. (ix) 21.60″. (x) December, 1953 and January, 1960.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 4 dates of sowing : $D_1=10.6.1959$, $D_2=14.6.1959$, $D_3=8.7.1959$ and $D_4=22.7.1959$.

(2) 4 varieties : $V_1=DP_2$, $V_2=DP_{17}$, $V_3=DP_{21}$ and $V_4=DP_{33}$.

(3) 4 spacings between rows : $S_1=6''$, $S_2=9''$ $S_3=12''$ and $S_4=15''$.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 64. (b) N.A. (iii) 1. (iv) (a) 38′×17′. (b) 36′×15′. (v) 1′×1′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers and lengths of panicles and grain yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 944 lb./ac. (ii) 482.9 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	S_1	S_2	S_3	S_4	Mean	V_1	V_2	V_3	V_4
D_1	1308	1520	564	1075	1117	1054	1259	1129	1025
D_2	1028	1123	832	802	946	1244	1293	673	575
D_3	943	1265	783	1139	1032	1016	1021	1432	662
D_4	746	611	800	567	681	844	717	548	615
Mean	1006	1130	745	896	944	1040	1072	946	719
V_1	885	1458	1042	773					
V_2	1219	935	1012	1124					
V_3	1132	1073	479	1099					
V_4	790	1054	445	587					

S.E. of any marginal mean = 120.7 lb./ac.
S.E. of body of any table = 241.5 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(87).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'CV'.**

Object :—To find out the best period for sowing, best variety and optimum spacing for Paddy.

1. BASAL CONDITIONS :

(i) (a) Groundnut—Paddy. (b) Groundnut. (c) 20 lb./ac. of P_2O_5. (ii) (a) Medium black. (b) N.A. (iii) As per treatments. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 50 lb./ac. (d) As per treatments. (e) N.A. (v) 2 tons of F.Y.M.+200 lb. of A/S and 100 lb. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Hoeing. (ix) 16.36″. (x) December, 1959.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 dates of sowing : D_1=10.6.1959, D_2=20.6.1959 and D_3=30.6.1959.
(2) 3 spacings between rows : S_1=9″, S_2=12″ and S_3=15″.
(3) 3 varieties : V_1=DP_2 (very early), V_2=DP_{17} (early) and V_3=DP_{33} (medium).

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block and 3 blocks/replication. (b) N.A. (iii) 3. (iv) (a) 22′×17′. (b) 20′×15′. (v) 1′×1′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Stem-borer attack at late stages. Control measures not taken. (iii) Biometric observations and yield of grain. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1024 lb./ac. (ii) 327.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	V_3	Mean	S_1	S_2	S_3
D_1	1037	1250	901	1063	1041	1113	1034
D_2	1081	1089	1097	1089	958	1099	1210
D_3	1022	897	845	921	911	960	893
Mean	1047	1079	948	1024	970	1057	1046
S_1	1000	1073	837				
S_2	1087	1073	1012				
S_3	1053	1091	994				

S.E. of any marginal mean = 63.0 lb./ac.
S.E. of body of table = 109.2 lb./ac.

Crop :- Paddy (1st crop). **Ref :- Ms. 59(148).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'CV'.**

Object :—To study the effect of aged seedlings *vs.* young seedlings on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Laterite loamy. (b) Refer soil analysis, Mangalore. (iii) As per treatments. (iv) (a) Ploughing,puddling and levelling. (b) Transplanting. (c) 33 to 40 lb./ac. (d) 8″×8″. (e) N.A. (v) 2300 lb./ac. of G.M.+189 lb./ac. of Super+50 lb./ac. of Mur. Pot.+22 lb./ac. of Urea. (vi) As per treatments. (vii) Unirrigated. (viii) 1 intercultivation by rotary weeder. (ix) 150.45″. (x) 18.10.1959.

2. TREATMENTS :

Main-plot treatments :

2 varieties : V_1=MTU_{20} and V_2=PTB_9.

Sub-plot treatments :

2 seedlings : S_1=Aged seedlings sown on 4.5.1959 and 15.5.1959 for V_1 and V_2 respectively, and S_2= Young seedlings sown on 20.5.1959 and 28.5.1959 for V_1 and V_2 respectively.

3. DESIGN :

(i) Split-plot. (ii) 2 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) 20′×5′4″. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Heavy attack of leaf roller. Controlled by spraying Folidol. (iii) Grain and straw yield. (iv) 1959—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2704 lb./ac. (ii) (a) 434.4 lb./ac. (b) 430.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	S_1	S_2	Mean
V_1	2612	2653	2632
V_2	2851	2698	2775
Mean.	2732	2675	2704

S.E. of difference of two

1. V marginal means = 177.3 lb./ac.
2. S marginal means = 175.7 lb./ac.
3. S means at the same level of V = 248.5 lb./ac.
4. V means at the same level of S = 249.6 lb./ac.

Crop :- Paddy (2nd crop). **Ref :- Ms. 59(149).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'CV'.**

Object :—To study the effect of aged seedlings *vs.* young seedlings on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Laterite loamy texture. (b) Refer soil analysis, Mangalore. (iii) As per treatments. (iv) (a) Ploughing, puddling and levelling. (b) Transplanting. (c) 33 to 40 lb./ac. (d) 8″×8″. (e) 4. (v) 2300 lb./ac. of G.M.+189 lb./ac. of Super+221 b./ac. of Urea+50 lb./ac. of Mur. Pot. (vi) As per treatments. (vii) Unirrigated. (viii) 1 intercultivation by rotary weeder. (ix) 9.74″. (x) 5.1.1960 and 25.1.1960.

2. TREATMENTS :

Main-plot treatments :

2 varieties : V_1=Mg_{16} and V_2=GEB_{24}.

Sub-plot treatments :

2 seedlings : S_1=Aged seedlings sown on 31.8.1959 and S_2=Young seedlings sown on 21.9.1959.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) 20′×5′4″. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Heavy attack of leaf roller. Controlled by dusting Gammaxene. (iii) Grain and straw yield. (iv) (a) 1959—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1139 lb./ac. (ii) (a) 133.1 lb./ac. (b) 75.1 lb./ac. (iii) Main effect of S is highly significant. Main effect of V and interaction V×S are significant. (iv) Av. yield of grain in lb./ac.

	S_1	S_2	•Mean
V_1	872	1254	1063
V_2	1108	1320	1214
Mean	990	1287	1139

S.E. of difference of two

1. V marginal means = 54.3 lb./ac.
2. S marginal means = 30.7 lb./ac.
3. S means at the same level of V = 43.4 lb./ac.
4. V means at the same level of S = 62.4 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(143).**

Site :- Agri. College Farm, Dharwar. **Type :- 'CM'.**

Object :—To study the effect of G.M. on Paddy crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Medium black. (ii) Refer soil analysis, Dharwar. (iii 9.7.1956. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 40 lb./ac. (d) 12″ between rows. (e) N.A. (v) N.A. (vi) A—200 (late). (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 25.5″. (x) 22.12.1956.

2. TREATMENTS :

All combinations of (1) and (2) + one extra treatment.

(1) 2 sources of G.M. : G_1=*Dhaincha* and G_2=Sannhemp.

(2) 2 levels of placement : P_1=Between two lines of paddy and P_2=On the same line as paddy.

Extra treatment T=paddy only.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 40′×20′. (b) 28′×14′. (v) 6′×3′. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 498 lb./ac. (ii) 178.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

T = 491 lb./ac.

	P_1	P_2	Mean
G_1	537	593	565
G_2	537	333	435
Mean	537	463	500

S.E. of marginal means of G or P = 51.5 lb./ac.
S.E. of body of table = 72.8 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(117).**

Site :- Agri. College Farm, Dharwar. **Type :- 'CM'.**

Object :—To study the effect of G.M. on Paddy crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) Medium black. (b) Refer soil analysis, Dharwar. (iii) 14.7.1957. (iv) (a) Ploughing and harrowing. (b) Drilling (c) 40 lb./ac. (d) 12″ between rows. (e) —. (v) 40 lb./ac. of F.Y.M. (vi) N.A. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 63.7″. (x) 28.12.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no 56(143) on page 157.

5. RESULTS :

(i) 1608 lb./ac. (ii) 462.3 lb./ac. (iii) Only P effect is significant and T *vs.* 'others' is highly significant. (iv) Av. yield of grain in lb./ac.

T = 1982 lb./ac.

	P_1	P_2	Mean
G_1	1815	1370	1592
G_2	1685	1185	1435
Mean	1750	1278	1514

S.E. of marginal means of P or G = 133.4 lb./ac.
S.E. of body of table = 188.7 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(239)**

Site :- Agri. Res. Stn., Kumta. **Type :- 'CM'.**

Object :-To find the optimum spacing and optimum level of manuring for Paddy.

1. BANSAL CONDITIONS :

(i) (a) Paddy—Fallow—Paddy. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Laterite. (b) Refer soil analysis, Kumta. (iii) 26.5.1954/25.6.1954. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) As per treatments. (e) 8. (v) Nil. (vi) Red Halaga 244. (vii) Unirrigated. (viii) Weeding. (ix) 175.96". (x) 8.11.1954.

2. TREATMENTS :

All combinations of (1), (2), (3) and (4)

(1) 3 levels of P_2O_5 as B.M. : P_1=64, P_2=96 and P_3=128 lb./ac.
(2) 2 levels of N as A/S+G.N.C. in 1 : 2 ratio : N_0=O and N_1=32 lb./ac.
(3) 2 levels of F.Y.M. : F_1=5, and F_2=10 C.L./ac.
(4) 2 levels of spacings : S_1=8"×8" and S_2=10"×10".

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 24. (b) N.A. (iii) 3. (iv) (a) 36'8"×16'8". (b) 30'×10'. (v) 5 rows. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height of plants, no. of bearing earheads, grain and straw yield. (iv) (a) 1952—1954. (b) N.A. (c) Nil. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2923 lb./ac. (ii) 281.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	F_1	F_2	S_1	S_2	Mean
P_1	2849	2846	2796	2898	2840	2854	2847
P_2	2871	2896	2955	2812	2866	2900	2883
P_3	2961	3110	2992	3079	3010	3061	3035
Mean	2894	2951	2914	2930	2905	2938	2922
S_1	2873	2936	2926	2885			
S_2	2912	2963	2903	2975			
F_1	2897	2932					
F_2	2890	2970					

S.E. of N, F or S marginal means = 46.9 lb./ac.
S.E. of P marginal mean = 57.5 lb./ac.
S.E. of body of N×P, S×P or F×P table = 81.3 lb./ac.
S.E. of body of N×S, F×S or N×F table = 66.4 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(238).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'CM'.**

Object :—To compare the effects of Japanese, local and departmental method on Paddy crop.

1. BASAL CONDITIONS :

(i) (a) N A. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Laterite. (b) Refer soil analysis, Kumta. (iii) 26.5.1954/11.7.1954. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 8"×8". (e) N.A. (v) Nil. (vi) Red Halaga—264. (vii) Unirrigated. (viii) Weeding. (ix) 176.09". (x) 11.11.1954.

2. TREATMENTS :

3 methods of paddy cultivation : M_1=Japanese method—10 C.L./ac. of F.Y.M.+320 lb./ac. of B.M. at puddling +114 lb./ac. of G.N.C. and 40 lb./ac. of A/S at the time of tillering+114 lb./ac. of G.N.C. and 40 lb./ac. of A/S at the time of pre-flowering, M_2=Departmentally recommended method—5 C.L. ac. of F.Y.M.+32 lb./ac. of N as A/S+64 lb./ac. of P_2O_5 as B.M. and M_3= Local method—5 C.L. of F.Y.M.+160 lb./ac. of manure mixture.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) and (b) 1/80 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Heavy lodging due to heavy manuring. (ii) Nil. (iii) No. of plants and yield of grain. (iv) (a) 1954—1955 (modified in 1955). (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2103 lb./ac. (ii) 148.1 lb./ac. (iii) Treatment effects are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	1904	2512	1892

S.E./mean = 52.4 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(234).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'CM'.**

Object :—To compare the effects of Japanese, local and departmental method on Paddy crop.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Laterite. (b) Refer soil analysis, Kumta. (iii) 26.5.1955/30.6.1955. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 8″×8″. (e) N.A. (v) Nil. (vi) Red Halaga—264. (vii) Unirrigated. (viii) Weeding except in treatment M_4. (ix) 175.06″. (x) 21.10.1955.

2. TREATMENTS :

4 methods of paddy cultivation : M_1=Japanese method—10 C.L./ac. of F.Y.M.+320 lb./ac. of B.M. at puddling+114 lb./ac. of G.N.C. and 40 lb./ac. of A/S at tillering+114 lb./ac. of G.N.C. and 40 lb./ac. of A/S at pre-flowering. M_2=Departmentally recommended method—5 C.L./ac. of F.Y.M.+32 lb./ac. of N as A/S+64 lb./ac. of P_2O_5 as B.M., M_3=Local method—5 C.L./ac. of F.Y.M.+160 lb./ac. of manure mixture and M_4=M_1 with no interculturings.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 8. (iv) (a) 28″×18″. (b) 26″×12″. (v) 1′×3′. (vi) Yes.

4. GENERAL :

(i) Heavy lodging due to heavy manuring. (ii) Nil. (iii) No. of plants and yield of grain. (iv) (a) 1954—1955 (modified in 1955). (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1339 lb./ac. (ii) 159.1 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3	M_4
Av. yield	1360	1431	1137	1429

S.E./mean = 56.3 lb./ac.

Crop :- Paddy (2nd crop). **Ref :- Ms. 54(93).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'CM'.**

Object :—To study the merits of interculture and spacing under Japanese and Farm method of manuring.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Lomy. (b) Refer soil analysis, Mangalore. (iii) 17.9.1954/23.9.1954. (iv) (a) 6—8 ploughings. (b) Transplanting. (c) 40—60 lb./ac. (d) As per treatments. (e) 3. (v) Nil. (vi) PTB—20 (medium). (vii) N.A. (viii) 1 weeding given to farm method after one month of planting interculturing 15,30 and 45 days after planting to the relevant treatments. (ix) 6.16″. (x) 12.1.1955.

2. TREATMENTS :

Main-plot treatment :

2 methods of manuring : M_1=Japanese, and M_2=Farm.

Sub-plot treatment :

6 spacings between and within rows : S_1=10″×10″ with interculture, S_2=10″×10″ in lines, S_3 =10″×10″ bulk, S_4=10″×5″ with interculture, S_5=10″×5″ in lines, and S_6=7″×7″ bluk.

Japanese method : 10 tons/ac. of F.Y.M.+60 lb./ac .of N as A/S +60 lb./ac. of P_2O_5 as Super. F.Y.M. and ½ dose of A/S and ½ of P_2O_5 applied as basal dose and other half applied in equal doses after 15 and 30 days of planting by broadcast.

Farm method : 5000 lb./ac. of green leaf and 30 lb./ac. of P_2O_5 as B.D. and 15 lb./ac. of N as A/S as top dressing after 30 days.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication nd 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1½′×23′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) and (iii) Nil. (iv) (a) 1954—1955. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2317 lb./ac. (ii) (a) 771.8 lb./ac. (b) 252.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	S_1	S_2	S_3	S_4	S_5	S_6	Mean
M_1	2266	2440	2424	2332	2459	2436	2393
M_2	2065	2259	2304	2249	2162	2406	2241
Mean	2166	2350	2364	2290	2310	2421	2317

S.E. of difference of two

1. M marginal means = 222.8 lb./ac.
2. S marginal means = 126.4 lb./ac.
3. S means at the same level of M = 178.8 lb./ac.
4. M means at the same level of S = 276.2 lb./ac.

Crop :- Paddy (2nd crop). **Ref :- Ms. 55(148).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'CM'.**

Object :—To study the merits of interculture and spacing under Japanese and Farm method of manuring.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Loamy. (b) Refer soil analysis, Mangalore. (iii) 21.9.1955./24.10.1955. (iv) (a) 6—8 ploughings. (b) Transplanting. (c) 40—60 lb./ac. (d) As per treatments. (e) 3. (v) Nil. (vi) PTB—20 (medium). (vii) Unirrigated. (viii) 1 weeding given to Farm method after one month of planting. Interculturing, 15, 30 and 45 dadys after planting to the relevant treatments. (ix) 35.09″. (x) 24.1.1956.

2. TREATMENTS :

Same as in expt. no. 54(93). on page 160.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plot/replication ; 6 sub-plots/main-plot. (b) Nil. (iii) 4. (iv) (a) 25.5′×15.5′. (b) 24′2″×13′4″. (v) 8″×13″. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—1955. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2578 lb./ac. (ii) (a) 172.6 lb./ac. (b) 228.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	S_1	S_2	S_3	S_4	S_5	S_6	Mean
M_1	2484	2670	2501	2679	2704	2687	2621
M_2	2484	2425	2577	2493	2755	2476	2535
Mean	2484	2548	2539	2586	2729	2581	2578

S.E. of differences of two

1. M marginal means = 49.8 lb./ac.
2. S marginal means = 114.2 lb./ac.
3. S means at the same level of M = 161.5 lb /ac.
4. M means at the same level of S = 155.6 lb./ac.

Crop :- Paddy (1st crop). **Ref : Ms. 54(92).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'CM'.**

Object :—To study the merits of interculture and spacing under Japanese and Farm methods of manuring.

1. BASAL CONDITIONS:

(i) (a) Paddy—Paddy. (b) Paddy. (c) 2 tons/ac. of C.M. or G.L.+150 lb./ac. of Super+100 lb./ac. of A/S and the 2 doses, one after 30 days and the other as basal dressing. (ii) (a) Loamy. (b) Refer soil analysis, Mangalore. (iii) 26.4.1954/1.7.1954. (iv) (a) 6 to 8 ploughings. (b) Transplantings. (c) 40 to 60 lb./ac. (d) As per treatments. (e) 3. (v) Nil. (vi) MGL—2 (medium). (vii) Unirrigated. (viii) 1 weeding of 'Farm Mathod' plots after one month of planting and interculturings on 15, 30 and 45 days after planting as per treatments. (ix) 118.25". (x) 11.10.1954.

2. TREATMENTS :

Same as in expt. no. 54(93) on page 160.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 6 sub-plots/main-plot. (b) Nil. (iii) 4. (iv) (a) N.A. (b) $12\frac{1}{2}' \times 23'$. (v) N.A. (vi) Yes.

4, GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height measurements, tiller counts and grain yield. (iv) (a) 1954—1955. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3095 lb./ac. (ii) (a) 214.0 lb./ac. (b) 264.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	S_1	S_2	S_3	S_4	S_5	S_6	Mean
M_1	3276	3148	3068	3096	3048	3108	3124
M_2	3096	3024	3080	3088	3100	3016	3067
Mean	3184	3086	3074	3092	3074	3062	3095

S.E. of difference of two

1. M marginal means = 61.8 lb./ac.
2. S marginal means = 132.4 lb./ac.
3. S means at the same level of M = 187.2 lb./ac.
4. M means at the same level of S = 181.7 lb./ac.

Crop :- Paddy (1st crop). **Ref :- Ms. 55(147).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'CM'.**

Object :—To study the merits of interculture and spacings under Japanese and Farm methods of manuring.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Loamy. (b) Refer soil analysis, Mangalore. (iii) 7.5.1955/17,18.6.1955. (iv) (a) 6—8 ploughings. (b) Transplanting. (c) 40 to 60 lb./ac. (d) As per treatments. (e) 3. (v) Nil. (vi) MGL—2 (medium). (vii) Unirrigated. (viii) 1 weeding to 'farm method' plots after one month of planting and interculturings 15, 30 and 45 days after planting to the relevant treatments. (ix) 136.41". (x) 13.10.1955.

2. TREATMENTS :

Same as in expt. no. 54(93) on page 160.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication and 6 sub-plots/main-plots. (b) N.A. (iii) 4. (iv) (a) 25½"×15½". (b) 24'2"×14'2". (v) 8"×8". (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—1955. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2505 lb./ac. (ii) (a) 98.1 lb./ac. (b) 209.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain lb./ac.

	S_1	S_2	S_3	S_4	S_5	S_6	Mean
M_1	2645	2457	2576	2643	2459	2385	2527
M_2	2480	2486	2552	2413	2486	2478	2483
Mean	2563	2471	2564	2528	2473	2431	2505

S.E. of differences of two

1. M marginal means = 28.3 lb./ac.
2. S marginal means = 104.7 lb./ac.
3. S means at the same level of M = 148.1 lb./ac.
4. M means at the same level of S = 138.1 lb./ac.

Crop :- Paddy. (2nd crop). **Ref :- Ms. 55(149).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'CM'.**

Object :—To compare different methods of Paddy cultivation and also the effect of interculturing on Paddy yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 2 tons/ac. of C.M.+100 lb./ac. of A/S as basal dose+100 lb./ac. of A/S. (ii) (a) Loamy. (b) Refer soil analysis, Mangalore. (iii) 15.9.1955/20.10.1955. (iv) (a) 6 to 8 ploughings. (b) Transplanting. (c) 40 to 60 lb./ac. (d) 10"×10". (e) 3. (v) Nil. (vi) PTB—20 (medium). (vii) Unirrigated. (viii) As per treatments. (ix) 35.09". (x) 23.1.1956.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 methods of manuring ; M_1=Japanese and M_2=Madras.

(2) 5 levels of interculturings : I_1=Intercultivation by rotary weeder 15, 30 and 45 days after planting. I_2=Intercultivation by hand rake 15, 30 and 45 days after planting. I_3=2 weedings after 15 and 30 days, each being followed by intercultivation by rotary weeder. I_4=2 weedings and I_5.=No weeding.

Japanese method: B.D. of green leaf at 6000 lb./ac.+F.Y.M. or compost at 5 C.L./ac.+A/S at 200 lb./ac.+Super at 200 lb./ac. ½ dose of A/S and ½ of Super applied as B.D. and others after 30 days of planting.

Madras method: G.L. leaf at 5000 lb./ac.+Super and A/S at 50 lb./ac. each.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 20′×20′. (b) 20′×15′. (v) 2½′ on either side. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height and grain yield. (iv) (a) 1955—1958. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2165 lb./ac. (ii) 130.5 lb./ac. (iii) Main effects of I and M are significant. (iv) Av. yield of grain in lb./ac.

	I_1	I_2	I_3	I_4	I_5	Mean
M_1	2255	2241	2092	2371	2099	2211
M_2	2185	2194	2069	2146	2003	2119
Mean	2220	2218	2080	2258	2052	2165

S.E. of marginal mean of I = 46.1 lb./ac.
S.E. of marginal mean of M = 29.2 lb./ac.
S.E. of body of table = 65.2 lb./ac.

Crop :- Paddy (1st crop). **Ref :- Ms. 56(43).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'CM'.**

Object :—To compare different methods of Paddy cultivation and also the effect of interculturing on Paddy yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Loamy soil. (b) Refer soil analysis, Mangalore. (iii) 5.5.1956/14, 15.6.1956. (iv) (a) 6 to 8 ploughings. (b) Transplanting. (c) 40 to 60 lb /ac. (d) 10″×10″. (e) 3. (v) Nil. (vi) MGL—2 (medium). (vii) Unirrigated. (viii) As per treatments. (ix) 131.28″. (x) 5.10.1956.

2. TREATMENTS :

Same as in expt. in 55(149) on page 163.

3. DESIGN :

(i) R.B.D. (ii) (a) and (b) 10. (iii) 4. (iv) (a) 20′×20′. (b) 15′×18′4″. (v) 30″×10″. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height of the plants and grain yield. (iv) 1955—1958. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2616 lb./ac. (ii) 179.8 lb./ac. (iii) Only M effect is significant. (ia) Av. yield of grain in lb./ac.

	I_1	I_2	I_3	I_4	I_5	Mean
M_1	2686	2829	2653	2693	2540	2680
M_2	2579	2401	2770	2567	2443	2552
Mean	2632	2615	2711	2630	2491	2616

S.E. of marginal mean of I = 63.6 lb./ac.
S.E. of marginal mean of M = 40.2 lb./ac.
S.E. of body of table = 89.9 lb./ac.

Crop :- Paddy (2nd crop). **Ref :- Ms. 56(44).**

Site :- Paddy Breeding. Stn., Mangalore. **Type :- 'CM'.**

Object :—To compare different methods of Paddy cultivation and also the effect of interculturing on Paddy yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Loamy soil. (b) Refer soil analysis, Mangalore. (iii) 10.9.1956/16.10.1956. (iv) (a) 6 to 8 ploughings. (b) Transplanting. (c) 40 to 60 lb /ac. (d) 10″×10″. (e) 3. (v) Nil. (vi) PTB—20 (medium). (vii) Unirrigated. (viii) As per treatments. (ix) 18.67″. (x) 16.1.1957.

2. TREATMENTS :

Same as in expt. no. 55(149) on page 163.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 56(43) on page 163.

5. RESULTS :

(i) 1879 lb./ac. (ii) 59.2 lb./ac. (iii) Main effect of M is highly significant and main effect of I is significant. (iv) Av. yield of grain in lb./ac.

	I_1	I_2	I_3	I_4	I_5	Mean
M_1	1993	1901	1980	1879	1842	1907
M_2	1859	1834	1921	1812	1864	1852
Mean	1881	1867	1951	1845	1853	1879

S.E. of marginal mean of I = 20.9 lb./ac.
S.E. of marginal mean of M = 13.2 lb./ac.
S.E. of body of table = 29.6 lb./ac.

Crop :- Paddy (1st crop). **Ref :- Ms. 57(46).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'CM'.**

Object :—To compare different methods of Paddy cultivation and also the effect of interculturing on Paddy yield.

1. BASAL CONDITIONS :

(i) (a) Paddy—G.M. (b) Paddy. (c) As per treatments. (ii) (a) Laterite, loamy in structure. (b) Refer soil analysis, Mangalore. (iii) 13.5.1957/14.6.1957. (iv) (a) 5 ploughings with country plough. (b) Transplanting. (c) 40 to 60 lb./ac. (d) 10″×10″. (e) 3. (v) Nil. (vi) MGL—2 (medium). (vii) Unirrigated. (viii) As per treatments. (ix) 108.94″. (x) 1.10.1957.

2. TREATMENTS :

Same as in expt. no. 55(149) on page 163.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) 106′×43′. (iii) 4. (iv) (a) 20′×20′. (b) 18′4″×18′4″. (v) 10″×10″. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Folidol sprayed against *kane* incidence. (iii) Tiller counts, height measurements, grain and straw yield. (iv) (a) 1955—1958. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1835 lb./ac. (ii) 151.1 lb./ac. (iii) Main effect of M alone is highly significant. (iv) Av. yield of grain in lb./ac.

	I_1	I_2	I_3	I_4	I_5	Mean
M_1	2005	2079	2039	2064	1932	2024
M_2	1723	1504	1662	1812	1525	1645
Mean	1864	1792	1850	1938	1728	1834

S.E. of marginal mean of I = 53.4 lb./ac.
S.E. of marginsl mean of M = 33.8 lb./ac.
S.E. of body of table = 75.5 lb./ac.

Crop :- Paddy (2nd crop). **Ref :- Ms. 57(47).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'CM'.**

Object :—To compare different methods of Paddy cultivation and also the effects of interculturing on Paddy yield.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—G.M. (b) Paddy. (c) As per treatments. (ii) (a) Laterite—loamy. (b) Refer soil analysis, Mangalore. (iii) 2.10.1957/25.10.1957. (iv) (a) 4 ploughings with country plough. (b) Transplanting. (c) 40 to 60 lb./ac. (d) 10″×10″. (e) 3. (v) Nil. (vi) PTB—20 (medimum). (vii) Unirrigated. (viii) As per treatments. (ix) 7.08″. (x) 14.1.1958.

2. TREATMENTS :

Same as in expt. no. 55(149) on page 163.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 20′×20′. (b) 18′4″×18′4″. (v) 10″×10″. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Slight attack. (iii) Yield of grain and straw. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1310 lb./ac. (ii) 136.9 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	I_1	I_2	I_3	I_4	I_5	Mean
M_1	1223	1300	1207	1274	1345	1270
M_2	1270	1407	1288	1426	1357	1350
Mean	1246	1354	1248	1350	1351	1310

S.E. of marginal mean of I = 48.4 lb./ac.
S.E. of marginal mean of M = 30.6 lb./ac.
S.E. of body of table = 68.4 lb./ac.

Crop :- Paddy (1st crop). **Ref :- Ms. 58(16).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'CM'.**

Object :—To compare different methods of Paddy cultivation and also the effects of interculturing on Paddy yield.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Pluse crop. (b) Paddy. (c) As per treatments. (ii) (a) Laterite—loamy. (b) Refer soil analysis, Mangalore. (iii) N.A./12.7.1958. (iv) (a) 2 ploughings. (b) Transplanting. (c) 40 to 60 lb./ac. (d) 10″×10″. (e) 3. (v) Nil. (vi) MGL—2 (medium). (vii) Unirrigated. (viii) As in treatments. (ix) 124.47″. (x) 20.10.1958.

2. TREATMENTS :

Same as in expt. in 55(149) on page 163.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 20′×20′. (b) 18′4″×18′4″. (v) 10″×10″. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height measurement, tiller counts and grain yield. (iv) (a) 1955—1958. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1652 lb./ac. (ii) 127.2 lb./ac. (iii) Main effects of I and M are highly significant. (iv) Av. yield of grain lb./ac.

	I_1	I_2	I_3	I_4	I_5	Mean
M_1	1851	1762	1960	1786	1794	1831
M_2	1608	1348	1608	1421	1385	1474
Mean	1730	1550	1784	1604	1590	1652

S.E. of marginal mean of I = 45.0 lb./ac.
S.E. of marginal mean of M = 28.4 lb./ac.
S.E. of body of table = 63.6 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(208).**

Site :- Agri. Res. Stn., Mugad. **Type :- 'CM'.**

Object :—To study the effect of improved methods of Paddy cultivation on the yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Mugad. (iii) 7.5.1954/25.5.1954. (iv) (a) Ploughing and harrowing (b) As per treatments. (c) 60 lb./ac. (d) As per treatments. (e) 6 seeds/dibble. (v) 5 C.L./ac. of F.Y.M. (vi) A—200 (late). (vii) Unirrigated. (viii) As per treatments. (ix) 39.91″. (x) 2.12.1954/5.12.1954.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 8 cultural practices : C_1=Drilling with 15″ spacing between rows and 3 interculturings C_2=Drilling with 12″ spacing between rows and 3 interculturings, C_3=Dibbling with 9″×9″ spacing and 3 one way interculturings, C_4=Dibbling with 9″×9″ spacing and 3 two way interculturings, C_5=Drilling with 15″ spacing between rows and 5 interculturings. C_6=Drilling with 12″ spacing between rows and 5 interculturings, C_7=Dibbling with 9″×9″ spacing and 5 one way interculturings and C_8=Dibbling with 9″×9″ spacing and 5 two way interculturings.

(2) 2 levels of manuring : M_1=64 lb./ac. of N as A/S+32 lb./ac. of P_2O_5 as Super and M_2=100 lb./ac. of N as A/S+80 lb./ac. of P_2O_5 as Super.

3. DESIGN :

(i) R.B.D. (ii) (a) 16. (b) N.A. (iii) 5. (iv) (a) 18′×15′. (b) 15′×9′ for 9″ and12″ spacing and 13′6″×10′ for 15″ spacing. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3462 lb./ac. (ii) 418.6 lb./ac. (iii) Only M effect is significant. (iv) Av. yield of grain in lb./ac.

	C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8	Mean
M_1	3340	3424	3150	3162	3303	3243	2997	3332	3244
M_2	3489	3493	3759	4050	3747	3570	3703	3630	3680
Mean	3415	3458	3454	3606	3525	3407	3350	3481	3462

S.E. of C marginal mean = 132.4 lb./ac.
S.E. of M marginal mean = 66.2 lb./ac.
S.E. of body of table = 187.2 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(189).**

Site :- Agri. Res. Stn., Mugad. **Type :- 'CM'.**

Object :—To study the effect of improved methods of Paddy cultivation on yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Mugad. (iii) 2.6 1955/6.6.1965. (a) Ploughing and harrowing. (b) As per treatments. (c) 60 lb./ac. (d) As per treatments. (e) 6 seeds/dibble. (v) 5 C.L./ac. of F.Y.M. (vi) A—200 (late). (vii) Unirrigated. (viii) As per treatment. (ix) 42.62". (x) 8.12.1955 to 10.12.1955.

2. TREATMENTS to 4. GENERAL:

Same as in expt. no. 54(208) on page 167.

5. RESULTS :

(i) 3806 lb./ac. (ii) 572.7 lb./ac. (iii) Only M effect is highly significant. (iv) Av. yield of grain in lb./ac.

	C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8	Mean
M_1	3247	3933	3457	3469	4465	3521	3525	3412	3629
M_2	3775	3989	3997	3884	4154	3941	4259	3864	3983
Mean	3511	3961	3727	3676	4309	3731	3892	3638	3806

S.E. of C marginal means = 181.1 lb./ac.
S.E. of M marginal means = 90.5 lb./ac.
S.E. of body of table = 256.1 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(140).**

Site :- Agri. Res. Stn., Mugad. **Type :- 'CM'.**

Object :—To study the effect of improved methods of Paddy cultivation on yield.

1: BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Mugad. (iii) 30.5.1956/1.6.1956. (iv) (a) Ploughing and harrowing. (b) As per treatments. (c) 60 lb./ac. (d) As per treatments. (e) 6 seeds/dibble. (v) 5 C.L./ac. of F.Y.M. (vi) A—200 (late). (vii) Unirrigated. (viii) As per treatments. (ix) 51.97". (x) 11 to 14.12.1956.

2. TREATMENTS to 4 GENERAL :

Same as in expt. no. 54(208) on page 167.

5. RESULTS :

(i) 3847 lb./ac. (ii) 372.1 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./

	C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8	Mean
M_1	4011	3837	3991	3931	3827	3805	3755	3957	3889
M_2	3766	3545	3819	4182	3611	3700	3814	4001	3805
Mean	3888	3691	3905	4057	3719	3752	3785	3979	3847

S.E. of C marginal mean = 117.7 lb./ac.
S.E. of M marginal mean = 58.8 lb./ac.
S.E. of body of table = 166.4 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(115).**

Site :- Agri. Res. Stn., Mugad. **Type :- 'CM'.**

Object :—To study the effect of improved methods of Paddy cultivation on yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Mugad. (iii) 3, 4.6.1957. (iv) (a) Ploughing and harrowing. (b) As per treatments. (c) 60 lb./ac. (d) As per treatments. (e) 6 seeds/dibble. (v) 5 C.L./ac. of F.Y.M. (vi) A—200 (late). (vii) Unirrigated. (viii) As per treatments. (ix) 44.10". (x) 4 to 7.12.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(208) on page 167.

5. RESULTS :

(i) 4082 lb./ac. (ii) 420.2 lb./ac. (iii) Only M effect is highly significant. (iv) Av. yield of grain in lb./ac.

	C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8	Mean
M_1	3736	3840	3697	3987	4091	4006	3864	3663	3860
M_2	4499	4248	3987	4312	4422	4751	4089	4126	4304
Mean	4117	4044	3842	4149	4257	4378	3977	3894	4082

S.E. of C marginal mean = 132.9 lb./ac.
S.E. of M marginal mean = 66.4 lb./ac.
S.E. of body of table = 187·9 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(72).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'CM'.**

Object :—To test the merits of Japanese method of Paddy cultivation.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Stoney and gravelly sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 23.6.1954/24.7.1954. (iv) (a) Ploughing with iron mould board plough and levelling with country *halube*. (b) Transplanting. (c) 10 to 25 srs./ac. (d) 6" to 8" between rows in Japanese method and 8" to 10" in local method. (e) 2 to 3. (v) Nil. (vi) Improved variety (late) (vii) Irrigated. (viii) Japanese weeder passed in M_8 treatment. Hand weeding in others. (ix) 22.96". (x) 21.12.1954.

2. TREATMENTS :

5 manurial treatments : M_1=Local method, M_2=M_1+50 lb./ac. of Super and 75 lb./ac. of A/S at transplanting+75 lb./ac. of A/S after 4 weeks, M_3=M_1+6000 lb./ac. of G.M.+2½ tons/ac. of Farm compost+200 lb./ac. of A/S+80 lb./ac. of Triple Super, M_4=M_1+6000 lb./ac. of G.M.+2½ tons/ac. of Farm compost+100 lb./ac. of A/S at transplanting+100 lb./ac. of A/S after 4 weeks+40 lb./ac. of Triple Super at transplanting+40 lb./ac. of Triple Super after 4 weeks and M_5=M_4+Japanese method of nursery and line planting.

Local method of nursery : 5 tons/ac. of Farm compost+4000 lb./ac. of G.M.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) and (b) 1/50 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height of plants no. of tillers, grain and straw yield. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3562 lb./ac. (ii) 287.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3	M_4	M_5
Av. yield	3060	3700	3430	3600	4020

S.E./mean 128.3 lb./ac.

Crop :- Paddy *(Khairf)*. **Ref :- Ms. 55(58).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'CM'.**

Object :—To test the merits of Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 7.7.1955/10.8.1955. (iv) (a) Ploughing with iron mould board plough and levelling with country *halube*. (b) Transplanting. (c) 10 to 25 srs/ac. (d) 6″×8″ between rows in Japanese method and 8″×10″ between rows in local method. (e) 2 to 3. (v) Nil. (vi) S—1092 (late). (vii) Irrigated. (viii) Hand weeding and passing Japanese weeder in treatment M_5. (ix) 23.75″. (x) 20.12.1955.

2. TREATMENTS :

M_1=Local method of cultivation in nursery and ordinary planting : 5 tons/ac. of Farm compost+4000 lb./ac. of G.M , M_2=M_1+50 lb./ac. Triple Super to planting and 150 lb./ac. of A/S in two split doses—half at planting and half at 1st weeding, M_3=M_1+3½ tons/ac. of Farm compost+2000 lb./ac. G.M.+80 lb./ac. of Triple Super+200 lb./ac. of A/S at planting, M_4=M_1+2½ tons/ac. of Farm compost+2000 lb./ac. of G.M.+80 lb./ac. of Triple Super and 200 lb./ac. of A/S—half at planting and half at 1st. weeding and M_5=M_4+Japanese method of nursary and line planting.

3. DESIGN :

(i) R.B.D. (ii) a) 5. (b) N.A. (iii) 5. (iv) (a) and (b) 1/50 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height of plants, no. of tillers, grain and straw yield. (iv) 1954—1957. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3048 lb./ac. (ii) 597.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3	M_4	M_5
Av. yield	2530	3080	2270	3110	3750

S.E./mean = 267.2 lb./ac.

Crop :- Paddy *(Kharif).* **Ref :- Ms. 56(77).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'CM'.**

Object :—To test the merits of Japanese method of Paddy cultivations.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 21.6.1956/ 20.7.1957. (iv) (a) Ploughing with iron mould plough and levelling. (b) Transplanting. (c) 10 srs/ac. in Japanese method and 25 srs/ac. in other methods. (d) 6" to 8" in Japanese method and 8" to 10" in local method. (e) 2 to 3. (v) Nil. (vi) S—1092 (late). (vii) Irrigated. (viii) Japanese weeder. (ix) 16.29". (x) 18.12.1956.

2. TREATMENTS :

M_1=Local method of cultivation in nursery and ordinary planting—5 tons/ac. of Farm compost+4000 lb./ac. of G.M., $M_2=M_1$+50 lb./ac. of Triple Super at planting+75 lb./ac. of A/S on 5.9.1956, $M_3=M_1$ +2000 lb./ac. of G.M.+2½ tons/ac. of Farm compost+200 lb./ac. of A/S+80 lb./ac. of Super at planting, $M_4=M_1$+2000 lb./ac of G.M.+2½ tons/ac. of Farm compost+100 lb./ac. of A/S+40 lb./ac. of Triple Super at planting+100 lb./ac. of A/S+40 lb./ac. of Triple Super on 5.9.1956 and $M_5=M_4$+Japanese method of nursery and line planting.

3. DESIGN ;

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) and (b) 1/50 ac. (v) Nil. (vi) Yes.

4. GENERAL ;

(i) Fair. (ii) Nil. (iii) Height of plants, no. tillers, of grain and straw yield. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) (a) and (b) N.A, (vi) and (vii) Nil.

5. RESULTS ;

(i) 3618 lb./ac. (ii) 398.6 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3	M_4	M_5
Av. yield	2900	3490	3650	3740	4310

S.E./mean = 178.2 lb./ac.

———

Crop :- Paddy *(Kharif).* **Ref :- Ms. 57(28).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'CM'.**

Object :—To test the merits of Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 13.7.1957/17.8.1957. (iv) (a) Ploughing with iron mould board plough and levelling. (b) Transplanting. (c) 10 srs/ac. in Japanese method and 25 srs/ac. in others. (d) 6" to 8" in Japanese method and 8" to 10" in others. (e) 2 to 3. (v) Triple Super of 50 lb./ac. on 26.3.1957 at the time of sowing of G.M. (vi) S—1092 (late). (vii) Irrigated. (viii) Japanese weeder. (ix) 8.74". (x) 22.12 1957.

2. TREATMENTS :

Same as in expt. no. 55(58) on page 170.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) and (b) 1/50 ac. (v) No. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1957—1974. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3482 lb./ac. (ii) 431.1 lb./ac. (iii) Treatments differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3	M_4	M_5
Av. yield	2870	3360	3400	3520	4260

S.E./mean = 192.8 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(38).**

Centre :- Fraserpetnad (Coorg, c.f.). **Type :- 'CM'.**

Object:—To test the merits of Japenese method of Paddy cultivation.

1. BASAL CONDITIONS

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) Clay loam. (iii) 1000 lb./ac. of G.L.+10 C.L./ac. of F.Y.M. (iv) Kiribitya (late). (v) (a) N.A. (b) Transplanting. (c) 20 lb./ac. (d) 10″×10″. (e) 4 to 5. (vi) 20.6.1954./23.7.1954. (vii) Unirrigated. (viii) 3 weedings and 1 interculturing in Japanese method. (ix) 70″. (x) 5.12.1954.

2. TREATMENTS :

5 manurial treatments : T_1=Local practices+local method of manuring, T_2=Local practices+departmental method of manuring, T_3=Local practices+Japanese method of manuring, T_4=Japanese practices and method of manuring, T_5=Japanese practices+departmental method of manuring.

Japanese method : 6000 lb./ac. of G.L.+10 C.L./ac. of compost+100 lb./ac. of A/S+100 lb./ac. of Super.
Local method : 5 C.L./ac. of compost+3000 lb./ac. of G.L.
Departmental method : 5 C.L./ac. of compost+3000 lb./ac. of G.L.+200 lb./ac. of manure mixture.

3. DESIGN :

(i) and (ii) R.B.D. with 5 plots/replication, number of replications is 5. (iii) (a) 34′×34′. (b) 33′×33′. (iv) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—N.A. (b) No. (c) Nil. (v) (a) A number of other centres. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 3219 lb./ac. (ii) 242.3 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	3104	2936	3248	3280	3528

S.E./mean = 108.3 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(6).**

Centre :- Fraserpetnad (Coorg c.f.). **Type :- 'CM'.**

Object :—To test the merits of Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) Red loam. (iii) N.A. (iv) *Halubiliya* (medium). (v) (a) N.A. (b) Transplanting. (c) 60 lb./ac. (d) 8″ to 10″ between rows. (e) 10 to 15. (vi) 9.7.1955/9.8.1955. (vii) Irrigated. (viii) 2 weedings. (ix) 30″. (x) 28.12.1955.

2. TREATMENTS :

5 manurial treatments : T_1=Local practices+local method of manuring., T_2=Local practices+departmental method of manuring, T_3=Local practices+Japanese method of manuring. T_4=Japanese practices and method of manuring. T_5=Japanese practices+departmental method of manuring.

Japanese method of manuring : 3000 lb./ac. of G.L.+10 C.L./ac. of compost+200 lb./ac. of A/S+20 lb./ac. of Super.

Local Methods : 5 C.L./ac. of F.Y.M.+3000 lb./ac. of G.L.
Departmental Method : 5 C.L./ac. of compost+3000 lb./ac. of G.L.+200 lb./ac. of G.N.C.+200 lb./ac. of Super+75 lb./ac. of A/S.

3. DESIGN :

(i) and (ii) R.B.D. with 5 plots/replication, number of replication is 5. (iii) (a) 33′×33′. (b) 27′×27′. (iv) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Case worm noticed—B.H.C. sprayed. (iii) Grain and straw yield. (iv) (a) 1953—N.A. (b) No. (c) Nil. (v) (a) A number ot other centres. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 4725 lb./ac. (ii) 307.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	4111	4768	4481	5247	5019

S.E./mean = 137.4 lb./ac.,

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(12).**

Centre :- Hudikerinad (Coorg, c.f.). **Type :- 'CM'.**

Object :—To test the merits of Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) Sandy and clay loam. (iii) N.A. (iv) *Mawtaliya* (late). (v) (a) N.A. (b) Transplanting. (c) 30 lb./ac. (d) 9″ between planting. (e) 6 to 8. (vi) 6.7.1955/5.8.1955. (vii) Un-irrigated. (viii) Weeding by hand. (ix) 85″. (x) 30.12.1955.

2. TREATMENTS :

T_1=Local practices+local methods of manuring, T_2=Local practices+departmental method of manuring, T_3=Local practices+Japanese method of manuring, T_4=Japanese practices and method of manuring and T_5=Japanese practices+departmental method of manuring.
Local manuring : 5 C.L./ac. of F.Y.M +3000 lb./ac. of G.L.
Departmental method of manuring : 5 C.L./ac. of compost+3000 lb./ac of G.L.
Japanese method of manuring : 6000 lb./ac. of G.L.+5 C.L.//ac. of compost+200 lb./ac. of A/S+200 lb./ac. of Super.

3. DESIGN :

(i) and (ii) R.B.D. with 5 plots/replication, number of replications is 5. (iii) 33′×33′. (b) 29½′×29½′. (iv) Yes.

4. GENERAL :

(i) Good growth. (ii) Case worm and *leptispa* noticed. Control measures taken—N.A. (iii) Grain and straw yield. (iv) (a) 1953—N.A. (b) No. (c) Nil. (v) (a) A number of other centres. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 3027 lb./ac. (ii) 226.1 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb /ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	2598	3098	3168	3243	3028

S.E./mean = 101.1 lb./ac.

Crop :- Paddy *(Kharif).* **Ref :- Ms. 54(20).**

Centre :- Hoddur (Coorg, c.f). **Type :- 'CM'.**

Object :—To test the merits of Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) Sandy loam. (iii) Nil. (iv) *Kiggattubiliya* (late). (v) (a) 6 ploughings. (b) Transplanting. (c) to (e) N.A. (vi) 10.6.1954/16.7.1954. (vii) Unirrigated. (viii) Weeding and intercultivating with Japanese intercultivator. (ix) 85.00". (x) 31.12.1954.

2. TREATMENTS :

Same as in expt. no. 55(6) on page 172.

3. DESIGN :

(i) and (ii) R.B.D. with 5 plots/ replication, number of replications being 5. (iii) (a) 40'×27'. (b) 33'×16½'. (iv) Yes.

4. GENERAL :

(i) Satisfactory. (ii)) Nil. (iii) Yield of grain and straw. (iv) (a) 1953—N.A. (b) No. (c) A number of other centres. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 3360 lb./ac. (ii) 105.8 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	3248	3264	3504	3392	3392

S.E./mean = 47.3 lb./ac.

Crop :- Paddy *(Khairf).* **Ref :- Ms. 54(19).**

Centre :- Kaggodlu (Coorg c.f.). **Type :- 'CM'.**

Object :— To test the merits of Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) Sandy loam. (iii) Nil. (iv) *Kiggattubiliya* (late). (v) (a) 6 ploughings. (b) Transplanting. (c) to (e) N.A. (vi) 10.6.1954./21.7.1954. (vii) Unirrigated. (viii) 3 weedings, interculture with Japanese intercultivator for plots where Japanese method is followed. (ix) 105.00". (x) 28.12.1954.

2. TREATMENTS :

Same as in expt. no. 55(6) on page 172.

3. DESIGN :

(i) and. (ii) R.B.D. with 5 plots/replication, number of replications being 5. (iii) (a) 35'×31'. (b) 33'×16½'. (iv) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—N.A. (b) No. (c) Nil. (v) (a) A number of other centres. (b) Nil. (vi) to (vii) Nil.

5. RESULTS :

(i) 4147 lb./ac. (ii) 560.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	3712	4096	4160	4704	4064

S.E /mean = 252.3 lb./ac.

Crop :- Paddy *(Kharif)* **Ref :- Ms. 55(7)**

Centre :- Mercaranad (Coorg, c.f.). **Type :- 'CM'.**

Object :— To test the merits of Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) sandy loam. (iii) N.A. (iv) *Biliya* (late). (v) (a) N.A. (b) Transplanting. (c) 20 lb./ac. (d) 8" to 9" between plants. (e) 6 to 8. (vi) 28.6.1955/20.7.1955. (viii) 3 weedings. (ix) 100". (x) 29.12.1955.

2. TREATMENTS :

Same as in expt. no. 55(6) on page 172.

3. DESIGN :

(i) and. (ii) R.B.D. with 5 plots/replication, number of replications is 5. (iii) (a) 40'×27'. (b) 33'×16½. (iv) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—N.A. (b) No. (c) Nil. (v) (a) A number of other centres. (b) Nil. (vi) to (vii) Nil.

5. RESULTS :

(i) 4752 lb./ac. (ii) 99.2 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb /ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	4096	4512	5232	5264	4656

S.E /mean = 44.1 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(43).**

Centre :- Nopoklunad (Coorg, c.f.). **Type :- 'CM'.**

Object :—To test the merits of Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) Sandy loam. (iiii) 10 C.L./ac. of C.M. (iv) *Kiribitiya* (late). (v) (a) N.A. (b) Transplanted. (c) 20 lb./ac. (d) 10"×10". (e) 4 to 5. (vi) 16.6.1954/25.7.1954. (vii) Un-irrigated. (viii) 3 weedings. (ix) 130". (x) 2.1.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(38) on page 172.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—N.A. (b) No. (c) Nil. (v) (a) A number of other centres. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1913 lb./ac. (ii) 176.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	1864	1872	1984	1984	1856

S E./mean = 79.1 lbs./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(13).**

Centre :- Nopoklunad (Coorg, c.f.). **Type :- 'CM'.**

Object :—To test the merits of Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) Sandy and clay loam. (iii) N.A. (iv) *Kiribitiya* (late). (v) (a) N.A. (b) Transplanting. (c) 60 lb./ac. (d) 8″ between plants. (e) 6 to 8. (vi) 25.6.1955/19.7.1955. (vii) Unirrigated. (viii) 1 hand weeding. (ix) 95″. (x) 6.1.1956.

2. TREATMENTS :

Same as in expt. no. 55(12) on page 173.

3. DESIGN :

(i) and (ii) R.B.D. with 5 plots/replication, number of replications is 5. (iii) (a) 33′×33′. (b) 26′4″×16½′. (iv) Yes.

4. GENERAL :

(i) Good. (ii) Negligible attack of case worm. Control measures taken—N.A. (iii) Grain and straw yield. (iv) (a) 1953—N.A. (b) No. (c) Nil. (v) (a) A number of other centres. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 6004 lb./ac. (ii) 573.5 lb./ac. (iii) Treatment difference are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	5460	6360	6000	6200	6000

S.E./mean = 256.5 lb./ac.

Crop :- Paddy. **Ref :- Ms. 54(42).**

Centre :- Ponnampetnad. (Coorg, c.f.). **Type :- 'CM'.**

Object :—To test the merits of Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) Sandy loam. (iii) 3 C.L./ac. of F.Y.M.+2000 lb./ac. of G.L. (iv) *Kiribitiya* (late). (v) (a) N.A. (b) Transplanting. (c) 20 lb./ac. (d) 10″×10″. (e) 4 to 5. (vi) 1.7.1954/2.8.1954. (vii) Unirrigated. (viii) 4weedings. (ix) 70″. (x) 26.12.1954.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(38) on page 172.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—contd. (b) N.A. (c) No. (v) (a) A number of other centres. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1599 lb./ac. (ii) 154.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_5	T_4	T_5
Av. yield	1564	1632	1540	1600	1660

S.E./mean = 69.0 lb./ac.

Crop :- Paddy. *(Kharif)* **Ref :- Ms. 54(41)**

Centre :- Ponnampetnad. (Coorg, c.f.). **Type :- 'CM'.**

Object :—To test the merits of Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) Sandy loam. (iii) 3 C.L./ac. of F.Y.M.+2000 lb./ac. of G.L. (iv) *Kiribitiya* (late). (v) (a) N.A. (b) Transplanted. (c) 20 lb./ac. (d) 10″×10″. (e) 4 to 5. (vi) 28.6.1954/30 7.1954. (vii) Unirrigated. (viii) Intercultivated by hand and 4 weedings (ix) 70″. (x) 2.1.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(38) on page 172.

4. GENERAL

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—N.A. (b) No. (c) Nil. (v) (a) A number of other centres. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2023 lb./ac. (ii) 119.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	2026	1996	2044	2108	1938

S.E./mean = 53.6 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(11).**

Centre :- Ponnampetnad (Coorg, c.f.). **Type :- 'CM'.**

Object :—To test the merits of Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) Sandy loam. (iii) N.A. (iv) *Kiribitiya* (late). (v) (a) N.A. (b) Transplanting. (c) 40 lb./ac. (d) 8″×10″ between plants and between rows. (e) 10 to 15. (vi) 2.7.1955/ 30.7.1955. (vii) Unirrigated. (viii) 1 hand weeding. (ix) 77.75″. (x) 4.1.1956.

2. TREATMENTS :

Same as in expt. no. 55(12) on page 173.

3. DESIGN :

(i) and (ii) R.B.D. with 5 plots/replication, number of replications is 5. (iii) (a) 33′×33′. (b) 30′×30′. (iv) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—N.A. (b) No. (c) Nil. (v) (a) A number of other centres. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 3775 lb /ac. (ii) 112.4 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	3483	3978	3700	3773	3938

S.E./mean = 50.2 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(37).**

Centre :- Somvarpetnad (Coorg, c.f.). **Type :- 'CM'.**

Object :—To test the merits of Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) Sandy loam. (iii) 10 C.L./ac. of C.M. (iv) *Kiribitiya* (late). (v) (a) N.A. (b) Transplanting. (c) 20 lb./ac. (d) 10″×10″. (e) 4 to 5. (vi) 14.6.1954/12.7.1954. (vii) Unirrigated. (viii) 1 weeding and 1 stirring in between rows for Japanese method and weeding 4 times with hand rake for local method. (ix) 90″. (x) 30.12.1954.

2. TRETAMENTS and 3. DESIGN

Same as in expt. no. 54(38) on page 172.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—N.A. (b) No. (c) Nil. (v) (a) A number of other centres. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 3833 lb./ac. (ii) 870.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	3616	3536	3952	3744	4320

S.E./mean = 389.1 lb./ac.

Crop :- Paddy *(Khairf)*. **Ref :- Ms. 55(8).**

Centre :- Somvarpetnad (Coorg, c.f.). **Type :- 'CM'.**

Object :—To test the merits of Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) Clay loam. (iii) N.A. (iv) *Halubitiya*. (v) (a) N.A. (b) Transplanting. (c) 60 lb./ac. (d) 6" to 8" between plants. (e) 10 to 12. (vi) 28.6.1955/2,3.8.1955. (vii) Unirrigated. (viii) 2 hand weedings. (ix) 80". (x) 3.1.1956.

2. TREATMENTS :

Same as in expt. no. 55(12) on page 173.

3. DESIGN :

(i) and. (ii) R.B.D. with 5 plots/replication, number of replications is 5. (iii) (a) 34'×34'. (b) 33'×33'. (iv) Yes.

4. GENERAL :

(i) Good. (ii) Caseworm attacked—D.D.T. sprayed on 28.9.1955. (iii) Grain and straw yield. (iv) (a) 1953—N.A. (b) No. (c) Nil. (v) (a) A number of other centres. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2858 lb./ac. (ii) 260.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	2304	2824	2920	3104	3136

S.E./mean = 116.3 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(40).**

Centre :- Virajpetnad (Coorg, c.f.). **Type :- 'CM'.**

Object :—To test the merits of Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) Clay and loamy soil. (iii) Nil. (iv) *Kiribitiya* (late) (v) (a) N.A. (b) Transplanting. (c) 20 lb./ac. (d) 10"×10". (e) 4 to 5. (vi) 29.6.1954/3.8.1954. (vii) Unirrigated. (viii) 2 weedings for Japanese methods, 4 rounds intercultivation with Japanese intercultivator for local method. (ix) 80" to 100". (x) 2.1.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(38) on page 172.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—N.A. (b) No. (c) Nil. (v) (a) A number of other centres. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 3126 lb./ac. (ii) 411.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	3120	2944	3440	3216	2912

S.E./mean = 184.0 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(10).**

Centre :- Virajpetnad (Coorg, c.f.). **Type :- 'CM'.**

Object :—To test the merits of Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) Clay loam. (iii) N.A. (iv) *Kiribitiya* (late). (v) (a) N.A. (b) Transplanting. (c) 25 to 35 lb./ac. (d) Seedlings planted 8″ to 10″ apart. (e) 10 to 15. (vi) 24.6.1955/28.7.1955. (vii) Unirrigated. (viii) 2 hand weedings. (ix) 105″. (x) 5.1.1956.

2. TREATMENTS :

Same as in expt. no. 55(12) on page 173.

3. DESIGN :

(i) and (ii) R.B.D. with 5 plots/replication, number of replications is 5. (iii) (a) 33′×33′. (b) 29′×29′. (iv) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—N.A. (b) No. (c) Nil. (v) (a) A number of other centres. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 5383 lb./ac. (ii) 891.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	5168	5601	5199	5613	5335

S.E./mean = 398.7 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(39).**

Centre :- Virajpetnad (Coorg, c.f.). **Type :- 'CM'.**

Object :—To test the merits of Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) Clay and loamy soil. (iii) Nil. (iv) *Kiribitiya* (late). (v) (a) N.A. (b) Transplanted. (c) 20 lb./ac. (d) 10″×10″. (e) 4 to 5. (vi) 6.7.1954/10.8.1954. (vii) Unirrigated. (viii) 2 weedings for Japanese method, 4 rounds intercultivation with Japanese intercultivators for local method. (ix) 70″ to 90″. (x) 13.1.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(38) on page 172.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—contd. (b) No. (c) Nil. (v) (a) A number of other centres. (b) Nil (vi) and (vii) Nil.

5. RESULTS :

(i) 3676 lb./ac. (ii) 465.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	3680	3472	3936	3664	3628

S.E./mean = 208.2 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(9).**

Centre :- Virajpetnad (Coorg, c.f.). **Type :- 'CM'.**

Object :—To test the merits of Japanese method of Paddy cultivation.

1. BASAL CONDITIONS

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) Loamy soil. (iii) N.A. (iv) *Kiribitiya* (late). (v) (a) N.A. (b) Transplanting. (c) 25 to 35 lb./ac. (d) 8″ to 10″ apart. (e) 10 to 15. (vi) 14.6.1955/15.7.1955. (vii) Unirrigated. (viii) 3 hand weedings. (ix) 105″. (x) 16.12.1955.

2. TREATMENTS :

Same as in expt. no. 55(12) on page 173.

3. DESIGN :

(i) and (ii) R.B.D. with 5 plots/replication, number of replications is 5. (iii) (a) 33′×33′. (b) 29′×29′. (iv) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—N.A. (b) No. (c) Nil. (v) (a) A number of other centrers. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 4232 lb./ac. (ii) 411.3 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	3781	3997	5579	4183	4621

S.E./mean = 183.9 lb./ac.

Crop Paddy *(Kharif)*. **Ref :- Ms. 55(235).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'CMV'.**

Object :—To find the best combination of manurial dose and spacing on early varieties of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddv—Fallow—Paddy (b) Paddy. (c) N.A. (ii) (a) Laterite. (b) Refer soil analysis, Kumta. (iii) 26.5.1955/30 6.1955. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) As per treatments. (e) N.A. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) Weeding. (ix) 175.06″. (x) 21.10.1955.

2. TREATMENTS :

Main-plot treatments :

All combinations of (1) and (2)

(1) 2 varieties : V_1=Maskaty 1315 and V_2=Malabar PTB—9.

(2) 4 levels of spacings : S_1=6″ between rows and 6″ between plants, S_2=12″ between rows and 6″ between plants, S_3=10″ between rows and 10″ between plants and S_4=12″ between rows and 12″ between plants.

Sub-plot treatments :

5 levels of manuring : M_0=Control, M_1=30 lb./ac. of P_2O_5, M_2=60 lb./ac. of P_2O_5, M_3=30 lb./ac. of N and $M_4=M_2+M_3$.

3. DESIGN :

(i) Split-plot. (ii) (a) 8 main-plots/replication and 5 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) (a) 20′×15′. (b) 15′×10′. (v) 2.5′×2.5′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of grain. (iv) (a) 1955—1957. (b) N.A. (c) Nil. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1764 lb./ac. (ii) (a) 844.1 lb./ac. (b) 390.0 lb./ac. (iii) Only main effect of M is highly significant (iv) Av. yield of grain in lb./ac.

	M_0	M_1	M_2	M_3	M_4	Mean	S_1	S_2	S_3	S_4
V_1	1183	1652	1760	1847	2300	1748	2061	1859	1791	1282
V_2	1429	1694	1995	1753	2030	1780	2144	1635	1964	1378
Mean	1306	1673	1878	1800	2165	1764	2103	1747	1878	1330
S_1	1869	1896	2178	2081	2489					
S_2	1191	1567	1848	1932	2196					
S_3	1394	1842	2021	1882	2251					
S_4	769	1388	1464	1304	1724					

S.E. of difference of two

1. V marginal means = 154.1 lb./ac.
2. S marginal means = 217.9 lb./ac.
3. M marginal means = 112.6 lb./ac.
4. M means at the same level of V = 159.2 lb /ac.
5. V means at the same level of M = 209.8 lb./ac.
6. M means at the same level of S = 225.2 lb./ac.
7. S means at the same level of M = 296.7 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(128).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'CMV'.**

Object :—To find out the best combination of manurial dose and spacing for early varieties of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Kumta. (iii) 24.5.1956/4.7.1956. (iv) (a) N.A. (b) Transplanting. (c) 75 lb./ac. (d) As per treatments. (e) 4. (v) Nil. (vi) As per treatments. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 45.8″. (x) 23.10.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(235) on page 180.

5. RESULTS :

(i) 1319 lb./ac. (ii) (a) 291.9 lb./ac. (b) 201.6 lb /ac. (iii) Main effects of S and N and S×V interaction are highly significant, while main effect of V and V×N interaction are significant. (iv) Av. yield of grain in lb./ac.

	S_1	S_2	S_3	S_4	Mean	V_1	V_2
M_0	1180	823	859	778	910	882	938
M_1	1409	1144	1119	1071	1186	1225	1146
M_2	1603	1161	1367	1384	1379	1436	1322
M_3	1500	1234	1301	1210	1312	1355	1268
M_4	1906	1712	1749	1863	1807	1984	1630
Mean	1520	1215	1279	1261	1319	1377	1261
V_1	1786	1278	1270	1173			
V_2	1253	1152	1288	1350			

S.E. of difference of two

1. S marginal means = 75.4 lb./ac.
2. V marginal means = 53.3 lb./ac.
3. M marginal means = 58.2 lb./ac.
4. M means at the same level of S = 116.4 lb./ac.
5. S means at the same level of M = 128.5 lb./ac.
6. M means at the same level of V = 82.3 lb./ac.
7. V means at the same level of M = 90.9 lb./ac.

S.E. of body of V×S table = 75.4 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(246).**

Site :- Agri Res. Stn., Kumta. **Type :- 'CMV'.**

Object :—To find the best combination of manurial dose and spacing on early varieties of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Fallow—Paddy. (b) Paddy. (c) N.A. (ii) (a) Laterite. (b) Refer soil analysis, Kumta. (iii) 22.5.1957/27.6.1957 to 2.7.1957. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) As per treatments. (e) N.A. (v) Nil. (vi) As per treatments. (vii) Unirrigated. (viii) Weeding. (ix) 115.04". (x) 18.10.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(235) on page 180.

5. RESULTS :

(i) 1796 lb./ac. (ii) (a) 401.5 lb./ac. (b) 241.5 lb./ac. (iii) Main effects of V and M are highly significant. (iv) Av. yield of grain in lb./ac.

	M_0	M_1	M_2	M_3	M_4	Mean	S_1	S_2	S_3	S_4
V_1	1297	1563	1719	1644	1969	1638	1724	1532	1695	1604
V_2	1605	1875	2097	1857	2335	1954	2250	1879	1831	1852
Mean	1451	1719	1908	1750	2152	1796	1987	1706	1763	1728
S_1	1745	1974	2011	1814	2392					
S_2	1374	1699	1788	1670	2000					
S_3	1370	1574	1931	1754	2186					
S_4	1314	1631	1901	1764	2030					

S.E. of difference of two

1. V marginal means = 73.3 lb./ac.
2. S marginal means = 103.7 lb./ac.
3. M marginal means = 69.7 lb./ac.
4. M means at the same level of V = 98.6 lb./ac.
5. V means at the same level of M = 114.7 lb./ac.
6. M means at the same level of S = 139.4 lb..ac.
7. S means at the same level of M = 162.2 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(255).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'CMV'.**

Object :—To study the effect of different spacings on early varieties of Paddy and also to study the residual effect of manures applied to previous Paddy crop.

1. BASAL CONDITIONS :

(i) (a) Paddy—Fallow -Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Laterite. (b) Refer soil analysis, Kumta. (iii) 25.5.1958/3.7.1958. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) As per treatments. (e) N.A. (v) Nil. (vi) As per treatments. (vii) Unirrigated. (viii) Weeding. (ix) 152.83". (x) 28.10.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(235) on page 180. The manures were applied in previous year on paddy crop.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of grain. (iv) (a) Original expt. started from 1955 to 1957 and residual effect was studied in 1958. (b) Yes. (c) Nil. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1910 lb./ac. (ii) (a) 561.7 lb /ac. (b) 229.7 lb./ac. (iii) Main effect of V is significant. Main effect of M is highly significant and interaction M×S is significant. (iv) Av. yield of grain in lb./ac.

	M_0	M_1	M_2	M_3	M_4	Mean	S_1	S_2	S_3	S_4
V_1	1627	1694	1915	1658	1972	1773	1883	1943	1888	1379
V_2	1897	2124	2136	1930	2148	2047	2113	1873	2023	2178
Mean	1762	1909	2025	1794	2060	1910	1998	1908	1955	1779
S_1	1882	2130	2009	1791	2178					
S_2	1827	1803	1966	1924	2021					
S_3	1755	1803	2045	1839	2335					
S_4	1585	1900	2081	1621	1706					

S.E. of difference of two ,

1. V marginal means = 102.6 lb./ac.
2. S marginal means = 145.0 lb./ac.
3. M marginal means = 66.3 lb./ac.
4. M means at the same level of V = 93.8 lb./ac.
5. V means at the same level of M = 132.5 lb./ac.
6. M means at the same level of S = 132.6 lb./ac.
7. S means at the same level of M = 187.4 lb./ac.

Crop :- Paddy (1st crop). **Ref :- Ms. 54(90).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'CMV'.**

Object :—To study the merits of Japanese and Farm methods of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Mangalore. (iii) 26.5.1954/23, 24.6.1954. (iv) (a) 6 to 8 ploughings. (b) Transplanting. (c) 40 to 60 lb./ac. (d) 10"×10" in Japanese method and 6"×6" in Farm methods. (e) 4 seedlings/hole in Japanese method and 2 in Farm nethod. (v) Nil (vi) As per treatments. (vii) Unirrigated. (viii) Weeding in M_1 plots and 3 interculturings in M_2 plots. (ix) 118.25". (x) 22.9.1954.

2. TREATMENTS :

Main-plot treatments :

2 varieties : V_1=MGL—2 (medium) and V_2=MTU—15 (medium).

Sub-plot treatments :

2 methods of paddy cultivation : M_1=Japanese method—40 C.L./ac. of F.Y.M.+2000 lb./ac. of ash+2000 lb./ac. of sieved compost+150 lb./ac. of Super and 150 lb./ac. of A/S at sowing+150 lb./ac. of Super and 150 lb./ac. of A/S after 10 days of sowing+20 C.L./ac. of F.Y.M.,+150 lb /ac. of A/S and 200 lb./ac. of Super as B.D.+75 lb./ac. of A/S and 100 lb./ac. of Super top dressed 15 days after transplanting+75 lb./ac. of A/S and 100 lb./ac. of Super top dressed 30 days after transplanting and M_2=Farm method—2000 lb./ac. of ash at sowing+200 lb./ac. of Super and 5000 lb./ac. of G.L. as B.D.+150 lb./ac. of A/S top dressed 30 days after transplanting.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication and 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) $16\frac{1}{3}' \times 26\frac{1}{3}'$ for M_1 plots and $16' \times 26'$ for M_2 plots. (b) $15' \times 25'$. (v) One row. (vi) Yes.

4. GENERAL :

(i) V_1 plots lodged at the late stage of ripening. (ii) Silver shoot and stem borer infection. Control measures taken N.A. (iii) Tiller counts and yield of grain. (iv) (a) 1953—contd. (b) and (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1310 lb./ac. (ii) (a) 221.4 lb./ac. (b) 161.9 lb./ac. (iii) Main effects of V and M are significant. (iv) Av. yield of grain in lb./ac.

	M_1	M_2	Mean
V_1	2026	817	1422
V_2	1692	706	1199
Mean	1859	762	1310

S.E. of difference of two

1. V marginal means = 78.4 lb./ac.
2. M marginal means = 57.3 lb./ac.
3. M means at the same level of V = 81.2 lb./ac.
4. V means at the seme level of M = 97.1 lb./ac.

Crop :- Paddy (1st Crop). **Ref :- Ms. 55(145).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'CMV'.**

Object :—To study the merits of Japanese and Farm methods of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Mangalore. (iii) 23.5.1955/25.6.1955. (iv) (a) 6 to 8 ploughings. (b) Transplanting. (c) 40 to 60 lb./ac. (d) $10'' \times 10''$ in Japanese method and $6'' \times 6''$ in farm methods. (e) 4 seedings/hole in Japanese method and 2 in farm methods. (v) Nil. (vi) As per treatments. (vii) Unirrigated. (viii) Weeding in M_1 plots and 3 interculturings in M_2 plots. (ix) 136.41". (x) 5.10.1955.

2. TREATMENTS :

Same as in expt. no 54(90) on page 183.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 sub-plots/main-plot ; 2 main-plots/replication. (b) N.A. (iii) 8. (iv) (a) $26\frac{1}{2}' \times 16\frac{1}{2}'$. (b) $25' \times 15'$. (v) $9'' \times 9''$. (vi) Yes.

4. GENERAL :

(i) Lodged in the end of the season. (ii) Nil. (iii) Height of plants and yield of grain. (iv) (a) 1953—1955. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) to (vii) Nil.

5. RESULTS :

(i) 1573 lb./ac. (ii) (a) 308.0 lb./ac. (b) 180.7 lb./ac. (iii) Main effect of V is highly significant and main effect of M is significant. (iv) Av. yield of grain in lb./ac.

	M_1	M_2	Mean
V_1	1971	1797	1884
V_2	1354	1249	1301
Mean	1663	1523	1593

S.E. of difference of two

1. V marginal mean = 115.0 lb,/ac.
2. M marginal mean = 63.9 lb /ac.
3. M means at the same level of V = 90.3 lb /ac.
4. V means at the same level of M = 132.4 lb./ac.

Crop :- Paddy (2nd Crop). **Ref :- Ms. 55(146).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'CMV'.**

Object :—To study the merits of Japanese and Farm methods of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Mangalore. (iii) 21.9.1955/26, 27.10.1955. (iv) (a) 6 to 8 ploughings. (b) Transplanting. (c) 40 to 60 lb./ac. (d) 10″×10″ in Japanese method and 6″×6″ in Farm method. (e) 4 seedlings/hole in Japanese method and 2 in Farm method. (v) Nil. (vi) As per treatments. (vii) Unirrigated. (viii) Weeding in M_2 plots and 3 interculturings in M_1 plots. (ix) 35.09″. (x) 19.1.1956 and 29.1.1956.

2. TREATMENTS :

Same as in expt. no. 54(90) on page 183. In main-plot treatments the varieties are different *i.e.*, V_1=PTB—20 (medium) and V_2=CO—3 (late.)

3. DESIGN :

(i) Split-plot. (ii) 2 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) 26½′×16½′. (b) 25′×15′. (v) 9″×9″. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Severe infection of *piricularia* (blast) noticed in CO—3 variety. Spraying with 1% Bordeaux mixture. (iii) Height measurements and yield of grain. (iv) (a) 1953—1955. (b) and (c) Yes. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1978 lb./ac. (ii) (a) 451.4 lb./ac. (b) 253.1 lb./ac. (iii) Main effects of V and M are highly significant. (iv) Av. yield of grain in lb./ac.

	M_1	M_2	Mean
V_1	2530	2378	2454
V_2	1699	1307	1503
Mean	2114	1842	1978

S.E. of difference of two

1. V marginal mean = 159.6 lb./ac.
2. M marginal mean = 89.5 lb./ac.
3. M mean at the same level of V = 126.6 lb./ac.
4. V means at the same level of M = 183.0 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(200).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To study the effect of levels of irrigation in relation to N doses on Paddy crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Alkaline soil. (b) N.A. (iii) 18.6.1955/6.8.1955. (iv) (a) N.A. (b) Transplanting. (c) 40 lb./ac. (d) 12″×12″. (e) 4 to 5. (v) 10 C.L./ac. of F.Y.M. (v) *Antarsal*—90. (vii) Irrigated as per treatments. (viii). Interculturing and weeding. (ix) 20.64″. (x) 1.12.1955.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 levels of N as G.N.C. and A/S in 1 : 1 ratio : N_0 =0, N_1=32 and N_2=64 lb./ac.
(2) 2 levels of irrigation : I_1=3 and I_2=4 acre inches.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) Repl. I and IV : (a) 1/23.17 ac. (b) 1/28.34 ac.; Repl. II and III : (a) 1/30.70 ac. (b) 1/37.55 ac. (v) 2 rows on either side. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Moisture studies, yield of grain and fodder. (iv) (a) and (b) N.A. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 607 lb./ac. (ii) 145.8 lb./ac. (iii) Only main effect of N significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean
I_1	482	577	673	577
I_2	484	688	738	637
Mean	483	633	706	607

S.E. of N marginal mean = 51.5 lb./ac.
S.E. of I marginal mean = 42.1 lb./ac.
S.E. of body of table = 72.9 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(158).**

Site :- Govt. Agri., Farm, Arbhavi. **Type :- 'IM'.**

Object :—To study the effect of levels of irrigation in relation to N doses on Paddy crop.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Heavy *Kirl* and *Masari*. (b) N.A. (iii) 4.6.1956/20.7.1956. (iv) (a) N.A. (b) Transplanting. (c) 25 lb./ac (d) 12″×12″. (e) 4 to 5. (v) 6 C.L./ac. of F Y.M.+20 lb./ac. of P_2O_5. (vi) *Antarsal*—90. (vii) Irrigated as per treatments. (viii) Weeding and interculturing. (ix) 27.15″. (x) 27.11.1956.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of N as A/S and G.N.C. in 1 : 1 ratio : N_1=32 and N_2=64 lb./ac.

(2) 3 levels of irrigations : I_1=2, I_2=3½, and I_3=5 acre inches.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 55(200) on page 186.

5. RESULTS :

(i) 1361 lb./ac. (ii) 242.7 lb./ac. (iii) Only Main effect of N is significant. (iv) Av. yield of grain in lb./ac.

	I_1	I_2	I_3	Mean
N_1	1294	1234	1168	1232
N_2	1606	1515	1347	1489
Mean	1450	1374	1258	1316

S.E. of N marginal mean = 70.1 lb./ac.
S.E. of I marginal mean = 85.8 lb./ac.
S.E. of body of table = 121.4 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(168).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To study the effect of levels of irrigation in relation to N doses on Paddy crop.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Heavy *kirl* to *masari*. (b) N.A. (iii) 16.6.1957/10, 11.8.1957. (iv) (a) N.A. (b) Transplanted. (c) 25 lb./ac. (d) 12″×12″. (e) 4 to 5. (v) 6 C.L./ac. of F.Y.M. (vi) *Antorsal*—90. (vii) As per treatments. (viii) Interculturing and weeding. (ix) 15.81″. (x) 8 to 12.12.1957.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of N as A/S and G.N.C. in 1 : 1 ratio : N_1=32 and N_2=64 lb./ac.

(2) 3 levels of irrigations : I_1=3, I_2=4 and I_3=5 acreinches.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 55(200) on page 186.

5. RESULTS :

(i) 580 lb./ac. (ii) 168.5 lb./ac. (iii) Main effect of N is significant and interaction I×N is highly significant. (iv) Av. yield of grain in lb./ac.

	I_1	I_2	I_3	Mean
N_1	601	340	522	488
N_1	477	825	713	672
Mean	539	582	618	580

S.E. of N marginal mean = 48.6 lb./ac.
S.E. of I marginal mean = 59.6 lb./ac.
S.E. of body of table = 84.2 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(27).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- '1M'.**

Object :—To find out the optimum levels of irrigation and manure for Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M.+20 lb./ac. of N as A/S and 10 lb./ac. of P_2O_5 as Super. (ii) (a) Medium deep soil. (b) N.A. (iii) 7.8.1956. (iv) (a) Tractor and bullock ploughing. (b) Drilling. (c) 30 lb./ac. (d) 12″ between rows. (e)—. (v) 5 C.L./ac. of F.Y M. befroe 2nd ploughing. (vi) N.A. (vii) As per treatments. (viii) Hoeing and weedings. (ix) 25.13″. (x) 27.11.1956.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 5 irrigations : I_0=0, I_1=3, I_2=6, I_3=9 and I_4=12 irrigations.

(2) 4 levels of manuring : M_0=0, M_1=15 lb./ac. of N+7.5 lb./ac. of P_2O_5, M_2=30 lb./ac. of N+15 lb./ac. of P_2O_5 and M_3=45 lb./ac. of N+22.5 lb./ac. of P_2O_5.

N applied as A/S and P_2O_5 as Super.

3. DESIGN :

(i) R.B.D. (ii) (a) 20. (b) N.A. (iii) 4. (iv) (a) 22′×18′. (b) 20′×16′. (v) 1′×1′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956 only. (b) No. (c) Nil. (v) and (vi) Nil. (vii) The irrigation levels could not be maintained as per plan because of irregular rain-fall during the season and hence the expt. is analysed as having 4 manurial treatments and 20 replications.

5. RESULTS :

(i) 890 lb./ac. (ii) 157.2 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3
Av. yield	376	806	1052	1127

S.E./mean = 35.1 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(44).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'D'.**

Object : - To study the effect of insecticides in controlling Paddy blast and neck rot.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) A/S at 160 lb./ac.+Triple Super at 100 lb./ac.+G.N.C. at 150 lb./ac. (ii) (a) Black loam. (b) N.A. (iii) 3.9.1959. (iv) (a) 3 ploughings, harrowing and puddling. (b) Transplanting. (c) 15 lb./ac. (d) 9″×9″. (e) 2. (v) 3 C.L /ac. of F.Y.M. (vi) S—705. (vii) Irrigated. (viii) Hand weeding and rotary weeding. (ix) 6.49″. (x) 5/6.1.1960.

2. TREATMENTS :

5 insecticides : C_0=Control, C_1=Bordeaux mixture, C_2=Blitax, C_3=Ceresan lime dust and C_4=Sulphur dust.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 42.5′×20.5′. (b) 41′×19′. (v) 9″×9″. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Sprayed 0.04%. Folidol against thrips and stemborer. (iii) Height of plants, no. of tillers, grain and straw yield. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1360 lb./ac. (ii) 210.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_0	C_1	C_2	C_3	C_4
Av. yield	1395	1391	1379	1285	1348

S.E./mean = 105.2 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(45).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'D'.**

Object :—To study the effect of Basudin in controlling Paddy stem-borer.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) A/S at 160 lb./ac.+Triple Super at 100 lb./ac.+G.N.C. at 150 lb./ac. (ii) (a) Black loam. (b) N.A. (iii) 15.7.1959/26.8.1959. (iv) (a) 3 ploughings, harrowings and puddling. (b) Transplanting. (c) 15 lb./ac. (d) 9″×9″. (e) 2. (v) 3 C.L./ac. of F.Y.M. (vi) S—1092. (vii) Irrigated. (viii) 1 hand weeding and 4 rotary weedings. (ix) 21.63″. (x) 19.1.1960.

2. TREATMENTS :

5 levels of Basudin : B_0=Control, B_1=0.1%, B_2=0.15%, B_3==0.20% and B_4=0.25%.
Basudin applied at 10—15 days interval from 10.9.1959 to 19.11.1959.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 44′×16½′. (b) 42½′×15′. (v) 9″×9″. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) N.A. (iii) Height, no. of tillers, grain and straw yield. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3320 lb./ac. (ii) 377.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	B_0	B_1	B_2	B_3	B_4
Av. yield	3268	3170	3242	3300	3620

S.E./mean = 188.9 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(211).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'D'.**

Object :—To find out the most effective and economical insecticide for the control of Paddy gallfly.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L./ac. of F.Y.M.+30 lb./ac. of N as A/S+32 lb./ac. of P_2O_5 as B.M. (ii) (a) Laterite. (b) Refer soil analysis, Kumta. (iii) N A./1st week of July 1956. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 8″×6″. (e) 4 to 6. (v) 5 C.L./ac. of F.Y.M. (vi) Jaddu—1061 (mid late) (vii) Unirrigated. (viii) Weeding. (ix) 142.92″. (x) 1st Nov. to 15th Dec. 1956.

2. TREATMENTS :

10 Insecticidal treatments : C_0=Control, C_1=2 applications of 0.025% Parathion, C_2=3 applications of C_1, C_3=4 applications of C_1, C_4=3 applications of 0.05% Parathion, C_5=4 applications of C_4, C_6=3 applications of 0.25% Chloidane at 8 lb./ac., C_7=4 applications of 19.6% Endrin at ½ lb./ac., C_8=3 applications of 4% mineral oil satur ated with Dieldrin and C_9=3 applications of 5% Dieldrin pellets.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 5. (iv) (a) 48′×16′8″. (b) 46′8″×15′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) As per observations. (iii) % infestation and yield of grain. (iv) (a) 1956—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2120 lb./ac. (ii) 271.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_0	C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8	C_9
Av. yield	1660	2040	2112	2116	2047	2299	2016	2561	2413	1940

S.E./mean = 121.7 lb./ac.

(i) 35.88 degrees. (ii) 3.64 degrees. (iii) The treatment differences are highly significant. (iv) Mean angle in degrees.

Treatment	C_0	C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8	C_9
Mean angle	54.22	36.30	34.26	38.36	39.90	31.12	38.00	32.98	28.62	44.90

S.E./mean = 1.68 degrees.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(241).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'D'.**

Object :—To find out the most effective and economical insecticide for the control of Paddy gallfly.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Laterite. (b) Refer soil analysis, Kumta. (iii) 28.6.1957/21.7.1957. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 8″×6″. (e) 4 to 6. (v) 5 C.L./ac. of F.Y.M. (vi) Jaddu—1061 (mid late). (vii) Unirrigated. (viii) Weeding. (ix) 115.04″. (x) 15.12.1957.

2. TREATMENTS :

8 Insecticides : C_0=Control, C_1=Basudin 0.04%, C_2=Ekatox 0.1%, C_3=Folidol 0.1%, C_4=Endrin 0.1%, C_5=D.D.T. O. 312%, C_6=Aldrine 0.125% and C_7=Mineral oil+Dieldrin 4%.

Insecticides applied 4 times at 10 days interval after 21 days of transplanting.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 6. (iv) (a) 48′×16′8″. (b) 46′8″×15′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) As per treatments. (iii) Percentage infestation, percentage of bearing earheads and grain yield. (iv) (a) 1956—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2224 lb./ac. (ii) 319.6 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_0	C_1	C_2	C_3	C_4	C_5	C_6	C_7
Av. yield	1855	2118	2288	2385	2468	2122	2081	2479

S.E./mean = 130.5 lb./ac.

(i) 36.89 degrees. (ii) 1.78 degrees. (iii) Treatment differences are highly significant. (iv) Mean angle in degrees.

Treatment	C_0	C_1	C_2	C_3	C_4	C_5	C_6	C_7
Mean angle	44.02	37.78	35.07	35.17	32.33	38.63	38.33	33.83

S.E./mean = 0.73 degree.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(250).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'D'.**

Object :—To find the most effective and economical insecticide for the control of Paddy gallfly.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) F.Y.M. at 5 C.L./ac.+30 lb./ac. of N as A/S+32 lb./ac. of B.M. (ii) (a) Laterite. (b) Refer soil analysis, Kumta. (iii) N.A./1st week of July, 1958. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 8″×6″. (e) 4 to 6. (v) F.Y.M. at 5 C.L./ac. (vi) Jaddu—1061 (Mid late). (vii) Unirrigated. (viii) Weeding. (ix) 152.83″. (x) 1st November to 15th December, 1958.

2. TREATMENTS :

10 Insecticides : C_0=control C_1=Ekatox 20/(W/D) 0.1 %, C_2=Basudin 0.1%, C_3=D.D.T. 50% (W/D) 0.312%, C_4=Endrin 0.1%, C_5=Folidol 0.1%, C_6=Ekatox 50 EC 0.05%, C_7=Ekatin 0.1%, C_8=Pestox 0.1 % and C_9=Mineral oil+5%Dieldrin 0.1%.

Insecticides Ekatin and Pestox applied twice at 20 days interval and the remaining 4 times at 10 days interval.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 5. (iv) (a) 48′×16′.8″. (b) 36′×14′. (v) N.A. (vi) Yes.

4. GENERAL :

(i)Normal. (ii) As per treatments. (iii) % infestation, % of bearning earheads and yield of grain. (iv) (a) 1957—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3139 lb./ac. (ii) 203.0 lb./ac. (iii) Treatment differences are signficaint. (iv) Av. yield of grain in lb./ac.

Treatment	C_0	C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8	C_9
Av. yield.	2685	3011	3230	3200	3481	3267	3273	3007	2985	3252

S.E./mean = 90.8 lb./ac.

(i) 32.92 degrees. (ii) 3.61 degrees. (iii) The treatments differences are highly 'significant. (iv) Mean angle in degrees.

Treatment	C_0	C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8	C_9
Mean angle	40.86	35.18	29.54	34.54	25.60	28.24	35.88	36.94	35.08	27.36

S.E./mean = 1.61 degrees.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(225).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'D'.**

Object :—To find out the most effective and economical insecticide for the control of Paddy gallfly.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L./ac. of F.Y.M.+64 lb./ac. of P_2O_5 and 32 lb./ac. of N. (ii) (a) Laterite. (b) Refer soil analysis, Kumta. (iii) 22.6.1959/5.7.1959. (iv) (a) Ploughing. (b) Transplanting. (c) 65 lb./ac. (d) 8″×8″. (e) 4 to 5. (v) 96 lb./ac. of N. (vi) Jaddu—1061 (mid late). (vii) Unirrigated. (viii) Hand weeding. (ix) 156.09″. (x) 4.11.1959 to 10.11.1959.

2. TREATMENTS :

10 Insecticides : C_0=Control. C_1=Basudin 0.05%. C_2=Basudin 0.025%. C_3=Endrin 0.05%. C_4=Endrin 0.025%. C_5=Ekatox 0.05%. C_6=Ekatox 0.025%. C_7=Folidol 0.05%. and C_8=Folidol 0.025%. C_9=Mineral oil+2.5% Dieldrin (Tech.)

Each insecticide was sprayed 9 times at an interval of 4—5 days from 8.7.1959. to 24.8.1959.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 5. (iv) (a) 48′×16′8″. (b) 46′8″×13′4″. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Good. (ii) As per treatments. (iil) Biometric observations and yield of grain. (iv) (a) 1957—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2781 lb./ac. (ii) 282.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_0	C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8	C_9
Av. yield	2195	2822	2958	2910	2993	2730	2832	2842	2741	2787

S.E./mean = 126.1 lb./ac.

(i) 14.09 degrees. (ii) 2.66 degrees. (iii) The treatment effects are highly significant. (iv) Mean angle in degrees.

Treatment	C_0	C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8	C_9
Mean angle	28.20	13.26	15.78	10.32	13.36	12.02	11.06	10.38	12.14	14.46

S.E./mean = 1.18 degrees.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(212).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'D'.**

Object :—To find out the most effective and economical insecticide for the control of Paddy gallfly.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L./ac. of F.Y.M.+30 lb./ac. of N as A/S+32 lb./ac. of P_2O_5 as B.M. (ii) (a) Laterite. (b) Refer soil analysis, Kumta. (iii) N.A./1st week of July, 1956. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 8"×6". (e) 4 to 6. (v) 5 C.L./ac. of F.Y.M. (vi) Jaddu—1061 (mid late). (vii) Unirrigated. (viii) Weeding. (ix) 142.92". (x) 1st Nov. to 15th Dec. 1956.

2. TREATMENTS :

6 insecticidal treatments : C_0=Control, C_1=0.025% Parathion, C_2=0.03% Diazinon, C_3=0.02% Diazinon, C_4=½ lb./ac. Endrin, C_5=4% Dieldrin saturated with mineral oil.

3 applications of insecticides are given.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 41'2"×26'9". (b) 38'×24'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) As per observations. (iii) Percentage infestation and yield of grain. (iv) (a) 1956—N.A. (b) No. (c) Nil. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2119 lb./ac. (ii) 219.2 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_0	C_1	C_2	C_3	C_4	C_5
Av. yield	1683	2359	2138	2050	2211	2271

S.E./mean = 109.6 lb./ac.

(i) 37.32 degrees. (ii) 2.84 degrees. (iii) The treatment effects are highly significant. (iv) Mean angle in degrees.

Treatment	C_0	C_1	C_2	C_3	C_4	C_5
Mean angle	41.70	37.20	40.55	37.60	33.08	33.78

S.E./mean = 1.42 degrees.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(242).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'D'.**

Object :—To find out the most effective and economical insecticide for the control of Paddy gallfly.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Laterite. (b) Refer soil analysis, Kumta. (iii) 28 6.1957/21.7.1957. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 8"×6". (e) 4 to 6. (v) 5 C.L./ac. of F.Y.M. (vi) Jaddu—1061 (mid-late). (vii) Unirrigated. (viii) Weeding. (ix) 115.04". (x) 1.11.1957 to 15.12.1957.

2. TREATMENTS :

6 insecticides : C_0=Control, C_1=Fish oil resin soap 2 ozs./gallon, C_2=Folidol 0.05%, C_3=Endrin 0.05%, C_4=Nocostin sulphate at 1 lb. in 600 gallons of water and C_5=Crude oil saturated with 4% Dieldrine.

Insecticides applied 4 times from 13.8.1957 to 13.9.1957.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 41'2"×26'9". (b) 38'×24'. (v) N.A. (vi) Yes.

4. CENERAL :

(i) Normal. (ii) As per treatments. (iii) Percentage infestation, percentage of bearing earheads and yield of grain. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1668 lb./ac. (ii) 168.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_0	C_1	C_2	C_3	C_4	C_5
Av. yield	1467	1400	1909	1913	1424	1897

S.E./mean = 68.9 lb./ac.

(i) 39.22 degrees. (ii) 3.90 degrees. (iii) The treatments differences are highly significant. (iii) Mean angles in degrees.

Treatment	C_0	C_1	C_2	C_3	C_4	C_5
Mean angle	46.33	40.97	37.57	35.17	40.57	34.72

S.E./mean = 1.59 degrees.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(251).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'D'.**

Object :—To find out the most effective and economical insecticide for the control of Paddy gall-fly.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) F.Y.M. at 5 C.L./ac. (ii) (a) Laterite. (b) Refer soil analysis, Kumta. (iii) N.A./1st week of July, 1958. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 8"×6". (e) 4 to 6. (v) F.Y.M. at 5 C.L./ac. (vi) Jaddu—1061 (mid-late). (vii) Unirrigated. (viii) Weeding. (ix) 152.83". (x) 1st Nov. to 15th Dec., 1958.

2. TREATMENTS:

5 insecticides : C_0=Control, C_1=Mineral oil+5% Dieldrin (Tech.), C_2=Endrin 0.05%, C_3=Folidol 0.05%, C_4=Basudin 0.05%.

Insecticides applied 4 times at 10 days interval, 21 days after transplanting.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 1/37.6 ac. (b) 46'×15'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) As per treatments. (iii) % infestation, percentage of bearing earheads and yield of grain (iv) (a) 1957—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2635 lb./ac. (ii) 187.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_0	C_1	C_2	C_3	C_4
Av. yield	2281	2770	2757	2707	2659

S.E./mean = 84.0 lb./ac.

(i) 32.79 degrees. (ii) 2.789 degrees. (iii) The treatments difference are highly significant. (iv) Mean angle in degrees.

Treatment	C_0	C_1	C_2	C_3	C_4
Mean angle	39.34	35.30	31.78	34.42	23.10

S.E./mean = 1.24 degrees.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(228).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'D'.**

Object :—To find out the most effective and economical insecticide for the control of Paddy gall-fly.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L /ac. of F.Y.M.+64 lb./ac. of P_2O_5 and 32 lb./ac. of N. (ii) (a) Laterite mixed with sand and shale at places. Yellowing red to Brownish little gray in colour. Shallow to medium depth. (b) Refer soil analysis, Kumta. (iii) 27.6.1959/5 7.1959. (iv) (a) Ploughing. (b) Transplanting. (c) 65 lb./ac. (d) 8″×8″. (e) 4 to 5. (v) 96 lb./ac. of N. (vi) Joddu—1061 (mid-late). (vii) Unirrigated. (viii) Hand weeding. (ix) 156.09″. (x) 4.11.1959. to 10.11 1959.

2. TREATMENTS :

5 insecticides: C_0=Control, C_1=Basudin 0.1%, C_2=Endrin at 0.1%, C_3=Ekatox 0.1% and C_4=Folidol 1%.

Insecticides applied 5 times at 10 days interval from 8.7.1959 to 20.8.1959.

3. DESIGN

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 40′6″×27′. (b) 36′×21′4″. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) As per treatments. (iii) % infestation of *Kane*, yield of grain and % of bearing earhead. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2867 lb./ac. (ii) 98.4 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb /ac.

Treatment	C_0	C_1	C_2	C_3	C_4
Av. yield	2674	2924	2918	2822	2996

S.E /mean = 44.0 lb./ac.

(i) 18.48 degrees. (ii) 2.11 degrees. (iii) The differences treatment are highly significant. (iv) Mean angle in degrees.

Treatment	C_0	C_1	C_2	C_3	C_4
Mean angle	22.78	17.66	16.86	17.86	17.24

S.E./mean = 0.94 degree.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(213).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'D'.**

Object :—To find out the most effective and economical insecticide for the control of Paddy gall-fly.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L./ac. of F.Y.M.+30 lb./ac. of N as A/S+32 lb./ac. of P_2O_5 as B.M. (ii) (a) Laterite. (b) Refer soil analysis Kumta. (iii) N.A./1st week of July 1956. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 8″×6″. (e) 4 to 6. (v) 5 C.L./ac. of F.Y.M. (vi) Jaddu—1061 (Mid late). (vii) Unirrigated. (viii) Weeding. (ix) 142.92″. (x) 1.11.1956 to 15.12.1956.

2. TREATMENTS:

6 insecticidal treatments : C_0=Control, C_1=3 applications of 0.25%Parathion, C_2=3 applications of 10 lb./ac. of Dieldrin pallets, C_3=2 applications of ½ lb./ac. of Endrin, C_4=2 applications of 0.05% Diazinon and C_5=2 applications of 4% Dieldrin saturated with mineral oil.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 40′6″×27′. (b) 36′×24′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) As per observations. (ii) Percentage infestation and yield of grain. (iv) (a) 1956—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1777 lb./ac. (b) 142.1 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_0	C_1	C_2	C_3	C_4	C_5
Av. yield	1474	1953	1713	1996	1772	1753

S.E./mean = 71.0 lb./ac.

(i) 40.3 degrees. (ii) 9.64 degrees. (iii) The treatment differences are not significant. (iv) Mean angle in degrees.

Treatment	C_0	C_1	C_2	C_3	C_4	C_5
Mean angle	42.6	39.1	40.7	40.0	39.0	40.3

S.E./mean = 4.82 degrees.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 57(243).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'D'.**

Object :—To find out the most effective and economical insecticide for the control of gall-fly.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) F.Y.M. at 5 C.L./ac. (ii) (a) Laterite. (b) Refer soil analysis, Kumta. (iii) N.A./1st week of July, 1957. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 8″×6″. (e) 4 to 6. (v) F.Y.M. at 5 C.L./ac. (vi) Jaddu—1061 (mid-late). (vii) Unirrigated. (viii) Weeding. (ix) 115.04″. (x) 1.11.1957 to 15.12.1957.

2. TREATMENTS :

2 insecticides : C_0=Control and C_1=Aldrine dusting at 2%.
0.75 lb./ac. of Aldrine used for 4 applications from 3.8.1957 to 21.9.1957.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 6. (iv) (a) 40′6″×27′. (b) 36′×24′. (v) 3 rows. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) As per treatments. (iii) Percentage infestation, percentage of bearing earheads and yield of grain. (iv) (a) 1957—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1648 lb./ac. (ii) 182.8 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_0	C_1
Av. yield	1757	1540

S.E./mean = 74.6 lb./ac.

(i) 40.50 degrees. (ii) 4.03 degrees. (iii) The treatment difference is not significant. (iv) Mean angle in degrees.

Treatment	C_0	C_1
Mean angle	43.50	37.52

S.E./mean = 1.65 degrees.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(252)**

Site :- Agri. Res. Stn., Kumta. **Type :- 'D'.**

Object :—To find out the most effective and economical insecticide for the control of gall-fly.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) F.Y.M. at 5 C.L./ac.+30 lb./ac. of N as A/S+32 lbs./ac. of B.M. (ii) (a) Laterite. (b) Refer soil analysis, Kumta. (iii) N.A./1st week of July, 1959. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 8"×6" (e) 4 to 6. (v) F.Y.M. at 5 C.L./ac. (vi) Jaddu—1061 (Mid-late). (vii) Unirrigated. (viii) Weeding. (ix) 152.83". 1.11.1958 to 15.12.1958.

2. TREATMENTS :

5 insecticides : C_0=Control, C_1=Mineral oil+5% Dieldrin, C_2=Pexton. 0.1%, C_3=Ekatin. 0.1% and C_4= Ekatox (50 EC) 0.1%.

3. DESIGN

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) and (b) 46'×15'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) As per treatments. (iii) Percentage infestation, percentage of bearing earheads and yield of grain. (iv) (a) 1957—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2432 lb./ac. (ii) 323.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_0	C_1	C_2	C_3	C_4
Av. yield	2131	2783	2475	2431	2342

S.E./mean = 144 8 lb./ac.

(i) 35.4 degrees. (ii) 2.15 degrees. (iii) The treatment differences are highly significant. (iv) Mean angle in degrees.

Treatment	C_0	C_1	C_2	C_3	C_4
Mean angle	40.96	36.88	36.88	35.64	26.68

S.E./mean = 0.96 degree.

Crop :- Paddy *(Kharif).* **Ref :- Ms. 59(229).**

Site :- Agri. Res. Stn., Kumta. **Type :- 'D'.**

Object :—To find out the effective and economical insecticide for the control of Paddy gall-fly.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L./ac. of F.Y.M.+60 lb./ac. of P_2O_5+32 lb./ac. of N. (ii) (a) Laterite. (b) Refer soil analysis, Kumta. (iii) N.A./25, 27.6.1959. (iv) (a) Ploughing. (b) Transplanting. (c) 65 lb./ac. (d) 8"×8". (e) 4 to 5. (v) 96 lb./ac. of N. (vi) Jaddu—1061 (mid-late). (vii) Unirrigared. (viii) Hand weeding. (ix) 156.09". (x) 20.11.1959 to 28.11.1959.

2. TREATMENTS :

5 insecticides : C_0=Control, C_1=Ekatin at 0.05%, C_2=Ekatox at 0.05%, C_3=Peston at 0.05% and C_4= Mineral oil+Dieldrin at 5%.

Insecticides sprayed 5 times at 10 days interval from 8.7.1959 to 20.8.1959.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 40'6"×27'. (b) 36'×21'4". (v) N.A. (vi) Yes.

4. GENERAL :

(i Normal. (ii) As per treatments. (iii) Biometric observations and yield of grain. (iv) (a) 1957—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULT :

(i) 2422 lb./ac. (ii) 175.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_0	C_1	C_2	C_3	C_4
Av. yield	2225	2477	2428	2484	2498

S.E./mean = 78.4 lb./ac.

(i) 16.79 degrees. (ii) 1.90 degrees. (iii) The treatment differences are highly significant. (iv) Mean angle in degrees.

Treatment	C_0	C_1	C_2	C_3	C_4
Mean angle	21.14	16.80	13.98	17.80	14.24

S.E./mean = 0.85 degreee.

Crop :- Paddy *(Khairf).* **Ref :- Ms. 54(76).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'D'.**

Object :—To study the effect of different fungicides on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.M. at 3500 lb./ac.+Farm compost at 4000 lb./ac.+A/S at 150 lb./ac.+Super at 112 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 9.7.1954/9.8.1954. (iv) (a) Ploughing and levelling. (b) Transplanting. (c) 10 srs./ac. (d) 10"×8". (e) 2 to 3. (v) G.M. at 5000 lb /ac.+Triple Super at 50 lb./ac. on 4.5.1954+A/S at 150 lb./ac. in two doses at planting and after 4 weeks. (vi) S—699 (GEB 24—39). (vii) Irrigated. (viii) Hand weeding and passing weeder. (ix) 22.96". (x) 24.12.1954.

2. TREATMENTS :

5 fungicides : F_0=Control F_1=Cupravit, F_2=Bordeaux mixture F_3=Mercurial spray and F_4=Sulphur dust.

. DESIGN :

(i) L. Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv)(a) and (b) 1/136 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Biometric observations and yield of grain. (iv) 1954—Contd. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) to (vii) Nil.

5. RESULTS :

(i) 3563 lb./ac. (ii) 187.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	F_0	F_1	F_2	F_3	F_4
Av. yield	3590	3563	3590	3509	3563

S.E./mean = 83.9 lb./ac.

Crop :- Paddy *(Khairf)*. **Ref :- Ms. 55(55).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'D'.**

Object :—To study the effect of different fungicides on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.M. at 5000 lb./ac.+Triple Super at 50 lb./ac.+A/S at 150 lb./ac. in two doses. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 12.7.1955/9.8.1955. (iv) Ploughing and levelling. (b) Transplanting. (c) 12½ srs./ac. (d) 8″×10″. (e) 2 to 3. (v) G.M. at 3000 lb./ac.+Triple Super at 50 lb./ac. on 5.5.1955+100 lb./ac. of A/S at planting and 50 lb./ac. one month later. (vi) S—749 (medium). (vii) Irrigated. (viii) Hand weeding and passing of weeder. (ix) 23.75″. (x) 19.12.1955.

2. TREATMENTS :

Same as in expt. no. 54(76). on page 197.

3. DESIGN :

(i) L. Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) 1/100 ac. (b) 1/143 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) N.A. (iii) Biometric observations and yield of grain and straw. (iv) (a) 1954—contd. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2694 lb./ac. (ii) 220.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	F_0	F_1	F_2	F_3	F_4
Av. yield	2545	2631	2631	2860	2803

S.E./mean = 98.5 lb./ac.

Crop :- Paddy *(Khairf)*. **Ref :- Ms. 56(69).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'D'.**

Object :—To study the effect of different fungicides on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.M. at 3000 lb./ac.+Triple Super at 50 lb./ac. at the sowing of G.M. +A/S at 150 lb./ac. in two doses, at planting and one month later. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 6.7.1956/7.8.1956. (iv) (a) Ploughing and levell ng. (b) Transplanting. (c) 12½ srs./ac. (d) 8″×10″. (e) 2 to 3. (v) G.M at 3000 lb./ac.+Nitro. Phos. at 100 lb./ac. at planting+A/S at 50 lb./ac. on 23.9.1956. (vi) S—749 (late). (vii) Irrigated. (viii) Hand weeding. (ix) 16.29″. (x) 18.12.1956.

2. TREATMENTS :

Same as in expt. no. 54(76) on page 197.

3. DESIGN :

(i) L. Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) and (b) 1/150 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Yield of grain. (iv) (a) 1954—N.A. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3546 lb./ac. (ii) 436 6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	F_0	F_1	F_2	F_3	F_4
Av. yield	3270	3330	3720	3690	3720

S.E./mean = 195.2 lb./ac.

Crop :- Paddy (*Kharif*). **Ref :- Ms. 54(78).**

Site :- Agr. Res. Stn., Nagenahalli. **Type :- 'D'.**

Object :—To study the effect of different fungicides on Paddy.

1. BASAL CODITIONS :

(i) (a) Nil. (b) Paddy. (c) 3500 lb./ac. of G.M.+Farm Compost at 4000 lb./ac.+A/S at 150 lb./ac.+Super at 112 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 6.7.1954/5.8.1954. (iv) Ploughing and levelling. (b) Transplanting. (c) 10 srs./ac. (d) 10″×8″(e) 2 to 3. (v) G.M. at 5000 lb./ac.+Triple Super at 50 lb./ac. on 4.5.1954+A/S at 150 lb./ac. in two doses—at planting and at first weeding. (vi) S—699 (GEB 24—39). (vii) Irrigated. (viii) Hand weeding and passing weeder. (ix) 22.96″. (x) 24.12.1954.

2. TREATMENTS :

5 fungicides : F_0=Control, F_1=Ceresan Wet, F_2=Fermate, F_3=Yellow cupricide and F_4=Non mercuric organic Compound.
Seeds treated a week before sowing.

3. DESIGN :

(i) L. Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) and (b) 1/121 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height of plant, no. of tillers and yield of grain and straw. (iv) (a) 1954—contd. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3571 lb./ac. (ii) 300.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	F_0	F_1	F_2	F_3	F_4
Av. yield	3460	3726	3388	3605	3678

S.E./mean = 134.2 lb./ac.

Crop :- Paddy.(*Kharif*). **Ref :- Ms. 55(56).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'D'.**

Object :—To study the effect of different fungicides on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c)G.M. at 5000 lb./ac.+Triple Super at 50 lb./ac.+A/S at 150 lb./ac. in two doses. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 12.7.1955/9.8.1955. (iv) Ploughings and levelling. (b) Tranplanting. (c) 12½ sr./ac. (d) 8″×10″. (e) 2 to 3. (v) G.M. at 3000 lb./ac.+Triple Super at 50 lb./ac. on 5.5.1955+A/S at 100 lb./ac. at planting and 50 lb./ac. after one month. (vi) S—749 (medium). (vii) Irrigated. (viii) Hand weeding and weeder passed. (ix) 23.75″. (x) 19.12.1955.

2. TREATMENTS :

Same as in expt. no. 54(78) above.

3. DESIGN :

(i) L. Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 1/100 ac. (b) 1/143 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Observations on incidence of diseases taken. (iii) Height, no. of tillers and yield of grain and straw. (iv) (a) 1954—N.A. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3210 lb./ac. (ii) 308.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	F_0	F_1	F_2	F_3	F_4
Av. yield	3289	3203	3203	3260	3089

S.E./mean = 138.1 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 54(77).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'D'.**

Object :—To study the effect of different fungicides on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.M. at 3000 lb./ac.+Farm Compost at 4000 lb./ac.+A/S at 150 lb./ac.+ Super at 112 lb./ac. (ii) (a) Sandy loam. (b) Refer oil analysis, Nagenahalli. (iii) 9.7.1954/7.8.1954. (iv) (a) Ploughing and levelling. (b) Transplanting. (c) 10 srs./ac. (d) 10″×8″. (e) 2 to 3. (v) G.M. at 1000 lb./ac.+Triple Super at 50 lb./ac. on 27.4.1954.+A/S at 150 lb./ac. in two doses at planting and 4 weeks later. (vi) S—1053. (vii) Irrigated. (viii) Weeding and passing weeder. (ix) 22.96″. (x) 17.1.1955.

2. TREATMENTS :

Same as in expt. no. 54(78) on page 199.

3. DESIGN :

(i) L. Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 1/133.3 ac. (b) 1/200 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nii. (iii) Height of plants, no of tillers and yield of grain and straw. (iv) (a) 1954—contd. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3144 lb./ac. (ii) 308.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	F_0	F_1	F_2	F_3	F_4
Av. yield.	3240	3040	3280	3160	3000

S.E./mean = 137.7 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 55(57).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'D'.**

Object :—To study the effect of different fungicides on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.M. at 1000 lb./ac.+Triple Super at 50 lb./ac.+A/S at 150 lb./ac. in two doses. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 12.7.1955/8.8.1955. (iv) (a) Ploughing and levelling, (b)Transplanting. (c) 12½ seers /ac. (d) 8″×10″. (e) 2 to 3. (v) G.M. at 3000 lb./ac.+Triple Super at 50 lb./ac. on 5.5.1955+A/S at 100 lb./ac. at planting+50 lb./ac. one month later. (vi) S—1053. (vii) Irrigated. (viii) Hand weeding and passing weeder. (ix) 23.75″. (x) 16.1.1956.

2. TEATMENTS :

Same as in expt. no. 54(78) on page 199.

3. DESIGN :

(i) L. Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 1/133.3 ac. (b) 1/227 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) N.A. (iii) Height of plants, no. of tillers and yield of grain and straw. (vi) (a) 1954—N.A. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3659 lb./ac. (ii) 533.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	F_0	F_1	F_2	F_3	F_4
Av. yield	3496	4177	3768	3450	3405

S.E./mean = 238.5 lb./ac.

Crop :-Paddy *(Kharif)*. **Ref :-Ms. 56(67)**

Site :-Agri. Res. Stn., Nagenahalli. **Type :-'D'.**

Object :—To find out suitable insecticides for Paddy stem-borer.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.M. at 3000 lb./ac.+Triple Super at 50 lb./ac. at the sowing of G.M. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 26.7.1956/31.8.1956. (iv) (a) Ploughing and levelling. (b) Transplanting. (c) 12½ srs./ac. (d) 8" between rows. (e) 2 to 3. (v) Farm compost at 5000 lb /ac.+Triple Super at 50 lb./ac. at planting+A/S at 100 lb./ac. at planting and 50 lb./ac. on 29.9.1956. (vi) S—749 (medium). (vii) Irrigated. (viii) Hand weeding. (ix) 16.29". (x) 25.12.1956.

2. TREATMENTS :

5 insecticides : C_0=Control, C_1=Folidol, C_2=Endrin, C_3=Basudin and C_4=Ekatex.
Insecticides sprayed on 20.9.1956 and 16.10.1962.

3. DESIGN :

(i) L. Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) and (b) 1/100 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) No. of ear heads and yield of grain and straw. (iv) (a) 1956 only. (b) and (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1996 lb./ac. (ii) 376.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_0	C_1	C_2	C_3	C_4
Av. yield	1880	2020	2040	2000	2040

S.E./mean = 168.1 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 56(68).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'D'.**

Object :—To find out suitable insecticides for Paddy stem borer.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.M. at 3000 lb./ac.+Triple Super at 50 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 13.6.1956/10.7.1956. (iv) (a) Ploughing and levelling. (b) Transplanting. (c) 12 srs./ac. (d) 10" between rows. (e) 2 to 3. (v) Farm compost at 5000 lb./ac.+G.M. at 2000 lb./ac.+Triple Super at 50 lb./ac. at the time of sowing of G.M.+A/S at 100 lb./ac. at planting+50 lb /ac. on 24 8.1956. (vi) S—749 (medium). (vii) Irrigated. (viii) Hand weeding. (ix) 16.29". (x) 14.12.1956.

2. TREATMENTS :

Same as in expt. no. 56(67) above.
Insecticides sprayed on 17.7.1956, 13.8.1956, 20.9.1956 and 16.10.1956.

3. DESIGN :

(i) L. Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) 1/100 ac. (v) (a) and (b) Nil. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) No. of ear heads and yield of grain and straw. (iv) (a) 1956 only. (b) and (c) No. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3412 lb./ac. (ii) 416.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_0	C_1	C_2	C_3	C_4
Av. yield	3480	3460	3340	3480	3300

S.E./mean = 186.3 lb./ac.

Crop :- Paddy *(Kharif).* **Ref :- Ms. 56(70).**

Site :- Agri. Res. Stn., Nagenahalli. **Type :- 'D'.**

Object :—To study the effect of different fungicides on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.M. at 2000 lb./ac.+Triple Super at 50 lb./ac.+A/S at 150 lb./ac. in two doses. (ii) (a) Sandy loam. (b) Refer soil analysis, Nagenahalli. (iii) 6.7.1956/7.8.1956. (iv) (a) Ploughing and levelling. (b) Transplanting. (c) 10 srs./ac. (d) 10" between rows. (e) 2 to 3. (v) G.M. at 3000 lb./ac.+Nitro. Phos. at 100 lb./ac. at planting+A/S at 50 lb./ac. on 22.9.1956. (vi) S—749 (late). (vii) Irrigated. (viii) Hand weeding. (ix) 16.29". (x) 18.12.1956.

2. TREATMENTS :

6 fungicides : F_0=Control, F_1=Tillex, F_2=Ceresan dry, F_3=Agrosan G.N., F_4=Ceresan wet and F_5=Copper sandoz.

Seeds treated on 26.6.1956 i.e. 10 days before sowing.

3. DESIGN :

(i) R B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) and (b) 1/150 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1956 only. (b) and (c) —. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3715 lb./ac. (ii) 525.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	F_0	F_1	F_2	F_3	F_4	F_5
Av. yield	3750	3150	3780	4020	3750	3840

S.E./mean = 234.8 lb./ac.

Crop :- Paddy *(Kharif).* **Ref :- Ms. 58(253).**

Site :-Agri. Res. Stn., Sirsi. **Type :- 'D'.**

Object : To study the effect of insecticides in controlling Paddy stem-bore (Trial No. I).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Laterite. (b) Refer soil analysis, Sirsi. (iii) N.A./August, 1958. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 9"×9". (e) 4 to 6. (v) N.A. (vi) White *Halaga*—1690 (late). (vii) Unirrigated. (viii) Weeding. (ix) N.A. (x) Last week of December, 1958.

2. TREATMENTS :

6 Insecticides : C_0=Control, C_1=Diptrex 0.06%, C_2=Basudin 0.03%, C_3=Endrin 0.03%. C_4=Folidol 0.04% and C_5=Paramar 0.02%.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 80'×14'. (b) 78'×12'. (v) 1'×1'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) As per treatments. (iii) Percentage infestation and yield of grain. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2751 lb./ac. (ii) 221.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_0	C_1	C_2	C_3	C_4	C_5
Av. yield	2676	2693	2781	2816	2851	2688

S.E./mean = 110.8 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(227).**

Site :- Agri. Res. Stn., Sirsi. **Type :- 'D'.**

Object : To find suitable insecticides for Paddy stem-borer (Trial No. I).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L./ac. of F.Y.M.+100 lb./ac. of A/S+112 lb./ac. of B.M. (ii) (a) Laterite. (b) Refer soil analysis, Sirsi. (iii) N.A./21.7 1959. (iv) (a) Ploughing and harrowing. (b) Transplanting. (c) 25—30 lb./ac. (d) N.A. (e) 4 to 6 (v) 5 C.L./ac. of F.Y.M.+32 lb./ac. of A/S+6000 lb./ac. of G.M. (vi) White *Halaga*—1690 (late). (vii) Unirrigated. (viii) Hand weeding. (ix) 95". (x) 6.12.1959.

2. TREATMENTS :

5 insecticides : C_0=Control, C_1=Paramar at 0.03%, C_2=Folidol at 0.03% and C_3=Basudin at 0.03% C_4=Ekatox at 0.03%. Insecticides sprayed on 12.8.1959. 12.9.1959 and 19.10.1959.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 52'×20'. (b) 50'×19'. (v) 12"×6". (vi) Yes.

4. GENERAL :

(i) Normal. (ii) As per treatments. (iii) In each treatment 3 spots of 4'×4' were selected at random and % stem borer infestation was observed. Yield of grain. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2000 lb./ac. (ii) 155.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_0	C_1	C_2	C_3	C_4
Av. yield	1956	2059	1983	1977	2025

S.E./mean = 69.6 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 58(254).**

Site :- Agri. Res. Stn., Sirsi. **Type :- 'D'.**

Object : To study the effect of different insecticides in controlling Paddy stem-borer (Trial No. II).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C L./ac. of F.Y.M. (ii) (a) Laterite. (b) Refer soil analysis, Sirsi. (iii) N.A./August 1958. (iv) (a) Ploughing. (b) Transplanting. (c) 40 lb./ac. (d) 9"×9". (e) 4 to 6. (v) N.A. (vi) *Mothalaga* (local). (vii) Unirrigated. (viii) Weeding. (ix) N.A. (x) Last week of December, 1958.

2. TREATMENTS :

5 insecticides : C_0=Control, C_1=Diptrex 0.06%, C_2=Endrin 0.03%, C_3=Folidol 0.04% and C_4=Paramar 0.02%.

Insecticides applied 3 times from 6.8.1958 to 6.10.1958.

3. DESIGN :

(i) R.B D. (ii) (a) 5. (b) N.A. (iii) 4. (vi) (a) and (b) 23'×33'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) As per treatments. (iii) Percentage infestation and yield of grain. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1571 lb./ac. (ii) 361.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_0	C_1	C_2	C_3	C_4
Av. yield	1743	1838	1428	1514	1313

S.E./mean = 180.6 lb./ac.

Crop :- Paddy *(Kharif)*. **Ref :- Ms. 59(226).**

Site :- Agri. Res. Stn., Sirsi. **Type :- 'D'.**

Object : To find out the suitable insecticide for Paddy stem-borer (Trial No. II).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L./ac. of F.Y.M.+100 lb./ac. of A/S+112 lb./ac. of B.M. (ii) (a) Laterite. (b Refer soil analysis, Sirsi. (iii) N.A./21 to 25.7. 1959. (iv) Ploughing, harrowing and puddling. (b) Transplanting. (c) 25 to 30 lb./ac. (d) N.A. (e) 4 to 6. (v) 5 C.L./ac. of F.Y.M.+32 lb./ac. of N in 2 doses at planting and during October+6000 lb./ac. of G.M. during 1st week of July. (vi) White Halaga 1690 (late). (vii) Unirrigated. (viii) Hand weeding. (ix) 95". (x) 6.12.1959.

2 TREATMENTS :

4 insecticides : C_0=Control, C_1=Endrin at 0.03%, C_2=B.H.C. W/d at 0.3% and C_3=D.D.T. W/d at 0.3%. Insecticides applied 3 times on 13.8.1959, 12.9.1959 and 20.10.1959.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) 55'×20'. (b) 54'×19'. (v) 6"×6". (vi) Yes.

4. GENERAL :

(i) Normal. (ii) As per treatments. (iii) % stem-borer infestation and yield of grain. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2417 lb./ac. (ii) 231.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_0	C_1	C_2	C_3
Av. yield	2355	2558	2269	2505

S.E./mean = 103.7 lb./ac.

Crop :- Paddy (2nd crop). **Ref :- Ms. 59(146).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'CVD'.**

Object : To study the effect of topping and spraying on the grain yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Laterite, loamy in tenture. (b) Refer soil analysis, Mangalore. (iii) 18.10.1959. (iv) (a) Ploughing, puddling and levelling. (b) Transplanting. (c) 33 to 40 lb./ac. (d) 8"×8". (e) N A. (v) 2300 lb./ac. of G.M.+189 lb./ac. of Super+50 lb. of Mur. Pot.+22 lb. of Urea and additional dose 44 lb. of Urea to induce more vegetative growth. (vi) As per treatments. (vii) Unirrigated. (viii) 1 interculturing by rotary weeder and topping as per treatments. (ix) 9.74". (x) 8.1.1960 and 23.1.1960.

2. TREATMENTS:

Main-plot treatment :

2 varieties : V_1=Mgl_7 and V_2=GEB—24.

Sub-p'ot treatment :

All combinations of (1) and (2)

(1) 2 levels of topping : C_0=No topping and C_1=topping.

(2) 2 levels of application of insecticides : L_0=no application and L_1=Application of Folidol and Fungi copper.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication ; 4 sub-plots/main-plot. (b) Nil. (iii) 4. (iv) (a) and (b) 20'×10'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Earhead observed. Control measures as per treatments. (iii) Heights of plants, no. of tillers, grain and straw yield. (iv) (a) 1959—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2280 lb./ac. (ii) (a) 221.7 lb./ac. (b) 266.2 lb./ac. (iii) only main effect of C is highly significant. (iv) Av. yield of grain in lb./ac.

	C_0	C_1	Mean	L_0	L_1
V_1	2462	2142	2302	2314	2290
V_2	2394	2123	2258	2204	2313
Mean	2428	2132	2280	2259	2301
L_0	2427	2090			
L_1	2428	2175			

S.E. of difference of two

1. V marginal means = 78.4 lb./ac.
2. C or L marginal means = 94.1 lb./ac.
3. C or L means at the same level of V = 133.1 lb./ac.
4. V means at the same level of C or L = 122.5 lb./ac.

S.E. of body of C×L table = 94.1 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 54(220).**

Site :- Agri. Res. Stn., Arbhavi. **Type :- 'M'.**

Object :—To study the residual effect of manures applied to Maize on the succeeding crop of Wheat.

1. BASAL CONDITIONS :

(i) (a) Maize—Wheat—Maize. (b) Maize. (c) As per treatments. (ii) (a) Medium black. (b) N.A. (iii) 4.11.1954. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 30 lb./ac. (d) 12"×6". (e) 2 to 3. (v) As per treatments. (vi) R.R. Wheat. (vii) Irrigated. (viii) Interculturing and hand weeding. (ix) 0.65". (x) 21.2.1955.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 4 levels of N : N_0=0, N_1=30, N_2=60 and N_3=90 lb./ac.

(2) 2 doses of F.Y.M. : F_1=5000 and F_2=10000 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 40'×36'. (b) 34'×30'. (v) 4 rows alround. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Moisture studies and grain yield. (iv) (a) to (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 695 lb./ac. (ii) 162.1 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	N_3	Mean
F_1	610	755	769	636	693
F_2	634	671	701	786	698
Mean	622	713	735	711	695

S.E. of F marginal mean = 40.5 lb./ac.
S.E. of N marginal mean = 57.3 lb./ac.
S.E. of body of table = 81.1 lb./ac.

Crop :- Wheat. **Ref :- Ms. 59(213).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'M'.**

Object :—To find out the optimum combination of N, P and K for Wheat.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Medium black soil. (b) N.A. (iii) 10.10.1959. (iv) (a) Ploughing. (b) Drilling. (c) 40 lb./ac. (d) Row to row 12". (e) N.A. (v) Nil. (vi) Kenphad. (vii) Unirrigated. (viii) Weeding. (ix) N.A. (x) 13, 14.1.1960.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 levels of N as A/S : N_0=0, N_1=30 and N_2=60 lb./ac.

(2) 3 levels o P_2O_5 as Super : P_0=0, P_1=30 and P_2=60 lb./ac.

(3) 3 levels of K_2O as Mur. Pot. : K_0=0, K_1=30 and K_2=60 lb./ac.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 2. (iv) (a) 24'×16'. (b) 20'×14'. (v) 2'×1'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height of plant, no. of tillers, grain and straw yields. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 568.3 lb./ac. (ii) 60.7 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	541	575	538	551	556	557	541
N_1	547	585	565	566	565	554	578
N_2	591	581	590	588	563	572	629
Mean	560	580	564	568	561	561	583
K_0	548	565	571				
K_1	529	601	552				
K_2	603	575	570				

S.E. of any marginal mean = 14.3 lb./ac.

S.E. of body of any table = 24.8 lb./ac.

Crop :- Wheat. **Ref :- Ms. 54(230).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object ;—To study the effect of G.M. crop (sannhemp) on Wheat.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Black. (b) Refer soil analysis, Bijapur. (iii) 21.10.1954. (iv) (a) Ploughing. (b) Drilling. (c) 40 lb./ac. (d) 12" between rows. (e) Seeds evenly drilled. (v) 4 C.L /ac. of F.Y.M. (vi) Kenphad. (vii) Unirrigated. (viii) Interculturing and weeding once. (ix) N.A. (x) 28.2.1955.

2. TREATMENTS :

M_1=Growing sannhemp and burying in the same plot.

M_2=Growing sannhemp in one plot for burying in another plot and judging the yield of the crop grown on the former.

M_3=Judging the yield of crop taken on a plot wherein sannhemp grown in another plot is buried.

M_4=Control (no G.M.).

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 2. (iv) (a) 33′×33′. (b) 30′×30′. (v) 1½′×1½′. (vi) Yes.

4. GENERAL :

(i) and (ii) N.A. (iii) Grain yield. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 379 lb./ac. (ii) 69.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3	M_4
Av. yield	399	375	301	441

S.E./mean = 48.9 lb./ac.

Crop :- Wheat *(Rabi).* **Ref :- Ms. 54(233).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To study the effect of G.M. crop (Sannhemp) on the yield of Wheat.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Medium black. (b) Refer soil analysis, Bijapur. (iii) 10.10.1954. (iv) (a) Ploughing once in 3 years as per dry farming methods. (b) Drilling. (c) 40 lb./ac. (d) 12″×9″. (e) N.A. (v) 5 C.L /ac. of F.Y.M. once in 3 years. (vi) Kenphad RR. (vii) Unirrigated. (viii) 2 interculturings. (ix) 1.94″. (x) 2.1.1955.

2. TREATMENTS :

Same as in expt. no. 54(230) on page 206.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 2. (iv) (a) 36′×36′. (b) 30′×30′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) and (ii) N.A. (iii) Grain yield. (iv) (a) 1952—1954. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:

(i) 279 lb./ac. (ii) 91.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3	M_4
Av. yield	236	255	266	359

S.E./mean = 64.3 lb./ac.

Crop :- Wheat *(Rabi).* **Ref :-Ms. 56(170).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object ;—To study the effect of various nitrogenous manures on Wheat.

1. BASAL CONDITIONS :

(i) (a) Wheat—Wheat. (b) Gram. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Black soil. (b) Refer soil analysis, Bijapur. (iii) 14.11.1956. (iv) (a) Ploughing. (b) Drilling. (c) 40 lb./ac. (d) 12″ between rows. (e) —. (v) Nil. (vi) Kenphad. (vii) One interculturing and one weeding. (viii) Unirrigated. (ix) 10.79″. (x) 21.2.1957.

2. TREATMENTS :

All combinations of (1) and (2)+a control.

(1) 2 levels of N : N_1=15 and N_2=30 lb./ac.
(2) 2 sources of N : S_1=A/S and S_2=Urea.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) 300′×8′. (iii) 4. (iv) (a) 60′×8′. (b) 56′×8′. (v) 2 rows on both sides. (vi) Yes.

4. GENERAL :

(i) Stunted growth. (ii) Nil. (iii) Height of plant, no. of tillers/plant and grain yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Heavy rains in pre-sowing period. (vii) Nil.

5. RESULTS :

(i) 265 lb./ac. (ii) 44.1 lb./ac. (iii) Only control *vs.* others is significant. (iv) Av. yield of grain in lb./ac.

Control = 181 lb./ac.

	S_1	S_2	Mean
N_1	301	279	290
N_2	290	273	282
Mean	296	276	286

S.E. for any marginal mean = 15.6 lb./ac.
S.E. for body of table or control mean = 22.1 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 57(176).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To judge the effect of nitrogenous fertilizers on Wheat crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Gram—Wheat. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Black. (b) Refer soil analysis, Bijapur. (iii) 15 10.1957. (iv) (a) Ploughing. (b) Drilling. (c) 40 lb./ac. (d) 12″ between lines. (e) —. (v) Nil. (vi) Kenphad. (vii) Unirrigated. (viii) Interculturing and hand weeding. (ix) 27.12″. (x) 26.12.1958.

2. TREATMENTS :

Same as in expt. no. 56(170) on page 207.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) Nil. (iii) 4. (iv) (a) 60′×8′. (b) 54′×6′. (v) 3′×1′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plants, no. of tillers and grain yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 577 lb./ac. (ii) 54.9 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 509 lb./ac.

	S_1	S_2	Mean
N_1	581	607	594
N_2	617	573	595
Mean	599	590	594

S.E. for any marginal mean = 19.4 lb /ac.
S.E. for body of table or control mean = 27.4 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 58(166).**

Site :- Agri. Res. Stn , Bijapur. **Type :- 'M'.**

Object :—To study the effect of nitrogenous fertilizers on Wheat crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Black. (b) Refer soil analysis, Bijapur. (iii) 22.10.1958. (iv) (a) Ploughing. (b) Drilling. (c) 40 lb./ac. (d) 12" between lines. (e) —. (v) Nil. (vi) Kenphad. (vii) Unirrigated. (viii) 2 interculturings. (ix) 21.54". (x) 12.2.1959.

2. TREATMENTS :

Same as in expt. no. 56(170) on page 207.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) 50'×40'. (iii) 4. (iv) (a) 50'×8'. (b) 46'×8'. (v) 2 rows on both sides. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plants, no. of tillers/plant and grain yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 431 lb./ac. (ii) 14.2 lb./ac. (iii) Only control *vs.* others effect is highly significant. (iv) Av. yield of grain in lb./ac.

Control = 349 lb./ac.

	S_1	S_2	Mean
N_1	453	453	453
N_2	453	442	448
Mean	453	448	451

S.E. for any marginal mean = 5.0 lb./ac.

S.E. for body of table = 7.1 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 59(33).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To study the effect of different nitrogenous fertilizers on Wheat.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Black. (b) Refer soil analysis, Bijapur. (iii) 21.10.1959. (iv) (a) Ploughing. (b) Drilling. (c) 40 lb./ac. (d) 12" between lines. (e) —. (v) Nil. (vi) Kenphad. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 7.76". (x) 28.2.1960.

2. TREATMENTS :

All combinations of (1) and (2)+control (6 plots)

(1) 3 sources of N : S_1=A/S, S_2=Urea and S_3=A/S/N.

(2) 2 doses of N : N_1=15 and N_2=30 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 12. (b) 40'×75'. (iii) 3. (iv) (a) 25'×10'. (b) 22'×8'. (v) 1½'×1'. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Height of plants, average no. of tillers and grain yield. (iv) (a) 1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1167 lb./ac. (ii) 171.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 1135 lb./ac.

	S_1	S_2	S_3	Mean
N_1	1129	1284	1336	1250
N_2	1144	1211	1082	1146
Mean	1137	1248	1209	1198

S.E. of S marginal means = 70.0 lb./ac.
S.E. of N marginal means = 57.2 lb./ac.
S.E. of body of the table = 99.0 lb./ac.
S.E. of control mean = 40.4 lb./ac.

Crop :-Wheat. **Ref :- Ms. 58(164).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To find the suitable period of burying the sannhemp crop in the Bijapur dry tract and its effect on Wheat.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar.* (c) 4 C.L./ac. of F.Y.M. (ii) (a) Black. (b) Refer soil analysis, Bijapur. (iii) 25.10.1958. (iv) (a) Ploughing. (b) Drilling. (c) 40 lb./ac. (d) 12" apart. (e) —. (v) Nil. (vi) Kenphad. (vii) Unirrigated. (viii) 2 interculturings. (ix) 11.46". (x) 18.2.1959.

2. TREATMENTS :

M_1=Burying Sannhemp crop after 1½ months, M_2=Burying]Sannhemp crop after 2 months and M_3= Control.

2. TREATMENTS :

(i) R.B.D. (ii) (a) 3. (b) 40'×36'. (iii) 6. (iv) (a) 40'×12'. (b) 34'×12'. (v) 3 rows on both sides. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plants, no. of tillers/plant and grain yield. (iv) (a) 1948—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 409 lb./ac. (ii) 35.0 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	429	430	368

S.E./mean = 14.3 lb./ac.

Crop .- Wheat. *(Rabi).* **Ref :- Ms. 59(34).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To find out the suitable period of burying the sannhemp crop in Bijapur dry tract and its effect on Wheat.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Gram. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Black soil. (b) Refer soil analysis, Bijapur. (iii)) 16 10.1959. (iv) (a) Ploughing. (b) Drilling. (c) 40 lb./ac. (d) 12" between rows. (e) — (v) Nil. (vi) Kenphad. (vii) Unirrigated. (viii) 2 interculturings. (ix) 7.76". (x) 28.2.1960.

2. TREATMENTS :

Same as in expt. no. 58(164) on page 210.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) 40′×36′. (iii) 9. (iv) (a) 40′×12′. (b) 34′×8′. (v) 3′×2′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plants ; no. of tillers/plant and grain yield. (iv) (a) 1958—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 544 lb./ac. (ii) 47.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3
Av yield	600	524	507

S.E /mean = 16.0 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 58(165).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To compare the effects of N and P on Wheat.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Black. (b) Refer soil analysis, Bijapur. (iii) 24.10 1958. (iv (a) Ploughing. (b) Drilling. (c) 40 lb./ac. (d) 12" between rows. (e) —. (v) Nil. (vi) Kenphad. (vii) Unirrigated. (viii) 2 interculturings. (ix) 11.46". (x) 12.2.1959.

2. TREATMENTS :

3 manurial treatments : M_1=Control (no manure), M_2=15 lb./ac. of N as A/S and M_3=M_2+7.5 lb./ac. of P_2O_5 as Super.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) 50′×96′. (iii) 2. (iv) (a) 50′×32′. (b) 44′×25′. (v) 3′×3½′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Height of plants and grain yield. (iv) (a) 1958—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 533 lb./ac. (ii) 39.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	397	583	619

S.E./mean = 27.6 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms.59(35).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To compare the effects of N and P on Wheat.

1. BASAL CONDITIONS

(i) (a) Nil. (b) Wheat. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Black. (b) Refer soil analysis, Bijapur. (iii) 16.10.1959. (iv) (a) Ploughing. (b) Drilling. (c) 40 lb./ac. (d) 12" between lines. (e)—. (v) Nil. (vi) Kenphad. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 7.76". (x) 7.2.1960.

2. TREATMENTS :

Same as in expt. no. 58(165) on page 211.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) 40'×84'. (iii) 2. (iv) (a) 40'×28'. (b) 36'×24'. (v) 2'×2'. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Height of plants, no. of tillers and grain yield. (iv) (a) 1958—1959. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Continuous and severe drought conditions prevailed during December to January. (vii) Nil.

5. RESULTS :

(i) 292 lb./ac. (ii) 66.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	375	225	276

S.E./mean = 47.3 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 54(232).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To study the effect of compost of China Mug on the yield of Wheat.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Medium black. (b) Refer soil analysis, Bijapur. (iii) 10.10.1954. (iv) (a) Ploughing once in 3 year as per dry farming methods. (b) Drilling. (c) 40 lb./ac. (d) 12"×9". (e) —. (v) 5 C L./ac. of F.Y.M. once in 3 years. (vi) Kenphad—RR. (vii) Unirrigated. (viii) 2 intercultturings. (ix) 1.94". (x) 2.1.1955.

2. TREATMENTS :

M_1=Growing of China mug and application of compost in the same plot. M_2=Growing of China mug on one plot for application of compost to another plot and judging the yield of the crop grown on the former. M_3=Judging the crop taken on a plot wherein the compost of China mug, grown in another plot, is applied. M_4=Control.

3. DESIGN :

(i) R.B.D. (ii) 4. (b) N.A. (iii) 2. (iv) (a) 36'×36'. (b) 30'×30'. (v) 3'×3'. (vi) Yes,

4. GENERAL :

(i) and (ii) N.A. (iii) Grain yield. (iv) (a) 1952—1954. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 310 lb./ac. (ii) 136.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3	M_4
Av. yield	330	339	252	318

S.E./mean = 96.5 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 59(122).**

Site :- Agri. Res Stn., Bijapur. **Type :- 'M'.**

Object :—To find out the effect of different doses of N, P and K on the yield of Wheat.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Black soil. (b) Refer soil analysis, Bijapur. (iii) 19.10.1959. (iv) (a) Ploughing and harrowing thrice. (b) By seed-cum-fertilizer drill. (c) 40 lb./ac. (d) 12″ between lines. (e)—. (v) Nil. (vi) Kenphad (medium). (vii) Unirrigated. (viii) 1 hand weeding and 1 interculturing. (ix) 8.11″. (x) 28.2.1960.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 levels of N as A/S : N_0=0, N_1=15 and N_2=30 lb./ac.

(2) 3 levels of P_2O_5 as Super : P_0=0, P_1=15 and P_2=30 lb./ac.

(3) 3 levels of K_2O as Mur. Pot. : K_0=0, K_1=15 and K_2=30 lb./ac.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) 30′×14′. (iii) 2. (iv) (a) 30′×16′. (b) 24′×12′. (v) 3′×2′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Average no. of panicles in a plant, no. of spikelets/panicle, tillers and grain yield. (iv) (a) 1959—1963. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 252.3 lb./ac. (ii) 77.7 lb./ac. (iii) The main effect of N is highly significant, while the interaction N×P is significant. No other effect is significant. (iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	351	225	195	267	252	263	287
N_1	198	201	206	202	224	175	208
N_2	228	323	312	288	236	306	321
Mean	259	260	238	252	237	248	272
K_0	227	258	227				
K_1	285	250	208				
K_2	266	271	279				

S.E. of any marginal mean = 18.3 lb./ac.
S E. of body of any table = 31.7 lb./ac.

Crop :- Wheat. **Ref :- Ms. 55(129).**

Site :- Agri. Res. Stn., Dhadesagar. **Type :- 'M'.**

Object :—To find out the best G.M. crop with and without P_2O_5 for higher yield of Wheat.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) G.M. crops. (c) As per treatments. (ii) (a) Black soil. (b) N.A. (iii) 26.10.1955. (iv) (a) Ploughing and harrowing. (b) Drill sowing. (c) 40 lb /ac. (d) Rows 12″ apart. (e) N A. (v) Nil. (vi) K—28 (medium). (vii) Irrigated. (viii) Interculturing and weeding. (ix) 7.70″. (x) 19.2 1956.

2. TREATMENTS:

9 manurial treatments : M_0=Control, M_1=G.M. with *Dhaincha*, M_2=M_1+30 lb./ac. of P_2O_5 as Super, M_3=M_1+60 lb /ac. of P_2O_5 as Super, M_4=G.M. with *Pillipesara*, M_5=M_4+30 lb./ac. of P_2O_5as Super, M_6=M_4+60 lb./ac. of P_2O_5 as Super, M_7=40 lb./ac. of N as A/S+30 lb./ac. of P_2O_5 as Super and M_8=40 lb./ac. of N as A/S+60 lb./ac. of P_2O_5 as Super.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) and (b) 21′×24′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Stunted growth. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—1957. (b) Yes. (c) Nil. (v) (a) No. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 407 lb./ac. (ii) 85.3 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8
Av. yield	126	430	454	396	397	458	470	460	475

S.E./mean = 42.7 lb./ac.

Crop :- Wheat. **Ref :- Ms. 56(55).**

Site :- Agri. Res. Stn., Dhadesagar. **Type :- 'M'.**

Object :—To find out the best G.M. crop with and without P_2O_5 for higher yield of Wheat.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) G.M. crops. (c) As per treatments. (ii) (a) Black soils. (b) N.A. (iii) 13.11.1956. (iv) (a) 2 ploughings and 3 to 4 harrowings. (b) Drill sowing. (c) 40 lb./ac. (d) Rows 12″ apart. (e) N.A. (v) Nil. (vi) K—28 (medium). (vii) Irrigated. (viii) 2 interculturings and 2 weedings. (ix) 12.67″. (x) 28.2.1957.

2. TREATMENTS and 3. DESIGN:

Same as in expt., no. 55(129) on page 213.

4. GENERAL :

(i) Satisfactory. (ii) No. (iii) Grain yield. (iv) (a) 1955—1957. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 473 lb./ac. (ii) 108.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8
Av. yield	301	478	475	462	409	554	467	571	543

S.E./mean = 54.3 lb./ac.

Crop :- Wheat. **Ref :- Ms. 57(5).**

Site :- Agri. Res. Stn., Dhadesagar. **Type :- 'M'.**

Object :—To find out the best G.M. crop with and without P_2O_5 for higher yield of Wheat.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) G.M crops. (c) As per treatments. (ii) (a) Black soil. (b) N.A. (iii) 30.10 1957. (iv) (a) 2 ploughings, 3 to 4 harrowings. (b) Drill sowing. (c) 40 lb./ac. (d) Rows 12″ apart. (e) N.A. (v) Nil. (vi) K—28 (medium). (vii) Irrigated. (viii) 2 interculturings and 2 weedings. (ix) 7.11″. (x) 22.2.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(129) on page 213.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—1957. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 304 lb./ac. (ii) 53.4 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8
Av. yield	209	259	319	284	269	336	298	351	410

S E./mean = 26.7 lb./ac.

Crop :-Wheat. **Ref :- Ms. 56(58).**

Site :- Agri. Res. Stn., Dhadesagar. **Type :- 'M'.**

Object :—To find out the optimum dose of N as A/S and A/C with and without P_2O_5.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) Nil. (ii) (a) Black clayey. (b) N.A. (iii) Last week of Sept., 1956. (iv) (a) 2 ploughings, and 3 to 4 harrowings. (b) to (e) N.A. (v) 10 C.L./ac. of F.Y.M. (vi) N.A. (vii) Irrigated. (viii) 2 to 3 hoeings and weeding. (ix) 7.78". (x) First week of Feb. 1957.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 5 levels of N : N_0=control (No N), N_1=20 lb./ac. of N as A/S, N_2=40 lb./ac. of N as A/S, N_3 =20 lb./ac. of N as A/C and N_4=40 lb./ac. of N as A/C.

(2) 2 levels of P_2O_5 as Super : P_0=0 and P_1=20 lb./ac.

3. DESIGN :

(i) Fact. in R B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) and (b) 18'×42'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) to (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 327 lb./ac. (ii) 116.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	N_3	N_4	Mean
P_0	206	329	368	331	329	313
P_1	275	358	436	293	343	341
Mean	241	344	402	312	336	327

S.E. of P marginal mean = 26.0 lb./ac.
S.E. of N marginal mean = 41.2 lb./ac.
S.E. of the body of table = 58.2 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref Ms. :- 59(128).**

Site :. Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To test the effect of N and P_2O_5 on Wheat yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Light red to medium black. (b) Refer soil analysis, Dharwar. (iii) 16.10.1959. (iv) (a) N.A. (b) Drilling. (c) N.A. (d) 12"×6". (e) 2 to 3. (v) Nil. (vi) N.A. (vii) Unirrigated. (viii) N.A. (ix) 24.48". (x) 28.1.1960.

2. TREATMENTS :

5 manurial treatments : M_0=Control, M_1=5 C.L./ac. of F.Y.M., M_2=20 lb./ac. of N as A/S, M_3=15 lb./ac. of P_2O_5 as Super and M_4=20 lb./ac. of N+15 lb./ac. of P_2O_5.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) 55′×60′. (iii) 4. (iv) (a) 12′×55′. (b) 8′×35′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Slight attack of rust—no control measures. (iii) Grain yield. (iv) (a) to (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 860 lb./ac. (ii) 45.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4
Av. yield	762	802	967	780	989

S.E./mean = 23.0 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 56(136).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the effect of applications of phosphatic fertilizers on Wheat.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton. (c) Nil. (ii) (a) Medium black. (b) Refer soil analysis, Dharwar. (iii) 27.10.1956. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 40 lb./ac. (d) 12″ between rows. (e) N.A. (v) 5 C.L./ac. of F.Y.M. (vi) Kenphad. (vii) Unirrigated (viii) Nil. (ix) 17″. (x) 14.2.1957.

2. TREATMENTS :

6 sources of P_2O_5 : S_0=Control (no Phos.), S_1=Super, S_2=B.M., S_3=Dical. Phos., S_4=Hyper Phos , and S_5=Kotka Phos.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 21′×36′. (b) 15′×30′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) and (b) No. (c) Nil. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 849 lb./ac. (ii) 183.6 lb./ac. (iii) Treatments are not significantly different. (iv) Av. yield of grain in lb./ac.

Treatment	S_0	S_1	S_2	S_3	S_4	S_5
Av. yield	811	823	1028	762	908	762

S.E./mean = 91.8 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 54(107).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To test whether application of P_2O_5 to leguminous crops helps in the fixation of N to soils which benefits the succeeding cereal crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Urid.* (c) N.A. (ii) (a) Medium black. (b) Refer soil analysis, Dharwar. (iii) 14.10.1954. (iv) (a) Harrowing 4 times after planting. (b) Drilling. (c) 40 lb./ac. (d) Rows 12" apart. (e) N.A. (v) N.A. (vi) Kenphad. (vii) Unirrigated. (viii) No. (ix) 2.88". (x) 23.1.1955.

2. TREATMENTS :

A=Control, B=50 lb./ac. of P_2O_5 as Super, C=100 lb./ac. of P_2O_5 as Super, D=150 lb./ac. of P_2O_5 as Super and E=Fallow in *Kharif*. Treatments A, B, C and D applied to previous leguminous crop. Residual effect studied this season and the fallow plot in the previous season was manured with 5 C.L./ac. of F.Y.M.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) Nil. (iii) 4. (iv) (a) 42'×27'. (b) 30'×15'. (v) 6' alround. (vi) Yes, for the previous leguminous crop.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Height of plant, grain and straw yield. (iv) (a) 1949—1954. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 766 lb./ac. (ii) 168.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	A	B	C	D	E
Av. yield	680	749	762	773	867

S E./mean = 84.2 lb./ac.

———

Crop :- Wheat. **Ref :- Ms. 54(149).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To study the effect of gypsum as soil amendment.

1. BASAL CONDITIONS :

(i) (a) Gram—Wheat—Gram. (b) Gram. (c) Nil. (ii) (a) Deep black. (b) Refer soil analysis, Kaladgi. (iii) 12.10.1954. (iv) (a) 2 harrowings. (b) Drilling. (c) 30 lb./ac. (d) Rows 12" apart. (e) N.A. (v) Nil. (vi) Wheat—R R. (medium). (vii) Unirrigated. (viii) Weeding. (ix) 22.77". (x) 10,11.2.1955.

2. TREATMENTS :

All combinations of (1) and (2).

(1) 5 doses of gypsum : $G_0=0$, $G_1=\frac{1}{2}$, $G_2=1$, $G_3=1\frac{1}{2}$ and $G_4=2$ tons/ac.

(2) 2 doses of F.Y.M. : $F_0=0$ and $F_1=10$ C L./ac.

Treatments applied on 20.7.1954 by broadcasting.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 42'×24'. (b) 36'×18'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Earhead count and yield of grain. (iv) (a) 1954—1958. (b) and (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 345 lb./ac. (ii) 48.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	G_0	G_1	G_2	G_3	G_4	Mean
F_0	325	344	331	344	362	341
F_1	331	378	334	347	355	349
Mean	328	361	333	346	359	345

S.E. of F marginal mean = 10.8 lb./ac.
S.E. of G marginal mean = 17.1 lb./ac.
S.E. of body of table = 24.3 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 55(102).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To study the effect of gypsum as soil amendment on Wheat.

1. BASAL CONDITIONS :

(i) (a) Gram-Wheat-Gram. (b) Gram. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 13.10.1956. (iv) (a) 2 harrowings. (b) Drilling. (c) 30 lb./ac. (d) Rows 12" apart. (e) N.A. (v) Nil. (vi) Wheat—RR (medium). (vii) Unirrigated. (viii) Weeding. (ix) 26.37". (x) 28.1.1956 and 6,7.2.1956.

2. TREAMENTS and 3. DESIGN :

Same as in expt. no. 54(149) on page 217.

4. GENERAL ;

(i) Fair. (ii) Blight appeared at random and no control measures were taken. (iii) No. of earheads and grain yield. (iv) (a) 1954—1958. (b) N.A. (c) No. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 290 lb./ac. (ii) 56.7 lb./ac. (iii) Effect F alone is highly significant. (iv) Av. yield of grain in lb./ac.

	G_0	G_1	G_2	G_3	G_4	Mean
F_0	261	256	255	255	286	263
F_1	239	300	314	337	391	316
Mean	250	278	285	296	339	290

S.E. of F marginal mean = 12.7 lb./ac.
S.E. of G marginal mean = 20.0 lb./ac.
S.E. of body of table = 28.3 lb./ac.

Crop :- Wheat. **Ref :- Ms. 56(16).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To study the effect of gypsum as soil amendment on Wheat.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Gram. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 20.10.1956. (iv) (a) 2 harrowings. (b) Drilling. (c) 30 lb./ac. (d) Rows 12" apart. (e) N.A. (v) Nil. (vi) Wheat—RR (medium). (vii) Unirrigated. (viii) None. (ix) 22 65". (x) 4, 5.2.1957/6, 7.3.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(149) on page 217.

4. GENERAL :

(i) Good. (ii) Nil. (iii) No. of earheads and grain yield. (iv) (a) 1954—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 447 lb./ac. (ii) 62.1 lb./ac. (iii) Effect of G is significant. Effect of F is highly significant. Interaction is not significant. (iv) Av. yield of grain in lb./ac.

	G_0	G_1	G_2	G_3	G_4	Mean
F_0	337	350	277	374	354	338
F_1	462	542	560	603	607.	555
Mean	400	446	419	489	481	447

S.E. of F marginal mean = 13.9 lb./ac.
S.E. of body of table = 22.0 lb /ac.

Crop :- Wheat *(Rabi)*. **Ref :- A.P. 57(151).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To study the effects of gypsum as soil amendment on Wheat.

1. BASAL CONDITIONS :

(i) (a) Gram—Wheat—Gram. (b) Gram. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 11.10.1957. (iv) (a) Harrowing 4 times. (b) Drilling. (c) 40 lb./ac. (d) 12". (e)—. (v) Nil. (vi) Wheat—RR. (vii) Unirrigated. (viii) Hand weeding. (ix) 21.98". (x) 20.1.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. 54(149) on page 217.
Time and method of application of manures—N.A.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Yield data. (iv) (a) 1954—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 430 lb./ac. (ii) 94.0 lb./ac. (iii) The effect F alone is highly significant. (iv) Av. yield of grain in lb./ac.

	G_0	G_1	G_2	G_3	G_4	Mean
F_0	407	318	369	374	352	364
F_1	411	563	515	484	508	496
Mean	409	440	442	429	430	430

S.E. of F marginal mean = 21.0 lb./ac.
S.E. of G marginal mean = 33.2 lb./ac.
S.E. of body of table = 47.0 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 58(144).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To study the residual effect of gypsum as soil amendment on Wheat.

1. BASAL CONDITIONS :

(i) (a) Gram—Wheat—Gram. (b) Gram. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 22.10.1958. (iv) (a) 3 harrowings. (b) Drilling. (c) 40 lb./ac. (d) 12" between rows. (e)—. (v) Nil. (vi) Wheat—RR. (vii) Unirrigated. (viii) 2 hand weedings. (ix) 12.18". (x) 25.1.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(149) on page 217.

4. GENERAL :

(i) Fair. (ii) N A. (iii) Yield data. (iv) (a) 1954—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) Season was not favourable for Wheat crop. Vegetative growth was stunted.

5. RESULTS :

(i) 180 lb./ac. (ii) 72.4 lb./ac. (iii) Effect F alone is highly significant. (iv) Av. yield of grain in lb./ac.

	G_0	G_1	G_2	G_3	$G_{4\,a}$	Mean
F_0	183	118	137	140	149	145
F_1	177	270	211	208	215	216
Mean	180	194	174	174	182	180

S.E. of F marginal mean = 16.2 lb./ac.
S.E of G marginal mean = 25.6 lb./ac.
S.E. of body of table = 36.2 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 59(112).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To study the effect of different kinds of nitrogenous fertilizers on the yield of Wheat.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*+Groundnut. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 10.10.1959. (iv) (a) Harrowing 2 times. (b) Drilling, (c) 20 lb./ac. (d) 12″ between rows. (e) N.A. (v) Nil. (vi) Kenephad (medium). (vii) Unirrigated. (viii) 3 weedings. (ix) 24.74″. (x) 21.1.1960.

2. TREATMENTS :

All combinations of (1) and (2)+control (5 plots)

(1) 5 sources of N : S_1=A/S, S_2=Urea, S_3=A/S/N, S_4=C/A/N and S_5=A/C.

(2) 2 levels of N : N_1=15 and N_2=30 lb./ac.

The treatments were applied by broadcasting at the time of sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 15. (b) N.A. (iii) 3. (iv) (a) 24′×24′. (b) 21′×21′. (v) 1½′×1½′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) and (b) No. (c) N.A. (v) to (vii) Nil.

5. RESULTS :

(i) 297 lb./ac. (ii) 49.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 312 lb./ac.

	S_1	S_2	S_3	S_4	S_5	Mean
N_1	288	256	277	305	368	299
N_2	343	269	298	169	320	280
Mean	316	263	287	237	344	289

S.E. of S marginal mean = 20.0 lb./ac.
S.E. of N marginal mean or control mean = 12.7 lb./ac.
S.E. of body of table = 28.3 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 54(181).**

Site :- Agri. Res. Stn., Nargund. **Type :- 'M'.**

Object :—To study the effect of stubble mulching on moisture conservation and crop growth.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Highly alkaline. (b) Refer soil analysis, Nargund. (iii) 28.10.1954. (iv) (a) Harrowing. (b) to (e) N.A. (v) 2½ tons/ac. of F.Y.M. broadcasted. (vi) Kenephad. (vii) Unirrigated. (viii) Nil. (ix) 27.87". (x) 4.2.1955.

2. TREATMENTS :

A=Control (no mulching), B=Mulching with 2 tons/ac. of insecticide to prevent harbouring of insects-mulch not to be removed while sowing, and C=Mulching with 2 tons/ac. of insecticide to prevent harbouring of insects-mulch to be removed while sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 30'×28½'. (b) 18'×16½'. (v) 6'×6'. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) No. of tillers and earheads and grain yield. (iv) (a) 1954—1958. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 406 lb./ac. (ii) 95.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	A	B	C
Av. yield	389	449	380

S.E./mean = 33.6 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 55(157).**

Site :- Agri. Res. Stn., Nargund. **Type :- 'M'.**

Object :—To study the effect of stubble mulching on moisture conservation and crop growth.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) 2½ tons/ac. of F.Y.M. (ii) (a) Highly alkaline. (b) Refer soil analysis, Nargund. (iii) 8.11.1955. (iv) (a) Harrowing 4 times. (b) to (e) N.A. (v) Nil. (vi) Kenephad (medium). (vii) Unirrigated. (viii) Nil. (ix) 31.14". (x) 9.2.1956.

2. TREATMENTS :

A=Control (no mulching), B=Mulching with 2 tons/ac. of *Jowar* stubbles mixed with insecticide to prevent harbouring of insects—mulch to be kept throughout and C=Mulching with 2 tons/ac. of *Jowar* stubbles mixed with insecticide to pervent harbouring of insects—mulch to be removed at the time of sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 30'×28½'. (b) 18'×16½'. (v) 6'×6'. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Tillers, earhead count and grain yield. (iv) (a) 1954—1958. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 516 lb./ac. (ii) 77.6 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	A	B	C
Av. yield	376	370	601

S.E./mean = 27.4 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 56(92).**

Site :- Agri. Res. Stn., Nargund. **Type :- 'M'.**

Object :—To study the effect of stubble mulching on moisture conservation and yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) Nil. (ii) (a) Highly alkaline. (b) Refer soil analysis, Nargund. (iii) 24.11. 1956. (iv) (a) Harrowing 4 times. (b) to (e) N.A. (v) Nil. (vi) Kenephad. (vii) Unirrigated. (viii) Nil (ix) 32.99". (x) 2.3.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(157) on page 221.

4. GENERAL :

(i) Good. (ii) Slight attack of rust observed to a slight extent. (iii) Tillers and earhead count and grain yield. (iv) (a) 1954—1958. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 424 lb./ac. (ii) 66.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. grain yield in lb./ac.

Treatment	A	B	C
Av. yield	428	433	411

S.E./mean = 23.4 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 57(37).**

Site :- Agri. Res. Stn., Nargund. **Type :- 'M'.**

Object :—To study the effect of stubble mulching on moisture conservation and yield of wheat.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) Nil. (ii) (a) Highly alkaline. (b) Refer soil analysis, Nargund. (iii) 6.11.1957. (iv) (a) Harrowing. (b) to (e) N.A. (v) Nil. (vi) Kenephad. (vii) Unirrigated. (viii) Nil. (ix) 26.88" (x) 7.2 1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(157) on page 221.

5. RESULTS :

(i) 375 lb./ac. (ii) 81.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	A	B	C
Av. yield	366	417	342

S.E/.mean = 29.0 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 58(9)**

Site :- Agri. Res. Stn., Nargund. **Type :- 'M'.**

Object :—To study the effect of stubble mulching on moisture conservation and yield of wheat.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) Nil. (ii) (a) Highly alkaline. (b) Refer soil analysis, Nargund. (iii) 24.10.1958. (iv) (a) Harrowing. (b) to (e) N.A. (v) Nil. (vi) Kenephad. (vii) Unirrigated. (viii) Nil. (ix) 25.79" (x) 31.1.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(157) on page 221.

5. RESULTS :

(i) 519 lb./ac. (ii) 87.5 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. grain yield in lb./ac.

Treatment	A	B	C
Av. yield	400	583	575

S.E./mean = 30.9 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :. Ms. 54(182).**

Site :- Agri. Res. Stn., Nargund. **Type :- 'M'.**

Object :—To find out the intensity and dose of Sulphur application for reclamation of Karl soil.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) 2½ tons/ac. of F.Y.M. (ii) (a) Highly alkaline. (b) Refer soil analysis, Nargund. (iii) 27.10.1954. (iv) (a) Harrowing. (b) to (e) N.A. (v) 2½ tons/ac. of F.Y.M. broadcasted on 19.8.1954. (vi) Kenephad. (vii) Unirrigated. (viii) Nil. (ix) 27.87". (x) 28.1.1955.

2. TREATMENTS :

A=control (no sulphur applied), B=1 cwt./ac. of S, C=2 cwt./ac. of S in alternate years from 1st. year, D=2 cwt./ac. of S in alternate years from 2nd. year, E=4 cwt./ac. of S once in 4 years from 1st. year, F=4 cwt./ac. of S once in 4 years from 2nd. year, G=4 cwt./ac. of S in 4 years from 3rd. year and H=4 cwt. ac. of S once in 4 years from 4th year, where S=Sulphur.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 6. (iv) (a) 58'×27'. (b) 52'×21'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Tiller and earhead count and grain yield. (iv) (a) 1951—1958. (b) Yes. (c) Nil. (v) to (vii) Nil.

8. RESULTS :

(i) 249 lb./ac. (ii) 99.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	A	B	C	D	E	F	G	H
Av. yield	227	264	222	208	234	250	298	288

S.E./mean = 40.4 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 55(160).**

Site :. Agri. Res. Stn., Nargund. **Type :- 'M'.**

Object :—To find out the intensity and dose of Sulphur application for reclamation of Karl soil.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) 2½ tons/ac. of F.Y.M. ((ii) (a) Highly alkaline. (b) Refer soil analysis, Nargund. (iii) 5.11.1955. (iv) (a) Harrowing 4 times. (b) to (e) N.A. (v) 2½ tons/ac. of F.Y.M. was broadcasted on 23.8.1955. (vi) Kenephad (medium). (vii) Unirrigated. (viii) Nil. (ix) 31.14". (x) 8.2.1956.

2. TREATMENTS to 4. GENERAL.

Same as in expt. no. 54(182) above.

5. RESULTS :

(i) 381 lb./ac. (ii) 98.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	A	B	C	D	E	F	G	H
Av. yield	365	428	421	308	418	377	369	365

S.E./mean = 40.0 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 56(94).**

Site :- Agri. Res. Stn., Nargund. **Type :- 'M'.**

Object :—To find out the intensity and dose of Sulphur application for reclamation of Karl soil.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) 2½ tons/ac. of F.Y.M. (ii) (a) Highly alkaline. (b) Refer soil analysis, Nargund. (iii) 20.11.1956. (iv) (a) Harrowing 6 times. (b) to (e) N.A. (v) 2½ tons/ac. of F.Y.M. was broadcasted on 23.8.1956. (vi) Kenephad. (vii) Unirrigated. (viii) Nil. (ix) 32.99". (x) 19.2.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(182) on page 223.

4. GENERAL :

(i) Good. (ii) Slight incidence of rust in January. (iii) Earhead, plant count and grain yield. (iv) (a) 1951 to 1958. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 365 lb./ac. (ii) 70.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. grain yield in lb./ac.

Treatment :	A	B	C	D	E	F	G	H
Av. yield	345	376	341	346	393	364	393	362

S.E./mean = 28.9 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 57(36).**

Site :- Agri. Res. Stn., Nargund. **Type :- 'M'.**

Object :—To find out the intensity and dose of Sulphur application for the reclamation of Karl soil.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) 2½ tons/ac. of F.Y.M. (ii) (a) Highly alkaline. (b) Refer soil analysis, Nargund. (iii) 17.10.1957. (iv) (a) Harrowing. (b) to (e) N.A. (v) 2½ tons/ac. of F.Y.M. broadcasted on 19.9.1957. (vi) Kenephad. (vii) Unirrigated. (viii) Nil. (ix) 26.88". (x) 19.1.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(182) on page 223.

4. GENERAL :

(i) Good. (ii) *Diebaen* was observed. (iii) Tiller, earhead count and grain yield. (iv) (a) 1951 to 1958. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 275 lb./ac. (ii) 132.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. grain yield in lb /ac.

Treatment	A	B	C	D	E	F	G	H
Av. yield	329	331	199	258	257	196	332	298

S.E./mean = 53.9 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 58(11).**

Site :- Agri. Res. Stn., Nargund. **Type :- 'M'.**

Object :—To find out the intensity and dose of Sulphur application for the reclamation of Karl soil.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) 2½ tons/ac. of F.Y.M. (il) (a) Alkaline. (b) Refer soil analysis ; Nargund. (iii) 23.10.1958. (iv) (a) Harrowing. (b) to (e) N.A. (v) 2½ tons/ac. of F.Y.M. broadcasted on 26.6.1958. (vi) Kenephad. (vii) Unirrigated. (viii) Nil. (ix) 25.79". (x) 29.1.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(182) on page 223.

5. RESULTS :

(i) 451 lb./ac. (ii) 147.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. grain yield in lb./ac.

Treatment	A	B	C	D	E	F	G	H
Av. yield	414	528	425	399	432	453	486	474

S.E./mean = 60.2 lb./ac.

Crop :- Wheat. **Ref :- Ms. 54(29).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out whether N is required over and above G.M.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) G.M. crops. (c) 5 tons/ac. of F.Y.M.+40 lb./ac. of P_2O_5. (ii) (a) Heavy black clay. (b) Refer soil analysis, Siruguppa. (iii) 2.11.1954. (iv) (a) G.M. crop burried. (b) to (e) N.A. (v) 5400 lb./ac. of G.M. grown and ploughed in *situ* prior to sowing of Wheat. 40 lb./ac. of P_2O_5 as Super applied to G.M. (vi) Glumed. (vii) Irrigated. (viii) 2 weedings. (ix) 0.26". (x) 18, 19.2.1955.

2. TREATMENTS :

4 levels of N as A/S : $N_0=0$, $N_1=20$, $N_2=40$ and $N_3=60$ lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 1/40 ac. (b) 1/66.7 ac. (v) N A. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1906 lb./ac. (ii) 169 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	N_0	N_1	N_2	N_3
Av. yield	1844	1903	1993	1885

S.E./mean = 69.0 lb./ac.

Crop :- Wheat. **Ref :- Ms. 55(29).**

Site :-Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out whether N is required over and above G.M.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) G.M. crop—Sannhemp. (c) 40 lb./ac. of N as A/S. (ii) (a) Heavy black clayey. (b) Refer soil analysis, Siruguppa. (iii) 22.10.1955. (iv) (a) G.M. crop burried. (b) to (e) N.A. (v) 2300 lb./ac. of G.L. raised and ploughed in *situ*. 3100 lb./ac. of F.Y.M. and 40 lb./ac. of P_2O_5 as Super. (vi) Local. (vii) Irrigated. (viii) 2 weedings. (ix) 4.24". (x) 13,14.2.1956.

2. TREATMENTS :

4 levels of N as A/S : N_0=0, N_1=20, N_2=40 and N_3=60 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 1/80 ac. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1226 lb./ac. (ii) 178 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	N_0	N_1	N_2	N_3
Av. yield	902	1196	1458	1346

S.E./mean = 72.7 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 56(120).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out whether N is required over and above G.M.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sannhemp. (c) 40 lb./ac. of P_2O_5 as Super. (ii) (a) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) 22.11.1956. (iv) (a) Ploughing and harrowing. G.M. crop burried. (b) Drilling. (c) 30 lb./ac. (d) 12"×12". (e) N.A. (v) G.M. ploughed in *situ*. (vi) N.A. (vii) Irrigated. (viii) Hand weeding. (ix) 0.59". (x) 12.3.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(29) on page 225.

5. RESULTS :

(i) 1114 lb./ac. (ii) 145.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	N_0	N_1	N_2	N_3
Av. yield	978	1198	1125	1155

S.E./mean = 59.3 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 56(MAE).**

Site :- M.A.E. Farm, Gangavati. **Type :- 'M'.**

Object :—Type IV—To study the residual effect of P applied to legumes and direct effect of N on Wheat crop.

1. BASAL CONDITIONS :

(i) (a) Legume—Wheat. (b) and (c) As per treatments. (ii) (a) Deep black soil. (b) N.A. (iii) Last week of Nov. 1956. (iv) (a) 2 *bakherings*. (b) N.A. (c) 40 lb./ac. (d) 12" between rows and 1' to 2' within rows. (e) N.A. (v) 5000 lb./ac. of F.Y.M. (vi) N.A. (vii) Irrigated. (viii) N.A. (ix) 4.45". (x) 7 to 9.3.1957.

2. TREATMENTS :

Main-plot treatments :

All combinations of (1) and (2)+a control (fallow L_0P_0).

(1) 3 levels of P_2O_5 as Single Super applied to legumes : P_0=0, P_1=40 and P_2=80 lb./ac.

(2) 2 legumes : L_1=Groundnut and L_2=*Moong*.

Sub-plot treatments :

3 levels of N as A/S : N_0=0, N_1=15 and N_2=30 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 7 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 34′×13′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 722 lb./ac. (ii) (a) 144.0 lb./ac. (b) 73.0 lb./ac. (iii) Main effect of N is highly significant. Main effect of L and 'Control *vs.* others' are significant. (iv) Av. yield of grain in lb./ac.

	L_0P_0	L_1P_0	L_1P_1	L_1P_2	L_2P_0	L_2P_1	L_2P_2	Mean
N_0	827	576	578	641	715	618	741	671
N_1	817	651	737	682	815	711	847	752
N_2	843	677	682	584	852	737	822	742
Mean	829	635	666	636	794	689	803	722

S.E. of difference of two

1. LP marginal means = 67.9 lb./ac.
2. N marginal means = 22.5 lb./ac.
3. N means at the same level of LP = 59.6 lb./ac.
4. LP means at the same level of N = 83.5 lb./ac.

Crop :- Wheat (*Rabi*). **Ref :- Ms. 58(MAE).**

Site :- M.A.E. Farm, Gangavati. **Type :- 'M'.**

Object :—Type IV—To study the residual effect of P applied to legumes and direct effect of N on Wheat crop.

1. BASAL CONDITIONS :

(i) (a) Legumes—Wheat. (b) and (c) As per treatments. (ii) (a) [Deep black soil. (b) N.A. (iii) 2nd week of Nov. 1958. (iv) (a) 2 ploughings and 2 to 4 hoeings. (b) N.A. (c) 40 lb./ac. (d) 12″ between rows. (e) N.A. (v) Nil. (vi) NP—710. (vii) Irrigated. (viii) 3 weedings and 4 harrowings. (ix) 4″. (x) 4th week of Feb. 1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56 (MAE) type IV on page 226.

5. RESULTS :

(i) 498 lb./ac. (ii) (a) 121.8 lb./ac. (b) 60.1 lb./ac. (iii) Main effect of P is significant and effect of N is highly significant. (iv) Av. yield of grain in lb./ac.

	L_0P_0	L_1P_0	L_1P_1	L_1P_2	L_2P_0	L_2P_1	L_2P_2	Mean
N_0	502	403	444	420	428	428	527	450
N_1	494	428	494	642	543	477	625	529
N_2	510	379	494	527	535	477	683	515
Mean	502	403	477	530	502	461	612	498

S.E. of difference of two

1. LP marginal means = 57.4 lb./ac.
2. N marginal means = 18.5 lb./ac.
3. N means at the same level of LP = 49.1 lb./ac.
4. LP means at the same level of N = 70.0 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 59(MAE).**

Site :- M.A.E. Farm, Gangavati. **Type :- 'M'.**

Object :—Type IV—To study the residual effect of P applied to legumes and direct effect of N on Wheat crop.

1. BASAL CONDITIONS :

(i) (a) Legume—Wheat. (b) and (c) As per treatments. (ii) (a) Deep black soil. (b) N.A. (iii) Nov., 1959. (iv) (a) and (b) N.A. (c) 40 lb./ac. (d) 12" between rows. (e) N.A. (v) 5000 lb./ac. of F.Y.M. (vi) N.A. (vii) Irrigated. (viii) to (x) N.A.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(MAE) type IV on page 226.

4. GENERAL :

(i) Normal. (ii) Slight attack of stem-borer was observed. Damaged plants were removed and burnt. (iii) Grain yield. (iv) (a) 1956—contd. (expt. failed in 1957). (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 259 lb./ac. (ii) (a) 73.8 lb./ac. (b) 61.4 lb./ac. (iii) Main effect of P and 'Control *vs.* others' are higly significant. (iv) Av. yield of grain in lb./ac.

	L_0P_0	L_1P_0	L_1P_1	L_1P_2	L_2P_0	L_2P_1	L_2P_2	Mean
N_0	189	222	290	290	173	304	244	245
N_1	197	255	298	298	189	453	277	281
N_2	140	239	306	232	222	280	342	252
Mean	175	239	298	273	195	346	288	259

S.E. of difference of two

1. LP marginal means = 34.8 lb./ac.
2. N marginal means = 19.0 lb./ac.
3. N means at the same level of LP = 50.2 lb./ac.
4. LP means at the same level of N = 53.7 lb./ac.

Crop :- Wheat. **Ref :- Ms. 54(141).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'C'.**

Object :—To find out the suitable spacing combined with an economic seedrate to get an increased Wheat yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M. once in 3 years. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 10.10.1954. (iv) (a) Ploughing is done once in three years as per dry farming methods. (b) Seed sown by drilling. (c) and (d) As per treatments. (e)—. (v) Nil. (vi) RR—(medium). (vii) Unirrigated. (viii) 2 interculturings. (ix) 1.94". (x) 2.1.1955.

2. TREATMENTS :

Main-plot treatments :

3 seed rates : R_1=30, R_2=40 and R_3=50 lb./ac.

Sub-plot treatments :

2 spacings between rows : S_1=9" and S_2=12".

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 42′×21′. (b) 36′×15′. (v) 3′ alround the sub-plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield data. (iv) (a) 1952—1954. (b) No. (c) Nil. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 389 lb./ac. (ii) (a) 95.3 lb./ac. (b) 54.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	R_1	R_2	R_3	Mean
S_1	371	407	380	386
S_2	396	389	395	393
Mean	383	398	387	389

S.E. of difference of two

1. R marginal means = 38 9 lb./ac.
2. S marginal means = 18.2 lb./ac.
3. S means at the same level of R = 31.5 lb./ac.
4. R means at the same level of S = 44.8 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 227(55).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'C'.**

Object :—To study the effect of mechanical stimulion Wheat.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 21.10.1955. (iv) (a) Ploughing. (b) Drilling. (c) 40 lb./ac. (d) Row to row 12″. (e) —. (v) Nil. (vi) Kenephad. (vii) Unirrigated. (viii) As per treatments. (ix) 3.52″. (x) 9.2.1956.

2. TREATMENTS :

1. Stone roller.
2. Hoe interculturing.
3. Japanese hoe.
4. Tooth cultivator.
5. Light planking.
6. Control.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 2. (iv) (a) 50′×12′. (b) 46′×12′. (v) 2 rows on either side along breadth. (vi) Yes.

4. GENERAL :

(i) and (ii) N.A. (iii) Grain yield, no. of plants, no. of tillers and no. of spikelets/panicle. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 541 lb./ac. (ii) 63.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4	5	6
Av. yield	604	589	555	550	545	403

S.E./mean = 45.2 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 56(169).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'C'.**

Object :—To judge the effect of various mechanical stimuli on Wheat crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Black soil. (b) Refer soil analysis, Bijapur. (iii) 21.10.1956. (iv) (a) Ploughing. (b) Drilling. (c) 40 lb./ac. (d) Row to row 12″. (e) —. (v) Nil. (vi) Kenephad. (vii) Unirrigated. (viii) One interulturing and hand weeding. (ix) 10.79″. (x) 9.2.1957.

2. TREATMENTS :

1. Planking.
2. Interculturing by hoe.
3. Interculturing by tooth cultivator.
4. Interculturing by Japanesc weeder.
5. Control.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) 50′×60′. (iii) 4. (iv) (a) 50′×12′. (b) 46′×12′. (v) 2 rows on both sides along breadth. (vi) Yes.

4. GENERAL :

(i) Stunted growth. (ii) Nil. (iii) Height of plants, no. of tillers/plant and grain yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (iv) (a) N.A. (b) Nil. (vi) Heavy rains. (vii) Nil.

5. RESULTS :

(i) 296 lb./ac. (ii) 83.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4	5
Av. yield	287	276	298	354	265

S.E./mean = 41.6 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 57(177).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'C'.**

Object :—To judge the effect of various mechanical stimuli on Wheat crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Black soil. (b) Refer soil analysis, Bijapur. (iii) 16.10.1957. (iv) (a) Ploughing. (b) Drilling. (c) 40 lb./ac. (d) Row to row 12″. (e) —. (v) Nil. (vi) Kenephad. (vii) Unirrigated. (viii) As per treatments. (ix) 15.06″. (x) 26.2.1958.

2. TREATMENTS :

Same as in expt. no. 56(169) above.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) 50′×40′. (iii) 4. (iv) (a) 50′×8′. (b) 44′×6′. (v) 3′×1′. (vi) Yes.

4. GENERAL :

(i) The crop was healthy. (ii) Nil. (iii) Height of plants, total no. of tillers and grain yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) (a) N.A. (b) Nil. (vi) Heavy rain during crop growth. (vii) Nil.

5. RESULTS :

(i) 413 lb./ac. (ii) 59.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4	5
Av. yield	363	446	384	461	412

S.E./mean = 29.9 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 58(163).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'C'.**

Object : - To judge the effects of various mechanical stimuli on Wheat crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 4 C.L /ac. of F.Y.M. (ii) (a) Black soil. (b) Refer soil analysis, Bijapur. (iii) 25.10.1958. (iv) (a) Ploughing. (b) Drilling. (c) 40 lb./ac. (d) Row to row 12". (e) —. (v) Nil. (vi) Kenephad. (vii) Unirrigated. (viii) As per treatments. (ix) 11.46". (x) 12.2.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56 (169) on page 230.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plants, total no. of tillers and grain yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (iv) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 298 lb./ac. (ii) 40.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4	5
Av. yield	270	317	287	301	317

S.E./mean = 20.3 lb./ac.

Crop :- Wheat. **Ref :-54(114).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'C'.**

Object :—To find out suitable spacing and seedrate combination to obtain maximum yield of Wheat.

1. BASAL CONDITIONS :

(i) (a) China *Mug*—Wheat. (b) China *Mug*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 17.10.1954. (iv) (a) The plot was harrowed 4 times. (b) Seed drill. (c) and (d) As per treatments. (e)—. (v) Nil. (vi) Kenephad. (vii) Unirrigated. (viii) No. (ix) 25.56". (x) 24.1.1955

2. TREATMENTS :

Main-plot treatments :

2 spacings of rows : S_1=9" and S_2=12".

Sub-plot treatments :

3 seed rates : R_1=30, R_2=40 and R_3=50 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication ; 3 sub-plots/main-plot. (b) No. (iii) 6. (iv) (a) 42'×21'. (b) 36'×15', (v) 3' alround the sub-plot. (vi) Yes.

4. GENERAL :

(i) Good. (ii) No. (iii) Height of the crop, grain and straw yield. (iv) (a) 1952—1954. (b) No. (c) Nil. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 724 lb./ac. (ii) (a) 90.4 lb./ac. (b) 85.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	R_1	R_2	R_3	Mean
S_1	756	720	762	746
S_2	720	714	669	701
Mean	738	717	716	724

S.E. of difference of two

1. S marginal means = 30.1 lb./ae.
2. R marginal means = 34.9 lb./ac.
3. R means at the same level of S = 49.4 lb./ac.
4. S means at the same level of R = 50.3 lb./ac.

Crop :- Wheat. **Ref :- Ms. 55(97).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'CM'.**

Object :—To find out the most suitable combination of seed rate and manure for dry Wheat.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) N.A. (iii) 3.11.1955. (iv) (a) Ploughing and 2 harrowings. (b) Seed drill. (c) As per treatments. (d) Rows 12″ apart. (e) —. (v) Nil. (vi) Niphad—4. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 0.79″. (x) 19.2.1956.

2. TREATMENTS :

All combinations of (1), (2) and (3).

(1) 3 seed rates : R_1=20, R_2=30 and R_3=40 lb./ac.
(2) 3 levels of N as A/S : N_0=0, N_1=15 and N_2=30 lb./ac.
(3) 3 levels of P_2O_5 as Super : P_0=0, P_1=15 and P_2=30 lb./ac.

3. DESIGN :

(i) 3^3 fact. confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 1. (iv) (a) 24′×24′. (b) 20′×20′. (v) 2′ alround the plot. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Black stem rust to some extent. Control measures N.A. (iii) Height of plant, no. of tillers, no. of spikelets and grain yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 588 lb./ac. (ii) 53.8 lb./ac. (iii) Only R×N interaction is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	P_0	P_1	P_2	Mean
R_1	658	547	492	554	570	574	566
R_2	590	611	565	592	617	556	589
R_3	515	663	649	527	660	640	609
Mean	588	607	569	558	616	590	588
P_0	558	601	513				
P_1	560	660	626				
P_2	645	559	567				

S.E. of any marginal mean = 17.9 lb./ac.
S.E. of body of any table = 31.1 lb./ac.

Crop :- Wheat. **Ref :- Ms. 56(23).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'CM'.**

Object :—To find out the most suitable combination of seed rate and manure for dry Wheat.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *China mug.* (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black. (b) N.A. (iii) 4.11.1956. (iv) (a) Ploughing and 3 harrowings. (b) Sowing by drilling. (c) As per treatments. (d) 12" between rows. (e) —. (v) Nil. (vi) Jaya. (vii) Unirrigated. (viii) One weeding. (ix) 3.94". (x) 6.2.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(97) on page 232.

4. GENERAL :

(i) Normal. (ii) Heavy attack of rust—Control measures N.A. (iii) Height of plant, no. of spikelets per spike and grain yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 434 lb./ac. (ii) 70.9 lb./ac. (iii) Main effects of R and N are significant. (iv) Av. of yield of grain in lb./ac.

	N_0	N_1	N_2	P_0	P_1	P_2	Mean
R_1	332	401	382	409	359	347	372
R_2	391	485	590	538	497	432	489
R_3	355	533	439	471	440	416	442
Mean	359	473	470	473	432	398	434
P_0	397	533	488				
P_1	368	485	443				
P_2	313	401	481				

S.E. of any marginal mean = 23.6 lb./ac.
S.E. of body of any table = 40.9 lb./ac.

Crop :- Wheat *(Rabi).* **Ref :- Ms. 57(134).**
Site :- Agri. Res. Stn., Bailhongal. **Type :- 'CM'.**

Object :—To find out the most suitable combination of seed rate and manure for dry Wheat.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *China mug.* (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black. (b) N.A. (iii) 5.12.1957. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 40 lb./ac. (d) 12" between rows. (e) —. (v) Nil. (vi) Jaya. (vii) Unirrigated. (viii) Weeding once. (ix) Nil. (x) 7.3.1958.

2. TREATMENTS and 3. DESIGN : .

Same as in expt. no. 55(97) on page 232.

4. GENERAL :

(i) Normal. (ii) Slight attack of rust—No control measures taken. (iii) Height of plant, no. of spikelets/spike and grain yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 490 lb./ac. (ii) 125.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	P_0	P_1	P_2	Mean
R_1	454	566	387	530	471	407	469
R_2	470	450	476	494	412	490	465
R_3	472	674	459	560	481	562	535
Mean	465	563	440	528	455	486	490
P_0	447	723	414				
P_1	484	461	419				
P_2	464	506	489				

S.E. of any marginal mean = 41.7 lb./ac.
S.E. of body of any table = 72.3 lb./ac.

Crop :- Wheat *(Rabi).* **Ref :- Ms. 58(125).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'CM'.**

Object :—To find out the most suitable combination of seed rate and manure for dry Wheat.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *China mug.* (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) N.A. (iii) 7.11.1958. (vi) (a) Ploughing and harrowing. (b) Drilling. (c) 40 lb./ac. (d) 12" between rows. (e) —. (v) Nil. (vi) Jaya. (vii) Unirrigated. (viii) Weeding once. (ix) 1.3". (x) 10.2.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(97) on page 232.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plants, no. of spikelets/spike and grain yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 516 lb./ac. (ii) 157.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean	P_0	P_1	P_2
R_1	467	539	439	482	450	453	542
R_2	543	579	465	529	572	456	559
R_3	416	578	618	537	478	456	677
Mean	475	565	507	516	500	455	593
P_0	388	560	552				
P_1	453	469	442				
P_2	584	667	527				

S.E. of any marginal mean = 52.5 lb./ac.
S.E. of the body of any table = 90.9 lb./ac.

Crop :- Wheat. **Ref :- Ms. 54(174).**

Site :- Agri. College Farm, Dharwar. **Type :- 'CM'.**

Object :—To find out the suitable spacing and manurial dose for Wheat under Dharwar conditions.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—Wheat. (b) Cotton. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar College. (iii) 17.10.1954. (iv) (a) Harrowing. (b) Sowing by drilling. (c) N.A. (d) As per treatments. (e) N.A. (v) 5 C.L./ac. of F.Y.M. spread out in the field. (vi) Kenphad. (vii) Unirrigated. (viii) Nil. (ix) 29.90". (x) 24.1.1955.

2. TREATMENTS :

Main-plot treatments :

3 spacings between rows : R_1=6", R_2=9" and R_3=12".

Sub-plot treatments :

3 doses of N : N_0=0, N_1=15. and N_2=30 lb./ac.

3. DESIGN:

(i) Split-plot. (ii) (a) 3 main-plots/replication ; 3 sub-plots/main-plot. (b) Nil. (iii) 6. (iv) (a) 33'×21'. (b) 30'×18'. (v) 1½' alround. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—1955. (b) No. (c) Nil. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 383 lb./ac. (ii) (a) 104.9 lb./ac. (b) 99.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean
R_1	355	378	403	379
R_2	404	399	384	396
R_3	392	335	391	373
Mean	384	371	393	383

S.E. of difference of two

1. R marginal means = 35.0 lb./ac.
2. N marginal means = 33.2 lb./ac.
3. N means at the same levelof R = 57.5 lb./ac.
4. R means at the same level of N = 58.5 lb./ac.

———

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 55(186).**

Site :- Agri. College Farm, Dharwar. **Type :- 'CM'.**

Object :—To find out suitable spacing and manurial dose to Wheat under Dharwar conditions.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Wheat (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M+320 lb./ac. manure mixture. (30 lb./ac. N+15 lb./ac. G.N.C+20 lb./ac. P_2O_5). (ii) (a) Medium black soil. (b) Refer soil analysis Dharwar College. (iii) 2nd week of October. (iv) (a) Harrowing. (b) Drilling. (c) 40 lb./ac. (d) As per treatments. (e) N.A. (v) 5 C.L./ac. of F.Y.M. (vi) Kenphad. (vii) Unirrigated. (viii) Nil. (ix) 2.0". (x) 3rd week of Jan.

2. TREATMENTS:

Main-plot treatments :

3 spacings between rows : S_1=6", S_2=9" and S_3=12".

Sub-plot treatments:

All combinations of (1) and (2)

(1) 3 levels of N : N_0=0, N_1=15 and N_2=30 lb./ac.

(2) 2 levels of P_2O_5 : P_0=0 and P_1=20 lb./ac.

Sources of N and P_2O_5 N.A.

3. DESIGN

(i) Split-plot. (ii) (a) 3 main plots/replication ; 6 sub-plots/main plot. (b) Nil. (iii) 3. (iv) (a) 21′×33′. (b) 18′×30′. (v) 3′ around the plot. (vi) Yes.

4. GENERAL ;

(i) Fair. (ii) Nil. (iii) Height, straw and grain yield. (iv) (a) 1954—1955. (b) No. (c) Nil. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 273.4 lb./ac. (ii) (a) 70.2 lb./ac. (b) 41.1 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	S_1	S_2	S_3	N_0	N_1	N_2	Mean
P_0	233	273	300	238	287	282	269
P_1	242	282	309	273	269	292	278
Mean	238	278	305	256	278	287	274
N_0	229	262	276				
N_1	235	289	309				
N_2	249	282	330				

S.E. of difference of two

1. S marginal means = 23.4 lb./ac.
2. N marginal means = 13.7 lb./ac.
3. P marginal means = 11.2 lb./ac.
4. P means at the same level of S = 19.4 lb./ac.
5. S means at the same level of P = 27.1 lb./ac.
6. N means at the same level of S = 23.7 lb./ac.
7. S means at the same level of N = 30.4 lb./ac.

S.E. of body of N×P table = 13.7 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 56(162)**

Site :- Agri. Res. Stn., Arbhavi. **Type :- 'IM'.**

Object :—To study the requirement of water under different manurial conditions for Wheat.

1. BASAL CONDITIONS :

(i) (a) Maize—Wheat. (b) Maize. (c) As per treatments. (ii) (a) Medium kirl soil. (b) N.A. (iii) 28.10.1956. (iv) (a) Ploughing. (b) Drilling. (c) 50 lb./ac. (d) 12″ between rows. (e) —. (v) Nil. (vi) R.R. (vii) As per treatments. (viii) Hand weeding and interculturing. (ix) 9.54″. (x) 26 to 28.2.1957.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 intensities of irrigation : L_1=3 ac. inches and L_2=3½ ac. inches.
(2) 3 levels of N : N_1=20, N_2=40 and N_3=60 lb./ac.

3. DESIGN :

(i) Fact in R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 33′×40′. (b) 27′×36′. (v) 3′×2′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Severe attack of 'Altenacia'—no control measures. (iii) Grain yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS

(i) 228.8 lb./ac. (ii) 48.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_1	N_2	N_3	Mean
L_1	220	226	241	229
L_2	220	258	209	229
Mean	220	242	225	229

S.E. of L marginal mean = 14.0 lb./ac.
S.E. of N marginal mean = 17.1 lb./ac.
S.E. of body of table = 24.2 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 57(160).**

Site :-Agri. Res. Stn., Arbhavi. **Type :- 'IM'.**

Object :—To study the water requirement of Wheat under different manurial conditions.

1. BASAL CONDITIONS :

(i) (a) Maize—Wheat. (b) Maize. (c) As per treatments. (ii) (a) Medium kirl soil. (b) N.A. (iii) 2.11.1957. (iv) (a) Ploughing. (b) Drilling. (c) 50 lb./ac. (d) 12" between rows. (e) Nil. (v) N.A. (vi) R.R. (vii) As per treatments. (viii) Hand weeding and interculturing. (ix) 11.68". (x) 14 to 16.2.1958.

2. TREATMENTS :

Same as in expt. no. 56(162) on page 236.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 44'×33'. (b) 40'×27'. (v) 3'×2'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 505 lb./ac. (ii) 50.9 lb./ac. (iii) L effect alone is significant. (iv) Av. yield of grain in lb./ac.

	N_1	N_2	N_3	Mean
L_1	487	422	490	466
L_2	515	546	569	543
Mean	501	484	530	505

S.E. of L marginal mean = 14.7 lb./ac.
S.E. of N marginal mean = 18.0 lb./ac.
S.E. of body of table = 25.5 lb./ac.

Crop :- Wheat. **Ref :- Ms. 58(151).**

Site :- Agri. Res. Stn., Arbhavi. **Type :- 'IM'.**

Object :—To find out the water requirement of Wheat under different manurial conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Maize. (c) As per treatments. (ii) (a) Medium kirl soil. (b) N.A. (iii) 3.10.1958. (iv) (a) Ploughing. (b) Drilling. (c) 50 lb./ac. (d) 12" between rows. (e) N.A. (v) Nil. (vi) R.R. (vii) Irrigated. (viii) Hand weeding and interculturing. (ix) 9.54". (x) 8.1.1959.

2. TREATMENTS

Same as in expt. no. 56(162) on page 236.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 34′×22′. (b) 30′×20′. (v) 2′×1′. (vi) Yes

4. GENERAL

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 773 lb./ac. (ii) 136.5 lb./ac. (iii) None of the effects is significant. (lv) Av. yield of grain in lb./ac.

	N_1	N_2	N_3	Mean
L_1	739	828	797	788
L_2	815	717	738	757
Mean	777	773	768	773

S.E. of L marginal mean = 39.4 lb./ac.
S.E. of N marginal mean = 48.3 lb./ac.
S.E. of body of table = 68.3 lb./ac.

Crop:- Wheat (*Rabi*). **Ref :- Ms. 59(12).**

Site :- Agri. Res. Stn., Arbhavi. **Type :- 'IM'.**

Object :—To find the water and manurial requirements of Wheat.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Maize. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Sandy loam. (b) N.A (iii) 23.10.1959. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 30 lb./ac. (d) 12″×9″. (e) 2 to 3. (v) 5 C.L./ac. of F.Y.M. (vi) R.R. (rust resistant) (vii) Irrigated. (viii) Nil. (ix) 3.44″. (x) 7.2.1960.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 intensities of irrigation : L_1—2½ ac. inches and L_2=3½ ac. inches.

(2) 5 manurial treatments : M_0= no manure, M_1= 20 lb./ac. of N as A/S and G.N.C. in the ratio 1 : 2, M_2=30 lb./ac. of N as A/S+10 lb./ac. of P_2O_5 as Super+10 lb./ac. of K_2O as Pot. Sul., M_3=60 lb./ac. of N as A/S and G.N.C. in the ratio 1 : 2 and M_4=60 lb./ac. N as A/S+20 lb./ac. of P_2O_5 as Super+20 lb./ac. of K_2O as Pot. Sul.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 10. (b) N.A. (iii) 3. (iv) (a) 23′×22′. (b) 21′×20′. (v) 1′×1′. (vi) Yes.

4. GENERAL :

(i) Due to attack of diseases the growth was not farourable and yield was considerably low. (ii) Mild attack of Altenraria in early stages and severe attack of rust in later stages – irrigation was stopped. (iii) Moisture studies and grain yield. (iii) (a) 1959 – N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 435 lb./ac. (ii) 62.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	M_0	M_1	M_2	M_3	M_4	Mean
L_1	517	461	425	449	423	455
L_2	398	356	447	408	462	414
Mean	458	409	436	429	443	435

S.E. of L marginal mean = 16.1 lb./ac.
S.E. of M marginal mean = 25.5 lb./ac.
S.E. of body of table = 36.0 lb./ac.

Crop :-Wheat *(Rabi)*. **Ref :- Ms. 55(205).**

Site :- Agri. Res. Stn., Arbhavi. **Type :- 'IM'.**

Object :—To study the residual effect of doses of water in retation to N doses applied to Maize on Wheat.

1. BASAL CONDITIONS :

(i) Maize—Wheat. (b) Maize. (c) As per treatments. (ii) Medium kirl soil. (b) N.A. (iii) 20.11.1955. (iv) (a) Ploughing. (b) Drilling. (c) 50 lb./ac. (d) 12" between rows. (e) N.A. (v) Nil. (vi) R.R.—Wheat. (vii) Irrigated. (ix) Hand weeding and interculturing. (x) 18.3.1956.

2. TREATMENTS :

All combinations of (1), and (2) as applied to Maize crop :
(1) 4 levels ot N : N_0=0, N_1=40, N_2=80 and N_3=120 lb./ac.
(2) 2 intensities of irrigation : L_1=1½ ac. inches and L_2=2 ac. inches.

2. DESIGN ;

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 33'×40'. (b) 31'×38'. (v) 1'×1'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Severe attack of Alternaria was noticed—Control measures N.A. (iii) Grain yield. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 384.2 lb./ac. (ii) 78.6 lb./ac. (iii) Only L effect is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	N_3	Mean
L_1	285	440	359	308	348
L_2	393	429	385	474	420
Mean	339	434	372	391	384

S.E. of N marginal mean = 27.8 lb./ac.
S.E. of L marginal mean = 19.7 lb./ac.
S.E. of body of table = 39.3 lb./ac.

Crop :- Wheat. **Ref :- Ms. 55(112).**

Site :- Agri. Res. Stn., Dhadesagar. **Type :- 'IM'.**

Object :—To find out the irrigational and manurial requirements of Wheat.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) Nil. (ii) (a) Black clayey. (b) N.A. (iii) 26.10.1955. (iv) (a) One ploughing, and 3 to 4 harrowings. (b) to (e) N.A. (v) 30 lb./ac. of Super. (vi) K—28. (vii) Irrigated. (viii) Inter-culturings and weedings. (ix) 7.70". (x) 19.2.1956.

2. TREATMENTS :

All combinations of (1) and (2)
(1) 4 levels of irrigation : I_0=0, I_1=2, I_2=4 and I_3=6 irrigations.
(2) 3 levels of N as A/S : N_0=0, N_1=20 and N_2=40 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) and (b) 21′×20′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) PW_5 was grown and it was attacked by rust. (iii) Grain yield. (iv) (a) 1955—1957. (b) Yes. (c) Nil. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 371 lb./ac. (ii) 137.4 lb./ac. (iii) Only I effect is highly significant. (iv) Av. yield of grain in lb./ac.

	I_0	I_1	I_2	I_3	Mean
N_0	307	433	361	282	346
N_1	427	454	370	304	389
N_2	353	585	307	272	379
Mean	362	491	346	286	371

S.E. of N marginal mean = 34.4 lb./ac.
S.E. of I marginal mean = 39.7 lb./ac.
S.E. of body of table = 68.7 lb./ac.

Crop :- Wheat. **Ref :- Ms. 56(22).**

Site :- Agri. Res. Stn., Dhadesagar. **Type :- 'IM'.**

Object :—To find out the irrigational and manurial requirements of Wheat.

1, BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) As per treatments. (ii) (a) Black clayey. (b) N.A. (iii) 26.10.1956. (iv) (a) One ploughing and 3 to 4 harrowings. (b) to (e) N.A. (v) 30 lb./ac. of Super. (vi) K—28. (vii) Irrigated. (viii) Interculturing and weeding. (ix) 12.67". (x) 18.2.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(112) on page 239.

5. RESULTS :

(i) 414 lb./ac. (ii) 76.4 lb./ac. (iii) The effects of N and I are highly significant. (iv) Av. yield of grain in lb./ac.

	I_0	I_1	I_2	I_3	Mean
N_0	264	294	301	317	294
N_1	420	345	412	486	416
N_2	407	496	527	698	532
Mean	364	378	413	500	414

S.E. of N marginal mean = 19.1 lb./ac.
S.E. of I marginal mean = 22.1 lb./ac.
S.E. of body of table = 38.2 lb./ac.

Crop :- Wheat. **Ref :- Ms. 57(23).**

Site :- Agri. Res. Stn., Dhadesagar. **Type :- 'IM'.**

Object :—To find out the irrigational and manurial requirements of Wheat.

1. BASAL CONDITIONS:

(i) (a) No. (b) Wheat. (c) As per treatments. (ii) (a) Black clayey. (b) N.A. (iii) 11.10.1957. (iv) (a) One ploughing and 3 to 4 harrowings. (b) to (e) N.A. (v) 30 lb./ac. of P_2O_5 as Super. (vi) K—28. (vii) Irrigated. (viii) Interculturing and weeding. (ix) N.A. (x) 10.2.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(112) on page 239.

5. RESULTS :

(i) 162 lb./ac. (ii) 41.5 lb./ac. (iii) Main effects of I and N are highly significant. (iv) Av. yield of grain in lb./ac.

	I_0	I_1	I_2	I_3	Mean
N_0	87	122	142	137	122
N_1	166	123	193	283	191
N_2	127	127	198	240	173
Mean	127	124	178	220	162

S.E. of I marginal mean = 12.0 lb./ac.
S.E. of N marginal mean = 10.4 lb./ac.
S.E. of body of table = 20.8 lb./ac.

Crop :- Wheat. **Ref :- Ms. 58(37).**

Site :- Agri. Res. Stn., Dhadesagar. **Type :- 'IMV'.**

Object :—To study the N and irrigation requirements of Wheat crop and to know the best variety for this project.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Cotton. (c) 40 lb./ac. of N+20 lb./ac. of P_2O_5. (ii) (a) Medium black soil. (b) N.A. (iii) 20.10.1958. (iv) (a) Cross ploughing. (b) Drilling. (c) 40 lb./ac. (d) 12" between rows. (e) N.A. (v) Nil. (vi) and (vii) As per treatments. (viii) Hoeing, hand weeding and interculturing. (ix) 3.33". (x) 12.2.1959.

2. TREATMENTS :

Main-plot treatments :

4 levels of irrigations : $I_0=0$, $I_1=2$, $I_2=4$ and $I_3=6$ irrigations.

Suo-plots treatments :

All combinations of (1) and (2) :

(1) 3 levels of N : $N_0=0$, $N_1=20$, and $N_2=40$ lb./ac..

(2) 4 varieties : V_1=PW-3, V_2=PW-5, V_3=PW-710 and V_4=PW-718.

3. DESIGN :

(i) Split plot. (ii) (a) 4 main-plots/replicatlon ; 12 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 22′×18′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Poor. (ii) PW-5 and PW-3 were affected by pest after flowering. (iii) Nil. (iv) (a) 1957—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 4272 lb./ac. (ii) (a) 6274.4 lb./ac. (b) 1334.4 lb./ac. (iii) Only the effects V and I×V are highly significant. (iv) Av. yield of grain in lb./ac.

	I_0	I_1	I_2	I_3	V_1	V_2	V_3	V_4	Mean
N_0	2527	4871	4321	5191	2781	4108	4476	5545	4228
N_1	2660	4238	4562	5180	2571	3472	4476	6122	4160
N_2	2338	4881	5400	5094	2558	3733	4929	6493	4428
Mean	2508	4663	4761	5155	2637	3771	4627	6053	4272
V_1	2195	3396	2269	2686					
V_2	2333	4263	4863	3625					
V_3	2383	4883	4725	6513					
V_4	3121	6110	7186	7796					

S.E. of difference of any two :

1. I marginal means = 1280.8 lb./ac.
2. N marginal means = 235.9 lb./ac.
3. V marginal means = 272.4 lb./ac.
4. V means at the same level of I = 544.8 lb./ac.
5. N means at the same level of I = 471.8 lb./ac.
6. I means at the same level of N = 1337.4 lb./ac.
7. I means at the same level of V = 1364.9 lb./ac.
8. Means of body of N×V table = 471.8 lb./ac.

Crop :- Wheat. **Ref :- Ms. 54(125).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'D'.**

Object :—To study the effect of hormone 2-4-D on growth and yield of Wheat.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) N.A. (iii) 29.10.1954. (iv) (a) 3 times harrowing. (b) Seed drill. (c) 40 lb./ac. (d) Lines 12″ apart. (e) —. (v) Nil. (vi) Niphad —4. (vii) Unirrigated. (viii) One weeding. (ix) N.A. (x) 1.2.1955.

2. TREATMENTS :

All combinations of (1) and (2)+a control (no seed soaking)

(1) 3 concentrations of 2-4-D hormone : C_1=0.001, C_2=0.01 and C_3=0.10 p.p.m.

(2) 2 durations of soaking seed in 2-4-D : D_1=½ hour and D_2=20 hours.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) Nil. (iii) 4. (iv) (a) 36′×18′. (b) 30′×12′. (v) 3′ all round the plot. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plant and no. of tillers per plant. (iv) (a) and (b) No. (c) N.A. (v) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 436 lb./ac. (ii) 67.7 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 436 lb./ac.

	C_1	C_2	C_3	Mean
D_1	432	445	405	427
D_2	411	466	454	444
Mean	422	456	430	436

S.E. of D marginal mean = 19.5 lb./ac.
S.E. of C marginal mean = 27.6 lb./ac.
S.E. of body of table or control mean = 33.9 lb./ac.

Crop :-Wheat *(Rabi)*. **Ref :- Ms. 54(231).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'D'.**

Object :—To study the effect of hormones on the yield of Wheat.

1. BASAL CONDITIONS :

(i) (a) Cereals rotated with pulses. (b) N.A. (c) —. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 10.10.1954. (iv) (a) Ploughing is done once in 3 years as per dry farming methods. (b) Drilling. (c) 40 lb./ac. (d) 12″×9″. (e) Nil. (v) 5 C.L./ac. of F.Y.M. once in 3 years. (vi) Kenphad—RR. (medium). (vii) Unirrigated. (viii) 2 interculturings. (ix) 1.94″. (x) 2.1.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(125) on page 242.

4. GENERAL :

(i) and (ii) N.A. (iii) Grain yield. (iv) (a) 1952—1954. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 302 lb./ac. (ii) 124.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 248 lb./ac.

	C_1	C_2	C_3	Mean
D_1	338	365	176	293
D_2	354	335	297	329
Mean	346	350	237	311

S E. of D marginal mean = 36.0 lb /ac.
S.E. of C marginal mean = 44.1 lb./ac.
S.E. of body of table or control mean = 62.3 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 58(203).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'DV'.**

Object :—To compare the efficiency of soaked seeds with unsoaked seeds of Wheat of different varieties for rust resistance and its effect on yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Light red to medium black soil. (b) Refer soil analysis, Dharwar. (iii) 24.10.1958. (iv) (a) N.A. (b) Drilling. (c) 40 lb./ac. (d) 12″×6″. (e)—. (v) Nil. (vi) As per treatments. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) N.A. (x) 11.2.1959.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 varieties : V_1=Kenphad and V_2=Local.

(2) 2 seed treatments : S_0=Untreated and S_1=Seeds soaked in water for 6 hours and dried for 2 days till they shrunk to the normal size.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 4. (b) 100′×80′. (iii) 2. (iv) (a) 100′×20′. (b) 80′×16′. (v) 10′×4′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—1960. (b) Yes. (c) Nil. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 903 lb./ac. (ii) 117.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	S_0	S_1	Mean
V_1	821	956	889
V_2	847	985	916
Mean	834	971	903

S.E. of any marginal mean = 58.6 lb./ac.
S.E. of body of table = 82.9 lb./ac.

Crop :- Wheat *(Rabi)*. **Ref :- Ms. 59(166).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'DV'.**

Object :—To compare the efficiency of unsoaked and soaked seeds for rust resistance and its effect on yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Light red to medium black soil. (b) Refer soil analysis, Dharwar. (iii) 16.10.1959. (iv) (a) N.A. (b) Drilling. (c) 40 lb./ac. (d) 12″×6″. (e)—. (v) Nil. (vi) As per treatments. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 28.48″. (x) 28.1.1960.

2. TREATMENTS :

Same as in expt. no. 58(203) on page 243.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) 44′×48′. (iii) 5. (iv) (a) 44′×12′. (b) 34′×8′. (v) 2 rows. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Seedling blight in all treatments and rust in local variety appeared. (iii) Grain yield (iv) (a) 1958–1960. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 573 lb./ac. (ii) 50.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	S_0	S_1	Mean
V_1	590	566	578
V_2	532	602	567
Mean	561	584	573

S E. of any marginal mean = 16.0 lb./ac.
S.E. of body of table = 22.6 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 54(215).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'M'.**

Object :—To study the effect of compost and different levels of N on Jowar.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Sandy loam. (b) N.A. (iii) 28.6.1954. (iv) (a) Ploughing. (b) Dibbling. (c) 10 lb /ac. (d) 18″×12″. (e) 2 to 3. (v) Nil. (vi) *Nandyal.* (vii) Irrigated. (viii) Weeding and interculturing. (ix) 12.00″. (x) 9.12.1954.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 4 levels of N : N_0=0, N_1=30, N_2=60 and N_3=90 lb./ac.

(2) 2 levels of compost : L_1=5,000 and L_2=10,000 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 44′×21′. (b) 36′×15′. (v) 4′×3′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Affected by rust. No control measures taken. (iii) Germination count, plant height, moisture studies and yield of grain. (iv) (a) 1954. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1586 lb./ac. (ii) 370.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	N_3	Mean
L_1	1785	1361	1424	1863	1608
L_2	1587	1787	1432	1448	1564
Mean	1686	1574	1428	1656	1586

S.E. of N marginal mean = 130.9 lb./ac.
S.E. of L marginal mean = 92.6 lb /ac.
S.E. of body of table = 185.2 lb./ac.

———

Crop :- Jowar *(Kharif).* **Ref :- Ms. 55(98).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'M'.**

Object :—To find out suitable time and method of application of A/S to Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Kulthi.* (c) 4 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) N.A. (iii) 19.7.1955. (iv) (a) 1 ploughing and 2 harrowings. (b) Drilling. (c) 7 lb./ac. (d) 18″ between rows. (e) —. (v) 5 C.L./ac. of F.Y.M. broadcast in the month of June. (vi) Fulgar white. (vii) Unirrigated. (viii) 1 weeding and 2 interculturings. (ix) 15.98″. (x) 29.12.1955.

2. TREATMENTS :

5 methods of application of 40 lb./ac. of N as A/S : M_1 =Full dose broadcast at sowing, M_2=½ dose broadcast at sowing and ½ dose one month after sowing, M_3=Full dose drilled at sowing, M_4=½ dose drilled at sowing and ½ one month after sowing and M_5=Full dose broadcast 15 days before sowing.

3. DESIGN :

(i) RB.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 36′×21′. (b) 30′×15′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Attack of rust and sugary disease. Control measures taken—N.A. (iii) Height of plant, size of earheads and yield of grain. (iv) (a) 1955—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 862 lb./ac. (ii) 111.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3	M_4	M_5
Av. yield	772	851	896	912	879

S.E./mean = 45.3 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 56(39).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'M'.**

Object :—To find out the suitable time and method of application of A/S to Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) N.A. (iii) 17.7.1956. (iv) (a) 1 ploughing and 3 harrowings. (b) Drilling. (c) 4 lb./ac. (d) 18" between rows. (e) —. (v) 5 C.L./ac. of F.Y.M.+20 lb./ac. of P_2O_5 broadcast. (vi) Fulgar white (medium). (vii) Unirrigated. (viii) 2 interculturings and 1 weeding. (ix) 23.81". (x) 24.1.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(98) on page 245.

5. RESULTS :

(i) 729 lb./ac. (ii) 142.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3	M_4	M_5
Av. yield	696	766	676	782	724

S.E./mean = 58.1 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 57(132).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'M'.**

Object :—To study the most suitable time and method of application of A/S to Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black. (b) N.A. (iii) 12.7.1957. (iv) (a) 1 ploughing and 3 harrowings. (b) Drilling. (c) 4 lb./ac. (d) 18" between rows. (e) —. (v) 5 C.L./ac. of F.Y.M.+20 lb./ac. of P_2O_5. (vi) Fulgar white (medium). (vii) Unirrigated. (viii) 2 interculturings and 1 weeding. (ix) 25.80". (x) 26.12.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(98) on page 245.

5. RESULTS :

(i) 1651 lb./ac. (ii) 159.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3	M_4	M_5
Av. yield	1570	1656	1589	1671	1771

S.E./mean = 65.1 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 54(169).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'M'.**

Object :—To compare the manurial value of Calcium Cynamide as a source of N with F.Y.M., A/S and G.N.C.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Kulthi*. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) N.A. (iii) 20.7.1954. (iv) (a) Iron ploughing and 2 harrowings. (b) Drilling. (c) 6 lb./ac. (d) 18" between rows. (e) —. (v) 4 C.L./ac. of F.Y.M. broadcast in the month of May. (vi) *Nandyal* (early). vii) Unirrigated. (viii) 2 interculturings and 1 weeding. (ix) 11.73". (x) 8.1.1955.

2. TREATMENTS :

5 manurial treatments : M_1=60 lb./ac. of N as Cal. Cynamide M_2=30 lb./ac. of N as Cal. cynamide+30 lb./ac. of N as G.N.C., M_3=60 lb./ac. of N as A/S, M_4=30 lb./ac. of N as G.N.C.+30 lb./ac. of N as A/S and M_5=5 C.L./ac. of F.Y.M.

Manures drilled in the soil at the time of sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 2. (iv) (a) 48'×22.5'. (b) 42'×19.5'. (v) 3'×1.5'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of the plant, length and breadth of earheads and yield of grain. (iv) (a) 1952—1954. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1771 lb./ac. (ii) 82.9 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3	M_4	M_5
Av. yield	1838	1662	2011	1625	1721

S.E./mean = 58.6 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 56(146).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'M'.**

Object :—To study the effect of micronutrients on the yield of Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Kulthi*. (c) Nil. (ii) (a) Medium black soil. (b) N.A. (iii) 18.7.1956. (iv) (a) Ploughing and 2 harrowings. (b) Drilling. (c) 4 lb./ac. (d) 12" between rows. (e) —. (v) Nil. (vi) Fulgar white (vii) Unirr gated. (viii) Weeding and interculturing. (ix) 25". (x) 16.1.1957.

2. TREATMENTS :

All combinations of 5 micronutrients each at two levels *viz.*, presence and absence.

(1) Zinc—Zn,
(2) Manganese—Mn.
(3) Copper—Cn.
(4) Molybdenum—Mo.
(5) Boron—B.

Levels of application N.A.

3. DESIGN :

(i) 2^5 fact. (ii) (a) 32. (b) N.A. (iii) 4. (iv) (a) 18'×30'. (b) 12'×24'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plant, size of earhead and yield of grain. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) N.A.

5. RESULTS :

(i) 954 lb./ac. (ii) 205.7 lb./ac. (iii) Interaction Zn×Cu and Zn×Mo are significant. (iv) Mean and differential responses in lb./ac.

Factor	Mean response	Differential responses									
		Z		Mn		Cu		Mo		B	
		—	+	—	+	—	+	—	+	—	+
Zn	—6.0	—	—	12.2	—24.2	65.0	—77.0	—66.5	54.5	48 4	—60.4
Mn	39.3	57.4	21.2	—	—	39.3	39.3	1.51	77.1	46.9	31.7
Cu	—36.0	35.0	—107.0	—36.0	—36.0	—	—	—15.0	—57.0	—31.8	—40.2
Mo	7.6	—52.9	68.1	—31.7	46.9	28.6	—13.4	—	—	33.3	—18.1
B	—45.3	9.1	—99.7	—37.7	—52.9	—41.1	—49.5	—19.6	—71.0	—	—

S.E. of mean response = 36.4 lb./ac.
S.E. of differential reponse = 51.5 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 57(126).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'M'.**

Object :—To study the effect of micronutrients on the yield of Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Kulthi*. (c) Nil. (ii) (a) Medium black soil. (b) N.A. (iii) 25.7.1957. (iv) (a) Ploughing and 2 harrowings. (b) Drilling. (c) 4 lb./ac. (d) 12" between rows. (e)—. (v) Nil. (vi) Fulgar white (medium). (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 26.5". (x) 20.1.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(146) on page 247.

5. RESULTS :

(i) 925 lb./ac. (ii) 144.9 lb./ac. (iii) Interactions Zn×B, Mn×Cu, Mn×B and Mo×B are significant. (iv) Mean and differential response in lb./ac.

Factor	Mean response	Differential responses									
		Zn		Mn		Cu		Mo		B	
		—	+	—	+	—	+	—	+	—	+
Zn	—42.3	—	—	—24.2	—60.4	—24.2	—60.4	—28.7	—57.9	21.2	—105.8
Mn	—9.1	9.0	—27.2	—	—	59.0	—77.2	—21.2	3.0	37.8	—56.0
Cu	—1.5	16.6	—19.6	66.6	—69.6	—	—	4.5	—7.5	—37.8	34.8
Mo	20.4	35.0	5.8	8.3	32 5	26.4	14.4	—	—	113.4	—72.6
B	—33.3	30.2	—96.8	13.6	—80.2	—69.6	3.0	59.7	—126.3	—	—

S.E. of mean response = 25.6 lb./ac.
S.E. of differential response = 36.2 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 58(106).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'M'.**

Object :— To study the effec tof micronutrients on the yield of Jowar crop.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Medium black soil. (b) N.A. (iii) 3rd week of July, 1958. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 4 lb./ac. (d) 12″ between rows. (e)—. (v) Nil. (vi) Fulgar white (medium). (vii) Unirrigated. (viii) Weeding and 2 interculturings. (ix) 26.5″. (x) 3rd week of January, 1959.

2. TREATMENTS :

Same as in expt. no. 56(146) on page 247.

3. DESIGN :

(i) 2^5 Fact. (ii) (a) 3. (b) N.A. (iii) 2. (iv) (a) 18′×30′. (b) 12′×24′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plant, size of earhead and yield of grain. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1494 lb./ac. (ii) 183.0 lb./ac. (iii) Main effects of Mn and B are significant. Interactions Mn×Cu Mn×B and Cu×Mo are significant. (iv) Mean and differential responses in lb./ac.

Factor	Mean response	Differential response									
		Zn		Mn		Cu		Mo		B	
		−	+	−	+	−	+	−	+	−	+
Zn	77.4	—	—	127.0	27.2	36.3	117.9	48.4	105 8	46.8	107.4
Mn	−108.9	−59.0	−158.8	—	—	−208.7	− 9.1	−161.1	− 56.0	−39.3	−178.5
Cu	−30.2	−71.6	10.6	−130.0	69 6	—	—	62.4	−122.8	−12.0	− 48.4
Mo	−49.9	−78.6	− 21.2	−102.8	3.0	42.7	−142.5	—	—	−31.8	−68.0
B	−89.2	−119.5	− 58.9	−19.6	−158.8	−71.0	−107.4	−71.1	−107.3	—	—

S E. of mean response = 45.7 lb./ac.
S.E. of differential response = 64.6 lb./ac.

Crop :- Jowar *(Kharif).* **Ref :- Ms. 58(105).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'M'.**

Object :—To compare the effects of different nitrogenous fertilizers applied to Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Groundnut—*Jowar*. (b) Groundnut. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) N.A. (iii) 2nd week of July, 1958. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 6 lb./ac. (d) 15″ between rows. (e)—. (v) 3 C.L./ac. of F.Y.M.+20 lb./ac. of N+20 lb./ac of P_2O_5. (vi) Fulgar white. (vii) Unirrigated. (viii) Hand weeding and interculturing. (ix) 26.5″. (x) 3rd week of January, 1959.

2. TREATMENTS :

7 nitrogenous fertilizers : S_0=Control, S_1=A/S, S_2=C/A/N, S_3=A/C, S_4=Urea, S_5=A/S/N and S_6=C/N. Levels and time of application of N are N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) 24′×18′. (b) 18′×15′. (v) 3′×1.5′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain, height of plant and size of earhead. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 812 lb./ac. (ii) 272.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_0	S_1	S_2	S_3	S_4	S_5	S_6
Av. yield	791	699	954	860	655	983	740

S.E./mean = 136.2 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 59(25).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'M'.**

Object :—To compare the effects of different nitrogenous fertilizers applied to Jowar crop.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Medium black. (b) N.A. (iii) 29.7.1959. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 6 lb./ac. (d) 18″×18″. (e)—. (v) 5 C.L./ac. of F.Y.M. (vi) BH—414. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 11.4″. (x) 9.1.1960.

2. TREATMENTS :

Same as in expt. no. 58(105) on page 249.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 21′×10.5′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Size of earhead and yield of grain. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1565 lb./ac. (ii) 209.2 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_0	S_1	S_2	S_3	S_4	S_5	S_6
Av. yield	1183	1691	1401	1895	1500	1622	1663

S.E./mean = 104.6 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 58(104).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'M'.**

Object :—To study the effects of Complesal fertilizer on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M.+20 lb./ac. of N. (ii) (a) Medium black soil. (b) N.A. (iii) 3rd week of July, 1958. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 4 lb./ac. (d) 15″ between rows. (e) N.A. (v) Nil. (vi) Fulgar white. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 26.5″. (x) 2nd week of Jan. 1959.

2. TREATMENTS :

8 manurial treatments : M_0=Control, M_1=150 lb./ac. of Complesal at sowing, M_2=150 lb./ac. of Complesal —½ at sowing and ½ one month after, M_3=150 lb./ac. of A/S at sowing, M_4=150 lb./ac. of A/S —½ at sowing and ½ one month after, M_5=75 lb./ac. of A/S at sowing+100 lb./ac. of C/N one month after sowing, M_6=75 lb./ac. of A/S at sowing+150 lb./ac. of C/A/N one month after sowing and M_7=150 lb./ac. of A/S +180 lb./ac. of P_2O_5 —½ at sowing and ½ one month after.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 6. (iv) (a) 24′×18′. (b) 20′×15′. (v) 2′×1.5′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of grain. (iv) (a) 1958—N.A. (b) N.A. (c) Nil. (v) (a) Raichur, Dharwar, Dhadesagur and Saundathi. (b) Nil. (vi) and (vii) Nil.

5. RESULTS

(i) 819 lb./ac. (ii) 308.8 lb./ac. (iii) Treatme t differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7
Av. yield	562	1060	72[illegible]	894	720	984	753	852

S.E./mean = 126.1 lb./a .

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 59(38).**

Site :- Agri. Res. Stn., Bailhong l. **Type :- 'M'.**

Object :—To study the effect of Complesal fe ilizer on Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 5 C.L./ac. of F.Y M.+20 lb./ac. of N. (ii) (a) Medium black. (b) N.A. (iii) 30.7.1959. (iv) (a) Ploughing and harrowir . (b) Drilling. (c) 4 lb./ac. (d) 15" between rows. (e) — (v) Nil. (vi) B—H—414. (vii) Unirrigated. viii) Interculturing and weeding. (ix) 26.5". (x) 31.12.1959.

2. TREATMENTS :

Same as in expt. no. 58(104) on page 250.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 6. (iv (a) 30'×19'. (b) 27'×16'. (v) 1.5'×1.5'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height of pl nts, size of earhead and yield of grain. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) (a) Raichur, Dharwar, Dhadesagur and Saundathi. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1207 lb./ac. (ii) 204.1 lb./ac. (iii) Treati ent differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7
Av. yield	688	1297	119[illegible]	1252	1347	1393	1184	1306

S.E./mean = 83.3 lb./ac

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 59(26).**

Site :- Agri. Res. Stn., Bailhong l. **Type :- 'M'.**

Object :—To study the effect of time and meth od of application of fertilizers on Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Gram. (c) 3 C.L./ac. of F.Y.M. (ii) (a) Red soil. (b) N.A. (iii) 29.7.1959. (iv) (a) Ploughing and harrowing. (b) Drilling. ( ) 6 lb./ac. (d) 15"×15". (e) —. (v) Nil. (vi) B—H—414 (vii) Unirrigated. (viii) Interculturing. (ix) 1.4". (x) 7, 9.1.1960.

2. TREATMENTS :

8 applications of 30 lb./ac. of N+20 lb./ac. of P_2O_5 : M_0=Control (no manure), M_1=Drilled, M_2=Applied at sowing. M_3=Applied along with sowing by fertilizer appliances, M_4=Applied in two equal doses by using fertilizer appliances and top dressing implements respectively, M_5=Broadcast at sowing, M_6=Broadcast in 2 equal doses—$\frac{1}{2}$ at sowing and $\frac{1}{2}$ 6 weeks after and M_7=Applied in two equal doses by draw tube and by broadcasting respectively.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 21′×10.5′. (v) 2 rows. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Size of earhead and yield of grain. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1394 lb./ac. (ii) 297.7 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7
Av. yield	807	1366	1552	1516	1208	1342	1669	1689

S.E./mean = 148.8 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 58(184).**

Site :- Soil Cons. Res. Demn. and Trg. Centre, Bellary. **Type :- 'M'.**

Object : – To find the optimum quantity and frequency of F.Y.M. for Jowar crop.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Black cotton. (b) N.A. (iii) 25.9.1958. (iv) (a) 2 light harrowings. (b) Drilling. (c) 6 lb./ac. (d) 18″ between rows. (e) —. (v) Nil. (vi) T—1. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 4.4″. (x) 30.1.1959.

2. TREATMENTS :

F_0 = Control (2 plots), F_1 = 2000 lb./ac. of F.Y.M. every year, F_2 = 4000 lb./ac. of F.Y.M. alternate years starting from first year, F_3 = 4000 lb./ac. of F.Y.M. alternate years starting from second year, F_4 = 6000 lb./ac. of F.Y.M. once in 3 years starting from first year, F_5 = 6000 lb./ac. of F.Y.M. once in 3 years starting from second year and F_6 = 6000 lb./ac. of F.Y.M. once in 3 years starting from third year.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 42′×29′. (b) 39′×26′. (v) 1.5′×1.5′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height of plants, size of earhead and yield of grain. (iv) (a) 1958—contd. (failed in 1960). (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 443 lb./ac. (ii) 113.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	Control	F_1	F_2	F_4
Av. yield	447	404	446	458

S.E./mean (excluding control) = 56.8 lb./ac.

S.E. of control mean = 25.4 lb./ac.

Control mean is based on the average of F_0, F_3, F_5 and F_6.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 59(62).**

Site :- Soil Cons. Res. Demn. and Trg. Centre, Bellary. **Type :- 'M'.**

Object :—To find the optimum quantity and frequency of F.Y.M. for Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar.* (c) Nil. (ii) (a) Black cotton. (b) N.A. (iii) 25.9.1959. (iv) (a) Light harrowing. (b) Drilling. (c) 4 lb./ac. (d) 18″ between rows. (e) —. (v) Nil. (vi) T—1. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 3.46″. (x) 5.2.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(184) on page 252.

5. RESULTS :

(i) 113 lb./ac. (ii) 55.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	Control	F_1	F_2	F_3	F_4	F_5
Av. yield	116	63	175	95	131	90

S.E./mean (excluding control) = 27.9 lb./ac.
S.E. of control mean = 16.1 lb./ac.

Control mean is based on the average of F_0 and F_6.

Crop :- Jowar *(Rabi).* **Ref :- Ms. 58(182).**

Site :- Soil Cons. Res. Demn. and Trg. Centre, Bellary. **Type :- 'M'.**

Object :—To study the effect of trace elements on Jowar.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Black cotton. (b) N.A. (iii) 25.9.1958. (iv) (a) 2 light harrowings. (b) Drilling. (c) 6 lb./ac. (d) 18″ between rows. (e) —. (v) Nil. (vi) K—340. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 4.4″. (x) 1.2.1959.

2. TREATMENTS :

9 trace elements : T_0=Control, T_1=Standard (all elements ; Mg, Fe, Mn, Zn, Cu, B and Mo), T_2=T_1 except Mg, T_3=T_1 except Fe, T_4=T_1 except Mn, T_5=T_1 except Zn, T_6=T_1 except Cu, T_7=T_1 except B and T_8=T_1 except M_0.
Amount of elements, time and methods of application—N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 22′×11′. (b) 19′×8′. (v) 1.5′×1.5′. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Height of plants, size of earhead and yield of grain. (iv) (a) 1956—contd. (crop failed in 1956 and 1957). (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 89 lb./ac. (ii) 17.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8
Av. yield	99	76	121	60	94	105	74	103.0	69

S.E./mean = 8.5 lb./ac.

Crop :- Jowar *(Rabi).* **Ref :- Ms. 58(177).**

Site :- Soil Cons. Res. Demn. and Trg. Centre, Bellary. **Type :- 'M'.**

Object :—To study the residual effects of the application of micronutrients on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) N.A. (c) 40 lb./ac. of Super+10 lb./ac. of A/S. (ii) (a) Black cotton. (b) N.A. (iii) 26.9.1958. (iv) (a) Harrowing. (b) Drilling. (c) 4 lb./ac. (d) 18″ between rows. (e) —. (v) 40 lb./ac. of P_2O_5+10 lb./ac. of N. (vi) T—I. (vii) Unirrigated. (viii) Interculturing. (ix) 7.05″. (x) 2 2 1959.

2. TREATMENTS :

Same as in expt. no. 58(182) on page 253.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 19′×17′. (b) 16′×14′. (v) 1.5′×1.5′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plant and yield of grain. (iv) (a) 1956—N.A. (failed in 1956 and 1957). (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 480 lb./ac. (ii) 83.4 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8
Av. yield	358	404	467	589	581	531	543	483	365

S.E./mean = 41.7 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 56(174).**

Site :- Soil Cons. Res. Demn. and Trg. Centre, Bellary. **Type :- 'M'.**

Object :—To find out the residual effect of N and P on Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) N.A. (c) 72 lb./ac. of A/S+144 lb./ac. of Super. (ii) (a) Black cotton soil. (b) N.A. (iii) 20.10.1956. (iv) (a) Harrowing. (b) Drilling. (c) 6 lb./ac. (d) 18″ between rows, (e) —. (v) Nil. (vi) T—1. (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 13.03″. (x) 8.3.1957.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 levels of P_2O_5 : P_0=0, P_1=20 and P_2=40 lb./ac.

(2) 2 levels of N : N_0=0 and N_1=20 lb./ac.

Fertilizers applied on the previous crop. Source, time and method of application N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 60′×22′. (b) 52′×14′. (v) 4′×4′. (vi) Yes.

4. GENERAL :

(i) Normal. (i) Nil. (iii) Yield of grain. (iv) (a) N.A. (b) and (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 240 lb./ac. (ii) 105.6 lb./ac. (iii) Main effect of N is highly significant while effect of P and interaction N×P are significant. (iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	Mean
N_0	136	168	164	156
N_1	464	361	145	323
Mean	300	265	155	240

S.E. of N marginal mean = 30.5 lb./ac.
S.E. of P marginal mean = 37.3 lb./ac.
S.E. of body of table = 52.8 lb./ac.

Crop Jowar *(Rabi)*. **Ref :- Ms. 57(182).**

Site :- Soil Cons. Res. Demn. and Trg. Centre, Bellary. **Type :- 'M'.**

Object :—To find out the optimum levels of N and P for Jowar Crop.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Black cotton. (b) N.A. (iii) 16.9.1957. (iv) (a) 3 harrowings. (b) Drilling. (c) 6 lb./ac. (d) 18" between rows. (e) —. (v) 72 lb./ac. of A/S and 90 lb./ac. of Super. (vi) T—1. (vii) Unirrigated. (viii) Interculturing. (ix) 10.4". (x) 24.2.1958.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 levels of N : N_0=0, N_1=20 and N_2=40 lb./ac.

(2) 4 levels of P_2O_5 : P_0=0, P_1=20, P_2=40 and P_3=100 lb./ac.

Source, time and method of application N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 3. (iv) (a) 126'×7'. (b) 124'×5'. (v) 1'×1'. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Height of plants and yield of grain. (iv) (a) 1957—1960. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 660 lb./ac. (ii) 117.1 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	P_3	Mean
N_0	560	696	750	491	624
N_1	750	668	650	620	672
N_2	764	706	698	564	683
Mean	691	690	699	558	660

S.E. of N marginal mean = 33.8 lb./ac.
S.E. of P marginal mean = 39 0 lb./ac.
S.E. of body of table = 67.1 lb./ac.

Crop -:Jowar *(Rabi)*. **Ref :- Ms. 58(174).**

Site :- Soil Cons. Res. Demn. and Trg. Centre, Bellary. **Type :- 'M'.**

Object :—To determine the optimum levels of N and P for Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Jowar. (c) As per treatments. (ii) (a) Black cotton. (b) N.A. (iii) 25.9.1958. (iv) (a) 3 harrowings. (b) Drilling. (c) 6 lb /ac. (d) 18" between rows. (e) —. (v) 90 lb./ac. of Super+72 lb./ac. of A/S. (vi) T—1. (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 36.6". (x) 30.1.1959 and 1.2.1959.

2. TREATMENTS to 4. GENERAL:

Same as in expt. no. 57(182)above.

5. RESULTS :

(i) 372 lb./ac. (ii) 77 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	P_3	Mean
N_0	384	310	331	408	358
N_1	349	387	393	361	373
N_2	327	370	472	365	384
Mean	353	356	399	378	372

S.E. of N marginal mean = 22.2 lb./ac.
S.E. of P marginal mean = 25.7 lb./ac.
S.E. of body of table = 44.4 lb./ac.

Crop Jowar *(Rabi)*. **Ref :- Ms. 59(59).**

Site :- Soil Cons. Res. Demn. and Trg. Centre, Bellary. **Type :- 'M'.**

Object :—To determine the optimum levels of N and P for Jowar Crop.

1. BASAL CONDITIONS :

(i) Nil. (b) *Jowar*. (c) As per treatments. (ii) (a) Black cotton. (b) N.A. (iii) 27.9.1959. (iv) (a) 3 harrowings. (b) Drilling. (c) 4 lb./ac. (d) 18″ between rows. (e) —. (v) 72 lb./ac. of A/S+90 lb./ac. of Super. (vi) T—1. (vii) Unirrigated. (viii) Hand weeding and interculturing. (x) 1.57″. (x) 5.2.1960.

2 TREATMENTS and 3 DESIGN :

Same as in expt. no. 57(182) on page 255.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Yield of grain and height of plants. (iv) (a) 1957—1960. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 133 lb./ac. (ii) 39.3 lb./ac. (iii) None of the effects is significant. (iii) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	P_3	Mean
N_0	153	109	147	138	137
N_1	116	106	143	114	120
N_2	133	131	176	133	143
Mean	134	115	155	128	133

S.E. of N marginal mean = 11.3 lb./ac.
S.E. of P marginal mean = 13.1 lb./ac.
S.E. of body of table = 22.7 lb./ac.

Crop Jowar *(Kharif)* **Ref :- Ms. 57(199).**

Site :- Soil Cons. Res. Demn. and Trg. Centre, Bellary. **Type :- 'M'.**

Object :—To find out the effct of F.Y.M. on Jowor crop.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Black cotton soil. (b) N.A. (iii) 1.6.1957 to 16.7.1957. (iv) (a) Harrowing. (b) Drilling. (c) 6 lb./ac. (d) 18″ between rows. (e) —. (v) Nil. (vi) K—340. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 17.7″. (x) 15.11.1957 to 8.1.1958.

2. TREATMENTS :

2 manurial treatments : M_0=0 and M_1=F.Y.M. at 10 tons/ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 7. (iv) (a) and (b) 1/10 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1957—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 198 lb./ac. (ii) 35.0 lb./ac. (iii) Treatment difference is highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1
Av. yield	246	150

S.E./mean = 13.2 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 58(196).**

Site :- Soil Cons. Res. Demn. and Trg. Centre, Bellary. Type :- 'M'.

Object :—To find out the effect of F.Y.M. on Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton. (c) Nil. (ii) (a) Black cotton soil. (b) N.A. (iii) 9.7.1958. (iv) (a) Harrowing. (b) Drilling. (c) 6 lb./ac. (d) 18" between rows. (e) —. (v) Nil. (vi) K—340. (vii) Unirrigated. (viii) Interculturing. (ix) 15.05" (x) 8.12.1958.

2. TREATMENTS :

Same as in expt. no. 57(199) on page 256.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 9. (iv) (a) and (b) 1/10 ac. (v) Nil. (vi) Yes.

4. GENERAL :

Same as in expt. no. 57(199) on page 256.

5. RESULTS :

(i) 89 lb./ac. (i) 35 lb./ac. (iii) Treatment difference is significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1
Av. yield	91	88

S.E./means = 11.7 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 58(197).**

Site :- Soil Cons. Res. Demn. and Trg. Centre, Bellary. Type :- 'M'.

Object :—To find out the optimum distance from the seedline regarding the placement of fertilizers.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton. (c) N.A. (ii) (a) Black cotton soil. (b) N.A. (iii) 9.7.1958. (iv) (a) Harrowing. (b) Drilling. (c) 6 lb./ac. (d) 18" between rows. (e) —. (v) Nil. (vi) K—340. (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 15.05". (x) 18.11.1958.

2. TREATMENTS :

M_1=40 lb./ac. of N placed 3" apart from seed line+40 lb./ac. of P_2O_5 placed on the seed line and M_2=40 lb./ac. of N placed 3" apart from seed line+40 lb./ac. of P_2O_5 placed 3" apart from seed line.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 6. (iv) (a) 15'×21.5'. (b) 12'×18.5'. (v) 1.5'×1.5'. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1958—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 173 lb./ac. (ii) 45.1 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2
Av. yield	163	183

S.E./mean = 18.4 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- 56(208).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To study the effects of foliar spray with the solution of Super, Urea and K_2SO_4 on Jowar yield.

1. BASAL CONDITIONS :

(i) (a) Cereals pulses. (b) Gram. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black. (b) Refer soil analysis. Bijapur. (iii) 25 and 26.9.1956. (iv) (a) Ploughing. (b) Dibbling. (c) 4 lb./ac. (d) 18"×12". (e) 2 to 3. (v) 5 C.L./ac. of F.Y.M. (vi) M_{35}—1. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 11.79" (x) 8.3.1957.

2. TREATMENTS :

6 foliar sprays of manures : M_0=Control, M_1=5 lb./ac. of P_2O_5 in 100 gallons of water, M_2=25 lb./ac. of P_2O_5 in 100 gallons of water, $M_3=M_1+25$ lb./ac. of Urea, $M_4=M_1+25$ lb./ac. of K_2SO_4 and M_5=5 lb./ac. of P_2O_5+25 lb./ac. of Urea+25 lb./ac. of K_2SO_4 in 100 gallons of water.

P_2O_5 as Super. Time of application N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 3. (iv) (a) 18'×36'. (b) 12'×30'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain and straw weight. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 311 lb./ac. (ii) 98.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	244	317	343	345	239	376

S.E./mean = 56.6 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 57(221).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To study the effects of foliar spray with the solution of Super, Urea and K_2SO_4 on Jowar yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Gram. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black. (b) (b) Refer soil analysis, Bijapur (iii) 20.9.1957. (iv) Ploughing and harrowing. (b) Dibbling. (c) 6 lb./ac. (d) 18"×12". (e) 2 to 3. (v) N.A. (vi) M_{35}—1. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 11.52". (x) 18.2.1958.

2. TREATMENTS :

Same as in expt. no. 56(208) above.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 30'×30'. (b) 24'×24'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Sugary disease. Control measures taken N.A. (iii) Yield of grain and straw. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1071 lb./ac. (ii) 230.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	1289	948	968	973	1230	1021

S.E./mean = 115.0 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 58(220).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To study the effect of foliar spray with the solution of Super, Urea and K_2SO_4 on Jowar yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Gram. (c) Nil. (ii) (a) Medium black. (b) Refer soil analysis, Bijapur. (iii) 18.9.1958. (iv) (a) N.A. (b) Dibbling. (c) 6 lb./ac. (d) 18″×12″. (e) 2 to 3. (v) N.A. (vi) M_{35}—1. (vii) Unirrigated. (viii) 2 interculturings. (ix) 8.11″. (x) 17.2.1959.

2. TREATMENTS :

Same as in expt. no. 56(208) on page 258.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 25′×18′. (b) 21′×18′. (v) 2 rows. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 859 lb./ac. (ii) 141.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	814	863	831	906	838	905

S.E./mean = 57.6 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 59(126).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To study the effects of foliar spray with the solution of Super, Urea and K_2SO_4 on Jowar yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Medium black. (b) Refer soil analysis, Bijapur. (iii) 25.9.1959. (iv) (a) 3 ploughings and harrowing. (b) Drilling. (c) 6 lb./ac. (d) 18″ between rows. (e)—. (v) Nil. (vi) M_{35}—1 (medium). (vii) Unirrigated. (viii) 1 hand weeding and 1 interculturing. (ix) 8.11″. (x) 7.2.1960.

2. TREATMENTS :

Same as in expt. no. 56(208) on page 258.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) 54′×50′. (iii) 4. (iv) 25′×18′. (b) 21′×18′. (v) 1 row. (vi) Yes.

4. GENERAL

(i) Normal. (ii) Nil. (iii) Height of plant, length of internodes and yield of grain. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Continuous heavy drought conditions. (vii) Nil.

5. RESULTS :

(i) 411 lb./ac. (ii) 203.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	315	425	461	282	551	434

S.E./mean = 101.6 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 57(220).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To study the effect of Green manuring on Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sannhemp—G.M. (c) N.A. (ii) (a) Medium black. (b) Refer soil analysis, Bijapur. (iii) 8.10.1957. (iv) (a) Ploughing. (b) Drilling. (c) 4 lb./ac. (d) 18″×12″. (e) N.A. (v) 5 C.L./ac. of F.Y.M. (vi) M_{35}—1. (vii) Unirrigated. (viii) Interculturing. (ix) 10.52″. (x) 18.2.1958.

2. TREATMENTS :

3 Green manurings : M_0=Control, M_1=Growing sannhemp and burying when 1½ months old and M_2= Growing sannhemp and burrying when 2 months old.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 40′×12′. (b) 34′×12′. (v) 4 rows. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) No. (iii) Yield of grain and straw. (iv) (a) 1957—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 901 lb./ac. (ii) 184.1 lb./ac. (iii) Treatment difference are significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2
Av. yield	884	1068	750

S.E./mean = 75.1 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 58(219).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To study the effect of Green manuring on Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Medium black. (b) Refer soil analysis, Bijapur. (iii) Last week of Sept. 1958. (iv) (a) Ploughing. (b) Drilling. (c) 6 lb./ac. (d) 18″×12″. (e) —. (v) 5 C.L./ac. of F.Y.M. (vi) M_{35}—1. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 8.11″. (x) 18.2.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(220) above.

4. GENERAL :

(i) Below normal due to late sowing. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1957—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 271 lb./ac. (ii) 74.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2
Av. yield	377	261	174

S.E./mean = 30.6 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 59(120).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To study the effect of Green manuring on Jowar.

1. BASAL CONDITIONS :

(i) (a) —. (b) Groundnut. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black. (b) Refer soil analysis, Bijapur. (iii) 7.10.1959. (iv) (a) 3 ploughings and harrowings. (b) Drilling. (c) 6 lb./ac. (d) 18" between rows. (e) —. (v) Nil. (vi) M_{35}—1 (medium). (vii) Unirrigated. (viii) 1 hand weeding and 1 interculturing. (ix) 8.11". (x) 15.2.1960.

2. TREATMENTS :

Same as in expt. no. 57(220) on page 260.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) 50'×36'. (iii) 8. (iv) (a) 50'×12'. (b) 45'×12'. (v) 1 to 2 rows. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Plant count., height of plants and yield of grain. (iv) (a) 1957—N.A. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Continuous heavy drought conditions prevailed. (vii) Nil.

5. RESULTS :

(i) 1223 lb./ac. (ii) 262.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2
Av. yield	1176	1308	1184

S.E./mean = 92.7 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 58(222).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

-To compare the effect of N and P at different stages of plant growth.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) N.A. (ii) (a) Medium black. (b) Refer soil analysis, Bijapur. (iii) 21.9.1958. (iv) (a) Ploughing. (b) Dibbling. (c) 4 lb./ac. (d) 18"×12". (e) N.A. (v) N.A. (vi) M_{35}—1. (vii) Unirrigated. (viii) Interculturing. (ix) 8.11". (x) 30.1.1959.

2. TREATMENTS :

8 manurial treatments : M_0=Control (no manure), M_1=10 lb./ac. of N+10 lb./ac. of P_2O_5 at sowing, M_2= 10 lb./ac. of N at sowing, M_3=10 lb./ac. of N at sowing+10 lb /ac. of N one month after sowing, M_4=10 lb./ac. of N after one month of sowing, M_5=10 lb./ac. of P_2O_5 at sowing+10 lb /ac. of N after one month of sowing, M_6=5 lb./ac. of N at sowing +5 lb./ac. of N after one month of sowing and M_7=5 lb./ac. of N at sowing+10 lb./ac. of P_2O_5 at sowing+5 lb./ac. of N after one month of sowing.

N and P_2O_5 drilled.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 2. (iv) (a) 50′×13.5′. (b) 44′×7.5′. (v) 3′×3′. (vi) Yes.

4. GENERAL:

(i) Normal. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 936 lb./ac. (ii) 96.9 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7
Av. yield	681	747	846	1089	1147	965	1023	990

S.E./mean = 68.5 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 59(125).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To compare the effect of N and P at different stages of plant growth.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Gram. (c) 4 C.L./ac. of F.Y.M.+50 lb./ac. of A/S. (ii) (a) Medium black. (b) Refer soil analysis, Bijapur. (iii) 28.9.1959. (iv) (a) Ploughing and harrowing thrice. (b) Drilling. (c) 6 lb./ac. (d) 18″ between rows. (e) —. (v) Nil. (vi) M_{35}—1 (medium). (vii) Unirrigated. (viii) 1 hand weeding and 1 interculturing. (ix) 8.11″. (x) 9.2.1960.

2. TREATMENTS :

Same as in expt. no. 58(222) on page 261.

3. DESIGN :

(i) R.B.D. ii) (a) 8. (b) 60′×54′. (iii) 4. (iv) (a) 30′×13½′. (b) 26′×10½′. (v) 2′×1.5′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plant, plant counts and yield of grain. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Continuous heavy drought condition prevailed. (vii) Nil.

5. RESULTS :

(i) 719 lb./ac. (ii) 181.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7
Av. yield	645	748	678	590	686	758	835	810

S.E./mean = 90.9 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 59(123).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To find out the effect of different doses of N, P and K on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Gram. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Medium black. (b) Refer soil analysis, Bijapur. (iii) N.A. (iv) (a) Ploughing and harrowing thrice. (b) Drilled. (c) 6 lb./ac. (d) 18″ between rows. (e) —. (v) Nil (vi) M_{35}—1 (medium). (vii) Unirrigated. (viii) Hand weeding and interculturing. (ix) 8.11″. (x) 9.2.1960.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 levels of N : N_0=0, N_1=15 and N_2=30 lb./ac.

(2) 3 levels of P_2O_5 : P_0=0, P_1=15 and P_2=30 lb./ac.

(3) 3 levels of K_2O : K_0=0, K_1=15 and K_2=30 lb./ac.

Sources, time and method of application N.A.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block; 3 blocks/replication. (b) N.A. (iii) 2. (iv) (a) 30′×12′. (b) 24′×8′. (v) 3′×2′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plants and yield of grain. (iv) (a) 1959—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Continuous heavy drought condition prevailed. (vii) Nil.

5. RESULTS :

(i) 1149 lb./ac. (ii) 366.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	1084	1146	1200	1143	1073	1 314	1044
N_1	1168	1229	1179	1192	1546	1023	1006
N_2	1191	1202	938	1110	1037	1120	1174
Mean	1148	1192	1106	1149	1219	1152	1075
K_0	1233	1267	1156				
K_1	1238	1148	1070				
K_2	971	1162	1091				

S.E. of any marginal mean = 86.4 lb./ac.

S.E. of body of any table = 149.6 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 59(124).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To study the residual effects of Super as applied to gram on the succeeding crop of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Gram. (c) As per treatments. (ii) (a) Medium black. (b) Refer soil analysis, Bijapur. (iii) 7.10.1959. (iv) (a) 3 ploughings and harrowings. (b) Drilling. (c) 6 lb./ac. (d) 18″ between rows. (e) —. (v) Nil. (vi) M_{35}—1 (medium). (vii) Unirrigated. (viii) 1 hand weeding and 1 interculturing. (ix) 8.11″. (x) 8.2.1960.

2. TREATMENTS :

All combinations of (1) and (2)+one control

(1) 2 levels of P_2O_5 as Super : P_1=15 and P_2=30 lb./ac.

(2) 2 levels of N : N_0=0 and N_1=10 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) 50′×60′. (iii) 4. (iv) (a) 50′×12′. (b) 44′×8′. (v) 3′×2′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plants, no. of plants and yield of grain. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Continuous heavy drought conditions prevailed. (vii) Nil.

5. RESULTS :

(i) 1122 lb./ac. (ii) 388.5 lb./ac. (iii) None of the effects significant. (iv) Av. yield of grain in lb./ac.

Control = 1172 lb./ac.

	P_1	P_2	Mean
N_0	980	1120	1050
N_1	1189	1152	1170
Mean	1084	1136	1110

S.E. of any marginal mean = 137.4 lb./ac.
S.E. of body of table = 194.2 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 55(131).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To find the effects of different levels of irrigation and A/S on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Black clayey. (b) N.A. (iii) 24.6.1955. (iv) (a) Ploughing and harrowing. (b) to (e) N.A. (v) 40 lb./ac. of P_2O_5 as Super. (vi) K—340 (medium). (vii) Irrigated. (viii) Gap-filling, thinning, weeding and interculturing. (ix) 24.15". (x) 3.11.1955.

2. TREATMENTS :

All combinations of (1) and (2)
(1) 5 levels of irrigation : I_0=0, I_1=2, I_2=4, I_3=6 and I_4=8 irrigations.
(2) 4 levels of N as A/S : N_0=0, N_1=20, N_2=40 and N_3=60 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 20. (b) N.A. (iii) 3. (iv) (a) and (b) 21'×22'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) The experiment was planned with 5 levels of irrigations and 4 levels of N. The levels of irrigation could not be maintained due to rains in *Kharif*. The expt. therefore, is analysed as having 4 treatments each based on 15 plots.

5. RESULTS :

(i) 780 lb./ac. (ii) 350.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	N_0	N_1	N_2	N_3
Av. yield	345	793	872	1109

S.E./mean = 90.6 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 56(54).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To study the effect of different levels of irrigation and A/S on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N A. (ii) (a) Black clayey. (b) N.A. (iii) 19.6.1956. (iv) (a) 1 ploughing, 3-4 harrowings. (b) to (e) N.A. (v) 40 lb./ac. of P_2O_5 as Super. (vi) K—340 (medium). (vii) Irrigated. (viii) Gap-filling, thinning, weeding and interculturing. (ix) 19.81". (x) 15.11.1956.

2. TREATMENTS :

Same as in expt. no. 55(131) on page 264.

3. DESIGN :

(i) R.B.D. (ii) (a) 20. (b) N.A. (iii) 3. (iv) (a) and (b) 22'×29'. (v) Nil. (vi) Yes.

4. GENERAL :

Same as in expt. no. 55(131) on page 264.

5. RESULTS :

(i) 1377 lb./ac. (ii) 360.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	N_0	N_1	N_2	N_3
Av. yield	1282	1392	1274	1560

S.E./mean = 93.1 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 57(4).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To find the effects of different levels of irrigation and A/S on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Black clayey. (b) N.A. (iii) 24.6.1957. (iv) (a) 1 ploughing and 3—4 harrowings. (b) to (e) N.A. (v) 40 lb./ac. of P_2O_5 as Super. (vi) K—340 (medium). (vii) Irrigated. (viii) Gap-filling, thinning, weeding and interculturing. (ix) 16.70". (x) 30.10.1957.

2. TREATMENTS :

Same as in expt. no. 55(131) on page 264.

3. DESIGN :

(i) R.B.D. (ii) (a) 20. (b) N.A. (iii) 3. (iv) (a) and (b) 32'×27'. (v) Nil. (vi) Yes.

4. GENERAL :

Same as in expt. no. 55(131) on page 264.

5. RESULTS :

(i) 2336 lb./ac. (ii) 439.8 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	N_0	N_1	N_2	N_3
Av. yield	1734	2172	2576	2861

S.E./mean = 113.6 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 57(6).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To find the effects of different levels of irrigation and A/S on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) Nil. (ii) (a) Sandy loam (*Chalka* soil). (b) N.A. (iii) 23.6.1957. (iv) (a) 1 ploughing and 2 to 3 harrowings. (b) Drilling. (c) 8 lb./ac. (d) and (e) N.A. (v) 30 lb./ac. of P_2O_5 as Super. (vi) K—340. (vii) Irrigated. (viii) Gap-filling, thinning, weeding and interculturing. (ix) 16.70". (x) 25.10.1957.

2. TREATMENTS :

Same as in expt. no. 55(131) on page 264.

3. DESIGN :

(i) R.B.D. (ii) (a) 20. (b) N A. (iii) 3. (iv) (a) and (b) 24′×27′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1957 only. (b) No. (c) Nil. (v) and (vi) Nil. (vii) As the irrigation levels could not be maintained due to rains, the experiment was treated as having 4 treatments each based on 15 plots.

5. RESULTS :

(i) 1947 lb./ac. (ii) 405.2 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	N_0	N_1	N_2	N_3
Av. yield	1366	1804	2190	2428

S.E./mean = 104.6 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 54(162).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To find out the optimum time of application of A/S to Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) N.A. (ii) (a) Black clayey. (b) N.A. (iii) 5.10.1954. (iv) (a) Ploughing and harrowings. (b) Drilling. (c) 10 lb./ac. (d) N.A. (e)—. (v) 30 lb./ac. of P_2O_5 as Super. (vi) M-35—1 (early). (vii) Irrigated. (viii) 2 interculturings and weedings. (ix) 1.60″. (x) 14.2.1955.

2. TREATMENTS :

All combinations of (1) and (2)+3 controls.

(1) 2 levels of N as A/S : N_1=30 and N_2=60 lb./ac.

(2) 3 stages of application : T_1=At planting, T_2=At knee stage and T_3=Half dose of N at planting+ half dose of N at knee stage.

A/S drilled behind draw tubes at the time of sowing and by hand within lines near the plant rows at knee stage.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) and (b) 24′×21′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Grass hopper and stem-borer attack were noticed. Sugary disease was also observed. No control measures were taken. (iii) Yield of grain. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 481 lb./ac. (ii) 159.7 lb./ac. (iii) Only control *vs.* others is significant. (iv) Av. yield of grain in lb./ac.

Control = 343 lb./ac.

	T_1	T_2	T_3	Mean
N_1	639	510	535	561
N_2	470	583	562	538
Mean	555	547	549	550

S.E. of T marginal mean	= 56.5 lb./ac.
S.E. of N marginal mean	= 46.1 lb./ae.
S.E. of body of table	= 79.8 lb./ac.
S.E. of control mean	= 46.1 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 55(133).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To find out the optimum time of applying A/S to Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) As per treatments. (ii) (a) Black clayey. (b) N.A. (iii) 26.10.1955. (iv) (a) Ploughing and 3—4 harrowings. (b) Drilling. (c) 8 lb./ac. (d) 15″×4″. (e) —. (v) 30 lb./ac. of P_2O_5 as Super. (vi) M-35—1 (medium). (vii) Irrigated. (viii) Interculturing and weeding. (ix) 7.70″. (x) 8.3.1956.

2. TREATMENTS and 3. DESIGN.

Sams as in expt. no. 54(162) on page 266.

4. GENERAL :

(i) Not satisfactory. (ii) Grass hopper and stem-borer attack were noticed. Sugary disease was also observed. No control measures taken. (iii) Yield of grain. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 180 lb./ac. (ii) 106.9 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 106 lb./ac.

	T_1	T_2	T_3	Mean
N_1	215	174	164	184
N_2	178	333	235	249
Mean	197	254	200	217

S.E. of T marginal mean	= 37.8 lb./ac.
S.E. of N marginal mean	= 30.8 lb./ac.
S.E. of body of table	= 53.5 lb./ac.
S E. of control mean	= 30.8 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 56(36).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To find out the optimum time of application of A/S to Jowar crop.

1 BASAL CONDITIONS :

(i) Nil. (b) *Jowar*. (c) As per treatments. (ii) (a) Black clayey. (b) N.A. (iii) 24.10.1956. (iv) (a) 1 ploughing and 3—4 harrowings. (b) Drilling. (c) 8 lb./ac. (d) 15″×4″. (e) —. (v) 30 lb./ac. of P_2O_5 as Super. (vi) M-35—1 (medium). (vii) Irrigated. (viii) 2 interculturings and 2 weedings. (ix) 12.67″. (x) 25.3.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(162) on page 266.

4. GENERAL :

(i) Not satisfactory. (ii) Grass hopper and stem-borer attack were noticed. Sugary disease was also observed. No control measures taken. (iii) Yield of grain. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 169 lb./ac. (ii) 76.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 146 lb./ac.

	T_1	T_2	T_3	Mean
N_1	132	192	181	168
N_2	178	248	154	193
Mean	155	220	168	181

S.E. of T marginal mean = 27.0 lb./ac.
S.E. of N marginal mean = 22.1 lb./ac.
S.E. of body of table = 38.3 lb./ac.
S.E. of control mean = 22.1 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 57(9).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To find out the optimum time of application of A/S to Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) As per treatments. (ii) (a) Black clayey. (b) N.A. (iii) 11.10.1957. (iv) (a) 1 ploughing, and 3—4 harrowings. (b) Drilling. (c) 8 lb./ac. (d) 15″×4″. (e) —. (v) 30 lb./ac. of P_2O_5 as Super. (vi) M-35—1 (medium). (vii) Irrigated. (viii) 2 interculturings and 2 weedings. (ix) 7.11″. (x) 7.2.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(162) on page 266.

4. GENERAL :

(i) Not satisfactory. (ii) Grass hopper and stem borer attack were noticed. Sugary disease was also observed. No control measures taken. (iii) Yield of grain. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 695 lb./ac. (b) 211.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 533 lb./ac.

	T_1	T_2	T_3	Mean
N_1	827	893	641	787
N_2	761	827	712	767
Mean	794	860	677	777

S.E. of T marginal mean = 74.8 lb./ac.
S.E. of N marginal mean = 61.1 lb./ac.
S.E. of body of table = 105.8 lb./ac.
S.E. of control mean = 61.1 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 56(20).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To study the effect of different sources and levels of N with and without P on Jowar yield.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*—Cotton. (b) Cotton. (c) As per treatments. (ii) (a) Black clayey. (b) N.A. (iii) 20.10.1956. (iv) (a) 1-2 ploughings and 3-4 harrowings. (b to (e) N.A. (v) Nil. (vi) M 55—1 (medium). (vii) Irrigated. (viii) Gap-filling and thinning. 2-3 interculturings and weedings. (ix) 12.67". (x) 26 3.1957.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 sources of N : S_1=A/S, S_2=A/N and S_3=Urea.

(2) 3 level of N_0=0, N_1=40 and N_2=40 lb./ac.

(3) 3 levels of P_2O_5 as Super : P_0=0, P_1=10 and P_2=20 lb./ac.

Time and method of application—N.A.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 27. (b) N.A. (iii) 3. (iv) (a) and (b) 35'×13'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) Yes. (b) and (c) Nil. 1956—1957. (v) to (vii) Nil.

5. RESULTS :

(i) 608 lb./ac. (ii) 241.8 lb./ac. (iii) Only main effect of N is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean	S_1	S_2	S_3
P_0	329	590	841	587	600	584	576
P_1	311	576	893	593	713	454	612
P_2	356	731	850	646	634	751	551
Mean	332	632	861	608	649	596	580
S_1	—	700	924				
S_2	—	591	800				
S_3	—	605	859				

S.E. of any marginal mean = 46.5 lb./ac.

S.E. of body of any table = 80.6 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 57(25).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To study the effect of different sources and levels of N with and without P on Jowar yield.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*—Cotton. (b) Cotton. (c) As per treatments. (ii) (a) Black clayey. (b) N.A. (iii) 10.10.1957. (iv) (a) 1 to 2 ploughings and 4 to 5 harrowings. (b) to (e) N.A. (v) Nil. (vi) M-35—1. (vii) Irrigated. (viii) Gap-filling, thinning, 2 to 3 weedings and 2 to 3 intercelturings. (ix) 7.11". (x) 17.2.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(20) above.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1957. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1119 lb./ac. (ii) 308.9 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean	S_1	S_2	S_3
P_0	1008	1089	1040	1046	1023	1026	1088
P_1	1069	1106	1148	1108	1070	1212	1042
P_2	1169	1123	1316	1203	1196	1136	1276
Mean	1082	1106	1168	1119	1096	1124	1135
S_1	—	1034	1170				
S_2	—	1178	1179				
S_3	—	1106	1155				

S.E. of any marginal mean = 59.4 lb./ac.
S.E. of body of any table = 103.0 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 55(75).**

Site :- Agri. Res. Stn., Dadesagur. **Type :- 'CM'.**

Object :—To determine the relative merits of cultivating Jowar by Japanese method, modified Japanese method and ordinary method.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton. (c) Paddy mixture at 200 lb./ac.+F.Y.M. at 8 C.L./ac. (ii) (a) Medium deep clay. (b) N.A. (ii) 4.7.1957. (iv) (a) 1 ploughing, 2 *bakharings* for ordinary, 3 for modified Japanese and 6 for Japanese method. (b) Drilling. (c) 10 lb./ac. (d) and (e) N.A. (v) Nil. (vi) K—340 (medium). (vii) Irrigated. (viii) Gap-filling, 2 thinnings, 3 hoeing and 3 weedings. (ix) 28.82". (x) 31.10.1955.

2. TREATMENTS :

3 methods of cultivation : M_1=Ordinary method (no manure) M_2=Japanese method; compost at 8 tons/ac. G N.C at 350 lb./ac.+Super at 350 lb./ac.+A/S at 160 lb./ac. all applied at sowing and M_3=Modified Japanese method : F.Y.M. at 5 C.L./ac.+A/S at 50 lb./ac.+Super at 30 lb./ac. before sowing and A/S at 50 lb./ac.+30 C.L. lb./ac. of Super after one month of sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 2. (iv) (a) and (b) 80'×44'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Slight attack of sugary disease in ordinary method of cultivation. (iii) Yield of grain. (iv) (a) 1956—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 971 lb./ac. (ii) 410.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	668	1272	972

S.E./mean = 290.0 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 54(177).**

Site :- Agri. College Farm, Dharwar. **Type :- 'M'.**

Object :—To study the effects of different sources and levels of N on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*–Cotton—Wheat. (b) Wheat. (c) Nil. (ii) (a) Medium black. (b) Refer soil analysis, Dharwar. (iii) 14.7.1954. (iv) Ploughing and harrowing. (b) Drilling. (c) 5 lb./ac. (d) 18″ between rows. (e) —. (v) 5 C.L./ac. of F.Y.M. (vi) *Nandyal*. (vii) Unirrigated. (viii) Weeding and intercultur-ing. (ix) 29·90″. (x) 22, 23.12.1954.

2. TREATMENTS :

5 manurial treatments : M_1=Normal cultivation, $M_2=M_1+5$ C.L./ac. of F.Y.M., $M_3=M_2+20$ lb./ac. of N, $M_4=M_2+40$ lb./ac. of N and $M_5=M_3+60$ lb./ac. of N .

N applied as A/S and G.N.C. in equal proportion.

3. DESIGN :

(i) R.B.D. (i) (a) 5. (b) N.A. (iii) 5. (iv) (a) 36′×30′. (b) 32′×25′. (v) 2½′×2′. (v) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Height of plant, spread, germination count and yield of grain. (iv) (a) 1953—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1306 lb./ac. (ii) 258.8 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3	M_4	M_5
Av. yield	1076	1177	990	1486	1799

S.E./means = 115.7 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 54(178).**

Site :- Agri. College Farm, Dharwar. **Type :- 'M'.**

Object :—To study the effect of different types of fertilizer on Jowar grown on light red soils.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—Wheat. (b) Wheat. (c) Nil. (ii) (a) Medium light. (b) Refer soil analysis, Dharwar. (iii) 26.7.1954. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 5 lb./ac. (d) N.A. (e) —. (v) 5 C.L./ac. of F.Y.M. (vi) *Nandyal*. (vii) Unirrigated. (viii) Boeing, weeding and stripping of leaves. (ix) 29.90″. (x) 16, 17.12.1954.

2. TREATMENTS :

6 manurial treatments : M_0=Control, M_1=30 lb./ac. of N as G.N.C., M_2=30 lb./ac. of N as Safflower, M_3=30 lb./ac. of N as A/S, M_4=30 lb./ac. of N as mixture A+20 lb /ac. of P_2O_5 as Super and M_5=30 lb./ac. of N as mixture B+20 lb./ac. of P_2O_5 as super.

Where mixture A=7.5 lb./ac. of N as G.N.C+7.5 lb./ac. of N as Safflower+15 lb./ac. of N as A/S and Mixture B : 5 lb./ac. of N as G.N.C+5 lb./ac. of N as Safflower+20 lb /ac. of N as A/S.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 36′×28′. (b) 32′×12′. (v) 3′×8′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Height of plant, spread, germination count and yield of grain. (iv) (a) 1954—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2259 lb./ac. (ii) 705.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	1850	2481	2688	2454	2127	1955

S.E./mean = 352.8 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 57(121).**

Site :- Agri. College Farm. Dharwar. **Type :- 'M'.**

Object :—To find out the best combination of N, P and K for Jowar crop on black soil.

1. BASAL CONDITIONS :

(i) (a) Groundnut—Cotton—*Jowar*. (b) Groundnut—Cotton. (c) Nil. (ii) (a) Black soil. (b) Refer soil analysis, Dharwar. (iii) 4.7.1957. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 6 lb./ac. (d) 18" between rows. (e) —. (v) 4 C.L./ac. of F.Y.M. (vi) *Nandyal*. (vii) Unirrigated. (viii) 1 weeding and 2 interculturings. (ix) 64.25". (x) 15.12.1957.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 levels of N as A/S : N_0=0, N_1=30 and N_2=60 lb./ac.
(2) 3 levels of P_2O_5 as Super : P_0=0 P_1=30 and P_2=60 lb./ac.
(3) 3 levels of K_2O as Pot. Sul. : K_0=0 K_1=30 and K_2=60 lb./ac.

3. DESIGN :

(i) 3^3 conf. (ii) (a) 9 plots/block, 3 blocks/replication. (b) N.A. (iii) 2. (iv) (a) 24'×36'. (b) 18'×30'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plant, size of earhead and yield of grain. (iv) (a) 1957—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1613 lb./ac. (ii) 383.2 lb./ac. (iii) Main effect of N is highly significant and main effect of P is significant. (iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	1304	1499	1365	1389	1432	1358	1378
N_1	1197	1519	1634	1450	1452	1486	1412
N_2	1681	2044	2279	2001	2023	2104	1876
Mean	1394	1687	1759	1613	1636	1649	1555
K_0	1331	1828	1748				
K_1	1398	1593	1956				
K_2	1452	1640	1573				

S.E. of any marginal mean = 90.3 lb./ac.
S.E. of body of any table = 156.4 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 58(100).**

Site :- Agri. College Farm, Dharwar. **Type :- 'M'.**

Object :—To find out the best combination of N, P and K for Jowar crop on black soil.

1. BASAL CONDITIONS:

(i) (a) Groundnut – Cotton—*Jowar*. (b) Groundnut. (c) Nil. (ii) (a) Black soil. (b) Refer soil analysis, Dharwar. (iii) 1st week of Aug., 1958. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 6 lb./ac. (d) 15" between rows. (e) —. (v) 4 C.L./ac. of F.Y.M. (vi) *Nandyal*. (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 17.5". (v) 4.1.1959.

2. TREATMENTS to 4. GENERAL:

Same as in expt. no. 57(121) on page 272.

5. RESULTS:

(i) 1405 lb./ac. (ii) 438.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	1210	1338	1405	1318	1082	1217	1654
N_1	1089	1344	1694	1376	1170	1526	1432
N_2	1479	1432	1654	1522	1634	1492	1439
Mean	1259	1371	1584	1405	1295	1412	1508
K_0	1069	1459	1358				
K_1	1318	1156	1761				
K_2	1392	1499	1634				

S.E. of marginal mean = 103.4 lb./ac.
S.E. of body of any table = 179.0 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 57(119).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the effect of selected combinations of N, P and K on Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*– Groundnut. (b) Groundnut. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 4.7.1957. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 6 lb./ac. (d) 18" between rows. (e) —. (v) 4 C.L./ac. of F.Y.M. (vi) *Nandyal*. (vii) Unirrigated. (viii) 1 weeding and 2 interculturings. (ix) 64.25". (x) 15.12.1957.

2. TREATMENTS :

9 manural treatment : M_1=No manure, M_2=20 lb./ac. of N as A/S, $M_3=M_2+20$ lb./ac. of K_2O as Pot. Sul. $M_4=M_2+20$ lb./ac. of P_2O_5 as Super, $M_5=M_4+20$ lb./ac. of K_2O as Pot. Sul. M_6=40 lb./ac. of N as A/S, $M_7=M_6+20$ lb./ac. of K_2O as Pot. Sul. $M_8=M_6+20$ lb./ac. of P_2O_5 as Super and $M_9=M_8+20$ lb./ac. of K_2O as Pot. Sul.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 22½'×36'. (b) 17½'×30'. (v) 2.5'×3'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plant, size of earhead and yield of grain. (iv) (a) 1957—1958. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1487 lb./ac. (ii) 248.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb /ac.

Treatment	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8	M_9
Av. yield	1128	1336	1495	1431	1569	1374	1711	1758	1582

S.E./mean = 124.4 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 58(101).**

Site :- Agri. College Farm, Dharwar. **Type :- 'M'.**

Object :—To study the effect of selected N, P and K combinations on Jowar on black soil.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Groundnut. (b) Groundnut. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 2.8.1958. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 6 lb./ac. (d) 18″ between rows. (e) —. (v) 4 C.L./ac. of F.Y.M. (vi) *Nandyal*. (vii) Unirrigated. (viii) 1 weeding and 2 interculturings. (ix) 17.5″. (x) 10.1.1959.

2. TREATMENTS :

Same as in expt. no. 57(119) on page 273.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 22½′×36′. (b) 17½′×30′. (v) 2.5′×3′. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Height of plant, size of earhead and yield of grain. (iv) (a) 1957—1958. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1337 lb./ac. (ii) 350.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8	M_9
Av. yield	1338	1411	1213	1493	1379	1141	1473	1328	1255

S.E./mean = 175.0 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 57(118).**

Site :- Agri. College Farm, Dharwar. **Type :- 'M'.**

Object :—To study the effect of selected combinations of N, P and K on light soil.

1. BASAL CONDITIONS :

(i) (a) Groundnut—*Jowar*. (b) Groundnut. (c) Nil. (ii) (a) Light soil. (b) Refer soil analysis, Dhawar. (iii) 4.7.1957. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 6 lb./ac. (d) 18″ between rows. (e) —. (v) 4 C.L./ac. of F.Y.M. (vi) *Nandyal*. (vii) Unirrigated. (viii) 1 weeding and 2 interculturings. (ix) 64.25″. (x) 15.12.1957.

2. TREATMENTS :

Same as in expt. no. 57(119) on page 273.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 22½′×36′. (b) 17½′×30′. (v) 2.5′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plant, size of earhead and yield of grain. (iv) (a) 1957 only. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1156 lb./ac. (ii) 281.8 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8	M_9
Av. yield	830	1160	1146	1232	1115	1364	1125	1260	1172

S.E./mean = 140.9 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 57(120).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To find out the best combination of N, P and K for Jowar on light soil.

1. BASAL CONDITIONS :

(i) (a) Groundnut—Cotton—*Jowar*. (b) Cotton. (c) Nil. (ii) (a) Light soil. (b) Refer soil analysis, Dharwar. (iii) 4.7.1957. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 6 lb./ac. (d) 18" between rows. (e)—. (v) 4 C.L./ac. of F.Y.M. (vi) *Nandyal*. (vii) Unirrigated. (viii) 1 weeding and 2 interculturings. (ix) 64.25". (x) 15.12.1957.

2. TREATMENTS .

All combinations of (1), (2) and (3)

(1) 3 levels of N : $N_0=0$, $N_1=20$ and $N_2=40$ lb./ac.
(2) 3 levels of P : $P_0=0$, $P_1=20$ and $P_2=40$ lb./ac.
(3) 3 levels of K : $K_0=0$, $K_1=20$ and $K_2=40$ lb./ac.

Source, time and method of application—N.A.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9. (b) N.A. (iii) 2. (iv) (a) 24'×36'. (b) 18'×30'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plant, size of earhead and yield of grain. (iv) (a) 1957 only. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1301 lb./ac. (ii) 266.7 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
	1492	1129	1190	1270	1156	1418	1237
N_1	1133	1301	1240	1225	1150	1244	1281
N_2	1301	1435	1492	1409	1452	1375	1402
Mean	1309	1288	1307	1301	1252	1346	1307
K_0	1297	1153	1307				
K_1	1469	1311	1257				
K_2	1160	1402	1358.				

S.E. of any marginal mean = 62.9 lb./ac.
S.E. of body of table = 108.9 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 58(110).**

Site :- Agri. College Farm, Dharwar. **Type :- 'M'.**

Object :—To find out the effect of complesal fertilizers on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) Groundnut—*Jowar.* (b) *Jowar.* (c) 4 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 5.8.1958. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 6 lb./ac. (d) 18" between rows. (e)—. (v) 3 C.L./ac. of F.Y.M. (vi) *Nandyal.* (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 18". (x) 15.1.1959.

2. TREATMENTS :

M_0=Control, M_1=150 lb /ac. of Complesal at sowing, M_2=150 lb./ac. of Complesal : ½ at sowing and ½ after 1½ months, M_3=150 lb./ac. of A/S at sowing, M_4=150 lb./ac. of A/S : ½ at sowing and ½ after one month, M_5=75 lb./ac. of A/S+100 lb./ac. of C/N after 1½ months of sowing, M_6=75 lb./ac. of A/S+100 lb./ac. of C/N after 1½ months of sowing+75 lb./ac. of C/A/N and M_7=150 lb./ac. of A/S+180 lb./ac. of Super in 2 doses.

3. DESIGN:

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 24'×36'. (b) 18'×30'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height of plant, size of earhead and yield of grain. (iv) (a) 1958—N.A. (b) N.A. (c) Nil. (v) (a) Bailhongal, Saundathi and Dhadesagur. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1523 lb./ac. (ii) 208.4 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7
Av. yield	1028	1573	1180	1674	1664	1845	1573	1644

S.E./mean = 104.2 lb./ac.

Crop :- Jawar *(Kharif).* **Ref :- Ms. 58(111).**

Site :- Agri. College Farm, Dharwar. **Type :- 'M'.**

Object :—To find out a suitable method of placement of fertilizers.

1. BASAL CONDITIONS :

(i) (a) Groundnut—Cotton—*Jowar.* (b) Cotton. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 4.8.1958. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 5 lb./ac. (d) 15" between rows. (e) —. (v) Nil. (vi) *Nandyal.* (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 17.5" (x) Last week of Jan. 1959.

2. TREATMENTS :

8 methods of application of 30 lb./ac. of N+20 lb./ac. of P_2O_5 ; M_0=Control, M_1=Drilled, M_2=By draw tube, M_3=½ by draw tube+½ by broadcasting, M_4=By sowing cum-fertilizers drilling, M_5=½ by draw tube+½ by top dressing implements, M_6=Broadcast at sowing and M_7=Broadcast in two equal doses.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 5. (iv) (a) 15'×24'. (b) 10'×20'. (v) 2.5'×2'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1958—N.A. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1437 lb./ac. (ii) 240.5 lb./ac. (iii) Treatment differencees are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7
Av. yield	936	1721	1873	1437	1634	1394	1372	1133

S.E./mean = 107.5 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 54(109).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To find out the effect of N, P and F.Y.M. on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*—Cotton. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 14.7.1954. (iv) (a) 2 harrowings. (b) Drilled. (c) 4 lb./ac. (d) 18" between rows. (e) —. (v) Nil. (vi) *Nandyal* (early). (vii) Unirrigated. (viii) 2 interculturings. (ix) 25.44". (x) 17.12.1954.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 levels of N : N_1=40, N_2=60 and N_3=80 lb./ac.

(2) 2 levels of P_2O_5 as super : P_1=20 and P_2=40 lb./ac.

(3) 2 levels of F.Y.M. : F_1=5 and F_2=10 C.L./ac.

N applied as A/S and G.N.C. in equal ratio one month after sowing and P_2O_5 drilled on 2.7.1954.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) 42'×18'. (b) 36'×12'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Heights at various stages of crop growth, length of the earhead and grain and straw yield. (iv) (a) 1952—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2595 lb./ac. (ii) 243 lb./ac. (iii) Only main effect of N is significant. (iv) Av. yield of grain in lb./ac.

	N_1	N_2	N_3	Mean	F_1	F_2
P_1	2429	2562	2690	2561	2450	2671
P_2	2427	2765	2695	2629	2620	2638
Mean	2428	2664	2693	2595	2535	2655
F_1	2300	2688	2616			
F_2	2556	2638	2769			

S.E. of N marginal mean = 60.8 lb./ac.
S.E. of F or P marginal mean = 49.6 lb./ac.
S.E. of body of N×P or N×F table = 85.9 lb./ac.
S.E. of body of F×P table = 70.1 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 55(115).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To find out the effect of N, P and F.Y.M. on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 16.7.1955. (iv) (a) Harrowing. (b) Drilling. (c) 4 lb./ac. (d) 18" between rows. (e) —. (v) Nil. (vi) Nandyal (early). (vii) Unirrigated. (viii) 2 interculturings. (ix) 29.56". (x) 18.12.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(109) above. Super drilled on 16.7.1955.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain and height of plants. (iv) (a) 1952—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3112 lb./ac. (ii) 310.4 lb./ac. (iii) Only main effects of N and F are highly significant. (iv) Av. yield of grain in lb./ac.

	N_1	N_2	N_3	Mean	F_1	F_2
P_1	2934	3064	3165	3054	2900	3209
P_2	2821	3177	3510	3169	3068	3270
Mean	2877	3121	3337	3112	2984	3240
F_1	2650	3054	3248			
F_2	3105	3187	3427			

S.E. of N marginal mean = 77.6 lb./ac.
S.E. of F or P marginal mean = 63.3 lb./ac.
S.E. of body of N×P or N×F table = 109.7 lb./ac.
S.E. of body of F×P table = 89.6 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 56(62).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the residual effects of N, P and K applied to previous Groundnut crop on succeeding Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Groundnut—*Jowar*. (b) Groundnut. (c) As per treatments. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 17.7.1956. (iv) (a) 5 harrowings. (b) Dibbling. (c) 4 lb./ac. (d) 12″×6″. (e) N.A. (v) Nil. (vi) *Nandyal* (early). (vii) Unirrigated. (viii) Gap-filling, 2 interculturings and 1 weeding. (ix) 37.3″. (x) 16.12.1956.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 levels of P_2O_5 as Super : P_0=0, P_1=50 and P_2=100 lb./ac.
(2) 3 levels of N as A/S : N_0=0, N_1=10 and N_2=20 lb./ac.
(3) 3 levels of K_2O as Pot. Sul. : K_0=0, K_1=100 and K_2=200 lb./ac.

Treatments applied to previous groundnut crop.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 2. (iv) (a) 36′×18′. (b) 30′×12′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—contd. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1850 lb./ac. (ii) 217.5 lb./ac. (iii) Main effect of P is highly significant and third order interaction N×P×K is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean	K_0	K_1	K_2
P_0	1806	1762	1765	1777	1766	1850	1715
P_1	1632	1685	1930	1749	1718	1774	1756
P_2	1913	2180	1972	2021	1973	2134	1959
Mean	1784	1876	1889	1850	1819	1919	1810
K_0	1754	1818	1885				
K_1	1940	1928	1890				
K_2	1657	1881	1892				

S.E. of any marginal mean = 51.3 lb./ac.
S.E. of body of any table = 88.8 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref:- Ms. 57(90).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the residual effects of N, P and K applied to previous Groundnut crop on succeeding Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Groundnut—cotton. (b) Groundnut. (c) As per treatments. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 21.7.1957. (iv) (a) 4 harrowings. (b) N.A. (c) 4 lb./ac. (d) 12" between rows. (e) N.A. (v) Nil. (vi) *Nandyal*. (vii) Unirrigated. (viii) Gap-filling, 1 interculturing and 1 weeding. (ix) 20". (x) 15.12.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(62) on page 278.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height measurements and yield of grain. (iv) (a) 1956—contd. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1634 lb./ac. (ii) 200.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean	K_0	K_1	K_2
P_0	1648	1689	1729	1689	1729	1638	1719
P_1	1578	1669	1594	1614	1669	1527	1643
P_2	1594	1498	1704	1599	1643	1588	1563
Mean	1607	1619	1676	1634	1674	1585	1642
K_0	1624	1648	1750				
K_1	1563	1643	1548				
K_2	1634	1563	1729				

S.E. of any marginal mean = 47.3 lb./ac.
S.E. of body of any table = 82.0 lb./ac.

Crop :- Jowar *(Kharif)* **Ref :- Ms. 58(68).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the residual effects of N, P and K applied to previous Groundnut on the succeeding Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) As per treatments. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 22.7.1958. (iv) (a) 5 harrowings (b) Drilling. (c) 4 lb./ac. (d) 18" between rows. (e) —. (v) Nil. (vi) *Nandyal.* (vii) Unirrigated. (viii) Gap-filling, 2 interculturings and 1 weeding. (ix) 11.8" (x) 30.12.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(62) on page 278.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height measurements and yield of grain. (iv) 1956—contd. (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1847 lb./ac. (ii) 1358 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean	K_0	K_1	K_2
P_0	1754	1780	1941	1825	1871	1871	1734
P_1	1729	1855	1845	1810	1810	1775	1845
P_2	1901	1987	1830	1906	1850	1966	1901
Mean	1795	1875	1872	1847	1844	1871	1826
K_0	1805	1905	1825				
K_1	1896	1805	1911				
K_2	1684	1915	1880				

S.E. of any marginal mean = 320.1 lb./ac.
S.E. of body of any table = 554.4 lb./ac.

Crop :- Jowar *(Kharif).* **Ref :- Ms. 5ɔ(116).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the suitable time and method of application of A/S to Jowar crop.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Groundnut. (b) Groundnut. (c) F.Y.M. at 5 C.L./ac. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 1.7.1955. (iv) (a) Harrowing. (b) Drilling. (c) 4 lb./ac. (d) 18" between rows. (e)—. (v) 5 C L./ac. of F.Y.M. on 13.6.1955+20 lb./ac. of P_2O_5 as Super on 1.7.1955. (vi) *Nandyal* (early). (vii) Unirrigated. (viii) 1 interculturing and 1 weeding. (ix) 29.56". (x) 16.12.1955.

2. TREATMENTS :

5 times of application of 40 lb./ac. of N as A/S : T_1=Full dose broadcast at sowing T_2=½ dose broadcast at sowing+½ dose one month after, T_3=Full dose drilled at sowing, T_4=½ dose drilled at sowing+½ dose one month after and T_5=Full dose broadcast 15 days prior to sowing.

3. DESIGN :

(i) L. Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 21'×36'. (b) 15'×30'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) The crop growth was satisfactory. There was lodging of plants in all the treatments in November. (ii) Nil. (iii) Yield of grain and height measurements. (iv) (a) 1955—contd. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3040 lb./ac. (ii) 170.6 lb./ac. (iii) Treatment defferences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	2882	3209	3059	3107	2946

S.E./mean = 76.3 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 56(56).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the suitable time and method of application of A/S to Jowar crop.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Legumes. (b) Gram (*Rabi*). (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 18.6.1956. (iv) (a) 4 harrowings. (b) Drilling. (c) 4 lb./ac. (d) 18″×6″. (e)—. (v) F.Y.M. at 5 C.L./ac. and Super at 20 lb./ac. of P_2O_5 ploughed at the time of sowing. (vi) *Nandyal* (early). (vii) Unirrigated. (viii) 1 interculturing and 1 weeding. (ix) 42.48″. (x) 29.12.1956.

2. TREATMENTS :

Same as in expt. no. 55(116) on page 280.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 21′×36′. (b) 15′×30′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—contd. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2210 lb./ac. (ii) 171.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	2173	2358	2101	2095	2322

S.E./mean = 76.5 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 57(59).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the suitable time and method of application of A/S to Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) N.A. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 15.7.1957. (iv) (a) 4 harrowings. (b) and (c) N.A. (d) 18″ between rows. (e) N.A. (v) 5 C.L /ac. of F.Y.M.+20 lb./ac. of P_2O_5. (vi) *Nandyal*. (vii) Unirrigated. (viii) Gap-filling and weeding. (ix) 21.3″. (x) 20.12.1957.

2. TREATMENTS :

Same as in expt. no. 55(116) on page 280.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 36′×21′. (b) 30′×15′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. Crop lodged on 28.10.1957. (ii) Nil. (iii) Height measurements and grain yield. (iv) (a) 1955—N.A. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1564 lb./ac. (ii) 165.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	1655	1650	1486	1525	1505

S.E./mean = 74.2 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 56(86).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the residual effects of N, P and K on Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Gram. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 17.7.1956. (iv) (a) N.A. (b) Drilling. (c) 4 lb./ac. (d) 18" between rows. (e)—. (v) Nil. (vi) *Nandyal* (early). (vii) Unirrigated. (viii) 2 interculturings, 1 weeding and gap-filling. (ix) 37.31". (x) 16.12.1956.

2. TREATMENTS :

All combinations of (1), (2) and (3)+one extra treatment.

(1) 2 levels of N as A/S : N_0=0 and N_1=20 lb./ac.

(2) 2 levels of P_2O_5 as Super : P_0=0 and P_1=20 lb./ac.

(3) 2 levels of K_2O as Pot. Sul. : K_0=0 and K_1=40 lb./ac.

Extra treatment : E=5 C.L./ac. of F.Y.M.

All treatment combinations excluding $N_0P_0K_0$ received 5 C.L./ac. of F.Y.M.

3. DESIGN :

(i) Fact in R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 35'×24'. (b) 25'×18'. (v) 5'×3'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and fodder yield. (iv) (a) 1956—contd. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1864 lb./ac. (ii) 249.3 lb./ac. (iii) Only main effect of N is highly significant. (iv) Av. yield of grain in lb./ac.

E = 1844 lb./ac.

	P_0	P_1	Mean	K_0	K_1
N_0	1703	1770	1737	1683	1790
N_1	1932	2061	1997	1998	1995
Mean	1818	1916	1867	1841	1893
K_0	1846	1836			
K_1	1789	1995			

S.E. of any marginal mean = 62.3 lb./ac.

S.E. of body of any table = 88.1 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 57(63).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the residual effects of N, P and K on Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Gram. (c) As per treatments. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 21.7.1957. (iv) (a) 4 harrowings. (b) Drilling. (c) 4 lb./ac. (d) 12″ between rows. (e) —. (v) Nil. (vi) *Nandyal*. (vii) Unirrigated. (viii) 1 interculturing and 1 weeding. (ix) 19.8″. (x) 17.12.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(86) on page 282.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height measurements and yield of grain. (iv) (a) 1956—contd. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1748 lb./ac. (ii) 304.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

E = 1724 lb./ac.

	P_0	P_1	Mean	K_0	K_1
N_0	1791	1652	1722	1607	1836
N_1	1854	1704	1779	1749	1809
Mean	1823	1678	1751	1678	1823
K_0	1715	1640			
K_1	1930	1716			

S.E. of any marginal mean = 76.1 lb./ac.
S.E. of body of any table = 107.6 lb./ac.
S.E./E mean = 152.2 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 56(60).**

Site :- Agri. Res. Stn., Dharwar **Type :- 'M'.**

Object :—To study the effect of micronutrients on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*—Cotton. (b) Cotton. (c) As per treatments. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 20.7.1956. (iv) (a) 4 harrowings. (b) Dibbling, (c) 4 lb./ac. (d) 12″×6″. (e) N.A. (v) 5 C.L /ac. of F.Y.M. (vi) *Nandyal* (early). (vii) Unirrigated. (viii) Interculturing and hand weeding. (ix) 37.31″. (x) 30.12.1956.

2. TREATMENTS :

All combinations of 5 micronutrients each at two levels *viz* 0 and 20 lb./ac.

(1) Cu as $CuSO_4$.
(2) Mn as $MnSO_4$.
(3) Zn as $ZnSO_4$.
(4) B as Borax.
(5) Mo as Sod. Molvbdate.

Time and method of application N.A.

3. DESIGN :

(i) 2^5 Fact. in R.B.D. (ii) (a) 32. (b) N.A. (iii) 4. (iv) (a) 18′×25′. (b) 12′×19′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5 RESULTS

(i) 1565 lb /ac. (ii) 303.7 lb./ac. (iii) Interactions $B \times M_0$ and $Cu \times Zn \times B$ are highly significant. No other effect is significant. (iv) Differential response in lb./ac.

Factor	Mean response in lb./ac.	Differential response in lb./ac.									
		Cu		Mn		Zn		B		Mo	
		—	+	—	+	—	+	—	+	—	+
Cu	—8	—	—	4	—20	0	—16	—68	52	120	—136
Mn	84	96	72	—	—	—6	174	78	90	10	158
Zn	30	38	22	—60	120	—	—	—34	94	—28	88
B	—40	—100	20	—46	—34	—104	24	—	—	118	—198
Mo	24	152	—104	—50	98	—34	82	182	—134	—	—

S.E. of mean response = 53.7 lb./ac.
S.E. of differential response = 75.9 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref:- Ms. 57(88).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the effect of micronutrients on the yield af Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 18.7.1957. (iv) (a) 4 harrowings. (b) Dibbling. (c) 4 lb./ac. (d) 12″×6″. (e) N.A. (v) 5 C.L./ac. of F.Y.M. (vi) *Nandyal*. (vii) Unirrigated. (viii) Gap-filling. (ix) 20.18″. (x) 22.12.1957.

2. TREATMENTS :

Same as in expt. no. 56(60) on page 283.

3. DESIGN :

(i) 2^5 Fact. in R.B.D. (ii) (a) 32. (b) N.A. (iii) 4. (iv) (a) 30′×17′. (b) 24″×12′. (v) 3′×2½. (vi) Yes.

4. GENERAL :

(i) Nil. (ii) Normal. (iii) Height measurements and grain yield. (iv) (a) 1956—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1677 lb./ac. (ii) 248.0 lb./ac. (iii) Interactions $Cu \times Mn$, $Cu \times B$, $Mn \times B$, $Zn \times B$, $Zn \times M_0$ and $B \times M_0$ are significant. (iv) Mean and differential responses in lb./ac.

Factor	Mean response in lb./ac.	Differential response in lb./ac.									
		Cu		Mn		Zn		B		Mo	
		—	+	—	+	—	+	—	+	—	+
Cu	77.1	—	—	181.5	—27.3	28.7	125.5	208.7	—54.5	133.1	21.1
Mn	40.8	145.1	—63.5	—	—	18.2	63.4	—75.6	157.2	66.6	15.0
Zn	—45.4	—93.8	3.0	—68.1	—22.7	—	—	37.8	—128.6	37.8	—128.6
B	—83.2	48.4	—214.8	—199.6	33.7	0	—166 4	—	—	—225.4	59.0
Mo	95.3	151.2	39.4	121.0	69.6	178.5	12.1	—46.9	237.5	—	—

S.E. of mean response = 43.8 lb./ac.
S.E. of differential reponse = 61.9 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 58(20).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the effect of micronutrients on the yield of Jowar

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Groundnut. (b) Groundnut. (c) As per treatments. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 29.7.1958. (iv) (a) 4 harrowings. (b) Dibbling. (c) 4 lb./ac. (d) 12″×6″. (e) N.A. (v) Nil. (vi) *Nandyal*. (vii) Unirrigated. (viii) 2 interculturings and 1 weeding. (ix) 11.3″. (x) 9.1.1959.

2. TREATMENTS :

Same as in expt. no. 56(60) on page 283.

3. DESIGN :

(i) 2^5 fact. in R.B.D. (ii) (a) 32. (b) N.A. (iii) 4. (iv) (a) 18′×25′. (b) 12′×19′: (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height measurement and yield of grain. (iv) (a) 1956—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2111 lb./ac. (ii) 321.0 lb./ac. (iii) Only main effect of Cu is significant. (iv) Table of mean and differential responses in lb./ac.

Factor	Mean response in lb./ac.	Differential response in lb./ac.									
		Cu		Mn		Zn		B		Mo	
		−	+	−	+	−	+	−	+	−	+
Cu	+114.5	—	—	+39	+191	+146	+83	+152	+77	+134	+95
Mn	+ 54.0	— 24	+128	—	—	+33	+71	+38	+66	+27	+77
Zn	+ 70.0	+102	+ 38	+51	+89	—	—	+33	+107	+38	+102
B	− 49.0	— 12	— 86	−35	−63	−86	−12	—	—	+33	−131
Mo	+ 22.5	+ 42	+ 3	−3	+48	−9	+54	+105	−60	—	—

S.E. of mean response = 56.8 lb./ac.
S.E. of differential response = 80.2 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 54(122).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the residual effects of P and N applied to the cotton crop on succeeding Jowar crop.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) As per treatments. (ii) (a) Medium black soil. (b) Refer soil analysis. Dharwar. (iii) 12.7.1954. (iv) (a) 3 harrowings. (b) Drilling, (c) 4 lb./ac. (d) 18″ between rows. (e) —. (v) Nil. (vi) *Nandyal*. (vii) Unirrigated. (viii) 2 interculturings and 1 hand weeding. (ix) 25,36″. (x) 25.12.1954.

2. TREATMENTS :

All combinations of (1), (2) and (3).
(1) 2 sources of N : S_1=A/S and S_2=G.N.C.
(2) 3 levels of N : N_0=0, N_1=30 and N_2=60 lb./ac.
(3) 3 levels of P_2O_5 as Super : P_0=0, P_1=30 and P_2=60 lb./ac.
Manures applied to previous crop.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 18. (b) N.A. (iii) 4. (iv) (a) 48′×20′. (b) 40′×12′. (v) 4′×4′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Slight attack of grass—hoppers. Control measures taken N.A. (iii) Height of crop at various stages of crop growth, length of earhead and yield of grain. (iv) (a) 1950—1955. (b) No. (c) Nil. (v) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2190 lb./ac. (ii) 942.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean	S_1	S_2
P_0	1894	2088	2235	2162	2235	2088
P_1	1940	2179	2187	2183	2346	2020
P_2	1938	2186	2264	2225	2402	2048
Mean	1924	2151	2228	2190	2328	2052
S_1	—	2225	2429			
S_2	—	2076	2027			

S.E. of N or P marginal mean = 192.3 lb /ac.
S.E. of S marginal mean = 157.0 lb./ac.
S.E. of body of N×P table = 333 0 lb./ac.
S.E. of body of N×S or P×S table = 271.9 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 55(120).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the residual effects of P and N applied to the cotton crop on succeeding Jowar crop.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) As per treatments. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar, (iii) 17.7.1955. (iv) (a) Harrowing. (b) Drilling. (c) 4 lb./ac. (d) 18″ between rows. (e) —. (v) Nil. (vi) *Nandyal* (early). (vii) Unirrigated. (viii) 2 interculturings and gap-filling. (ix) 29.56″. (x) 23.12.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(122) on page 285.

4. GENERAL :

(i) On account of lack of early rains there was a set back in the proper development of the crop. (ii) Nil. (iii) Yield of grain and height of plants. (iv) (a) 1950—1955. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 1978 lb./ac. (ii) 240.0 lb./ac. (iii) Main effect of N is highly significant, main effect of S and interaction S×P are significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean	S_1	S_2
P_0	1734	1961	2255	1983	1931	2036
P_1	1774	1940	2220	1978	1812	2144
P_2	1810	1937	2171	1972	1979	1966
Mean	1773	1946	2215	1978	1907	2049
S_1	—	1805	2241			
S_2	—	2087	2190			

S.E. of N or P marginal mean = 49.0 lb./ac.
S.E. of S marginal mean = 40.0 lb./ac.
S.E. of body of N×P table = 84.8 lb./ac.
S.E. of body of N×S or P×S table = 69.3 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 54(105).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the effect of application of P to leguminous crops and its effect on the succeeding Jowar crop.

1. BASAL CONDITIONS :

(i) Groundnut—*Jowar*. (b) Groundnut and Cotton. (c) As per treatments. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 12.7.1954. (iv) (a) Ploughing and 4 harrowings. (b) Drilling. (c) 4 lb./ac. (d) 18" between rows. (e) —. (v) Nil. (vi) *Nandyal*. (vii) Unirrigated. (viii) 2 interculturings. (ix) 25.24". (x) 16.12.1954.

2. TREATMENTS :

1. Control.
2. 50 lb./ac. of P_2O_5 to previous groundnut crop.
3. 100 lb./ac. of P_2O_5 to previous groundnut crop.
4. 150 lb./ac. of P_2O_5 to previous groundnut crop.
5. Cotton crop in previous season.

P_2O_5 applied as Super.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 42'×30'. (b) 30'×18'. (v) 6'×6'. (vi) Yes, as per treatments.

4. GENERAL :

(i) Vigorous growth. (ii) Nil. (iii) Height of plant, length of earhead and yield of grain. (iv) (a) 1949—1955. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2275 lb./ac. (ii) 495.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4	5
Av. yield	2181	2395	2027	2214	2559

S.E./mean = 247.6 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 54(14).**

Site :- Agri. Res. Stn., Hagari. **Type :- 'M'.**

Object :—To study the effect of A/S and G.N.C. in combination with F.Y.M. on Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*–Cotton. (b) Cotton. (c) As per treatments. (ii) (a) Deep black cotton. (b) Refer soil analysis, Hagari. (iii) 9.10.1954. (iv) (a) 2 to 3 harrowings by country blade harrows. (b) Drilling. (c) 3 lb./ac. (d) 18" between rows. (e)—. (v) 5 C.L./ac. of F.Y.M. spread one month before sowing. (vi) M 47–3 (early). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 4.16". (x) 6.3.1955.

2. TREATMENTS :

5 manurial treatments : M_0=Control, M_1=F.Y.M. at 2½ tons/ac., M_2=M_1+30 lb./ac. of N as A/S, M_3=M_1+30 lb./ac. of N as G.N.C. and M_4=M_1+15 lb./ac. of N as A/S+15 lb./ac. of N as G.N.C.

Treatments applied one month prior to sowing by spreading and incorporating.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 40'×18'. (b) 36'4"×12'. (v) 3'×1'10". (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Germination count, flowering, maturity and yield of grain. (iv) (a) 1953—1958. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 482 lb./ac. (ii(69.0 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4
Av. yield	400	491	521	538	458

S.E./mean = 28.2 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 55(68).**

Site :- Agri. Res. Stn., Hagari. **Type :- 'M'.**

Object :—To study the effect of A/S and G.N.C. in combination with F.Y.M. on Jowar.

1. BASAL CONDITIONS :

(i) (a) Cotton–*Jowar*. (b) Cotton. (c) As per treatments. (ii) (a) Black cotton. (b) Refer soil analysis, Hagari. (iii) 4.10.1955. (iv) (a) 2 harrowings by blade harrow. (b) Drilling. (c) 3 lb./ac. (d) 18" between rows. (e)—. (v) Nil. (vi) M-47—3 (early). (vii) Unirrigated. (viii) Weeding by working danties and hand weeding. (ix) 6.57". (x) 14.2.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(14) on page 287.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1953—1958. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 820 lb./ac. (ii) 151.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4
Av. yield	650	833	908	867	842

S.E./mean = 61.6 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 56(3).**

Site :- Agri. Res. Stn., Hagari. **Type :- 'M'.**

Object :—To study the effect of A/S and G.N.C. in combination with F.Y.M. on Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) As per treatments. (ii) (a) Black soil. (b) Refer soil analysis, Hagari. (iii) 21.10.1956. (iv) (a) 2 harrowings by working blade harrow. (b) Drilling. (c) 3 lb./ac. (d) 18″ between rows. (e) —. (v) 2½ tons/ac. of F.Y.M. spreading by broadcast and covering by working Junior hoe before sowing. (vi) M 47—3 (medium). (vii) Unirrigated. (viii) Weeding by working danties. (ix) 23.47″. (x) 30.3.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no 54(14) on page 287.

4. GENERAL :

(i) Fair. (ii) There was stem-borer attack. All the dead hearts were collected (hand picked) and burnt. (iii) Grain and straw yield. (iv) (a) 1953—1958. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 703 lb./ac. (ii) 96.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4
Av. yield	590	719	568	817	822

S.E./mean = 39.2 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 57(34).**

Site :- Agri. Res. Stn., Hagari. **Type :- 'M'.**

Object :—To study the effect of A/S and G.N.C. in combination with F.Y.M. on Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) As per treatments. (ii) (a) Black cotton. (b) Refer soil analysis, Hagari. (iii) 6.10.1957. (iv) (a) 2 harrowings by blade harrow. (b) Drilling. (c) 5 lb./ac. (d) 18″ between rows. (e) —. (v) F.Y.M at 2½ tons/ac. by broadcast before one month of sowing of *Jowar* and junior hoe worked to incorporate F.Y.M. (vi) M 47—3 (early). (vii) Unirrigated. (viii) 2 weedings by working of danties. (ix) 4.87″. (x) 17.2.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. in 54(14) on page 287.

4. GENERAL :

(i) Crop stunted due to scanty rain fall. (ii) There was stem borer attack in early stage. All the dead hearts were removed and burnt. (iii) Yield of grain. (iv) (a) 1953—1958. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 187 lb./ac. (ii) 99.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4
Av. yield	189	159	241	241	106

S.E./mean = 40.6 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 58(127).**

Site :- Agri. Res. Stn., Hagari. **Type :- 'M'.**

Object :—To study the effect of A/S and G.N.C. in combination with F.Y.M. on Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) 2½ tons/ac. of F.Y.M.+45 lb./ac. of A/S+45 lb./ac. of G.N.C. (ii) Black cotton. (b) Refer soil analysis, Hagari. (iii) 10.10.1958. (iv) (a) 3 harrowings. (b) Drilling. (c) 5 lb./ac. (d) 18″×9″. (e) —. (vi) M-47—3 (early). (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 4.21″. (x) 2.2.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(14) on page 287.

4. GENERAL :

(i) Not satisfactory due to insufficient rainfall. (ii) There was stem borer attack at every stage. All the dead hearts were removed and burnt. (iii) Germination counts, flowering, seed setting and yield of grain. (iv) (a) 1953—1958. (b) Yes. (c) No. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 130 lb./ac. (ii) 41.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4
Av. yield	90	143	147	114	156

S.E./mean = 16.7 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 54(18).**

Site :- Agri. Res. Stn., Hagari. **Type :- 'M'.**

Object :—To study the effect of N and P on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) As per treatments. (ii) (a) Deep black cotton. (b) Refer soil analysis, Hagari. (iii) 11.10.1954. (iv) (a) 3 harrowings by blade harrow. (b) Drilling. (c) 5 lb./ac. (d) 18″ between rows. (e) —. (v) Nil. (vi) M-47—3 (early). (vii) Unirrigated. (viii) Weedings. (ix) 4.15″. (x) 28.2.1955.

2. TREATMENTS :

3 manurial treatments : M_0=Control, M_1=30 lb./ac. of P_2O_5 as Super and M_2=30 lb./ac. of N as F.Y.M.

F.Y.M. broadcasted one month before sowing and Super drilled at the time of sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 80′×18′. (b) 74′×12′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Not good. (ii) Nil. (iii) Germination, general stand of the crop, date of flowering and yield of grain. (iv) (a) 1948—1955. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 748 lb./ac. (ii) 35.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2
Av. yield	768	747	739

S.E./mean = 12.5 lb./ac.

Crop :- Jowar. **Ref :- Ms. 55(69).**

Site :- Agri. Res. Stn., Hagari. **Type :- 'M'.**

Object :—To study the effect of N and P on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*. (b) Cotton. (c) F.Y.M. at 1590 lb./ac. and Super at 50 lb./ac. (ii) (a) Black cotton. (b) Refer soil analysis, Hagari. (iii) 18.10.1955. (iv) (a) 2 harrowings by blade harrow. (b) Drilling. (c) 5 lb./ac. (d) 18″ between rows. (e) —. (v) Nil. (vi) M-47—3 (early). (vii) Unirrigated. (viii) Hand weeding and interculturing by working *danties*. (ix) 1.40″. (x) 30.2.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(18) on page 290.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Maturity of earheads and yield of grain. (iv) (a) 1948—1955. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 629 lb./ac. (ii) 224.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2
Av. yield	699	531	658

S.E./mean = 79.3 lb./ac.

———

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 54(16).**

Site :- Agri. Res. Stn., Hagari. **Type :- 'M'.**

Object :—To find at what rate it will be possible to manure the dry land crop of Jowar and Cotton with G.N.C. in view of scarcity of C.M. to meet the local needs adequately.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) As per treatments. (ii) (a) Deep black cotton soil. (b) Refer soil analysis, Hagari. (iii) 6.9.1954. (iv) (a) 3 harrowings by blade harrow. (b) Drilling. (c) 5 lb./ac. (d) 18″ between rows. (e) —. (v) Nil. (vi) M-47—3 (early). (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 4.88″. (x) 1.3.1955.

2. TREATMENTS :

1=No manure.
Others treatments from 2 to 16 :—

	Period of application							
	Once in 4 yrs.		Once in 2 yrs.			Every year		
Amount of N source	30 lb./ac	20 lb./ac	30 lb./ac.	20 lb./ac.	10 lb./ac	30 lb./ac.	20 lb./ac.	10 lb./ac.
F.Y.M.	2	3	6	7	—	11	12	13
G.N.C.	4	5	8	9	10	14	15	16

1, 2, 3, 4, 5.....16 indicate the treatment number.

F.Y.M. applied one month before sowing and G.N.C. at the time of sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 16. (b) N.A. (iii) 4. (iv) (a) 80′×18′. (b) 74′×12′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Germination, general stand of the crop, date of flowering and yield of grain. (iv) (a) 1948—1960. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Low rainfall. (vii) Nil.

5. RESULTS :

(i) 747 lb./ac. (ii) 131.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4	5	6	7	8
Av. yield	761	717	547	706	687	830	790	777
Treatment	9	10	11	12	13	14	15	16
Av. yield	758	798	739	747	793	754	777	773

S.E./mean = 65.0 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 55(65).**

Site :- Agri. Res. Stn., Hagari. **Type :- 'M'.**

Object :—To find at what rate it will be possible to manure the dry crop of Jowar and Cotton with G.N.C. in view of scarcity of C.M. to meet the local needs adequately.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*. (b) Cotton. (c) As per treatments. (ii) (a) Black cotton. (b) Refer soil analysis, Hagari. (iii) 18.10.1955. (iv) (a) 2 harrowings by blade harrow. (b) Drilling. (c) 5 lb./ac. (d) 18" between rows. (e)—. (v) Nil. (vi) M-47—3 (early). (vii) Unirrigated. (viii) Hand weeding and inter-cultivation by *danties*. (ix) 1.40". (x) 27.2.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(16) on page 291.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1948—1960. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 741 lb./ac. (ii) 208.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4	5	6	7	8
Av. yield	763	738	559	713	738	1054	829	739
Treatment	9	10	11	12	13	14	15	16
Av. yield	576	739	746	984	674	616	802	594

S.E./mean = 104.5 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 56(5).**

Site :- Agri. Res. Stn., Hagari. **Type :- 'M'.**

Object :—To find at what rate it will be possible to manure the dry land crop of Jowar and Cotton with G.N.C. in view at scarcity of C.M. to meet the local needs adequately.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) As per treatments. (ii) (a) Black soil. (b) Refer soil analysis, Hagari. (iii) 24.10.1956. (iv) (a) Working *guntaka*. (b) Drilling. (c) 3 lb./ac. (d) 18" between rows. (e)—. (v) Nil. (vi) M—47—3 (early). (vii) Unirrigated. (viii) Weeding. (ix) 23.62". (x) 25.3.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(16) on page 291.

4. GENERAL :

(i) Fair. (ii) Stem borer attack in early stages. Control measures taken—N.A. (iii) Yield of grain. (iv) (a) 1948—1960. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 662 lb./ac. (ii) 147.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb /ac.

Treatment	1	2	3	4	5	6	7	8
Av. yield	475	626	545	688	607	628	606	700
Treatment	9	10	11	12	13	14	15	16
Av. yield	691	660	771	711	674	860	628	720

S.E /mean = 73.6 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 57(32).**

Site :- Agri. Res. Stn., Hagari. **Type :- 'M'.**

Object : -To find at what rate it will be possible to manure the dry land crop of Jowar and Cotton with G.N.C. in view of scarcity of C.M. to meet the local needs adequately.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) Cotton. (c) Nil. (ii) (a) Black cotton. (b) Refer soil analysis, Hagari. (iii) 8.10.1957. (iv) (a) 3 harrowings by blade harrow. (b) Drilling. (c) 5 lb./ac. (d) 18" between rows. (e) —. (v) Nil. (vi) M-4—73 (early). (vii) Unirrigated. (viii) 3 weedings. (ix) 4.87". (x) 19.2.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(16) on page 291.

4. GENERAL :

(i) The crop was stunted. ii) N.A. (iii) Stand, height and yield of grain. (iv) (a) 1948—1960. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 469 lb /ac. (ii) 113.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4	5	6	7	8
Av. yield	360	473	466	432	442	576	421	422
Treatment	9	10	11	12	13	14	15	16
Av. yield	411	463	533	549	532	374	516	540

S.E./mean = 56.7 lb./ac.

Crop :-Jowar *(Rabi)*. **Ref :- Ms. 58(130).**

Site :- Agri. Res. Stn., Hagari. **Type :- 'M'.**

Object :—To find at what rate it will be possible to manure the dry land crop of Jowar and Cotton with G.N.C. in view of scarcity of C.M. to meet the local needs adequately.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*—Cotton. (b) Cotton. (c) Nil. (ii) (a) Black cotton. (b) Refer soil analysis, Hagari. (iii) 11.10.1958. (iv) (a) Harrowing. (b) Drilling. (c) 4 lb./ac. (d) 18" between rows. (e)—. (v) Nil. (vi) M-47—3 (early). (vii) Unirrigated. (viii) 2 interculturings by blade harrows. (ix) 4.01". (x) 7.2.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt no. 54(16) on page 291.

4. GENERAL :

(i) Growth not satisfactory due to insufficient rain. (ii) Stem borer attack was noticed. Attacked dead hearts were removed and burnt. (iii) Yield of grain and straw. (iv) (a) 1948—1960. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 132 lb./ac. (ii) 34.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4	5	6	7	8
Av. yield	135	158	152	134	115	144	158	88
Treatment	9	10	11	12	13	14	15	16
Av. yield	150	145	153	118	127	102	131	120

S.E./mean = 17.2 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 59(186)**

Site :- Agri. Res. Stn., Hagari. **Type :- 'M'.**

Object :—To find at what rate it will be possible to manure the dry land crop of Jowar and Cotton with G.N.C. in view of scarcity of C.M. to meet the local needs adequately.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar* – Cotton. (b) Cotton. (c) Nil. (ii) (a) Black cotton soil. (b) Refer soil analysis, Hagari. (iii) 3.10.1959. (iv) (a) Working with blade harrow. (b) Drilling. (c) 5 lb./ac. (d) 18″×6″. (e) —. (v) Nil. (vi) M-47—3 (early). (vi) Unirrigated. (viii) 2 Thinnings and weedings. (ix) 1.70″. (x) 27.1.1960.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(16) on page 291.

4. GENERAL :

(i) Very poor. (ii) Stem borer and mite attacks. Dusted with sulphur and Gammaxene. (iii) Yield of grain and straw. (iv) (a) 1948—1960. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 250 lb./ac. (ii) 62.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4	5	6	7	8
Av. yield	218	239	256	236	252	250	276	284
Treatment	9	10	11	12	13	14	15	16
Av. yield	274	241	271	255	242	252	221	228

S.E./mean = 31.4 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 59(111).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To study the effects of different kinds of nitrogenous fertilizers on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 5 C.L./ac. of F.Y.M (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 18.10.1959. (iv) (a) Harrowing. (b) Drilling. (c) 4 lb./ac. (d) 18″ between rows. (e) —. (v) Nil. (vi) M-35—1. (vii) Unirrigated. (viii) 3 interculturings and 2 weedings. (ix) N.A. (x) 18.2.1960.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 5 sources of N : S_1=A/S, S_2=Urea, S_3=A/S/N, S_4=Calcium Ammonium Sulphate and S_5=A/C.

(2) 3 levels of N : N_0=0, N_1=15 and N_2=30 lb./ac.

Time and method of application—N.A.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 15. (b) N.A. (iii) 3. (iv) (a) 24′×24′. (b) 21′×21′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Slight stem-borer attack in the initial stages. No control measures are taken. (iii) Grain and straw yield. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 636 lb /ac. (ii) 117.8 lb./ac. (iii) Only main effects of N and S are significant. (iv) Av. yield of grain in lb./ac.

Control = 656 lb./ac.

	S_1	S_2	S_3	S_4	S_5	Mean
N_1	162	464	447	696	736	591
N_2	556	667	614	707	758	660
Mean	584	565	530	701	747	636

S.E. of N marginal mean or control mean = 30.4 lb./ac.
S.E. of S marginal mean = 48.1 lb./ae.
S.E. of body of table = 68.0 lb./ac.

Crop :-Jowar *(Rabi)*. **Ref :- Ms. 59(110).**
Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To study the optimum requirement of N, P and K for Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 125 srs of G.N.C. to the whole block. (li) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 10.10.1959. (iv) (a) Harrowing. (b) Drilling. (c) 4 lb./ac. (d) 18″ between rows. (e) —. (v) Nil. (vi) M-35—1. (vii) U nirrigated. (viii) 2 interculturings and weedings. (ix) N.A. (x) 18.2.1960.

2. TREATMENTS :

All combinations of (1), (2) and (3)
(1) 3 levels of N as A/S ; N_0=0, N_1=15 and N_2=30 lb./ac.
(2) 3 levels of P as Super : P_0=0, P_1=15 and P_2=30 lb./ac.
(3) 3 levels of K as Mur. Pot : K_0=0, K_1=15 and K_2=30 lb./ac.
Time and method of application—N.A.

3. DESIGN :

(s) 3^3 confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 2. (iv) (a) 24′×24′. (b) 21′×21′. (v) 1½′×1½′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Stem-borer attack in the beginning. Control measures taken N.A. (iii) Height, and grain and straw yield. (iv) (a) 1959—1961. (b) N.A. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 966 lb./ac. (ii) 116.9 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	994	1041	919	985	970	1032	952
N_1	1003	979	996	993	1025	985	968
N_2	908	880	970	919	919	926	915
Mean	968	967	962	966	971	981	945
K_0	1029	913	970				
K_1	935	1067	941				
K_2	944	919	974				

S.E. of any marginal mean = 27.5 lb./ac.
S.E. of body of any table = 47.7 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 54(153).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :— To study the effect of N, P and F.Y.M. on yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 5.10.1954. (iv) (a) 2 blade harrowings. (b) Drilling. (c) 4 lb./ac. (d) 18" between rows. (e) —. (v) Nil. (vi) M-35—1 (medium). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) N.A. (x) 2nd and 3rd week of Feb. 1955.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 4 levels of P_2O_5 as Super : P_0=0, P_1=10, P_2=20 and P_3=30 lb./ac.
(2) 4 levels of N as G.N.C. : N_0=0, N_1=10, N_2=20 and N_3=30 lb./ac.
(3) 2 levels of F.Y.M. : F_0=0 and F_1=5 C.L./ac.

P_2O_5 and N applied on 1 10.1954 and F.Y.M. applied on 18.7.1954 by broadcasting.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 32. (b) N.A. (iii) 3. (iv) (a) 36'×36'. (b) 33'×33'. (v) 1.5'×1.5'. (vi) Yes.

4. GENERAL :

(i) In very few cases of *Jowar*, lodging of plants has occurred during last week of January and first week of February. (ii) Borer attack in the early stage. No control measures taken. (iii) Moisture determination, plant height, plant counts and yield of grain. (iv) 1951—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 899 lb./ac (ii) 178.5 lb./ac. (iii) Main effects of F and N are highly significant. Effect of P is significant. (iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	P_3	Mean	N_0	N_1	N_2	N_3
F_0	864	787	816	924	847	761	827	894	909
F_1	887	935	925	1057	951	846	916	993	1049
Mean	876	861	870	991	899	803	872	943	979
N_0	759	732	836	887					
N_1	933	820	819	915					
N_2	823	931	929	1089					
N_3	990	961	896	1071					

S.E. of N or P marginal mean = 36.4 lb./ac.
S.E. of F marginal mean = 25.7 lb./ac.
S.E. of body of F×N or F×P table = 51.5 lb./ac.
S.E. of body of N×P table = 72.9 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 55(108).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To study the effect of N, P and F.Y.M. on yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) Nil. (ii) (a) Deep black. (b) Refer soil analysis, Kaladgi. (iii) 14.10.1955. (iv) (a) 2 harrowings. (b) Drilling. (c) 4 lb./ac. (d) 18" between rows. (e) —. (v) Nil. (vi) M-35—1 (medium). (vii) Unirrigated. (viii) 2 interculturings and weedings. (ix) N.A. (x) 16.2.1956.

2. TREATMENTS :

Same as expt. no. 54(153) on page 296.
N and P_2O_5 applied on 19.9.1955 and F.Y.M. applied on 11.8.1955 by broadcasting.

3. DESIGN :

(i) Fact in R.B.D. (ii) (a) 32. (b) N.A. (iii) 2. (iv) (a) 19.5'×36'. (b) 16.5'×33'. (v) 1.5'×1.5'. (vi) Yes.

4. GENERAL :

(i) In very few cases, lodging of *Jowar* is seen during last week of January and first week of February. (ii) Nil. (iii) Moisture determination, plant height, plant counts and yield of grain. (iv) (a) 1951—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 891 lb./ac. (ii) 180.0 lb./ac. (iii) Only main effect of F is significant. (iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	P_3	Mean	N_0	N_1	N_2	N_3
F_0	712	826	812	940	823	754	863	869	804
F_1	961	969	975	931	959	1007	986	936	907
Mean	836	897	893	936	891	881	924	902	856
N_0	699	901	998	925					
N_1	936	864	865	1032					
N_2	904	1001	796	907					
N_3	807	824	914	877					

S.E. of N or P marginal mean = 45.0 lb./ac.
S.E. of F marginal mean = 31.8 lb./ac.
S.E. of body of F×N or F×P table = 63.6 lb./ac.
S.E. of body of N×P table = 90.0 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 56(19).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To study the effect of N, P and F.Y.M. on yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 18.10.1956. (iv) (a) 2 harrowings. (b) Drilling. (c) 4 lb./ac. (d) 18" between rows. (e) —. (v) Nil (vi) M-35—1 (medium). (vii) Unirrigated. (viii) 2 to 3 interculturings. (ix) N.A. (x) 11, 12, 23 and 24.3.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(153) on page 296.
N and P_2O_5 applied on 14.9.1956 and F.Y.M. on 9.8.1956.

4. GENERAL :

(i) Good. (ii) A slight attack of stem-borer and seedling blight was seen during crop growth. Control measures taken N.A. (iii) Moisture determination, height of plants and yield of grain. (iv) (a) 1951—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:

(i) 855 lb./ac. (ii) 131.2 lb./ac. (iii) Main effect of P, N and F are significant. (iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	P_3	Mean	N_0	N_1	N_2	N_3
F_0	683	821	803	810	779	664	758	797	898
F_1	873	929	941	983	931	948	884	960	933
Mean	778	875	872	896	855	806	821	878	916
N_2	741	851	805	827					
N_1	755	826	894	808					
N_2	833	920	874	887					
N_3	783	903	915	1062					

S.E. of N or P marginal mean = 26.8 lb./ac.
S.E. of F marginal mean = 18.9 lb./ac.
S.E. of body of F×N or F×P table = 37.8 lb./ac.
S.E. of body of N×P table = 53.5 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 57(148).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object:—To study the effect of N, P and F.Y.M. on yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 11.10.1957. (iv) (a) 3 harrowings. (b) Drilling. (c) 4 lb./ac. (d) 18" between rows. (e) —. (v) Nil. (vi) M-35–1 (medium). (vii) Unirrigated. (viii) 2 interculturings. (ix) N.A. (x) 18.2.1958.

2. TREATMENTS ;

Same as in expt. no. 54(153) on page 296.
Super and G.N.C. broadcast on 20.9.1958 and F.Y.M. applied on 30.8.1958.

3. DESIGN :

Same as in expt. no. 55(108) on page 296.

4. GENERAL :

(i) Good, slightly affected by windy atmosphere. (ii) Nil. (iii) Height of plant and grain yield. (iv) (a) 1951—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1049 lb /ac. (ii) 174.2 lb./ac. (iii) Main effect of F is significant. (iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	P_3	Mean	N_0	N_1	N_2	N_3
F_0	N.A.				991	876	1012	1099	979
F_1					1108	1095	1045	1187	1104
Mean	1013	1033	1083	1068	1049	985	1028	1143	1041
N_0	962	981	954	1044					
N_1	1012	1060	1108	934					
N_2	1044	1162	1249	1119					
N_3	1036	930	1022	1176					

S.E. of N or P marginal mean = 43.6 lb./ac.
S.E. of F marginal mean = 30.8 lb./ac.
S.E. of body of F×N or F×P table = 61.6 lb./ac.
S.E. of body of P×N table = 87.1 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 58(133).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To study the effect of N, P and F.Y.M. on yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 12.10.1958. (iv) (a) 3 harrowings. (b) Drilling. (c) 4 lb./ac. (d) 18" between rows. (e) —. (v) Nil. (vi) M-35—1. (vii) Unirrigated. (viii) 4 interculturings and 1 weeding. (ix) N.A. (x) 13.2.1959 to 15.2.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(153) on page 296.
Time and method of application of P_2O_5, F.Y.M. and G.N.C. is N.A.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Height of plant, size of earhead and yield of grain. (iv) (a) 1951—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1226 lb./ac. (ii) 161.1 lb./ac. (iii) Only main effect of F is significant. (iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	P_3	Mean	N_0	N_1	N_2	N_3
F_0	994	1020	1020	1258	1073	1066	1021	1072	1133
F_1	1198	1308	1365	1646	1379	1315	1370	1368	1463
Mean	1096	1164	1192	1452	1226	1190	1195	1220	1298
N_0	1018	1132	1228	1384					
N_1	1014	1133	1211	1423					
N_2	1128	1150	1067	1535					
N_3	1224	1241	1263	1465					

S.E. of N or P marginal mean = 32.9 lb./ac.
S.E. of F marginal mean = 23.2 lb./ac.
S.E. of body of F×N or F×P table = 46.5 lb./ac.
S.E. of body of N×P table = 65.8 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 54(150).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To find the effect of stubble mulching on Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 6.10.1954. (iv) (a) 2 harrowings. (b) Drilling. (c) 4 lb./ac. (d) 18" between rows. (e) —. (v) Nil. (vi) M-35—1 (medium). (vii) Unirrigated. (viii) Interculturings and weedings. (ix) N.A. (x) February 1955.

2. TREATMENTS:

(1) Control. (2) Mulch with *Jowar* stubbles at 2 tons/ac. with insecticide at 15 lb./ac.—mulch kept up. (3) Mulching with *Jowar* stubbles at 2 tons/ac. with insecticide at 15 lb./ac.—mulch removed before sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 45′×42′. (b) 33′×30′. (v) 6′×6′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Only in case of treated plots, sometimes pests appeared and Gammexane is used. (ii) Moisture determination, plant height, plant counts and yield of grain. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 640 lb./ac. (ii) 163.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3
Av. yield	623	677	620

S.E./mean = 57.6 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 55(104).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To find the effect of stubble mulching on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 14.10.1955. (iv) (a) 2 harrowings. (b) Drilling. (c) 4 lb./ac. (d) 18″ between rows. (e) —. (v) Nil. (vi) M-35—1 (medium). (vii) Unirrigated. (viii) 2 interculturings and weedings. (ix) Nil. (x) 17.2.1956 and 23.2.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(150) on page 299.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Moisture determinations, plant height, plant counts and yield of grain. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 653 lb./ac. (ii) 100.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3
Av. yield	602	690	667

S.E./mean = 35.2 lb./ac.

Crop : Jowar *(Rabi)*. **Ref :- Ms. 56(17).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To study the effect of stubble mulching on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 18.10.1956. (iv) (a) 2 harrowings. (b) Drilling. (c) 4 lb./ac. (d) 18″ between rows. (e) —. (v) Nil. (vi) M-35—1 (medium). (vii) Unirrigated. (viii) Weeding. (ix) N.A. (x) 11.3.1957. and 26.3.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(150) on page 299.

4. GENERAL :

(i) Good. Lodging noted in the last phase of growth. (ii) Only slight attack of seedling blight and stem-borer was seen during crop growth, control measures taken N.A. (iii) Moisture determination, moisture penetration, height of plants, and yield of grain. (iv) (a) 1954—1957. (b) Yes (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 534 lb./ac. (ii) 64.3 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3
Av. yield	503	594	504

S.E./mean = 22.7 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 57(145).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To study the effect of stubble mulching on Jowar crop.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 13.10 1957. (iv) (a) 3 harrowings. (b) Drilling. (c) 4 lb./ac. (d) 18″ between rows. (e)—. (v) Nil. (vi) M-35—1 (medium). (vii) Unirrigated. (viii) 3 interculturings. (ix) N.A. (x) 18.2.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(150) on page 299.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Yield of grain. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) There was dry wind during the last stage of grain formation. (vii) Nil.

5 RESULTS :

(i) 826.0 lb./ac. (ii) 124.3 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3
Av. yield	717	912	850

S.E./mean = 43.9 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 55(161).**

Site :- Agri. Res. Stn., Naragund. **Type :- 'M'.**

Object :—To find out the effect of different doses of F.Y.M. and Gypsum on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) As per treatments. (ii) (a) Alkaline. (b) Refer soil analysis, Naragund. (iii) 15.11.1955 (iv) (a) 4 harrowings. (b) to (e) N.A. (v) Nil. (vi) *Jowar* M-35 –1. (vii) Unirrigated. (viii) 2 interculturings. (ix) 31.14″. (x) 15.3.1956.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 5 levels of Gypsum : $G_0=0$, $G_1=\frac{1}{2}$, $G_2=1$, $G_3=1\frac{1}{2}$ and $G_4=2$ tons/ac.

(2) 2 levels of F.Y.M. : $F_0=0$ and $F_1=10$ C.L./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 24′×42′. (b) 18′×36′. (v) 3′ alround the plot. (vi) Yes.

4. GENERAL :

(i) Good. (ii) No. (iii) Counting of plants, moisture penetration, moisture determination and grain yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) (a) Kaladgi and Bijapur. (b) N.A. (vi) Nil. (vii) Sowing was postponed for one month due to late receipt of rains.

5. RESULTS :

(i) 204 lb./ac. (ii) 80.3 lb./ac. (iii) Only main effect of F is significant. (iv) Av. yield of grain in lb./ac.

	G_0	G_1	G_2	G_3	G_4	Mean
F_0	53	205	175	229	318	196
F_1	136	189	244	185	301	211
Mean	95	197	209	207	310	204

S.E. of G marginal mean = 28.4 lb./ac.
S.E. of F marginal mean = 17.9 lb./ac.
S.E. of body of table = 40.2 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 56(90).**

Site :- Agri. Res. Stn., Naragund. **Type :- 'M'.**

Object :—To find out the effect of different doses of F.Y.M. and Gypsum on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) As per treatments. (ii) (a) Highly alkaline. (b) Refer soil analysis, Naragund. (iii) 24.11.1956. (iv) (a) 5 harrowings. (b) to (e) N.A. (v) Nil. (vi) *Jowar* M-35—1. (vii) Unirrigated. (viii) Interculturings on 13.1.1957 and 3.2.1957. (ix) 32.99″. (x) 24.3.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(161) on page 301.

4. GENERAL :

(i) The germination was good. Growth was satisfactory. (ii) Nil. (iii) Plant height, plant count, moisture studies and grain yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) (a) Kaladgi and Bijapur. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 723 lb./ac. (ii) 127.0 lb./ac. (iii) Main effects of G and F are highly significant while interaction G×F is significant. (iv) Av. yield of grain in lb./ac.

	G_0	G_1	G_2	G_3	G_4	Mean
F_0	459	453	698	814	840	653
F_1	710	783	624	949	902	794
Mean	584	618	661	881	871	723

S.E. of G marginal mean = 44.9 lb./ac.
S.E. of F marginal mean = 28.4 lb./ac.
S.E. of body of table = 63.5 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 57(38).**

Site :- Agri. Res. Stn., Naragund. **Type :- 'M'.**

Object :—To find the effect of different doses of F.Y.M. and Gypsum on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) As per treatments. (ii) (a) Highly alkaline. (b) Refer soil analysis, Naragund. (iii) 10.11.1957. (iv) (a) 5 harrowings. (b) to (e) N.A. (v) Nil. (vi) *Jowar* M-35–1. (vii) Unirrigated. (viii) 3 interculturings. (ix) 26.88". (x) 11.3.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(161) on page 301.

4. GENERAL:

(i) Satisfactory. (ii) Dying of 5% of top shoots of seedlings in December. (iii) Plant count, earhead count, moisture studies, height and grain yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) (a) Kaladgi and Bijapur. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 396 lb./ac. (ii) 105.7 lb./ac. (iii) Only main effect of F is highly significant. (iv) Av. yield of grain in lb./ac.

	G_0	G_1	G_2	G_3	G_4	Mean
F_0	411	323	288	340	357	344
F_1	442	391	372	582	449	447
Mean	426	357	330	461	403	396

S.E. of G marginal mean = 37.4 lb./ac.
S.E. of F marginal mean = 23.6 lb./ac.
S.E. of body of table = 52.8 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 58(12).**

Site :- Agri. Res. Stn., Naragund. **Type :- 'M'.**

Object :—To find out the effect of different doses of F.Y.M. and Gypsum on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) Nil. (ii) (a) Highly alkaline. (b) Refer soil analysis, Naragund. (iii) 26.10.1958. (iv) (a) 3 harrowings and ploughing. (b) to (e) N.A. (v) Nil. (vi) M-35—1. (vii) Unirrigated. (viii) Interculturing on 21.12.1958, 28.12.1958 and 25.1.1959. (ix) 25.79". (x) 23.2.1959.

2. TREATMENTS and 3. DESIGN:

Same as in expt. no. 55(161) on page 301.

4. GENERAL :

(i) Germination considerably low. Growth satisfactory. (ii) Nil. (iii) Plant counts, moisture studies and grain yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) (a) Kaladgi and Bijapur. (b) No. (vi) and (vii) Nil.

5. RESULTS :

(i) 240 lb./ac. (ii) 209.1 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	G_0	G_1	G_2	G_3	G_4	Mean
F_0	127	235	221	256	287	225
F_1	293	221	318	233	207	254
Mean	210	228	269	245	247	240

S.E. of F marginal mean = 46.7 lb./ac.
S.E. of G marginal mean = 73.9 lb./ac.
S.E. of body of table = 104.5 lb./ac.

Crop :- Jowar *(Kharif).* **Ref :- Ms. 59(71).**

Site :- Agri. Res. Stn., Raichur. **Type :- 'M'.**

Object :—To find out the optimum dose of N and P for Jowar.

1. BASAL CONDITIONS :

(i) (a) *Tur—Jowar.* (b) *Tur.* (c) 5 C.L./ac. of F.Y.M. (ii) (a) Red soil. (b) N.A. (iii) 19.6.1959. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 6 lb./ac. (d) 18" between rows. (e) —. (v) 5 C.L./ac. of F.Y.M. (vi) D—340 (early). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 25.03". (x) 12.11.1959.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of N as A/S : N_0=0 and N_1=30 lb./ac.

(2) 2 levels of P_2O_5 as Super : P_0=0 and P_1=20 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 31.5'×53'. (b) 28.5'×48.5'. (v) 1 row. (vi) Yes.

4. GENERAL

(i) Good. (ii) Slight stem borer attack. No control measures taken. (iii) Height of plant and yield of grain. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Though there was enough rain, it was ill distributed. (vi) and (vii) Nil.

5. RESULTS :

(i) 633 lb./ac. (ii) 149.0 lb./ac. (iii) Only main effect of N is highly significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	Mean
P_0	510	937	723
P_1	347	736	542
Mean	429	837	633

S.E. of N or P marginal mean = 43.0 lb./ac.
S.E. of body of table = 60.8 lb./ac.

Crop :- Jowar *(Kharif).* **Ref :- Ms. 57(85).**

Site :- Agri. Res. Stn., Raichur. **Type :- 'M'.**

Object :—To find out the effect of different doses of N and P on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) Groundnut—*Jowar—Tur.* (b) *Tur.* (c) 5 C.L./ac. of F.Y.M. (ii) (a) Red sandy (*chalka*). (b) N.A. (iii) 10.7.1957. (iv) (a) Ploughing by tractor and blade harrow. (b) Drilling. (c) 6 lb./ac. (d) 18" between rows. (e) —. (v) 5 C.L./ac. of F.Y.M. applied 15 days before sowing. (vi) D—340 K (medium). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 16.17". (x) 11.11.1957.

2. TREATMENTS :

All combinations (1) and (2)+two extra treatments.

(1) 4 levels of N as A/S : $N_0=0$, $N_1=10$, $N_2=20$ and $N_3=30$ lb./ac.

(2) 4 levels of P_2O_5 as Super ; $P_0=0$, $P_1=10$, $P_2=20$ and $P_3=30$ lb./ac.

Extra treatments : $T_1=30$ lb./ac. of N+20 lb./ac. of P_2O_5+20 lb./ac. of K_2O and $T_2=20$ lb./ac. of N+20 lb./ac. of P_2O_5+20 lb./ac. of K_2O.

Manures applied by draw tubes just before sowing and K_2O applied as Mur. Pot.

3. DESIGN :

(i) R.B.D. (ii) (a) 18. (b) 270'×15'. (iii) 3. (iv) (a) 15'×60.5'. (b) 12'×60.5'. (x) One row on either side of the plot. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1957—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 752 lb./ac. (ii) 194.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Extra treatments mean = 832 lb./ac.

	P_0	P_1	P_2	P_3	Mean
N_0	275	755	575	545	538
N_1	760	710	910	585	741
N_2	670	690	920	880	790
N_3	820	815	995	965	899
Mean	631	743	850	744	742

S.E. of any marginal mean = 56.2 lb./ac.
S.E. of body of table = 112.5 lb./ac.

Crop :- Jowar *(Kharif).* **Ref :- Ms. 58(58).**

Site :- Agri. Res. Stn., Raichur. **Type :- 'M'.**

Object :—To find out the effect of different doses of N and P on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) Groundnut—*Jowar—Tur.* (b) Groundnut. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Red sandy (*chalka*). (b) N.A. (iii) 1.7.1958. (iv) (a) Ploughing and blade harrowings. (b) Drilling. (c) 6 lb./ac. (d) 18" between rows. (e) —. (v) 5 C.L./ac. of F.Y.M. (vi) D—340 K (early). (vii) Unitrigated. (viii) 2 interculturings and 1 weeding. (ix) 22.1". (x) 8.11.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(85) on page 304.

4. GENERAL :

(i) Fairly good. (ii) Stem borer attack. The effected plants were removed and burnt. (iii) Height of plant, plant counts and yield of grain. (iv) (a) 1957—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1247 lb./ac. (ii) 322.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Extra treatments mean = 1295 lb./ac.

	P_0	P_1	P_2	P_3	Mean
N_0	1090	750	980	595	854
N_1	1395	1000	1035	1320	1188
N_2	1435	1530	1410	1505	1470
N_3	1440	1515	1545	1300	1450
Mean	1340	1199	1243	1180	1241

S.E. of any marginal mean = 93.1 lb./ac.
S.E. of body of table = 186.2 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 59(72).**

Site :- Agri. Res. Stn., Raichur. **Type :- 'M'.**

Object :—To find out the optimum dose of N and P for Jowar.

1. BASAL CONDITIONS :

(i) (a) *Tur—Jowar*—Groundnut. (b) *Tur*. (c) 3 C.L./ac. of F.Y.M. (ii) (a) Red soil. (b) N.A. (iii) 28.6.1959. (iv) (a) Harrowing. (b) Drilling. (c) 7 lb./ac. (d) 18" between rows. (e) —. (v) 5 C.L./ac. of F.Y.M. (vi) D—340 K (early). (vii) Unirrigated. (viii) 4 interculturings and 1 weeding. (ix) 22.68". (x) 16, 17.11.1959.

2. TREATMENTS :

Same as in expt. no. 57(85) on page 304.

3. DESIGN :

(i) R.B.D. (ii) (a) 18. (b) N.A. (iii) 3. (iv) (a) 15'×60.5'. (b) 12 ×57.5'. (v) 1.5'×1.5'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) The crop was attacked by stem-borer to an extent of 10%. Affected plants were removed and destroyed. (iii) Height of plants and yield of grain. (iv) (a) 1957—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1018 lb./ac. (ii) 252.1 lb./ac. (iii) Main effects of N and P and interaction N×P are highly significant. (iv) Av. yield of grain in lb./ac.

T_1 = 1377 lb./ac. and T_2 = 1197 lb./ac.

	P_0	P_1	P_2	P_3	Mean
N_0	331	588	604	573	524
N_1	681	920	922	1195	930
N_2	1286	937	1043	1195	1115
N_3	1256	1089	1528	1589	1366
Mean	889	884	1024	1138	984

S.E. of any marginal mean = 72.8 lb./ac.
S.E. of body of table = 145.5 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 57(109).**

Site :- Agri. Res. Stn., Raichur. **Type :- 'M'.**

Object :—To find out the effect of different doses of N and P on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*. (b) Cotton. (c) 3 C.L./ac. of F.Y.M. +150 lb./ac. of A/S. (ii) (a) Black cotton. (b) N.A. (iii) 11.10.1957. (iv) (a) Tractor ploughing. (b) Drilling. (c) 6 lb./ac. (d) 18" between rows. (e) —. (v) 3 C.L./ac. of F.Y.M spreading and mixing with blade harrow a fortnight before sowing. (vi) M-35—1 (early). (vii) Unirrigated. (viii) 2 interculturings and 1 weeding. (ix) 5.3". (x) 7.2.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(85) on page 304.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Yield of grain. (iv) (a) 1957—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1019 lb /ac. (ii) 185.7 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

T_1 = 1190 lb./ac. and T_2 = 1210 lb./ac.

	P_0	P_1	P_2	P_3	Mean
N_0	710	865	640	780	749
N_1	1050	910	950	915	956
N_2	1110	1095	1195	1065	1114
N_3	1060	1270	1170	1165	1166
Mean	983	1035	989	981	996

S.E. of any marginal mean = 53.6 lb./ac.
S.E. of body of table = 107.2 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 58(75).**

Site :- Agri. Res. Stn., Raichur. **Type :- 'M'.**

Object :—To find out the effect of different doses of N and P on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*. (b) Cotton. (c) 3 C.L./ac. of F.Y.M +120 lb./ac. of A/S+60 lb./ac. of Super. (ii) (a) Black cotton (b) N.A. (iii) 15.10.1958. (iv) (a) Blade harrowing and springtime harrowing. (b) Drilling. (c) 6 lb./ac. (d) 18" between rows. (e) —. (v) 3 C.L./ac. of F.Y.M. spreading and mixing with blade harrow a fortnight before sowing. (vi) M-35—1 (early). (vii) Unirrigated. (viii) 2 interculturings. (ix) 2.01". (x) 7.2.1959.

2. TREATMENTS :

Same as in expt. no. 57(85) on page 304.

3. DESIGN :

(i) R.B.D. (ii) (a) 18. (b) 270'×15'. (iii) 3. (iv) (a) 60.5'×15'. (b) 55.5'×12'. (v) 2.5'×1.5'. (vi) Yes.

4. GENERAL :

(i) Fairly good. (ii) Nil. (iii) Yield of grain. (iv) (a) 1957—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 922 lb./ac. (ii) 466.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

T_1 = 1430 lb./ac. and T_2 = 957 lb./ac.

	P_0	P_1	P_2	P_3	Mean
N_0	710	913	842	1023	872
N_1	748	1282	952	941	981
N_2	693	820	754	616	721
N_3	1073	1210	743	897	981
Mean	806	1056	823	869	889

S.E. of any marginal mean = 134.7 lb./ac.
S.E. of body of table = 269.4 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 59(73).**

Site :- Agri. Res. Stn., Raichur. **Type :- 'M'.**

Object :—To find out the optimum dose of N and P for Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*. (b) Cotton. (c) 20 lb./ac. of N+10 lb./ac. of P_2O_5. (ii) (a) Black cotton. (b) N.A. (iii) 16.10.1959. (iv) (a) Harrowing. (b) Drilling. (c) 8 lb./ac. (d) 18" between rows. (e) —. (v) 3 C.L./ac. of F.Y.M. by spreading applied on 1.9.1959. (vi) M-35—1. (vii) Unirrigated. (viii) 1 hand weeding and 2 interculturings. (ix) 0.98", (x) 11.2.1960.

2. TREATMENTS :

Same as in expt. no. 57(85) on page 304.

3. DESIGN :

(i) R.B.D. (ii) (a) 18. (b) N.A. (iii) 3. (iv) (a) 60.5'×15'. (b) 57.5'×12'. (v) 1.5'×1.5'. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Slight borer attack. No control measures taken. (iii) Yield of grain. (iv) (a) 1957—1959. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Poor yield due to less rainfall. (vii) Nil.

5. RESULTS :

(i) 1139 lb./ac. (ii) 139.7 lb./ac. (iii) Only main effect of N is highly significant. (iv) Av. yield of grain in lb./ac.

T_1 = 1416 lb./ac. and T_2 = 1117 lb./ac.

	P_0	P_1	P_2	P_3	Mean
N_0	888	852	904	852	874
N_1	963	1113	1026	1089	1048
N_2	1243	1346	1128	1503	1305
N_3	1239	1373	1349	1097	1264
Mean	1083	1171	1102	1135	1123

S.E. of any marginal mean = 40.3 lb./ac.
S.E. of body of table = 80.6 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 59(82).**

Site :- Agri. Res. Stn., Raichur. **Type :- 'M'.**

Object :—To find out the optimum requirement of N and P and mode of their application for Jowar.

1. BASAL CONDITIONS :

(i) (a) *Tur—Jowar*—Groundnut. (b) *Tur*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Red sandy (*Chalka*). (b) N.A. (iii) 30.6.1959. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 6 lb./ac. (d) 10" between rows (e) —. (v) 5 C.L./ac. of F.Y.M. (vi) D-340. (vii) Unirrigated. (viii) 2 interculturings. (ix) 22.14". (x) 14 and 15.11.1959.

2. TREATMENTS :

8 manurial treatments : M_0=Control, M_1=Full dose drilled, M_2=Full dose applied at sowing by draw tubes M_3=Full dose at sowing by a fertilizer appliance to 2" to 3" depth along with seed drill, M_4=Full dose applied in two split doses ; ½ dose as in M_3 and ½ dose by top dressing implement, M_5=Full dose broadcast at sowing, M_6=Broadcast in two equal doses ; ½ at sowing and ½ dose 1½ month after sowing and M_7=½ dose by draw tube+½ by broadcasting.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 9'×130'. (b) 6'×125'. (v) 1.5'×2.5'. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Yield of grain. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) The rain fall was enough but ill distributed. (vii) Nil.

5. RESULTS :

(i) 1189 lb./ac. (ii) 250.6 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Traetment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7
Av. yield	594	1367	1253	1367	1212	1220	1242	1252

S.E./mean = 125.3 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 58(54).**

Site :- Agri. Res. Stn., Saundathi. **Type :- 'M'.**

Object :—To study the effect of different nitrogenous fertilizers on Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Nil. *(ii)* (a) Medium black. (b) N.A. (iii) 22.7.1958. (iv) (a) 3 harrowings. (b) Drilling. (c) 6 lb./ac. (d) 8"×12". (e) —. (v) 3 C.L./ac. of F.Y.M. by spreading and 24 lb./ac. of P_2O_5 at the time of sowing. (vi) Fulgar white (medium). (vii) Unirrigated. (viii) 3 interculturings and weeding. (ix) 28.00". (x) 15.12.1958.

2. TREATMENTS :

7 sources of 30 lb./ac. of N : S_0=Control, S_1=A/S, S_2=C/A/N, S_3=A/C, S_4=Urea, S_5=A/S/N and S_6=C/N.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) 48'×24'. (b) 42'×8'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Grass hoppers and sugary disease observed. B.H.C. 10% dusted. (iii) Height of plants, plant count and yield of grain and fodder. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) (a) Bailhongal, Annigeri, Raichur and Dhadesagur. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1167 lb./ac. (ii) 153.3 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_0	S_1	S_2	S_3	S_4	S_5	S_6
Av. yield	895	1189	1089	1181	1322	1243	1247

S.E./mean = 76.6 lb /ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 59(101).**

Site :- Agri. Res. Stn., Saundathi. **Type :- 'M'.**

Object :—To study the effect of different nitrogenous fertilizers on Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Groundnut. (b) Groundnut. (c) Nil. (ii) (a) Medium black. (b) N.A. (iii) 23.7.1959. (iv) (a) 3 harrowings with wooden harrow. (b) Drilling. (c) 6 lb./ac. (d) 12″×4″-6″. (e) —. (v) F.Y.M. at 3 C.L./ac. applied by spreading before sowing+40 lb./ac. of P_2O_5 as Super at sowing. (vi) Fulgar white. (vii) Nil. (viii) 2 harrowings and 2 weedings. (ix) 25.71″. (x) 1.1.1960.

2. TREATMENTS :

6 sources of 20 lb./ac. of N: S_0=Control (2 plots), S_1=A/S, S_2=C/A/N, S_3=A/C, S_4=Urea and S_5=A/S/N.

3. DESIGN :

Same as in expt. no. 58(54) on page 309.

4. GENERAL :

(i) Good. (ii) Attack of grass hoppers. Controlled by dusting B.H.C. 10%. (iii) Plant height, plant count and grain and fodder yield. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) (a) Dharwar, Annigeri, Raichur, Bailhongal and Dhadesagur. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1131 lb./ac. (ii) 202.6 lb./ac. (iii) Only 'control *vs.* others' is highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_0	S_1	S_2	S_3	S_4	S_5
Av. yield	898	1179	1237	1209	1185	1310

S.E./mean (except S_0) = 101.3 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 54(205).**

Site :- Agri. Res. Stn., Saundathi. **Type :- 'M'.**

Object :—To study the effect of trace elements on Jowar in less fertile area.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) Medium black. (b) N.A. (iii) 20.7.1954. (iv) (a) 3 harrowings. (b) Drilling. (c) 100 lb./ac. (d) 12″×3″ to 6″. (e) —. (v) 3 C.L./ac. of F.Y.M. (vi) Fulgar white (medium). (vii) Unirrigated. (viii) 2 interculturings and 2 weedings. (ix) 22.91″. (x) 28.12.1958.

2. TREATMENTS :

T_1=Bo+Mn+Mg+Cu+Zn+Co+Mo+S+Fe, T_2=T_1 excluding Boron (Bo), T_3=T_1 excluding Manganese (Mn), T_4=T_1 excluding Magnesium (Mg), T_5=T_1 excluding Copper (Cu), T_6=T_1 excluding Zinc (Zn), T_7=T_1 excluding Cobalt (Co), T_8=T_1 excluding Molybdenum (Mo), T_9=T_1 excluding Sulphur (S) and T_{10}=T_1 excluding Iron (Fe).
Source, level, time and method of application N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 2. (iv) (a) and (b) 20′×6′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Slightly affected by grass hoppers. Controlled by dusting Gammaxene. (iii) Height of plants and yield of grain. (iv) (a) 1953—1955. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

(i) 89 lb./ac. (ii) 53.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9
Av. yield	103	103	91	102	80	91	114	80	33	91

S E./mean = 37.8 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 55(180).**

Site :- Agri. Res. Stn., Saundathi. **Type :- 'M'.**

Object :—To study the effect of trace elements on Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) Medium black soil. (b) N.A. (iii) 22.7.1955. (iv) (a) Harrowing. (b) Dibbling. (c) 6 lb./ac. (d) 12"×4'6". (e) N.A. (v) Nil. (vi) Fulgar white (medium). (vii) Unirrigated. (viii) 2 interculturings and 2 weedings. (ix) 27.06". (x) 29.12.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(205) on page 310.

4. GENERAL :

(i) Normal. (ii) Slightly affected by grass hoppers. Dusting of Gammaxene. (iii) Yield of grain. (iv) (a) 1953—1955. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 886 lb./ac. (ii) 61.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9
Av. yield	828	1416	1143	762	690	806	737	849	897	737

S.E./mean = 43.6 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 54(206).**

Site :- Agri. Res. Stn., Saundathi. **Type :- 'M'.**

Object :—To study the residual effect of trace elements applied in the previous year on Jowar in more fertile area.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) As per treatments. (ii) (a) Medium black soil. (b) N.A. (iii) 20.7.1954. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 6 lb /ac. (d) 12"×4'6". (e)—. (v) Nil. (vi) Fulgar white (medium). (vii) Unirrigated. (viii) 2 interculturiugs and 2 weedings. (ix) 22.91". (x) 28.12.1954.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(205) on page 310.
Treatments applied to previous crop.

5. RESULTS :

(i) 668 lb./ac. (ii) 300.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9
Av. yield	660	488	614	657	681	601	568	476	1339	601

S.E./mean = 212.3 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 55(183).**

Site :- Agri. Res. Stn., Saundathi. **Type :- 'M'.**

Object :—To study the residual effect of trace elments applied to previous crop on Jowar in less fertile area.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) Medium black soil. (b) N.A. (iii) 16.7.1955. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 6 lb./ac. (d) 12″×3″—6″. (e)—. (v) 3 C.L./ac. of F.Y.M. (vi) Fulgar white (medium). (vii) Unirrigated. (viii) 2 interculturings and 2 weedings. (ix) 26 25″. (x) 29.12.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(205) on page 310.
Treatments applied to previous crop.

5. RESULTS :

(i) 643 lb./ac. (ii) 314.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9
Av. yield	510	670	715	761	590	726	680	1056	387	339

S.E./mean = 222.3 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 54(199).**

Site :- Agri. Res. Stn., Saundathi. **Type :- 'M'.**

Object :—To find out the effect of different levels of N and P wth and without F.Y.M. on Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) Deep black soil. (b) N.A. (iii) 15/17.7.1954. (iv) (a) Harrowing. (b) Drilling. (c) 6 lb./ac. (d) 12″×6″. (e)—. (v) 5 C.L./ac. of F.Y.M. (vi) Fulgar white (medium). (vii) Unirrigated. (viii) 2 interculturings and weedings. (ix) 15.50″. (x) 23/24.12.1954.

2. TREATMENTS :

All combinations of (1), (2) and (3)
(1) 4 levels of N : N_0=0, N_1=10, N_2=20 and N_3=30 lb./ac.
(2) 4 levels of P_2O_5 : P_0=0. P_1=10, P_2=20 and P_3=30 lb./ac.
(3) 2 levels of F.Y.M : F_0=0 and F_1=5 C.L./ac.
Source, time and method of application—N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 32. (b) N.A. (iii) 3. (iv) (a) 57′×27′. (b) 51′×21′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Moderately affected by grass hoppers and stem borers. Gammaxene dusted. (iii) Height of plants, plant count and yield of grain and fodder. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 957 lb./ac. (ii) 219.3 lb /ac. (iii) All effects are highly significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	N_3	Mean	F_0	F_1
P_0	730	880	781	932	831	710	951
P_1	811	922	827	978	885	759	1011
P_2	958	1132	1047	1057	1049	1147	950
P_3	941	1049	1066	1201	1064	956	1173
Mean	860	996	930	1042	957	893	1021
F_0	751	1031	832	958			
F_1	969	961	1028	1126			

S.E. of N or P marginal mean = 44.8 lb./ac.
S.E. of F marginal mean = 31.6 lb./ac.
S.E. of body of N×P table = 89.5 lb./ac.
S.E. of body of F×N or F×P table = 63.3 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 55(178).**

Site :- Agri. Res. Stn., Saundathi. **Type :- 'M'.**

Object :—To find out the effect of different levels of N and P with and without F.Y.M. on Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) Deep black soil. (b) N.A. (iii) 10.7.1955. (iv) (a) 3 harrowings. (b) Drilling. (c) 6 lb./ac. (d) 12″×6″. (e)—. (v) 5 C.L./ac. of F.Y.M. applied on 18.6.1954. (vi) Fulgar white (medium). (vii) Unirrigated. (viii) 2 interculturings and 2 weedings. (ix) 27.06″. (x) 23, 24.12.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(199) on page 312.
N and P_2O_5 applied on 10.7.1955.

5. RESULTS :

(i) 1009 lb./ac. (ii) 263.4 lb./ac. (iii) All effects are highly significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	N_3	Mean	F_0	F_1
P_0	749	906	1039	1119	953	703	1203
P_1	746	764	936	1131	894	674	1114
P_2	829	974	1049	1318	1042	906	1179
P_3	1030	998	1185	1370	1146	1015	1276
Mean	839	910	1052	1235	1009	825	1193
F_0	690	740	812	1056			
F_1	986	1081	1292	1413			

S.E. of N or P marginal mean = 53 8 lb./ac.
S.E. of F marginal mean = 38 0 lb./ac.
S.E. of body of N×P table = 107.5 lb /ac.
S.E. of body of N×F or P×F table = 76.0 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 56(123).**

Site :- Agri. Res. Stn., Saundathi. **Type :- 'M'.**

Object :—To find out the effect of different levels of N and P with and without F.Y.M. on Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) Deep black soil. (b) N.A. (iii) 12.7.1956. (iv) (a) 3 harrowings. (b) Drilling. (c) 6 lb /ac. (d) 12″×6″. (e) —. (v) 5 C.L./ac. of F.Y.M. applied on 26 6.1956. (vi) Fulgar white (medium). (vii) Unirrigated. (viii) 2 interculturings and 3 weedings. (ix) 26.96″. (x) 7.1.1957.

2. TREATMENTS and 3. DESIGN:

Same as in expt. no. 54(199) on page 312.
N as A/S and P_2O_5 as Super applied on 12.7.1956.

4. GENERAL :

(i) Good. (ii) Affected by stem-borer and grass hoppers. Gammaxene was dusted. (iii) Height of plants, plant counts and yield of grain and fodder. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 768 lb./ac. (ii) 192.2 lb./ac. (iii) All the effects are highly significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	N_3	Mean	F_0	F_1
P_0	408	667	749	895	680	505	855
P_1	491	752	789	966	749	577	922
P_2	543	746	874	1044	802	710	894
P_3	669	822	790	1080	840	739	942
Mean	528	747	801	996	768	633	903
F_0	379	639	686	826			
F_1	677	854	915	1167			

S.E. of N or P marginal mean = 39.2 lb./ac.
S.E. of F marginal mean = 27.7 lb./ac.
S.E. of body of N×P table = 78.5 lb./ac.
S.E. of body of N×F or P×F table = 55.5 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 55(176).**

Site :- Agri. Res. Stn., Saundathi. **Type :- 'M'.**

Object :—To study the suitable time and method of application of A/S to Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Groundnut. (b) Jowar. (c) 40 lb./ac. of N as A/S+5 C.L./ac. of F.Y.M.+20 lb./ac. of P_2O_5. (ii) (a) Medium black. (b) N A. (iii) 22.7.1955. (iv) 2 harrowings. (b) Drilling. (c) 6 lb./ac. (d) 12″×8″. (e) —. (v) 5 C.L /ac. of F.Y,M. (vi) Fulgar white (medium). (vii) Unirrigated. (viii) 2 interculturings and 2 weedings. (ix) 27.06″: (x) 29.12.1955.

2. TREATMENTS :

5 times of application of 40 lb./ac. N as A/S : T_1=Full dose broadcast at the time of sowing, T_2=½ broadcast at the time of sowing and ½ one month after sowing, T_3=Full dose drilled at the time of sowing, T_4=½ drilled at sowing and ½ one month after sowing and T_5=Full dose broadcast 15 days before sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 21'×36'. (b) 15'×30'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Germination was fairly good. (ii) Slightly damaged by grass hoppers. Dusting of Gammaxene was done. (iii) Height of plants, plant count and yield of grain and fodder. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 884 lb./ac. (ii) 230.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	772	819	1004	926	899

S.E./mean = 102.9 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 56(122).**

Site :- Agri. Res. Stn., Saundathi. **Type :- 'M'.**

Object :—To study the suitable time and method of application of A/S to Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M.+40 lb./ac. of N as A/S+20 lb./ac. of P_2O_5. (ii) (a) Medium black soil. (b) N.A. (iii) 11.7.1956. (iv) (a) 2 harowings. (b) Drilling. (c) 6 lb./ac. (d) 12"×8". (e) —. (v) 5 C.L./ac. of F.Y.M.+20 lb./ac. of P_2O_5 as Super applied on 11.7.1956. (vi) 29.96". (vii) Unirrigated. (viii) 2 intercultulturings and 2 weedings. (ix) 29.96". (x) 8.1.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(176) on page 314.

4. GENERAL :

(i) Good. (ii) Slight attack of grass hoppers and stem-borer. Gammaxene was dusted. (iii) Height of plants, plant counts, yield of grain and fodder. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1224 lb./ac. (ii) 189.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	1261	1228	1229	1221	1180

S.E./mean = 84.5 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 57(84).**

Site :- Agri. Res. Stn., Saundathi. **Type :- 'M'.**

Object :—To study the suitable time and method of application of A/S to Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) Medium black soil. (b) N.A. (iii) 8.7.1957. (iv) (a) 2 harrowings. (b) Drilling. (c) 6 lb./a. (d) 12"×8". (e) —. (v) 5 C.L./ac. of F.Y.M.+20 lb./ac. of P_2O_5 as Super applied on 25.6.1957 and 8.7.1957. (vi) Fulgar white (medium). (vii) Unirrigated. (viii) Interculturings and 2 weedings. (ix) 21.19". (x) 24.12.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(176) on page 314.

4. GENERAL :

(i) Normal (ii) Dusting of Gammaxene was done as precautionary measure. (iii) Heiht of gplants, plan counts and yield of grain and fodder. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1781 lb./ac. (ii) 270.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	1737	1851	1775	1928	1612

S.E./mean = 121.1 lb./ac.

Crop :- Jowar *(Kharif).* **Ref :- Ms. 58(50).**

Site :- Agri. Res. Stn., Saundathi. **Type :- 'M'.**

Object :—To study the suitable time and method of application to Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) Medium black soil. (b) N.A. (iii) 14.7.1958. (iv) (a) 3 harrowings. (b) Drilling. (c) 6 lb./ac. (d) 12″×8″. (e) —. (v) Nil. (vi) Fulgar white (medium). (vii) Unirrigated. (viii) 2 interculturings and 2 weedings. (ix) 28.00″. (x) 16.12.1958.

2 TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(176) on page 314.

4. GENERAL :

(i) Satisfactory. (ii) Slight attack of grass hopper. Control measures taken N.A. (ii) Height of plants, plant count, yield of grain and fodder. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1327 lb./ac. (ii) 173.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in b./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	1232	1349	1292	1458	1303

S.E./mean = 77.5 lb./ac.

Crop :- Jowar *(Kharif).* **Ref :- Ms. 58(51).**

Site :- Agri. Res., Stn. Saundathi., **Type :- 'M'.**

Object :—To assess the value of new fertilizer material "Complesal" for Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) Medium black soil. (b) N.A. (iii) 23.7.1958. (iv) (a) Harrowing. (b) Drilling. (c) 6 lb./ac. (d) 12″×4″—6″. (e) —. (v) 3 C.L./ac. of F.Y.M. by spreading. (vi) Fulgar white (medium). (vii) Unirrigated. (viii) 2 interculturings and weeding. (ix) 28.00″. (x) 19.12.1958.

2. TREATMENTS :

8 manurial treatments : M_0=Control, M_1=150 lb./ac. of complesal applied at sowing, M_2=75 lb./ac. of complesal at sowing+75 lb./ac. of complesal one month later, M_3=150 lb./ac. of A/S at sowing, M_4=75 lb./ac of A/S at sowing+75 lb./ac. of A/S one month after. M_5=75 lb./ac. of A/S at sowing+100 lb./ac. of C/N after one month, M_6=75 lb./ac. of A/S at sowing+75 lb./ac. of C/A/N one month later and M_7=150 lb./ac. of A/S+180 lb./ac. of Super ½ at sowing and ½ one month after sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 58.5′×27′. (b) 52.5′×21′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Attack of grass hoppers. B.H.C. 10% dusted. Mild attack of Sugary disease was also observed. (iii) Nil. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) (a) Bailhongal, Raichur, Dharwar and Dhadesugur. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1146 lb./ac. (ii) 171.9 lb./ac. (iii) Treatment differences are highly significant. (iii) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7
Av. yield	769	1115	967	1264	1334	1260	1237	1220

S.E./mean = 85.9 lb./ac.

Crop :- Jowar *(Kharif).* **Ref :- Ms. 59(102).**

Site :- Agri. Res. Stn., Saundathi. **Type :- 'M'.**

Object :—To assess the value of new fertilizer material "Complesal" for Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Groundnut. (b) Groundnut. (c) Nil. (ii) (a) Medium black soil. (b) N.A. (iii) 17.7.1959. (iv) (a) 3 harrowings with wooden harrowings. (b) Drilling. (c) 6 lb./ac. (d) 12″×4″ to 6″. (e) —. (v) 3 C.L./ac. of F.Y.M. (vi) Fulgar white (medium). (vii) Unirrigated. (viii) 2 sowings and 2 weedings. (ix) 25.71″. (x) 2.1.1960.

2. TREATMENTS :

M_0=Control, M_1=150 lb./ac. of complesal applied at sowing, M_2=75 lb./ac. of complesal at sowing+75 lb./ac. of complesal one month after sowing, M_3=150 lb./ac. of A/S at sowing, M_4=75 lb./ac. of A/S at sowing+75 lb./ac. of A/S after one month, M_5=75 lb /ac. of A/S at sowing, M_6=75 lb./ac. of A/S at sowing+75 lb./ac. of C/A/N after one month and M_7=150 lb./ac. of A/S+180 lb./ac. of Super ½ at sowing and ½ after one month.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 58.5′×27′. (b) 52.5′×21′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Attack of grass hoppers, controlled by dusting B.H.C. 10%. (iii) Plant height, plant counts and grain and fodder yield. (iv) (a) 1958—N.A. (b) No (c) Nil. (vi) (a) Dharwar, Bailhongal, Raichur and Dhadesagur. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1267 lb./ac. (ii) 262.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7
Av. yield	1035	1410	1275	1255	1554	1183	1193	1233

S.E./mean = 131.2 lb./ac.

Crop :- Jowar *(Kharif).* **Ref :- Ms. 58(53).**

Site :- Agri. Res. Stn., Saundathi. **Type :- 'M'.**

Object :—To study the time and placement of N and P on Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) Medium black soil. (b) N.A. (iii) 21.7.1958. (iv) (a) Harrowing. (b) Drilling. (c) 6 lb./ac. (d) 12″ between rows. (e) —. (v) 3 C.L./ac. of F.Y.M. (vi) Fulgar white (medium). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 12.78″. (x) 15.12 1958.

2. TREATMENTS:

8 methods of application of 30 lb./ac. of N+20 lb./ac. of P_2O_5 : M_0=Control, M_1=Full dose to be drilled both ways, M_2=Full dose to be applied at sowing time by draw tube (2″ below surface), M_3=Full dose with sowing by fertilizer appliance (2″—3″ depths) combined with seed drill, M_4=Applied in two doses —½ as in M_3 and ½ by top dressing implement after 1½ months, M_5=Broadcast the fertilizers at sowing, M_6=Broadcast the fertilizer —½ at sowing and ½ after 1½ months, and M_7=In two split doses—½ by draw tube and ½ by broadcast.

3. DESIGN :

(i) R B.D. (ii) (a) 8. (b) N. A. (iii) 5. (iv) (a) 58.5′×21′. (b) 52.5′×15′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Attack of grass hoppers and B.H.C. 10% dusted. Sugary disease was also observed. (iii) Height of plants, plant count and yield of grain and fodder. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) (a) Dharwar, Bailhongal. Raichur and Dhadesugur. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1227 lb./ac. (ii) 154.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7
Av yield	1049	1224	1182	1236	1292	1295	1248	1286

S.E./mean = 69.2 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 59(100).**

Site :- Agri. Res. Stn., Saundathi. **Type :- 'M'.**

Object :—To study the suitable time and placement of N and P for Jowar crop.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Groundnut. (b) Groundnut. (c) Nil. (ii) (a) Medium black soil. (b) N.A. (iii) 24.7.1959. (iv) (a) Harrowing with wooden harrow. (b) Driiling. (c) 6 lb./ac. (d) 12″×4″ to 6″. (e)—. (v) 3 C.L./ac. of F.Y.M. (vi) Fulgar white (medium). (vii) Unirrigated. (viii) 3 hoeings and weedings. (ix) 25.71″. (x) 1 1.1960.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 58(53) on page 317.

4. GENERAL :

(i) Good. (ii) Attacked by grass hoppers and controlled by B.H.C. (10%) spraying. (iii) Plant height and plant counts, grain and fodder yield. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) (a) Dharwar, Bailhongal, Raichur and Dhadesugur. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1500 lb /ac. (ii) 173.1 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7
Av. yield	999	1563	1647	1641	1689	1501	1400	1561

S.E./mean = 77.42 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 54(33).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the suitable method and time of application of A/S to Jowar crop.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) *Jowar*. (c) 40 lb./ac. of N+40 lb./ac. of P_2O_5+Sannhemp as G.M. (ii) (a) Heavy black clay. (b) Refer soil analysis, Siruguppa. (iii) 21.7.1954. (iv) (a) 2 ploughings. (b) Drilling. (c) 4 lb./ac. (d) N.A. (e)—. (v) 5 tons/ac. of F.Y.M.+40 lb./ac. of P_2O_5. (vi) CO—9. (vii) Irrigated. (viii) 2 weedings, thinning and interculturings. (ix) 11.81". (x) 3.11.1954.

2. TREATMENTS :

3 methods of application : M_1=60 lb./ac. of N by placement method (akkadi behind *gorru*) before sowing, M_2=60 lb./ac. of N, 30 days after sowing by broadcasting in between lines of *Jowar* and working danties and M_3=30 lb./ac. of N by placement method before sowing and 30 lb./ac. of N after sowing between lines of *Jowar* and working danties.

N applied as A/S.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 10. (iv) (a) 1/66.7 ac. (b) 1/133.3 ac. (v) N.A. (vl) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2787 lb./ac. (ii) 240 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	2883	2643	2836

S.E./mean = 75.9 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 55(31).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the suitable method and time of application of A/S to Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 5 tons/ac. of F.Y.M. (ii) (a) Heavy black clayey. (b) Refer soil analysis, Siruguppa. (iii) 22.7.1955. (iv) (a) 2 ploughings. (b) Drilling. (c) 4 lb./ac. (d) N A. (e)—. (v) 5 tons/ac. of F.Y.M.+5000 lb./ac. of G.L.+40 lb./ac. of P_2O_5. (vi) CO—9. (vii) Irrigated. (viii) 2 weedings and thinning. (x) 27.56". (x) 21.11.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(33) above

4. GENERAL ;

(i) Not satisfactory. (ii) Heavy attack of sugary disease. Control measures taken—N.A. (iii) Grain and straw yield. (iv) (a) 1954—1957. (b) and (c) No. (v) (a) and (b) Nil. (vi) Crop suffered due to heavy rains in July and August. Weeding could not be taken up at a proper time due to wet condition of field in August. (vii) Nil.

5. RESULTS :

(i) 312 lb./ac. (ii) 53.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	341	278	318

S.E./mean = 16.7 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 56(119).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the suitable method and time of application of A/S to Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*—Cotton. (b) Cotton. (c) 5 tons/ac. of F.Y.M. and 40 lb./ac. of N as A/S. (ii) (a) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) 10.7.1956. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 4 lb./ac. (d) 18″×4″ to 6″. (e)—. (v) 5 tons/ac. of F.Y.M. (vi) CO—9 (medium). (vii) Irrigated. (viii) Weeding. (ix) 33.77″. (x) 5.11.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(33) on page 319.

4. GENERAL :

(i) Normal. (ii) Slight attack of atherigora incidence. Control measures taken—N.A. (iii) Nil. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2312 lb./ac. (ii) 648.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	1919	2654	2362

S.E./mean = 205.0 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 54(34).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the optimum dose of P for Jowar crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sannhemp. (c) N.A. (ii) (a) Heavy black clay. (b) Refer soil analysis, Siruguppa. (iii) 21.7.1954. (iv) (a) 2 ploughings. (b) to (e) N.A. (v) 5 tons/ac. of F.Y.M. covered by working country plough. (vi) CO—9. (vii) Irrigated. (viii) 2 hand weedings and intercultivation. (ix) 11.81″. (x) 28.11.1954.

2. TREATMENTS :

5 manurial treatments : M_0=Control (no manure), M_1=60 lb./ac. of N as A/S, $M_2=M_1+30$ lb./ac. of P_2O_5, $M_3=M_1+60$ lb./ac. of P_2O_5 and $M_4=M_1+90$ lb./ac. of P_2O_5.

Manures applied before sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 1/80 ac. (b) 1/200 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954—contd. (b) No. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3062 lb./ac. (ii) 314.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4
Av. yield	2586	2908	3186	3336	3298

S.E./mean = 128.2 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 56(121).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the optimum dosage of P for Jowar crop.

1. BASAL CONDITIONS:

(i) (a) Cotton—*Jowar*. (b) Cotton. (c) 5 tons/ac. of F.Y.M.+40 lb./ac. of N as A/S. (ii) (a) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) 10.7.1956. (iv) (a) Ploughing. (b) to (e) N.A. (v) 5 tons/ac. of F.Y.M. (vi) CO—9 (medium). (vii) Irrigated. (viii) Weeding. (ix) 33.71". (x) 29.10.1957.

2. TREATMENTS and 3. DESIGN:

Same as in expt. no. 54(34) on page 320.

4. GENERAL:

(i) Normal. (ii) Negligible incidence of atherigora indica. Control measures taken—N.A. (iii) Nil. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

(i) 2260 lb./ac. (ii) 711.1 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4
Av. yield	1113	2371	2667	2548	2600

S.E./mean = 290.2 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 57(96).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out suitable time and method of application of N to Jowar.

1. BASAL CONDITIONS:

(i) (a) to (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) 3.7.1957. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 5 lb./ac. (d) 12"×6". (e) —. (v) 5 tons/ac. of F.Y.M.+150 lb /ac. of Super to supply 20 lb./ac. of P_2O_5. (vi) CO—9. (vii) Irrigated. (viii) Hand weeding. (ix) 18.38". (x) 18.10.1957.

2. TREATMENTS:

4 methods of application of 40 lb./ac. of N as A/S : M_1=Full dose at sowing, M_2=Full dose after one month of sowing, M_3=Half dose at sowing+half dose one month after and M_4=Half dose after a month of sowing+half dose at flag leaf stage.

3. DESIGN:

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 1/33.3 ac. (b) 1/66.6 ac. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Normal. (ii) Nil. (iii) Yield of grain. (iv) (a) 1957—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:

(i) 1611 lb./ac. (ii) 260.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3	M_4
Av. yield	1853	1493	1800	1300

S.E./mean = 106.5 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 58(79).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Obejct :—To find out the suitable time and method of application of N to Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Coriander. (c) 5 tons/ac. of F.Y.M. (i) (a) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) 26.6.1958. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 5 lb./ac. (d) 12"×6". (e) N.A. (v) 5 tons/ac. of F.Y.M. broadcasted and 20 lb./ac. of P_2O_5 as Super. (vi) CO—9 (medium). (vii) Irrrigated. (viii) Weedings and interculturings. (ix) 17.83". (x) 29.10.1958.

2. TREATMENTS :

Same as in expt. no. 57(96) on page 321.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) and (b) 1/50 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of grain. (iv) (a) 1957—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2043 lb./ac. (ii) 327.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3	M_4
Av. yield	2235	2040	2035	1865

S.E./mean = 133.5 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 59(66).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the optimum manurial dose for Jowar for dry cum wet ayacut of T.B. Project.

1. BASAL CONDITIONS :

(i) (a) Groundnut—*Jowar*—Cotton. (b) Groundnut. (c) Nil. (ii) (a) Black clayey soil. (b) Refer soil analysis, Siruguppa. (iii) 9.7.1959. (iv) (a) Ploughing. (b) Drilling. (c) 10 lb./ac. (d) 11"×9". (e) N.A. (v) 5 tons/ac. of F.Y.M. (vi) N.A. (vii) Irrigated. (viii) Weeding and thinning. (ix) 24.41". (x) 14.10.1959.

2. TREATMENTS :

Same as in expt. no. 57(96) on page 321.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) and (b) 1/50 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plant, size of earheads and yield of grain. (iv) (a) 1957—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2510 lb./ac. (ii) 539.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3	M_4
Av. yield	2600	2392	2492	2558

S.E./mean = 220.4 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 54(24).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To determine the relative manurial value of G.L., C.M. and compost when applied on equal N basis.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar.* (c) F.Y.M. at 5 tons/ac.+40 lb./ac. of N. (ii) (a) Heavy black clayey. (b) Refer soil analysis, Siruguppa. (iii) 16.9.1954. (iv) (a) to (e) N.A. (v) 40 lb./ac. of N and 30 lb./ac. of P_2O_5 applied behind *gorru*. (vi) M-31—2. (vii) Irrigated. (viii) 2 weedings. (ix) 2.14". (x) 2.2.1955.

2. TREATMENTS :

All combinations of (1) and (2)+one control (no manure).

(1) 3 organic manures : M_1=*Dhaincha*, M_2=C.M. and M_3=Compost.

(2) 3 levels of manures : L_1=2500 lb./ac. of *Dhaincha* or 3319 lb./ac. of C.M. or 3603 lb./ac. of compost, L_2=Double the quantity in L_1 and L_3=Triple the quantity in L_1.

G.L. applied on 16.9.1954.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 1/100 ac. (b) 1/200 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954—contd. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) Very low yields are recorded due to very heavy bird damage. (vii) Nil.

5. RESULTS :

(i) 364 lb./ac. (ii) 196 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 306 lb./ac.

	M_1	M_2	M_3	Mean
L_1	390	216	294	300
L_2	490	496	476	487
L_3	290	368	312	323
Mean	390	360	361	370

S.E. of any marginal mean = 56.6 lb./ac.
S.E. of body of table or control mean = 96.0 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 56(113).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To determine the relative manurial value of G.L., C.M. and compost when applied on equal N basis.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) N.A. (ii) (a) Black cotton. (b) Refer soil analysis, Siruguppa. (iii) 15.9 1956. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 4 lb./ac. (d) 18"×6". (e) —. (v) N.A. (vi) M-31—2 (medium). (vii) Irrigated. (viii) Weedings. (ix) N.A. (x) 12.3.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(24) above.
Time of application is N.A.

4. GENERAL :

(i) Normal. (ii) Atherigora indica infestation was very high. Control measures taken—N.A. (iii) Nil. (iv) (a) 1954—1956. (b) Yes. (c) Nii. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 78.0 lb./ac. (ii) 73.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 56 lb./ac

	M_1	M_2	M_3	Mean
L_1	106	53	109	89
L_2	87	100	112	100
L_3	34	72	53	53
Mean	76	75	91	81

S.E. of any marginal mean = 21.2 lb./ac.
S.E. of body of table or control mean = 36.6 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 54(32).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the relative manurial valve of G.M. crops at different levels and their effect on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) 5 tons/ac. of F.Y.M.+40 lb./ac. of N as A/S. (ii) (a) Heavy black clayey. (b) Refer soil analysis, Siruguppa. (iii) 16.9.1954. (iv) (a) 2 plougings. (b) Drilling. (c) to (e) N.A. (v) 40 lb./ac. of N+30 lb./ac. of P_2O_5. (vi) M-31—2. (vii) Irrigated. (viii) 2 weedings and intercultivation. (ix) 2.14". (x) 28.2.1955.

2. TREATMENTS :

All combinations of (1) and (2)+one control.

(1) 3 green manures crops : G_1=Cowpea, G_2=*Dhaincha* and G_3=*Sannhemp*.

(2) 3 levels of G.M. : L_1=2500, L_2=5000 and L_3=7500 lb./ac.

G.L. applied on 7.8.1954.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 1/80 ac. (b) 1/200 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 794 lb./ac. (ii) 252.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 728 lb./ac.

	G_1	G_2	G_3	Mean
L_1	788	976	812	859
L_2	782	768	848	799
L_3	816	646	774	745
Mean	795	797	811	801

S.E. of any marginal mean = 72.7 lb./ac.
S.E. of body of table or control mean = 126.0 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 56(191).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find the relative merits of different G.M. crops at different levels and its effect on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*. (b) Cotton. (c) 5 tons/ac. of F.Y.M.+40 lb./ac. of N. (ii) (a) Black cotton. (b) Refer soil analysis, Siruguppa. (iii) 13.9.1956. (iv) (a) Ploughing. (b) Drilling. (c) 5 lb./ac. (d) 12"×6". (e) —. (v) 5 tons/ac. of F.Y.M.+40 lb./ac. of N+20 lb./ac. of P_2O_5. (vi) M-31—2. (vii) Irrigated. (viii) Hand weeding. (ix) N.A. (x) 6.3.1957.

2. TREATMENTS :

Same as in expt. no. 54(32) on page 324.
Time of application is N.A.

8. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 1/80 ac. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Mild attack. Controlled by dusting Sulphur. (iii) Straw and grain yield. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 115 lb./ac. (ii) 45.9 lb/ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 125 lb./ac.

	G_1	G_2	G_3	Mean
L_1	156	136	103	132
L_2	109	105	101	105
L_3	105	109	102	105
Mean	123	116	102	114

S.E. of any marginal mean = 13.3 lb./ac.
S.E. of body of table on control mean = 22.9 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 54(23).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To study the effect of G.M. crops and phosphate on Jowar crop.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) *Jowar*. (c) 5 tons./ac. of F.Y.M.+40 lb./ac. of N as A/S. (ii) (a) Heavy black clayey. (b) Refer soil analysis, Siruguppa. (iii) 27.5.1954/28.7.1954. (iv) (a) Ploughing. (b) Sown in beds. (c) to (e) N.A. (v) 30 lb./ac. of P_2O_5 as Super+40 lb./ac. of N as A/S were applied before sowing. (vi) M-31—2. (vii) Irrigated. (viii) 2 weedings and thinning. (ix) 21.4". (x) 2.2 1955.

2. TREATMENTS :

All combinations of (1) and (2)+one control.
(1) 3 G.M. crops : G_1=*Dhaincha*, G_2=*Sannhemp* and G_3=Cowpea.
(2) 2 levels of phosphoric acid : P_0=0 and P_1=30 lb./ac.
Amount of G.M. applied N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) 1/100 ac. (b) 1/200 ac (v) N.A. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954—N.A. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) Low yield mainly due to heavy bird damage (vii) Nil.

5. RESULTS :

(i) 502 lb./ac. (ii) 182.0 lb./ac. (iii) Only 'control *vs* others' effect is significant. (iv) Av. yield of grain in lb./ac.

Control = 306 lb./ac.

	G_1	G_2	G_3	Mean
P_0	494	444	634	524
P_1	504	530	606	547
Mean	499	487	620	535

S.E. of P marginal mean = 52.5 lb./ac.
S.E. of G marginal mean = 64.3 lb./ac.
S.E. of body of table or control mean = 91.0 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref. Ms. 55(33).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the optimum dose of G.M. for Jowar crop.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) Cotton. (c) As per treatments. (ii) (a) Heavy black clayey. (b) Refer soil analysis, Siruguppa. (iii) 15.9.1955. (iv) (a) 2 ploughings. (b) Drilling. (c) to (e) N.A. (v) Super at 200 lb./ac. to supply 40 lb./ac. of P_2O_5. (vi) M-31—2. (vii) Irrigated. (viii) Thinning and 3 weedings. (ix) 13.99". (x) 13.1.1956.

2. TREATMENTS :

6 manurial treatments : M_0=Control, M_1=*Dhaincha* grown in *situ* and ploughed in at an average of 8320 lb./ac., M_2=2500 lb./ac. of G.L., M_3=5000 lb./ac. of G.L., M_4=7500 lb./ac. of G.L. and M_5=10,000 lb./ac. of G.L.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) 47'×28'. (b) 44'×25'. (v) 1.5'×1.5'. (vi) Yes.

4. GENERAL :

(i) Very low yield. (il) Heavy attack of mite. (iii) Yield of grain. (iv) (a) 1951—N.A. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Heavy rains in Sept. and bird damage at grain setting stage resulted in low yield. (vii) Nil.

5. RESULTS :

(i) 83 lb./ac. (ii) 33.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	64	73	100	81	101	78

S.E./mean = 15.1 lb./ac.

Crop :- Jowar (*Kharif*). **Ref :- 57(MAE).**

Site :- M.A.E. Farm, Gangavati. **Type :- 'M'.**

Object :—Type II—To study the effect of N, P, K and F on Jowar.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*—Groundnut. (b) Cotton. (c) N.A. (ii) (a) Deep black soil. (b) N.A. (iii) 17, 18.6.1957. (iv) (a) Ploughing, 3—4 harrowings and no irrigation before sowing. (b) By hand drill. (c) 30 lb./ac. (d) 15″×3″ to 5″. (e) N.A. (v) Nil. (vi) K—340 (late). (vii) Irrigated. (viii) 3 interculturing and 2 weedings. (ix) 19″. (x) 18 to 22.11.1957.

2. TREATMENTS :

All combinations of (1), (2), (3) and (4)

(1) 3 levels of N as A/S : N_0=0, N_1=20 and N_2=40 lb./ac.
(2) 3 levels of P_2O_5 as Super : P_0=0, P_1=20 and P_2=40 lb./ac.
(3) 3 levels of K_2O as Pot. Sul. : K_0=0, K_1=20 and K_2=40 lb./ac.
(4) 2 levels of F.Y.M. : F_0=0, and F_1=5000 lb./ac.

3. DESIGN :

(i) 3^2×2 confd. (ii) (a) 9 plots/block ; 6 blocks/replication. (b) N.A. (iii) 1. (iv) (a) 51′×22′. (b) 43.6′×20′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Attack of stem-borer. Affected plants uprooted and burnt. Sugary disease also appeared. No control measures taken. (iii) Grain yield. (iv) (a) 1957—contd. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Heavy rains in the last week of October adversely affected the crop. (vii) Nil.

5. RESULTS :

(i) 411 lb./ac. (ii) 142.3 lb./ac. (iii) Main effect of N alone is highly significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean	K_0	K_1	K_2	F_0	F_1
P_0	258	305	487	350	383	264	403	322	378
P_1	300	419	588	436	504	360	443	381	490
P_2	325	434	583	447	359	441	502	338	557
Mean	294	386	553	411	429	355	449	347	475
F_0	239	317	484	347	369	347	324		
F_1	349	456	621	475	487	364	574		
K_0	321	410	555						
K_1	245	323	498						
K_2	317	426	605						

S.E. of marginal mean of N, P or K = 33.5 lb./ac.
S.E. of marginal mean of F = 27.4 lb./ac.
S.E. of body of N×P, N×K or P×K table = 58.1 lb./ac.
S.E. of body of N×F, P×F or K×F table = 47.3 lb./ac.

Crop :- Jowar (*Kharif*). **Ref :- 59(MAE).**

Site :- M.A.E. Farm, Gangavati. **Type :- 'M'.**

Object :—Type II—To study the effect of N, P, K and F on Jowar.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*—Groundnut. (b) Cotton. (c) N.A. (ii) (a) Deep black soil. (b) N.A. (iii) 15, 16.6.1959. (iv) (a) 1 ploughing and 3 harrowings. (b) By hand drill. (c) 12 lb./ac. (d) 15″×4″ to 5″. (e) N.A. (v) Nil. (vi) D—340 (late). (vii) Irrigated. (viii) to (x) N.A.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(MAE) type II on page 327.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1957—contd. (b) Yes. (c) Nil. (v) (a) Crop affected due to water logging. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 941 lb./ac. (ii) 300.2 lb./ac. (iii) Main effects of N and P are highly significant. Interaction N×P is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean	K_0	K_1	K_2	F_0	F_1
P_0	698	741	790	743	806	716	707	543	943
P_1	576	1078	1415	1023	1103	963	1003	889	1156
P_2	511	1103	1553	1056	996	1037	1136	922	1190
Mean	595	974	1253	941	968	905	949	785	1096
F_0	477	848	1030	785	839	773	743		
F_1	713	1100	1476	1096	1097	1037	1154		
K_0	667	1094	1143						
K_1	560	889	1266						
K_2	558	939	1350						

S.E. of marginal mean of N, P or K = 70.8 lb./ac.
S.E. of marginal mean of F = 57.8 lb./ac.
S.E. of body of N×P, N×K or P×K table = 122.6 lb./ac.
S.E. of body of N×F, P×F or K×F table = 100.1 lb./ac.

———

Crop :- Jowar *(Kharif, Rabi)*. **Ref :- Ms. 59(SFT).**

Centre :- Belgaum (c.f.). **Type :- 'M'.**

Object—Type A :—To study the response of Jowar to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red and black soil. (iii) Nil. (iv) and (v) N.A. (vi) *Kharif* in May—June, while *Rabi* in September—October. (vii) to (ix) N.A. (x) *Kharif* in October—November and *Rabi* in January—February.

2. TREATMENTS :

0 =Control (no manure).
n =20 lb./ac. of N as A/S.
p =20 lb./ac. of P_2O_5 as Super.
np =20 lb./ac. of N as A/S+20 lb./ac. of P_2O_5 as Super.
k =20 lb./ac. of K_2O as Mur. Pot.
nk =20 lb./ac. of N as A/S+20 lb./ac. of K_2O as Mur. Pot.
pk =20 lb./ac. of P_2O_5 as Super+20 lb./ac. of K_2O as Mur. Pot.
npk=20 lb./ac. of N as A/S+20 lb./ac. of P_2O_5 as Super+20 lb./ac. of K_2O as Mur. Pot.

3. DESIGN:

(i) and (ii) The district has been divided into four agriculturally homogeneous zones and one field assistant has been posted in each zone. The field assistant conducts the trials in one revenue circle or thana in the zone and the circle/thana is changed once in two years within the same zone. Each field assi tant is required to conduct 31 trials in a year, 8 on a *Kharif* cereal, 8 on a *Rabi* cereal, 8 on cash crops, 4 on an oilseed crop and 3 on a leguminous crop. Half the number of trials conducted are of type A and the other half of Type B on crops other than the legumes. The three trials on legumes are of type C. Residual effects of phosphate application are studied on type C trials in two out of the four zones in each district every year. The above experiments are laid out in randomly located fields in randomly selected villages in each of the 4 zones at the rate of one experiment per village. (iii) (a) N.A. (b) 1/80 lb./ac. (iv) Yes.

4. GENERAL:

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1959—contd. (b) No. (c) N.A. (v) As per design. (vi) and (vii) Nil.

5. RESULTS:

(Kharif)

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	82	74	66	33.7	0	25	25	—8	36.2

Control mean = 757 lb./ac. and no. of trials=12.

(Rabi)

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	41	49	33	16.5	—41	—16	—16	16	15.6

Control mean = 411 lb./ac. and no. of trials=8.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 59(SFT).**

Centre :- Bellary (c.f.). **Type :- 'M'.**

Object—Type A :—To study the response of Jowar to levels of N, P and K, applied individually and in combinations.

1. BASAL CONDITIONS to 4. GENERAL:

Same as in expt. no. 59(SFT) type A on page 328 conducted at Belgaum.

5. RESULTS:

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	33	49	16	33.7	0	33	—16	0	31.3

Control mean = 625 lb./ac. and no. of trials=15.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 59(SFT).**

Centre :- Raichur (c.f.). **Type :- 'M'.**

Object—Type A :—To study the response of Jowar to levels of N, P and K, applied individually and in combinations.

1. BASAL CONDITIONS:

(i) (a) to (c) N.A. (ii) Saline. (iii) Nil. (iv) and (v) N.A. (vi) May—June. (vii) to (ix) N.A. (x) October—November.

2. TREATMENTS to 4. GENERAL:

Same as in expt. no. 59(SFT) type A on page 328 conducted at Belgaum.

5. RESULTS:

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	8	33	—25	14.0	0	16	0	0	5.8

Control mean = 181 lb./ac. and no. of trials=4.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 59(SFT).**

Centre :- Belgaum (c.f.). **Type :- 'M'.**

Object :—Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N A. (ii) Red and black soil. (iii) Nil. (iv) and (v) N.A. (vi) May—June, 1959. (vii) to (ix) N.A. (x) October—November, 1959.

2. TREATMENTS :

0 =N.A.
n_1 =20 lb./ac, of N as A/S.
n_2 =40 lb./ac. of N as A/S
n_1'' =20 lb./ac. of N as A/S/N.
n_2'' =40 lb./ac. of N as A/S/N.
n_1'''=20 lb./ac. of N as C/A/N.
n_2'''=40 lb./ac. of N as C/A/N.

3. DESIGN :

(i) and (ii) The district has been divided into four agriculturally homogeneous zones and one field assistant has been posted in each zone. The field assistant conducts the trials in one revenue circle or thana in the zone and the circle thana is changed once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year, 8 on a *Kharif* cereal, 8 on a *Rabi* cereal, 8 on cash crops, 4 on an oilseed crop and 3 on a leguminous crop. Half the number of trials conducted are of type A and the other half of Type B on crops other than the legumes. The three trials on legumes are of type C. Residual effects of phosphate application are studied on type C trials in two out of the four zones in each district every year. The above experiments are laid out in randomly located fields in randomly selected villages in each of the 4 zones at the rate of one experiment per village. (iii) (a) N.A. (b) 1/80 ac. (iv) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1959—contd. (b) No. (c) N.A. (v) As per design. (vi) and (vii) Nil.

5. RESULTS :

Treatment	0	n_1	n_2	n_1''	n_2''	n_1'''	n_2'''
Av. yield	872	1267	1292	1070	1177	1160	1185

G.M. = 1146 lb./ac. S.E.=71.0 lb./ac. and no. of trials=14.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 59(SFT).**

Centre :- Bellary (c.f.). **Type :- 'M'.**

Object—Type B :—To investigate the relective efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red and black. (iii) Nil. (iv) and (v) N.A. (vi) May—June. (vii) to (ix) N.A. (x) October—November.

2. TREATMENTS :

0 =Control (no manure).
n_1 =20 lb./ac. of N as A/S.
n_2 =40 lb./ac. of N as A/S.

n_1' =20 lb./ac. of N as Urea.
n_2' =40 lb./ac. of N as Urea.
n_1'' =20 lb./ac. of N as A/S/N.
n_2'' =40 lb./ac. of N as A/S/N.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 59(SFT) Type B on page 330 conducted at Belgaum.

5. RESULTS :

Treatment	0	n_1	n_2	n_1'	n_2'	n_1''	n_2''
Av. yield	1168	1349	1267	1325	1259	1226	1243

G.M. = 1262 lb./ac., S.E. = 103.6 lb./ac. and no. of trials = 4.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 59(SFT).**

Centre :- Bellary (c.f.). **Type :- 'M'.**

Object—Type B :—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red and black. (iii) Nil. (iv) and (v) N.A. (vi) May—June. (vii) to (ix) N.A. (x) October—November.

2. TREATMENTS :

0 =Control (no manure).
n_1 =20 lb./ac. of N as A/S.
n_2 =40 lb./ac. of N as A/S.
n_1' =20 lb./ac. of N as Urea.
n_2' =40 lb./ac. of N as Urea.
n_1'''=20 lb /ac. of N as C/A/N.
n_2'''=40 lb./ac. of N as C/A/N.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 59(SFT) type B on page 330 conducted at Belgaum.

5. RESULTS :

Treatment	0	n_1	n_2	n_1'	n_2'	n_1'''	n_2'''
Av. yield	477	485	477	477	494	527	527

G.M. = 495 lb./ac., S.E. = 16.9 lb./ac. and no. of trials = 7.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 59(SFT).**

Centre :- Raichur (c.f.). **Type :- 'M'.**

Object :—Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS to 4. GENERAL :

Same as in expt. no. 59(SFT) type B on page 330 conducted at Belgaum.

5. RESULTS :

Treatment	0	n_1	n_2	n_1''	n_2''	n_1'''	n_2'''
Av. yield	197	148	173	181	181	222	189

G.M. = 184 lb./ac., S.E. = 14.5 lb./ac. and no. of trials = 3.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 58(96).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'MV'.**

Object:—To find out the optimum requirement of manure and best variety under irrigated conditions.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) G.M. with Sannhemp. (c) 125 lb./ac. of Super. (ii) (a) Sandy loam. (b) N.A. (iii) 21.10.1958. (iv) (a) Harrowing and ploughing. (b) Dibbling. (c) 4 lb./ac. (d) 18″×12″. (e) 2 to 3. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) 2 interculturings, 2 weedings and 2 thinnings. (ix) 5.4″. (x) 29.2.1959.

2. TREATMENTS:

All combinations of (1) and (2)

(1) 3 varieties : V_1=Local, V_2=*Maldand* 35—1 and V_3=*Maldand* 47—3.

(2) 2 levels of N as A/S : N_0=0, N_1=40 lb./ac.

3. DESIGN:

(i) Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 33′×20′. (b) 30′×18′. (v) 1.5′×1′. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

(i) 1461 lb./ac. (ii) 105.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	V_3	Mean
N_0	1466	1427	1482	1458
N_1	1538	1395	1461	1465
Mean	1502	1411	1472	1461

S.E. of V marginal mean = 37.4 lb./ac.
S.E. of N marginal mean = 30.5 lb./ac.
S.E. of body of table = 52.9 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 56(142).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'C'.**

Object :—To study the best method of planting of Jowar.

1. BASAL CONDITIONS:

(i) (a) *Jowar*—Groundnut. (b) Groundnut. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) N.A. (iii) 18.7.1956. (iv) (a) 1 ploughing and 2 harrowings. (b) As per treatments. (c) 7 lb./ac. (d) As per treatments. (e) 6 to 10 seeds. (v) 5 C.L./ac. of F.Y.M. broadcast. (vi) Fulgar white—(medium). (vii) Unirrigated. (viii) 1 weeding and 2 interculturings. (ix) 25″. (x) 29.1.1957.

2. TREATMENTS:

4 spacings : S_1 = 30″×24″, S_2=24″×24″, S_3=18″×18″ and S_4=18″×12″. For S_1, S_2 and S_3 cluster planting and for S_4 Dibbling.

3. DESIGN:

(i) R.B.D. (ii) (a) 4. (b) 28′×135′. (iii) 2. (iv) (a) For S_1=35′×28′; for S_2=34′×28′; for S_3=33′×27′ and for S_4=33′×28′. (b) 30′×24′. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Normal. (ii) Attack of rust and sugary diseases—No control measures taken. (iii) Height of plant, size of earhead and grain yield. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 561 lb./ac. (ii) 56.6 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	S_1	S_2	S_3	S_4
Av. yield	546	558	424	715

S.E./mean = 40 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 54(170).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'C'.**

Object :—To compare different methods of sowing on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Kulthi.* (c) 4 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) N.A. (iii) 20.7.1954. (iv) (a) 1 ploughing and 2 harrowings. (b) As per treatments. (c) 4 lb./ac. (d) As per treatments (e) N.A. (v) 4 C.L./ac. of F.Y.M. broadcast. (vi) *Nandyal* Improved (early). (vii) Unirrigated. (viii) 2 interculturings and 1 weeding. (ix) 11.73". (x) 6.1.1955.

2. TREATMENTS :

T_1=Dibbling 18"×12", T =Dibbling 18"×9", T_3=Dibbling 18"×12" (2 plots), T_4=Drilling 18" and thinning 12" in the row and T_5=Drilling 18" and thinning 9" in the row.

3. DESIGN :

(i) R.B D. (ii) (a) 6. (b) N.A. (iii) 2. (iv) (a) 30'×22.5'. (b) 24'×16.5'. (v) 3' alround. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Attack of stiga. No control measures taken. (iii) Height of the plant, length and breadth of earheads and yield of grain. (iv) (a) 1954—1956. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 1416 lb./ac. (ii) 169.3 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	1391	1672	1243	1782	1513

S.E./mean for T_3 = 84.7 lb./ac.

S.E./mean for T_1, T_2, T_4 and T_5 = 119.7 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 55(193).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'C'.**

Object :—To compare different methods of sowing on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar—Chinamug* –Wheat. (b) *Kulthi.* (c) 4 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (iii) 18.7.1955. (iv) (a) 1 ploughing and 2 harrowings. (b) As per treatments. (c) 4 lb./ac. (d) As per treatments. (e) —. (v) 4 C.L./ac. of F.Y.M. broadcast. (vi) Dharwar *Nandyal* (improved). (vii) Unirrigated. 2 interculturings and a weeding. (ix) 16.50". (x) 23.1.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(170) above.

5. RESULTS :

(i) 1298 lb./ac. (ii) 407.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	1106	1291	1246	1480	1421

S.E./mean for T_3 = 203.5 lb./ac.

S E./mean other than T_3 = 287.8 lb./ac.

Crop :- Jowar (*Kharif*). **Ref :- Ms. 56(152).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'C'.**

Object :—To compare different methods of sowing on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar—Chinamug*—Wheat. (b) *Kulthi.* (c) 4 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) N.A. (iii) 17.7.1956. (iv) (a) 1 ploughing and 2 harrowings. (b) As per treatments. (c) 4 lb./ac. (d) As per treatments. (e) N.A. (v) 4 C.L./ac. of F.Y.M. broadcast. (vi) Dharwar *Nandyal* (improved). (vii) Unirrigated. (viii) 2 interculturings and one weeding. (ix) 24.69". (x) 29.1.1957.

2. TREATMENTS :

T_1=Dibbling 18"×12", T_2=Dibbling 18"×9", T_3=Drilling 18" apart, T_4=Drilling 18" and thinning 12" in the row and T_5=Drilling 18" and thinning 9" in the row.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 2. (iv) (a) 30'×13½'. (b) 24'×10½'. (v) 3'×1½'. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Heavy attack of *stinga*—No control measures taken. (iii) Height of plant, length and breadth of earhead and yield of grain. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) to (vii) Nll.

5. RESULTS :

(i) 465 lb./ac. (ii) 114.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *jowar* in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	536	410	436	492	449

S.E./mean = 81.2 lb./ac.

Crop :- Jowar. **Ref :- Ms. 54(127).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'C'.**

Object :—To study the economic seed rate and optimum spacing of Milo type for fodder and grain.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Kulthi.* (c) 4 C.L./ac. of F.Y.M. (ii) (a) Light. (b) N.A. (iii) 20.7.1954. (iv) (a) 1 ploughing and 3 harrowings. (b) Drilled. (c) and (d) As per treatments. (e) N.A. (v) 4 C.L./ac. of F Y.M. broadcast. (vi) D.D.—Milo (early). (vii) Unirrigated. (viii) 2 interculturings and 1 weeding. (ix) 11.73". (x) 8.1.1955.

2. TREATMENTS :

Main-plot treatments :

2 spacings : S_1=12" and S_2=15".

Sub-plot treatments :

2 seed rates : R_1=6 and R_2=8 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 48'×12'. and 48'×12½'. (b) 42'×10'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) N.A. (iv) (a) 1952—1954. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 1151 lb./ac. (ii) (a) 133.8 lb./ac. (b) 162.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	S_1	S_2	Mean
R_1	1152	1083	1118
R_2	1225	1141	1183
Mean	1189	1112	1151

S.E. of difference of two

1. S marginal means = 53.9 lb./ac.
2. R marginal means = 66.4 lb./ac.
3. R means at the same level of S = 94.4 lb./ac.
4. S means at the same level of R = 86.1 lb./ac.

Crop :- Jowar *(Kharif).* **Ref :- Ms. 54(234).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'C'.**

Object :—To study the effect of stripping of lower leaves on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) N.A. (c)—. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 12.10.1954. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 4 lb./ac. (d) 18" between rows. (e)—. (v) N.A. (vi) M-35—1. (vii) Unirrigated. (viii) Interculturing. (ix) 1.31". (x) 4.3.1955.

2. TREATMENTS :

T_1=Stripping lower leaves in entire plot and T_2=Leaves are allowed to dry unstripped.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 5. (iv) (a) 36'×18'. (b) 33'×18'. (v) 2 rows. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Sugary disease to small extent. (iii) Grain weight. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) (a) and (b) Not known. (vi) and (vii) Nil.

5. RESULTS :

(i) 769 lb./ac. (ii) 182.4 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2
Av. yield	828	711

S.E./mean = 81.6 lb./ac.

Crop :- Jowar *(Rabi).* **Ref :- Ms. 55(230).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'C'.**

Object :—To study the effect of stripping of lower leave on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) N.A. (c)—. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 9.9.1955. (iv) (a) Ploughing and harrowing. (b) Drilling (c) 4 lb./ac. (d) 18″ between rows. (e)—. (v) N.A. (vi) M_{35}—1. (vii) Unirrigated. (viii) Interculturing. (ix) 5.78″. (x) 27.2.1956.

2. TREATMENTS :

T_1=Stripping of full ripe leaves only, T_2=Stripping of full ripe and half ripe leaves and T_3=No stripping.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 12. (iv) (a) N.A. (b) 33′×18′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 688 lb./ac. (ii) 84.7 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3
Av. yield	690	692	682

S.E /mean = 24.4 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 56(206).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'C'.**

Object :—To study the effects of stripping of lower leaves on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) Manured with fertilizers. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 15.9.1956. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 4 lb./ac. (d) 18″ between rows. (e) N.A. (v) N.A. (vi) M_{35}—1. (vii) Unirrigated. (viii) Interculturing. (ix) 10.71″. (x) 22.2.1957.

2. TREATMENTS :

T_1=Stripping lower leaves and T_2=No stripping.

3, DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) 50′×18′. (b) 46′×18′. (v) 2 rows. (vi) Yes.

4. GENERAL :

(i) Crop stunted due to continuous rainfall. (ii) Sugary disease to small extent. (iii) Grain weight. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 363 lb./ac. (ii) 58.6 lb./ac. (iii) The treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2
Av. yield	367	360

S.E./mean = 16.9 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 56(186).**

Site :- Agri. Res. Stn , Bijapur. **Type :- 'C'.**

Object :—To study the effect of cluster planting on the yield of Jowar as compared with normal planting.

1. BASAL CONDITIONS :

(i) (a) Cereals rotated with pulses. (b) Gram. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysie, Bijapur. (iii) 25 and 26.9.1956. (iv) (a) Ploughing. (b) As per treatments. (c) 4 lb./ac. (d) and (e) As per treatments. (v) 5 C.L./ac. of F.Y.M. (vi) M_{35}—1. (vii) Unirrigated. (viii) Interculturing. (ix) 11.79". (x) 8.3.1957.

2. TREATMENTS :

All combinations of (1) and (2)+a control (18" drilling)

(1) 3 spacings : S_1=18"×18", S_2=24"×24" and S_3=30"×30".

(2) 2 methods of planting : M_1=Normal planting and M_2=Cluster planting.

Seeds dibbled with hand.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 30'×30'. (v) One line on all sides of net plot. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 287 lb./ac. (ii) 85.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 236 lb./ac.

	S_1	S_2	S_3	Mean
M_1	358	244	275	292
M_2	295	294	309	299
Mean	326	269	292	296

S.E. of S marginal mean = 30.1 lb./ac.
S.E. of M marginal mean = 24.6 lb./ac.
S.E. of body of table or control mean = 42.6 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 58(65).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'C'.**

Object : -To find out the optimum spacing betwee n rows and plants.

1. BASAL CONDITIONS :

(i) (a) Cotton followed by Jowar. (b) Cotton. (c) 40 lb./ac. of N+30 lb./ac. of P_2O_5. (ii) (a) Deep black cotton soil. (b) N.A. (iii) 9.10.1958. (iv) (a) Harrowing. (b) Dibbling by hand. (c) N.A. (d) As per treatments. (e) One. (v) 10 C.L./ac. of F.Y.M.+40 lb./ac. of N+20 lb./ac. of P_2O_5 on 24.9.1958. (vi) M-35—1. (vii) Irrigated. (viii) Nil. (ix) 3.33". (x) 25.2.1959.

2. TREATMENTS

All combinations of (1) and (2)

(1) 5 row spacings : R_1=9", R_2=12", R_3=15", R_4=18" and R_5=21".

(2) 4 plant spacings : D_1=4", D_2=6", D_3=8" and D_4=10".

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 20. (b) N.A. (iii) 2. (iv) (a) 1/119 ac. (b) 26'×14'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Heavy attack of earhead bug—Endrin sprayed. (iii) Nil. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1065 lb./ac. (ii) 235.9 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	R_1	R_2	R_3	R_4	R_5	Mean
D_1	875	1051	961	1278	763	986
D_2	1155	1103	920	1167	879	1045
D_3	1406	946	1286	1058	1282	1196
D_4	1047	1212	1069	987	963	1036
Mean	1121	1078	1059	1122	947	1065

S.E. of D marginal mean = 74.6 lb./ac.
S.E. of R marginal mean = 83.4 lb./ac.
S.E. of body of table = 166.8 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 59(78).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'C'.**

Object :—To find the optimum spacing under dibbled condition.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*. (b) Cotton. (c) 40 lb./ac. of N+30 lb./ac. of P_2O_5. (ii) (a) Deep black cotton soil. (b) N.A, (iii) 14.10.1959. (iv) (a) Harrowing. (b) Dibbling by hand. (c) 7 lb./ac. (d) As per treatments. (e) 1 seedling. (v) 10 C.L./ac. of F.Y.M.+40 lb./ac. of N as A/S+20 lb./ac. of P_2O_5. (vi) M_{35}—1. (vii) Irrigated. (viii) Thinning and weeding by hand. (ix) Nil. (x) 15, 16.2.1960.

2. TREATMENTS :

Same as in expt. no. 58(65) on page 337

3. DESIGN :

(i) R.B.D. (ii) (a) 20. (b) N.A. (iii) 2. (iv) (a) and (b) 24′×14′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Mild attack of stem borer—dead reants were removed. (iii) Yield data. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1429 lb./ac. (ii) 208.8 lb./ac. (iii) Effect of D alone is significant. (iv) Av. yield of grain in lb./ac.

	R_1	R_2	R_3	R_4	R_5	Mean
D_1	1232	1191	1203	1455	1495	1315
D_2	1203	1705	1239	1567	1268	1396
D_3	1588	1369	1256	1252	1341	1361
D_4	1823	1604	1758	1345	1681	1642
Mean	1462	1467	1364	1405	1446	

S.E. of R marginal mean = 73.8 lb./ac.
S.E. of D marginal mean = 66.0 lb./ac.
S.E. of body of table = 147.7 lb./ac.

Crop :- Jowar *(Kharif).* **Ref :- Ms. 57(58).**

Site :- Agri. Res. stn., Dharwar. **Type:- 'C'.**

Object :—To study the performance of Nandyal Jowar with different methods of planting.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Niger and Sesamum+Gram. (c) N.A. (ii) (a) Medium Black soil. (b) Refer soil analysis, Dharwar. (iii) 19.7.1957. (iv) (a) Harrowing 4 times. (b) and (c) N.A. (d) and (e) As per treatments. (v) 5 C.L./ac. F.Y.M. (vi) *Nandyal Jowar.* (vii) Unirrigated. (viii) Gap-filling was done on 2.8.1957. 1 interculturing and 1 hand weeding. (ix) 20.07". (x) 20.12.1957.

2. TREATMENTS :

Main-plot treatments :

M_1=Cluster planting : 6 to 10 seeds to be dibbled around the periphery of the spot and then thinned to 4 to 5 seeds at a spot.

M_2=Normal planting : Only 2 to 3 seeds dibbled at a spot and then thinned to one.

Sub-plot treatments :

3 spacings : S_1=18"×18", S_2=24"×24" and S_3=30"×24".

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 2. (iv) (a) 60'×24'. (b) 30'×12'. (v) 30'×12' airound. (vi) Yes.

4. GENERAL :

(i) The crop growth was satisfactory. Lodging commenced on 28.10.1957. (ii) Nil. (iii) Height measurement and yield of *Jowar.* (iv) (a) 1957—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 743 lb./ac. (ii) (a) 113.6 lb./ac. (b) 101.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	S_1	S_2	S_3	Mean
M_1	847	926	835	869
M_2	611	666	575	617
Mean	729	796	705	743

S.E. for the difference of two

1. M marginal means = 65.5 lb./ac.
2. S marginal means = 71.6 lb./ac.
3. S means at the same level of M = 101.3 lb./ac.
4. M means at the same level of S = 105.5 lb./ac.

Crop :- Jowar *(Kharif).* **Ref :- Ms. 58(4).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'C'.**

Object :—To study the performance of Nandyal Jowar with different methods of planting.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 30.7.1958. (iv) (a) Harrowing 5 times. (b) to (e) As per treatments. (v) 5 C.L/ac. of F.Y.M. (vi) *Nandyal Jowar.* (vii) Unirrigated. (viii) Gap-filling, interculturing and hand weeding. (ix) 11.24". (x) 17.1.1959.

2. TREATMENTS :

T_1=Cluster planting : 4 to 5 plants at each spot spaced 30"×24" in a circle of 6" to 9" diameter T_2=Dibbling at 18"×12" with only one seed/dibble, T_3=Dibbling 24"×12" ; one seed/dibble, T_4=Drilling at 4 lb./ac. with 18" spacing between rows and T_5=Drilling at 4 lb./ac. with 24" spacing between rows.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 22′×60′. (b) 16′×30′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height measurement and grain yield. (iv) (a) 1957—N.A. (b) and (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 920 lb./ac. (i) 179.5 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	698	1042	904	966	990

S.E./mean = 89.7 lb./ac.

Crop :- Jowar. **Ref :- Ms. 55(153).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'C'.**

Object :—To find out a suitable date of sowing which could enable the crop escape from borer infestation.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*. (b) Cotton. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Black soil. (b) Refer soil analysis, Dharwar. (iii) 12.7.1955, 27.7.1955, 12.8.1955. (iv) (a) Ploughing, harrowing and interculturing. (b) to (e) As per treatments. (v) 5 C.L./ac. of F.Y.M. (vi) *Nandyal*. (vii) Unirrigated. (viii) One weeding. (ix) 19.97". (x) Last week of Dec. 1955 and 1st week of Jan. 56.

2. TREATMENTS :

3 times of sowing :
A. Early sowing.
B. Normal sowing.
C. Late sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 39′×39′. (b) 33′×33′. (v) 3′ alround. (vi) Yes.

4. GENERAL :

(i) No lodging was seen. (ii) Stem-borer was the main pest noticed. (iii) Incidence of borer population was accounted at an interval of 15 days. (From 4th Aug. 1955 to 11th Oct. 1955). (iv) (a) 1955—N.A. (b) and (c) No. (v) (a) and (b) No. (vi) to (vii) Nil.

5. RESULTS :

(i) 86.89%. (ii) 21.23%. (iii) Treatment differences are significant. (iv) Mean % of infestation.

Treatment	A	B	C
Mean %	69.64	92.37	97.16

S.E./mean = 8.68%

Crop :- Jowar. **Ref :- Ms. 54(111).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'C'.**

Object :—To find out a suitable spacing and seed rate for maximum yield.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) No. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 17.7.1954. (iv) (a) 3 harrowings. (b) Seed dri lled. (c) and (d) As per treatments, (e) N.A. (v) F.Y.M. was broadcast. (vi) *Nandyal.* (vii) Unirrigated. (viii) 2 interculturings. (ix) 25.36". (x) 23.12.1954.

2. TREATMENTS :

Main-ptot treatments:

3 spacings : S_1=18", S_2=24" and S_3=30".

Sub-plot treatments :

3 seed rates : R_1=4, R_2=6 and R_3=8 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 50'×36' for S_1, 50'×38' for S_2 and 50'×40' for S_3. (b) 40'×30'. (v) 5 feet on either side along the row and 2 rows on either side. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Attack by rats—No control measures were taken. (iii) Height of the crop at various stages. Length of the earhead, grain and straw yield. (iv) (a) to (c) N.A. (v) to (vii) N.A.

5. RESULTS :

(i) 1862 lb /ac. (ii) (a) 171.0 lb./ac. (b) 202.9 lb./ac. (iii) R effect and interaction R×S are significant. (iv) Av. yield of grain in lb./ac.

	S_1	S_2	S_3	Mean
R_1	1957	1827	2063	1949
R_2	1869	1990	1773	1877
R_3	1758	1936	1585	1760
Mean	1861	1918	1807	1862

S.E. of difference of two

1. S marginal means = 57.0 lb./ac.
2. R marginal means = 67.6 lb./ac.
3. R means at the same level of S = 117.1 lb./ac.
4. S means at the same level of R = 111.4 lb./ac.

Crop :- Jowar *(Rabi).* **Ref :- Ms. 55(126).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'C'.**

Object :—To study the residual effect of mixed cropping of Wheat and Gram on Jowar.

1. BASAL CONDITIONS :

(i) (a) *Rabi Jowar*—Wheat +Gram. (b) Wheat+Gram. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 15.10.1955. (iv) 2 harrowings. (b) Sowing by seed drill. (c) 4 lb./ac. (d) Rows 18" apart. (e) N.A. (v) Nil. (vi) M-35—1. (vii) Unirrigated. (viii) 2 interculturings and weedings. (ix) 26.37". (x) 20, 24.2.1956.

2. TREATMENTS:

8 mixed croppings preceeding Jowar crop : T_1=Only wheat. T_2=Only gram. T_3=Gram and whaet mixed sowing in 1 : 1 ratio. T_4=Gram and wheat mixed sowing in 2 : 1 ratio. T_5=Gram and wheat mixed sowing in 3 : 1 ratio. T_6= Gram and wheat row sowing in 1 : 1 ratio. T_7=Gram and wheat row sowing in 2 : 1 ratio. and T_8=Gram and wheat row sowing in 3 : 1.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 46'×26'. (b) 40'×24'. (v) 3'×1'. (vi) Yes.

4. GENERAL

(i) Slight percentage of lodging. (ii) Nil. (iii) Yield data. (iv) (a) 1955—1957. (b) Yes. (c) Nil. (v) to (vii) N.A.

5. RESULTS :

(i) 747 lb./ac. (ii) 145.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8
Av. yield	752	892	745	650	656	698	684	896

S.E./mean = 72.7 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 56(131).**

Site :- Agri. Res. Stn., Kaladgi. **Type 'C'.**

Object :—To study the residual effects of mixed cropping of Wheat and Gram on Jowar.

1. BASAL CONDITIONS :

(i) (a) Wheat+Gram rotated with *Jowar*. (b) Wheat+Gram. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 18.10.1956. (iv) (a) Harrowings. (b) Drilling. (c) 4 lb./ac. (d) 18″ between rows. (e) N.A. (v) Nil. (vi) M-35—1 (early). (vii) Unirrigated. (viii) Nil. (ix) 11.92″. (x) 15.3.1957.

2. TREATMENTS :

T_1=Only wheat at 40 lb./ac. T_2=Only gram at 40 lb./ac. T_3=Mixed cropping of gram and wheat in 1 : 1 ratio. T_4=Mixed cropping of gram and wheat in 2 : 1 ratio. T_5=Mixed cropping of gram and wheat in 3 : 1 ratio. T_6=Row sowing of gram and wheat in 1 : 1 ratio. T_7=Row sowing of gram and wheat in 2 : 1 ratio. T_8=Row sowing of gram and wheat in 3 : 1 ratio.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 26′×46′. (b) 20′×40′. (v) 2 rows. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Stem-borer attack disappeared by itself. (iii) Nil. (iv) (a) 1955—1959. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 510 lb./ac. (ii) 149.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8
Av. yield	510	545	557	501	343	608	413	601

S.E./mean = 74.8 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 57(154).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'C'.**

Object :—To study the residual effects of mixed cropping of Wheat and Gram on Jowar.

1. BASAL CONDITIONS :

(i) (a) Wheat+gram followed by *Rabi Jowar*. (b) Wheat+Gram. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 15.10.1957. (iv) (a) 2 harrowings. (b) Drilling. (c) 4 lb./ac. (d) 18″ between rows. (e) —. (v) Nil. (vi) M-35—1 (medium). (vii) Unirrigated. (viii) 2 interculturings. (ix) 21.98″. (x) 16.2.1958.

2. TREATMENTS :

Same as in expt. no. 56(131) on page 342.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 26′×46′. (b) 24′×40′. (v) 3′×1′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—1959. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1189 lb./ac. (ii) 142.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8
Av. yield	1201	1150	1297	1126	1244	1227	1193	1077

S.E./mean = 71.3 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 58(145).**

Site :- Agri. Kes. Stn., Kaladgi. **Type :- 'C'.**

Object :—To study the residual effect of mixed cropping of Gram and Wheat on Jowar.

1. BASAL CONDITIONS :

(i) (a) Gram+Wheat followed by *Jowar*. (b) Gram+Wheat. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 21.10.1958. (iv) (a) 2 harrowings. (b) Drilling. (c) 4 lb /ac. (d) 18″ between rows. (e) —. (v) Nil. (vi) M-35—1 (medium). (vii) Unirrigated. (viii) 3 interculturings. (ix) 12.18″. (x) 7.2.1959.

2. TREATMENTS :

Same as in expt. no. 56(131) on page 342.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 26′×46′. (b) 24′×40′. (v) One row on one side and 3 rows on the other. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) No. of plants and yieid of grain. (iv) (a) 1955—1959. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 700 lb./ac. (ii) 139.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8
Ay. yield	722	675	703	740	546	747	628	837

S.E./mean = 69.6 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 59(116).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'C'.**

Object :—To find out the residual effect of mixed cropping of Gram and Wheat on Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat and Gram. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 11.10.1959. (iv) (a) 3 harrowings. (b) Drilling. (c) 4 lb./ac. (d) 18″ between rows. (e) —. (v) Nil. (vi) M-35—1. (vii) Unirrigated. (viii) 4 interculturings. (ix) 24.74″. (x) 13.2.1960.

2. TREATMENTS :

Same as in expt. no. 56(131) on page 342.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) 46′×26′. (b) 40′×24′. (v) 3′×1′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1955—1959. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 373 lb./ac. (ii) 88.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8
Av. yield	428	361	388	348	370	345	398	349

S.E./mean = 44.1 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 54(151).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'C'.**

Object :—To study the effect of harrowings and interculturings on Jowar crop.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 6.10.1954. (iv) (a) As per treatments. (b) By seed drill. (c) 4 lb./ac. (d) Between rows 18″. (e) N.A. (v) Nil. (vi) M-35—1 (medium). (vii) Unirrigated. (viii) As per treatments. (ix) 22.77″. (x) 3rd week of Feb., 1955.

2. TREATMENTS :

All combinations of (1) and (2)

(1) No. of harrowings : H_1=2, H_2=3 and H_3=4.

(2) No. of interculturings : I_1=1, I_2=2, I_3=3 and I_4=4.

3. DESIGN :

(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) 36′×36′. (b) 33′×33′. (v) 1½′×1½′. (vi) Yes.

4. GENERAL :

(i) Lodging noted in the last phase of growth. (ii) N.A. (iii) Moisture determination, plant countings and yield of grain. (iv) (a) 1951—1957. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 611 lb./ac. (ii) 79.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	I_1	I_2	I_3	I_4	Mean
H_1	573	567	562	616	580
H_2	627	567	677	608	620
H_3	636	586	666	641	632
Mean	612	573	635	622	611

S.E. of H marginal mean = 19.8 lb./ac.
S.E. of I marginal mean = 22.9 lb./ac.
S.E. of body of table = 39.7 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 55(106).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'C'.**

Object :—To study the effect of harrowings and interculturings on Jowar crop.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis. Kaladgi. (iii) 14.10.1955. (iv) (a) As per treatments. (b) By seed drill. (c) 4 lb./ac. (d) Between rows 18". (e) N.A. (v) Nil. (vi) M-35—1 (medium). (vii) Unirrigated. (viii) As per treatments. (ix) 26.37". (x) 17, 22.2.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(151) on page 344.

5. RESULTS:

(i) 523 lb./ac. (ii) 121.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	I_1	I_2	I_3	I_4	Mean
H_1	523	481	541	484	507
H_2	485	513	565	583	537
H_3	604	464	497	543	527
Mean	537	486	534	536	523

S.E. of H marginal mean = 30.4 lb /ac.
S.E. of I marginal mean = 33.1 lb./ac.
S.E. of body of table = 60.8 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 56(18).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'C'.**

Object :—To study the effect of harrowings and interculturings on Jowar crop.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 18 10.1956. (iv) (a) As per treatments. (b) By seed drill. (c) 4 lb./ac. (d) Between rows 18". (e) N.A. (v) Nil. (vi) M-35—1 (medium). (vii) Unirrigated. (viii) As per treatments. (ix) 22.65". (x) 13, 14 and 22.3.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(151) on page 344.

4. GENERAL :

(i) Lodging noted in the last phase of growth. (ii) Slight attack of stem-borer and seedling blight. (iii) Grain yield. (iv) (a) 1951—1957. (b) and (c) No. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 575 lb./ac. (ii) 100.9 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	I_1	I_2	I_3	I_4	Mean
H_1	568	529	563	514	543
H_2	605	554	598	579	584
H_3	643	561	628	561	598
Mean	605	548	596	551	575

S.E. of H marginal mean = 25.2 lb./ac.
S.E. of I marginal mean = 29.1 lb./ac.
S.E. of body of table = 50.4 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 57(146).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'C'.**

Object :—To study the effect of harrowings and interculturings on Jowar crop.

1. BASAL CONDITIONS :

(i) (a) *Jowar* – Cotton. (b) Cotton. (c) No. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 12.10.1957. (iv) (a) As per treatments. (b) Drilling. (c) 4 lb./ac. (d) 18″ between rows. (e) N.A. (v) Nil. (vi) M-35—1 (medium). (vii) Unirrigated. (viii) As per treatments. (ix) 21.98″. (x) 19.2.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(151) on page 344.

4. GENERAL :

(i) Crop growth was a little stunted. (ii) Nil. (iii) Grain yield. (iv) (a) 1951—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 729 lb./ac. (ii) 114.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	I_1	I_2	I_3	I_4	Mean
H_1	759	654	803	802	755
H_2	723	787	618	740	717
H_3	739	729	676	721	716
Mean	740	723	699	754	729

S.E. of H marginal mean = 28.6 lb./ac.
S.E. of I marginal mean = 33.0 lb./ac.
S.E. of body of table = 57.2 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 54(185).**

Site :- Agri. Res. Stn., Naragund. **Type :- 'C'.**

Object—To find out a suitable method of cultural operation for Rabi Jowar in Karl soil.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—Wheat—*Jowar*. (b) Wheat. (c) 2½ tons/ac. of F.Y.M. (ii) (a) Alkaline. (b) Refer soil analysis, Naragund. (iii) 31.10.1954. (iv) (a) Ploughing and harrowing. (b) N.A. (c) and (d) As per treatments. (e) N.A. (v) 2½ tons/ac. of F.Y.M. broadcast on 5.9.1954. (vi) M-35—1. (vii) Unirrigated. (viii) As per treatments. (ix) 27.87″. (x) 25.2.1955.

2. TREATMENTS :

Main-plot treatments :

All combinations of (1) and (2)

(1) 2 row spacings : S_1=14″ and S_2=18″.

(2) 3 interculturings : C_1=2, C_2=3 and C_3=4 times.

Sub-plot treatments :

3 seed rates : R_1=6, R_2=8 and R_3=10 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 6 main plots/replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) S_1 : 55′×25′7″ and S_2 : 55′×27′. (b) 52′×21′. (v) 4 rows. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Plant height, plant count, moisture studies and yield of grain. (iv) (a) 1951—195 (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 696 lb./ac. (ii) (a) 542.8 lb./ac. (b) 268.0 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

	R_1	R_2	R_3	Mean	C_1	C_2	C_3
S_1	711	787	727	742	662	778	784
S_2	575	657	718	650	647	562	748
Mean	643	722	722	696	654	670	766
C_1	554	781	620				
C_2	712	600	697				
C_3	662	785	850				

S.E. of difference of two

1. S marginal means = 127.9 lb./ac.
2. C marginal means = 156.7 lb./ac.
3. R marginal means = 77.4 lb./ac.
4. R means at the same level of S = 109.1 lb./ac.
5. R means at the same level of C = 134 0 lb./ac.
6. S means at the same level of R = 156.0 lb./ac.
7. C means at the same level of R = 191.1 lb./ac.

S.E. of body of S×C table = 156.7 lb./ac.

Crop :: Jowar *(Rabi)*. **Ref :- Ms. 55(159).**

Site :- Agri.Res. Stn., Naragund. **Type :- 'C'.**

Object :—To find out suitable methods of cultural operations for Rabi Jowar crop in Karl soil.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—Wheat—*Jowar*. (b) Wheat. (c) N.A, (ii) (a) Alkaline. (b) Refer soil analysis, Naragund. (iii) 11.11.1955. (iv) (a) Ploughing by wooden plough and 4 harrowings. (b) N.A. (c) and (d) As per treatments. (e) N.A. (v) 2½ tons/ac. of F.Y.M. was broadcast on 7.9.1955. (vi) M-35—1 (early). (vii) Unirrigated. (viii) Nil. (ix) 31.14". (x) 16.3.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(185) on page 346.

4. GENERAL :

(i) Germination was patchy in replications I and II. (ii) Slight attack of grass-hopper. (iii) Plant height, plant count and grain yield. (iv) (a) 1951—1957. (b) No. (c) Nil. (v) to (vii) Nil.

RESULTS :

(i) 452 lb./ac. (ii) (a) 324.9 lb./ac. (b) 199.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	R_1	R_2	R_3	C_1	C_2	C_3	Mean
S_1	458	389	415	605	398	259	421
S_2	439	505	504	630	376	443	483
Mean	449	447	460	618	387	351	452
C_1	673	555	625				
C_2	324	452	383				
C_3	349	333	371				

S.E. of difference of two

1. S marginal means	= 76.6 lb./ac.	5.	R means at the same level of C	=	99.8 lb./ac.
2. C marginal means	= 93.8 lb./ac.	6.	S means at the same level of R	=	101.4 lb./ac.
3. R marginal means	= 57.6 lb./ac.	7.	C means at the same level of R	=	124.2 lb./ac.
4. R means at the same level of S	= 81.5 lb./ac.	8.	S.E. of body of S×C table	=	93.8 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 56(93).**

Site :- Agri. Res. Stn., Naragund. **Type :- 'C'.**

Object :—To find out suitable cultural methods for Rabi Jowar in Karl soil.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—Wheat—*Jowar*. (b) Wheat. (c) 2⅓ tons/ac. of F.Y.M. as basal dose. (ii) (a) Alkaline. (b) Refer soil analysis, Naragund. (iii) 28.11.1956. (iv) (a) Harrowing 4 times. (b) N.A. (c) and (d) As per treatments. (e) N.A. (v) 2⅓ tons/ac. of F.Y.M. broadcast on 21.10.1956. (vi) M-35—1. (vii) Unirrigated. (viii) Nil. (ix) 32.99". (x) 6.4.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(185) on page 346.

5. RESULTS :

(i) 472 lb./ac. (ii) (a) 224.0 lb./ac. (b) 156.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	R_1	R_2	R_3	G_1	C_2	C_3	Mean
S_1	470	523	493	456	542	487	495
S_2	424	459	461	455	420	470	448
Mean	447	491	477	455	481	479	472
C_1	469	464	433				
C_2	389	552	502				
C_3	483	456	496				

S.E. of difference of two

1. S marginal means	= 52.8 lb./ac.	5.	R means at the same level of C	=	78.3 lb./ac.
2. C marginal means	= 64.7 lb./ac.	6.	S means at the same level of R	=	74.2 lb./ac.
3. R marginal means	= 45.2 lb./ac.	7.	C means at the same level of R	=	90.9 lb./ac.
4. R means at the same level of S	= 63.9 lb./ac.	8.	S.E. of body of S×C table	=	64.7 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 57(41).**

Site :- Agri. Res. Stn., Naragund. **Type :- 'C'.**

Object :—To find out suitable cultural methods for Rabi Jowar in Karl soils.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton Wheat is followed in cyclic form. (b) Wheat crop. (c) 2½ tons/ac. F.Y.M. as basir dose. (ii) (a) Alkaline. (b) Refer soil analysis, Naragund. (iii) 8.11.1957. (iv) (a) 4 harrowings and wooden ploughing. (b) N.A. (c) and (d) As per treatments. (e) N.A. (v) 2½ tons/ac. of F.Y.M. broadcast on 20.9.1957. (vi) M-35—1. (vii) Unirrigated. (viii) Nil. (ix) 26.88". (x) 4.3.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(185) on page 346.

5. RESULTS :

(i) 430 lb./ac. (ii) (a) 414.4 lb /ac. (b) 132.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	R_1	R_2	R_3	C_1	C_2	C_3	Mean
S_1	391	408	372	364	333	474	390
S_2	500	452	460	499	378	535	491
Mean	445	430	416	431	356	504	430
C_1	460	444	390				
C_2	403	368	295				
C_3	473	477	563				

S.E of difference of two :

1. S marginal means = 97.7 lb./ac.
2. C marginal means = 119.6 lb./ac.
3. R marginal means = 38.2 lb./ac.
4. R means at the same level of S = 54.0 lb./ac.
5. R means at the same level of C = 61.2 lb./ac.
6. S means at the same level of R = 107.1 lb./ac.
7. C means at the same level of R = 131.3 lb./ac.

S.E. of body of S×C table = 119.6 lb./ac.

Crop :- Jowar. **Ref :- Ms. 58(248).**

Site :- Agri. Res. Stn., Raichur. **Type :- 'C'.**

Object :—To study the effect of chopping at different periods of crop growth on yield.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Deep black soil. (b) N.A. (iii) 1.7.1958. (iv) (a) Harrowing. (b) Drilling. (c) 6 lb./ac. (d) 18″ between rows. (e) N.A. (v) N.A. (vi) D—340. (vii) Unirrigated. (viii) Hand weeding, thinning and inte-culturing. (ix) 22.12″ mms. (x) 8.11.1958.

2. TREATMENTS :

5 times of chopping : T_0=Control (no choppings) T_1=4th week after sowing. T_2=5th week after sowing. T_3=6th week after sowing. and T_4=7th week after sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 36′×6′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nll. (iii) Grain yield. (iv) (a) N.A (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 741 lb./ac. (ii) 140 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb /ac.

Treatment	T_0	T_1	T_2	T_3	T_4
Av. yield	974	830	669	649	584

S.E./mean = 57.2 lb./ac.

Crop :- Jowar *(Kharif).* **Ref :- Ms. 59(70).**

Site :- Agri. Res. Stn., Raichur. **Type :- 'C'.**

Object :—To find out the effect of chopping at different periods of crop growth on yield.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Groundnut. (b) Groundnut. (s) 5 C.L./ac. of compost. (ii) (a) Deep black soil. (b) N.A. (iii) 27 6.1959. (iv) Harrowing. (b) Drilling. (c) 7 lb./ac. (d) 18″between lines. (e) —. (vi) 5 C.L./ac. of F.Y.M. (vi) D—340. (vii) Unirrigated. (viii) Hand weeding, thinning and interculturing. (ix) 22.68″. (x) 17 and 18.11.1959.

2. TREATMENTS :

Same as in expt. 58(248) on page 349.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 36′4″×12′. (b) 36′4″×9′. (v) 1 row on alround. (vi) Yes.

4. GENERAL :

(i) Germination was good. Due to heavy showers grain formation was affected to some extent. (ii) No. (iii) Grain yie d. (iv) (a) 1959—No. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 688 lb./ac. (ii) 139.6 lb./ac. (iii) The treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4
Av. yield	800	812	711	562	554

S.E./mean = 57.0 lb./ac.

Crop :- Jowar *(Kharif)*. **Rcf :- Ms. 58(247).**

Site :-Agri. Res. Stn., Raichur. **Type :- 'C'.**

Object :—To find the optimum spacing for Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Groundnut. (b) Groundnut. (c) 5 C.L./ac. of compost. (ii) (a) Deep black soil. (b) N.A. (iii) 1.7.1958. (iv) (a) Harrowing. (b) Drilling. (c) 7 lb./ac. (d) As per treatments. (e) —. (v) 5 C L./ac. of F.Y.M. applied a fortnight before sowing. (vi) D 340—K(early). (vii) Unirrigated. (viii) Hand weeding, thinning and interculturing. (ix) 22.12″. (x) 8.11.1958.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 4 row spacings: R_1=9″, R_2=12″, R_3=15 and R_4=18″.

(2) 4 plant spacings: P_1=4″, P_2=6″, P_2=8″ and P_4=10″.

3. DESIGN ;

(i) Fact. in R.B.D. (ii) (a) 16. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 25′×6′. (v) N.A. (vi) Yes.

4. GENERAL .

(i) Fair. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) to (vii) N.A.

5. RESULTS :

(i) 1488 lb./ac. (ii) 387.1 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	R_1	R_2	R_3	R_4	Mean
P_1	1097	1456	1397	1455	1351
P_2	1588	1461	1225	1207	1370
P_3	1824	1360	1551	1520	1564
P_4	1733	1679	1769	1493	1668
Mean	1560	1489	1486	1419	1488

S.E. of any marginal mean = 96.8 lb./ac.

S.E. of body of table = 193.8 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 59(69).**

Site :- Agri. Res. Stn., Raichur. **Type :- 'C'.**

Object :—To find out the optimum spacing for Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Groundnut. (b) Groundnut. (c) 5 C.L./ac. of compost. (ii) (a) Deep black soil. (b) N.A. (iii) 25.6.1959. (iv) (a) Harrowing. (b) Drilling. (c) 7 lb./ac. (d) As per treatments. (e —. (v) 5 C.L./ac. of F.Y.M (vi) D—340. (vii) Unirrigated. (viii) Hand weeding, thinning and interculturing. (ix) 22.68". (x) 15 to 16.11.1959

2. TREATMENTS :

Same as in expt. no. 58(247) on page 350.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 16. (b) N.A. (iii) 4. (iv) (a) 29'×15'. (b) 26'×12'. (v) 1½'×1½'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1231 lb./ac. (ii) 442.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	R_1	R_2	R_3	R_4	Mean
P_1	1082	1350	1006	1263	1175
P_2	912	1677	1376	1128	1273
P_3	1171	1230	1206	1260	1217
P_4	1147	1261	1645	979	1258
Mean	1078	1380	1308	1158	1231

S.E. of any marginal mean = 110.6 lb./ac.

S.E. of body of table = 221.2 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 59(74).**

Site :- Agri. Res. Stn., Raichur. **Type :- 'C'.**

Object :—To find out the optimum spacing for Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Groundnut. (b) Groundnut. (c) 5 C.L./ac. of compost. (ii) (a) Deep Black Soil. (b) N.A. (iii) 15.10 1959. (iv) (a) Harrowing. (b) Drilling. (c) 7 lb./ac. (d) As per treatments. (e) N.A. (v) 5 C.L./ac. of F.Y.M. (vi) $M_{35}-1$. (vii) Unirrigated. (viii) Hand weeding, thinning and interculturing. (ix) Nil. (x) 15, 16.2.1960.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 4 row spacings : $R_1=12''$, $R_2=15''$, $R_3=18''$ and $R_4=21''$.

(2) 4 plant spacings : $P_1=6''$, $P_2=8''$, $P_3=10''$ and $P_4=12''$.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 16. (b) N.A. (iii) 4. (iv) (a) 24'2"×18'. (b) Varies according to treatments. (v) 1 row alround. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 966 lb./ac. (ii) 163.4 lb./ac. (iii) Interaction R×S alone is significant. (iv) Av. yield of grain in lb./ac.

	P_1	P_2	P_3	P_4	Mean
R_1	859	1042	880	1014	949
R_2	1127	872	828	1025	963
R_3	948	1061	1009	1000	1004
R_4	1010	1034	1023	728	949
Mean	986	1002	935	942	966

S.E. of any marginal mean = 40.8 lb./ac.
S.E. of body of table = 81.7 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 54(198).**

Site :- Agri. Res. Stn., Saundathi. **Type :- 'C'.**

Object :—To study the effect of harrowings and interculturings on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) N A. (b) Groundnut. (c) Nil. (ii) (a) Medium black soil. (b) N.A. (iii) 8.10.1954. (iv) (a) As per treatments. (b) Drilling. (c) 4 lb./ac. (d) Rows 18″ apart, plants 4″ to 6″ apart. (e) N.A. (v) 5 C.L./ac. of F Y.M. (vi) M_{35}—1. (vii) Unirrigated. (viii) As per treatments. (ix) 15.50″. (x) 1.3.1955.

2. TREATMENTS :

Same as in expt. no. 54(151) on page 344.

3. DESIGN :

(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) 72′×22′6″. (b) 66′×16′6″. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plants, plant counts and grain and fodder yield. (iv) 1954—1955. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) Harrowings on 14.7.1954, 23.8.1954, 20.9.1954 and 2.10.1954 ; Interculturings on 1.11.1954, 25.11.1954, 10.12.1954 and 27.12.1954.

5. RESULTS :

(i) 534 lb./ac. (ii) 90.8 lb./ac. (iii) None of the effects is significant. (vi) Av. yield of grain in lb./ac.

	I_1	I_2	I_3	I_4	Mean
H_1	496	425	495	626	510
H_2	502	597	552	496	537
H_3	513	593	601	509	554
Mean	504	538	549	544	534

S.E. of H marginal mean = 22.7 lb./ac.
S.E. of I marginal mean = 26.2 lb./ac.
S.E. of body of table = 45.4 lb./ac.

Crop :- Jowar :- *(Rabi).* **Ref :- Ms. 55(177).**

Site :- Agri. Res. Stn., Saundathi. **Type :- 'C'.**

Object :—To study of the effect of harrowings and interculturings on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Jowar. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medimum black soil. (b) N.A. (iii) 14.10.1955. (iv) (a) As per treatments. (b) Drilling. (c) 4 lb./ac. (d) Rows 18" apart and plants 4" to 6". (e) N.A. (v) 5 C.L./ac. of F.Y.M. (vi) M_{35}—1. (vii) Unirrigated. (viii) Weeding and Interculturing. (ix) 27.06" (x) 19.3.1956.

2. TREATMENTS :

Same as in expt. no. 54(151) on page 344.

3. DESIGN :

(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) 72'×22'6". (b) 66'×16'6". (v) Nil. (vi) Yes.

4. GENERAL :

(i) Germinatian was fairly good. (ii) Attacked by stem borer. (iii) Height of plants, plant couut and yield of grain and fodder. (iv) 1954—1955. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) Harrowings on 14.6.1955, 2.8.1955 and 17.9.1955 and interculturings on 6.11.1955, 22.11.1955, 19.12.1955 and 9.1.1956.

5. RESULTS :

(i) 345 lb./ac. (ii) 93.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	I_1	I_2	I_3	I_4	Mean
H_1	291	304	320	438	338
H_2	317	362	412	346	359
H_3	266	335	329	416	336
Mean	291	334	354	400	345

S.E. of H marginal mean = 23.4 lb./ac.
S.E. of I marginal mean = 27.0 lb./ac.
S.E. of body of table = 46.8 lb./ac.

Crop :- Jowar. **Ref :- Ms. 54(172).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'CV'.**

Object :—To find out the optimum spacing and seed rate combination for different varieties of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Kulthi.* (c) 4 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) N.A. (iii) 21.7.1954. (iv) (a) One ploughing and 2 harrowings. (b) Drilling. (c) and (d) As per treatments. (e) N.A. (v) 4 C.L./ac. of F.Y.M. broadcasted. (vi) As per treatments. (vii) Unirrigated. (viii) 2 interculturings and 1 weeding. (ix) 11.73". (x) 6.1.1955.

2. TREATMENTS :

Main-plot treatments :

2 varieties : V_1=Tall (Dharwar Nandyal) and V_2=Dwarf (Giddmaldandi).

Sub-plot treatments :

3 row spacings : S_1=15", S_2=18" and S_3=24".

Sub-sub-plot treatments :

2 seed rates : R_1=4 and R_2=6 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication ; 3 sub-plots/main-plot and 2 sub-sub-plots/sub-plot. (b) N.A. (iii) 2. (iv) (a) For S_1=24'×32½', for S_2=24'×33' and S_3=24'×34'. (b) 20'×30'. (v) 2' along the sides and 15", 18" and 24" at the ends. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plant, size of earheads and grain yield. (iv) (a) 1954—1961. (b) and (c) No. (v) to (vii) N.A.

5. RESULTS :

(i) 1224 lb./ac. (ii) (a) 148.1 lb./ac. (b) 194.0 lb./ac. (c) 237.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	S_1	S_2	S_3	R_1	R_2	Mean
V_1	1403	1276	1445	1322	1427	1375
V_2	1131	991	1098	1038	1108	1073
Mean	1267	1133	1271	1180	2267	1224
R_1	1138	1162	1241			
R_2	1396	1105	1301			

S.E. of difference of two

1. V marginal means = 60.5 lb./ac.
2. S marginal means = 97.0 lb./ac.
3. R marginal means = 97.0 lb./ac.
4. S means at the same level of V = 137.2 lb./ac.
5. V means at the same level of S = 127.3 lb./ac.
6. R means at the same level of V = 137.2 lb./ac.
7. V means at the same level of R = 114.3 lb./ac.
8. R means at the same level of S = 168.0 lb /ac.
9. S means at the same level of R = 153.4 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 55(194).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'CV'.**

Object :—To find out the optimum spacing and seedrate combination for different varieties of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Kulthi*. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) N.A. (iii) 17.7.1955. (iv) (a) 1 ploughing and 2 harrowings. (b) Drilling. (c) and (d) As per treatments. (e) 1. (v) 4 C.L./ac. of F.Y.M. (broadcasted). (vi) As per treatments. (vii) Unirrigated. (viii) 2 interculturings and 1 weeding. (ix) 16.02". (x) 26.12.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(172) on page 353.

5. RESULTS :

(i) 1402 lb./ac. (ii) (a) 1316.3 lb./ac. (b) 236.8 lb./ac. (c) 227.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	Mean	R_1	R_2
S_1	1315	1367	1341	1196	1485
S_2	1706	1158	1432	1336	1527
S_3	1431	1435	1433	1386	1480
Mean	1484	1320	1402	1306	1498
R_1	1389	1224			
R_2	1579	1416			

S.E. of difference of two

1. V marginal means = 537.4 lb./ac.
2. S marginal means = 118.4 lb./ac.
3. R marginal means = 92.3 lb./ac.
4. S means at the same level of V = 167.4 lb./ac.
5. V means at the same level of S = 554.5 lb./ac.
6. R means at the same level of V = 131.3 lb./ac.
7. V means at the same level of R = 545.3 lb./ac.
8. R means at the same level of S = 160.7 lb./ac.
9. S means at the same level of R = 164.2 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 56(153).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'CV'.**

Object :—To find out the optimum spacing and seedrate combination for different varieties of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Kulthi.* (c) 4 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) N.A. (iii) 11.7.1956. (iv) (a) 1 ploughing and 2 harrowings. (b) Drilling. (c) and (d) As per treatments. (e) 1. (v) 4 C.L./ac. of F.Y.M. (vi) As per treatments (vii) Unirrigated. (viii) 2 interculturings and 1 weeding. (ix) 26.90". (x) 9.1.1957.

2. TREATMENTS to 4 GENERAL :

Same as in expt. no. 54(172) on page 353.

5. RESULTS :

(i) 844.9 lb./ac. (ii) (a) 126.4 lb./ac. (b) 312.9 lb./ac. (c) 155.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	Mean	R_1	R_2
S_1	630.3	985.9	808.1	807.1	809.1
S_2	803.1	923.1	863.1	842.9	883.4
S_3	736.3	990.6	863.4	902.6	824.4
Mean	723.2	966.6	844.9	850.8	839.0
R_1	725.0	976.7			
R_2	721.5	956.4			

S.E. of difference of two

1. V marginal means = 51.6 lb./ac.
2. S marginal means = 156.5 lb./ac.
3. R marginal means = 63.4 lb./ac.
4. R means at the same level of V = 89.6 lb./ac.
5. R means at the same level of S = 109.8 lb./ac.
6. S means at the same level of V = 221.3 lb./ac.
7. V means at the same level of S = 187.9 lb./ac.
8. V means at the same level of R = 81.8 lb./ac.
9. S means at the same level of R = 174.7 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 57(130).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'CV'.**

Object :—To find out the optimum spacing and seedrate combination for different varieties of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Kulti.* (c) 4 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) N.A. (iii) 21.7.1957. (iv) (a) 1 ploughing and 2 harrowings. (b) Drilling. (c) and (d) As per treatments. (e) 1. (v) 4 C.L./ac. of F.Y.M. (Broadcasted). (vi) As per treatments. (vii) Unirrigated. (viii) 2 interculturings and 1 hoeing. (ix) 26.80". (x) 28.12.1957.

2. TREATMENTS to 4. GENERAL:

Same as in expt. no. 54(172) on page 353.

5. RESULTS:

(i) 763.2 lb./ac. (ii) (a) 257.3 lb./ac. (b) 120.7 lb./ac. (c) 117.2 lb./ac. (iii) None of the effects is significant (iv) Av. yield of grain in lb./ac.

	V_1	V_2	Mean	R_1	R_2
S_1	902.3	713.7	808.0	825.1	790.9
S_2	718.0	749.7	733.8	660.3	807.4
S_3	771.2	724.5	747.8	762.4	733.3
Mean	797.2	779.3	763.2	749.2	777.2
R_1	787.6	710.9			
R_2	806.7	747.7			

S.E. of difference of two

1. V marginal means = 74.3 lb./ac.
2. S marginal means = 42.7 lb./ac.
3. R marginal means = 33.8 lb./ac.
4. R means at the same level of V = 47.9 lb./ac.
5. R means at the same level of S = 58.7 lb./ac.
6. S means at the same level of V = 60.3 lb./ac.
7. V means at the same level of S = 89.2 lb /ac.
8. V means at the same level of R = 170.0 lb./ac.
9. S means at the same level of R = 124.0 lb./ac.

Crop :- Jowar *(Kharif).* **Ref :- Ms. 58(107).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'CV',**

Object :—To find out optimum spacing and seedrate combination for different varieties of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil (b) N.A. (iii) Second week of July, 1958. (iv) (a) 1 ploughing and 3 harrowings. (b) Drilling. (c) and (d) As per treatments. (e) N.A. (v) 5 C.L./ac. of F.Y.M.+25 lb./ac. of N+20 lb./ac. of P_2O_5. ½ at the time of sowing and other half, one month after sowing. (vi) As per treatments. (vii) Unirrigated. (viii) 2 interculturings and weeding: (ix) 26.5". (x) 24.1.1959.

2. TREATMENTS :

Main-plot treatments :
2 varities : V_1=BH 4—1—4. V_2=Giddamaladandi 1—5.

Sub-plot treatments :
3 spacings : S_1=15", S_2=18" and S_3=24" between lines.

Sub-sub-plot treatments :
2 seed rates : R_1=4, R_2=6 lb./ac.

3. DESIGN :

(i) Split-split plot. (ii) (a) 2 main-plots/replication ; 3 sub-plots/main-plot and 2 sub-sub-plots/sub-plot. (b) N.A. (iii) 4. (iv) S_1=20'×32', S_2=20'×33' and S_3=20'×34'. (b) 16'×30'. (v) and (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plant, size of earheads and grain yield. (iv) (a) 1954—1961. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) Varities changed in 1958.

5. RESULTS :

(i) 1483 lb./ac. (ii) (a) 211.7 lb./ac. (b) 229.7 lb./ac. (c) 154.5 lb./ac. (iii) Only V effect is significant. (iv) Av. yild of grain in lb./ac.

	R_1	R_2	Mean	S_1	S_2	S_3
V_1	1432	1303	1368	1290	1424	1389
V_2	1586	1612	1599	1562	1728	1507
Mean	1509	1458	1483	1426	1576	1448
S_1	1415	1438				
S_2	1611	1541				
S_3	1502	1394				

S.E. of difference of two

1. V marginal means = 61.1 lb./ac.
2. S marginal means = 81.2 lb./ac.
3. R marginal means = 44.6 lb./ac.
4. S means at the same level of V = 114.9 lb./ac.
5. R means at the same level of V = 63.1 lb./ac.
6. R means at the same level of S = 77.2 lb./ac.
7. V means at the same level of S = 112.0 lb./ac.
8. V means at the same level of R = 75.7 lb./ac.
9. S means at the same level of R = 97.9 lb./ac.

Crop :- Jowar. **Ref :- Ms. 59(40).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'CV'.**

Object :—To find out the proper spacing and seedrate for tall and dwarf types of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 3 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) N.A. (iii) 26 to 28.7.1959. (iv) (a) 1 ploughing and 2 harrowings. (b) Drilling. (c) and (d) As per treatments. (e) 1. (v) 4 C.L./ac of F.Y.M. (broadcasted). (vi) As per trearments. (vii) Unirrigated. (viii) 2 interculturings and 1 weeding. (ix) 26.5". (x) 27.12.1959.

2. TREATMENTS :

Same as in expt. no. 58(107) on page 356.

3. DESIGN:

(i) Split-plot. (ii) (b) 2 main-plots/replication ; 3 sub-plots/main-plot, and 2 sub-sub-plots/sub-plot. (b) N.A. (iii) 4. (iv) (a) 17'×33'. (b) 14'×30'. (v) One row. (vi) Yes.

4. GENERAL :

(I) Satisfactory. (ii) Nil. (iii) Height of plant, length and breadth of earheads and grain yield. (iv) (a) 1954—1961. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1235 lb./ac. (ii) (a) 315.8 lb./ac. (b) 432.1 lb./ac. (c) 194.7 lb./ac. (iii) Only V×R interaction is highly significant. (iv) Av. yield of grain in lb./ac.

	S_1	S_2	S_3	Mean	R_1	R_2
V_1	1397	1433	1114	1315	1361	1268
V_2	1231	1136	1098	1155	1039	1271
Mean	1314	1284	1106	1235	1200	1270
R_1	1321	1284	995			
R_2	1307	1285	1217			

S.E. of difference of two

1.	V marginal means	= 91.2 lb./ac.	6.	S means at the same level of V	= 216.0 lb./ac.
2.	S marginal means	= 152.8 lb./ac.	7.	S means at the same level of R	= 167.6 lb./ac.
3.	R maginal means	= 56.2 lb./ac.	8.	V means at the same level of S	= 198.5 lb./ac.
4.	R means at the same level of S	= 97.4 lb./ac.	9.	V means at the same level of R	= 107.1 lb./ac.
5.	R means at the same level of V	= 79.5 lb./ac.			

Crop :- Jowar. **Ref :- Ms. 55(99).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'CM'.**

Object :—To compare the effect of departmental method with the local method of cultivation of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) N.A. (iii) 17.7.1955. (iv) (a) 1 ploughing, and 2 harrowings. (b) Drill sowing. (c) and (d) As per treatments. (e) N.A. (v) 5 C.L./ac. of F.Y.M. applied by broadcast. (vi) Fulgarwhite. (vii) Unirrigated. (viii) 2 interculturings and 1 weeding. (ix) 16.02". (x) 24.12.1955.

2. TREATMENTS :

2 methods of cultivation : M_1=local method of manuring with spacing 18" and seed rate 7 lb./ac. and M_2=Departmental method of manuring i.e., 20 lb./ac. of N as A/S+20 lb./ac. of P_2O_5 as Super with spacing 24" and seed rate 4 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) 48'×18' for M_1 and 48'×20' for M_2. (b) 42'×12'. (v) 4'×3'. (vi) Yes.

4. GENERAL :

(i) Late rains damaged the crop to some extent. (ii) Slight attack of rust and sugary disease—control measures N.A. (iii) Height of plant, size of earhead and grain yield. (iv) (a) 1955—contd. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 897 lb./ac. (ii) 205.7 lb./ac. (iii) Treatment difference is highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2
Av. yield	1029	766

S.E./mean = 59.4 lb./ac.

Crop :- Jowar. **Ref :- Ms. 56(38).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'CM'.**

Object :—To compare the effect of departmental method with the local method of cultivation of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (iii) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) N.A. (iii) (iv) 10.7.1956. (a) One ploughing and 3 harrowings. (b) Drilled. (c) and (d) As per treatments. (e) N.A (v) 5 C.L./ac. of F.Y.M. broadcasted prior to sowing. (vi) Fulgar white (medium). (vii) Unirrigated. (viii) 2 interculturing and 1 weeding. (ix) 24.69". (x) 4th week of January 1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. 55(99) above.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plant, size of earheads and grain yield. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 863 lb /ac. (ii) 85.10 lb /ac. (iii) Treatment difference is highly significant. (iv) Av. yield of grain in lb /ac.

Treatment	M_1	M_2
Av. yield	551	1175

S.E./mean = 24.6 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 57(133).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'CM'.**

Object :—To compare the effect of departmental with local method of cultivation of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) N.A. (iii) 23.7.1957. (iv) (a) One ploughing and 3 harrowings. (b) Drilling. (c) and (d) As per treatments. (e) —. (v) 5 C.L./ac. of F.Y.M. broadcasted before sowing. (vi) Fulgar white (medium). (vii) Unirrigated. (viii) 2 interculturings and one weeding. (ix) 26.80". (x) 28.12.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(99) on page 358.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plant, size of earheads and grain yield. (iv) (a) 1955—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1011 lb./ac. (ii) 152.9 lb./ac. (iii) Treatment difference is significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2
Av. yield	919	1104

S.E./mean = 44.1 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 55(132).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'CM'.**

Object :—To determine the relative merits of cultivating Jowar by different methods.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*—Sunnhemp. (c) Super at 150 lb./ac. (ii) (a) Medium deep clay. (b) N.A. (iii) 14.10.1955. (iv) (a) 2 ploughings and 3 bakharings. (b) Seed drill. (c) 8 lb./ac. (d) As per treatments. (e) N.A. (v) Nil. (vi) M_{35}—1 (medium). (vii) Irrigated. (viii) Gap-filling, hoeing and hand weeding. (ix) 7.70". (x) 24.2.1956.

2. TREATMENTS :

3 methods of cultivation : M_1=spacing 15"×9" and 4172 lb./ac. of F.Y.M.+38 lb./ac. of A/S+82 lb./ac. of Super+82 lb./ac. of G.N.C., M_2=spacing 18"×9" and 1166 lb./ac. of F.Y.M.+23 lb./ac. of A/S+14 lb./ac. of Super and M_3=No manuring, spacing 15"×4".

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 2. (iv) (a) 155'×33'. (b) 152'×30'. (v) 1½'×1½'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Sugary disease—no control measures taken. (iii) Grain yield. (iv) (a) 1955—contd. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 1029 lb./ac. (ii) 137.4 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	1398	1058	631

S.E./mean = 97.2 lb./ac.

Crop :- Jowar *(Kharif).* **Ref :- Ms. 56(34).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'CM'.**

Object :—To determine the relative merits of cultivating Jowar by Japanese method over local cultivators' method.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) 40 lb./ac. of N+20 lb./ac. of P_2O_5. (ii) (a) Black clayey. (b) N.A. (iii) 14.7 1956. (iv) (a) 1 ploughing, and 2 harrowings. (b) Seed drill. (c) 10 lb./ac. (d) Between rows 18". (e) N.A. (v) Nil. (vi) D—340 (medium). (vii) Irrigated. (viii) 2 hoeings, thinning and 1 weeding. (ix) 18.81". (x) 29.11.1956.

2. TREATMENTS :

M_1=Local method and M_2=Modified Japanese method (5 C.L./ac. of F.Y.M.+100 lb./ac. of A/S+60 lb./ac. of Super).
Manures drilled before sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 3. (iv) (a) and (b) 70'×102'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) No. (iii) Yield data. (iv) (a) to (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 1405 lb./ac. (ii) 290.8 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2
Av. yield	1017	1794

S.E./mean = 167.9 lb./ac.

Crop :- Jowar *(Rabi).* **Ref :- Ms. 55(30).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'CM'.**

Object :—To find out an optimum time of sowing under economic dosage of manure and su table spacing.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton. (c) N.A. (ii) (a) Black clayey. (b) N.A. (iii) As per treatments. (iv) (a) Ploughing and harrowing. (b) and (c) N.A. (d) As per treatments. (e) N.A. (v) 10 C.L./ac. of F.Y.M. (vi) M_{35}—1 (early). (vii) Irrigated. (viii) Hoeing and weeding. (ix) 7.78". (x) First week of February 1957.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 dates of sowing : D_1=25.9.1955, D_2=11.10.1955 and D_3=25.10.1955
(2) 3 row spacings : S_1=12", S_2=18" and S_3=24".
(3) 3 levels of N : N_0=0, N_1=20 and N_2=40 lb./ac.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 4. (iv) (a) and (b) 24′×18′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—N.A. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 609 lb./ac. (ii) 120.2 lb./ac. (iii) Main effects of N and D are highly significant. Interactions S×D is significant. (iv) Av. yield of grain in lb./ac.

	S_1	S_2	S_3	N_0	N_1	N_2	Mean
D_1	467	526	506	468	512	519	500
D_2	569	757	698	567	675	782	675
D_3	738	636	582	574	682	700	652
Mean	591	640	595	536	623	667	609
N_0	536	533	540				
N_1	613	659	597				
N_2	626	727	649				

S.E. of any marginal mean = 20.0 lb./ac.
S.E. of body of any table = 34.6 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 56(31).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'CM'.**

Object :—To find out an optimum time of sowing under economic dosage of manure and suitable spacing.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat and Bengal gram. (c) 40 lb./ac. of N+20 lb./ac. of P_2O_5. (ii) (a) Black clayey. (b) N.A. (iii) As per treatments. (iv) (a) Ploughing and harrowing. (b) and (c) N.A. (d) As per treatments. (e) N.A. (v) 10 C.L./ac. of F.Y.M. (vi) K—340. (vii) Irrigated. (viii) Hoeing and weeding. (ix) 28.38″. (x) Last week of October, 1956.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 dates of sowing : D_1=17.6.1956, D_2=30.6.1956 and D_3=13.7.1956.
(2) 3 row spacings : S_1=12″, S_2=15″ and S_3=18″.
(3) 3 levels of N : N_0=0, N_1=20 and N_2=40 lb./ac.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 3 blocks/replication ; 9 plots/block. (b) N.A. (iii) 4. (iv) (a) and (b) 24′×18′. (v) No. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—N.A. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 1432 lb./ac. (ii) 475.5 lb./ac. (iii) Main effects of D and N are highly significant. (iv) Av. yield of grain in lb./ac.

	S_1	S_2	S_3	N_0	N_1	N_2	Mean
D_1	1541	1801	1645	1223	1897	1866	1662
D_2	1512	1370	1641	1453	1424	1646	1508
D_3	930	1210	1241	968	1067	1346	1127
Mean	1328	1460	1509	1214	1463	1619	1432
N_0	1151	1131	1361				
N_1	1396	1502	1491				
N_2	1436	1748	1674				

S.E. of any marginal mean = 79.3 lb./ac.
S.E. of body of any table. = 137.3 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 57(7).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'CM'.**

Object :—To find out the optimum time of sowing under economic dosage of manure and suitable spacing.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut—*Tur*. (c) Nil. (ii) (a) Black clayey soil. (b) N.A. (iii) As per treatments. (iv) (a) 2 ploughings and 5 harrowings. (b) Seed drill. (c) 8 lb./ac. (d) As per treatments. (e) N.A. (v) 10 C.L./ac. of F.Y.M.+30 lb /ac. of P_2O_5 as Super. (vi) K—340. (vii) Irrigated. (viii) Hoeing and weeding. (ix) 25.13". (x) Last week of October, 1957.

2. TREATMENTS :

All combinations of (1), (2) and (3)
(1) 3 dates of sowing : D_1=10.6.1957, D_2=20.6.1957 and D_3=30.6.1957.
(2) 3 row spacings : S_1=12", S_2=15" and S_3=18".
(3) 3 levels of N : N_0=0, N_1=20 and N_2=40 lb./ac.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 4. (iv) (a) and (b) 24'×18'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain and fodder yield. (iv) (a) 1955—N.A. (b) and (c) No. (v) (a) and (b) No. (vi) and (vii) Nil.

5. RESULTS :

(i) 1640 lb./ac. (ii) 320.3 lb./ac. (iii) Main effects of N and D are highly significant and interactions N×D and D×S are significant. (iv) Av. yield of grain in lb./ac.

	D_1	D_2	D_3	S_1	S_2	S_3	Mean
N_0	1397	1501	1101	1397	1244	1359	1333
N_1	1767	1924	1403	1665	1797	1632	1698
N_2	2070	2091	1506	1860	1977	1829	1889
Mean	1744	1839	1337	1641	1673	1607	1640
S_1	1796	1791	1335				
S_2	1709	1996	1313				
S_3	1728	1729	1363				

S.E. of any marginal mean = 53.4 lb./ac.
S.E. of body of table = 92.4 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 58(63).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'CM'.**

Object :—To find out the best time of sowing, optimum spacing and suitable manurial dose for Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 40 lb./ac. of N+20 lb./ac. of P_2O_5. (ii) (a) Medium black cotton soil. (b) N.A. (iii) As per treatments. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 10 lb./ac (d) As per treatments. (e) N.A. (v) 40 lb./ac. of N+20 lb./ac. of P_2O_5+5 C.L./ac. of F.Y.M. (vi) D—340. (vii) Irrigated. (viii) Hand weeding. (ix) 13.33″. (x) N.A.

2. TREATMENTS :

Same as in expt. no. 57(7) on page 362.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 27. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 24′×18′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Fly borer—picked the dead hearts. (iii) Height of the plant, thickness and weight of ear-head and no. of leaves and grain yield. (iv) (a) 1955—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1337 lb./ac. (ii) 222.7 lb./ac. (iii) Main effect of N alone is highly significant. (iv) Av. yield of grain in lb./ac.

	D_1	D_2	D_3	N_0	N_1	N_2	Mean
S_1	1337	1765	1184	1093	1397	1796	1429
S_2	1591	1485	1016	590	1515	1987	1364
S_3	1259	1067	1331	825	1193	1639	1219
Mean	1396	1439	1177	836	1368	1807	1337
N_0	842	1043	624				
N_1	1510	1373	1221				
N_2	1835	1902	1685				

S.E. of any marginal mean = 37.1 lb./ac.
S.E. of body of any table = 90.9 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 59(80).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'CM'.**

Object :—To find out best time of sowing, optimum spacing and suitable manurial dose.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) 20 lb./ac. of N as A/S+20 lb./ac. of P_2O_5 as Super. (ii) (a) Medium black cotton soil. (b) N.A. (iii) As per treatments. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 10 lb./ac. (d) As per treatments. (e) N.A. (v) 5 C.L./ac. of F.Y.M.+20 lb./ac. of P_2O_5. (vi) D—340. (vii) Irrigated. (viii) 2 weedings. (ix) 20.67″. (x) 29.10.1959.

2. TREATMENTS :

Same as in expt. no. 57(7) on page 362.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 4. (iv) (a) and (b) 24′×18′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Fly borer—picked dead hearts. Stem borer attack in later stages. (iii) Height of plant, thickness of stem, weight of ear head no. of leaves and grain yield. (iv) (a) 1955–N.A. (b) and (c) No. (v) and (vi) Nil. (vii) As the lay out of replication 2 and 3 were wrong, the analysis was done as an unconfounded design.

5. RESULTS :

(i) 1139 lb./ac. (ii) 364.6 lb./ac. (iii) Main effect of D alone is significant. (iv) Av. yield of grain in lb./ac.

	S_1	S_2	S_3	N_0	N_1	N_2	Mean
D_1	1375	1574	1396	1316	1416	1613	1448
D_2	1537	1323	1306	1269	1404	1493	1389
D_3	576	560	604	619	475	646	580
Mean	1162	1152	1102	1068	1098	1250	1139
N_0	1105	1029	1070				
N_1	1138	1165	991				
N_2	1244	1262	1245				

S.E. of any marginal mean = 60.8 lb /ac.

S.E. of body of table = 105.2 lb./ac.

Crop :- Jowar. **Ref :- Ms. 55(117).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'CM'.**

Object :—To compare the superiority of Departmental method of Jowar cultivation over the local method.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut—Gram. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 15 7.1955. (iv) (a) Harrowing. (b) Drill sowing. (c) 4 lb./ac. (d) As per treatments. (e) N.A. (v) 5 C L./ac. of F.Y.M. spead over the soil by broadcasting. (vi) *Nandyal* (early). (vii) Unirrigated. (viii) 1 Interculturing and 1 weeding. (ix) 29.56″. (x) 28.12.1955.

2. TREATMENTS :

2 methods of meanuring : M_1=Departmental method : 20 lb./ac. of P_2O_5 as super+40 lb./ac. of N as A/S with 24″ spacing and M_2=Local method of manuring with 15″ spacing.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) 20′×30′. (b) 15′×24′ for M_1 and 16′×22½′ for M_2. (v) 2′×3′ or 2.5′×3 75′. (vi) Yes.

4. GENERAL :

(i) Good ; lodged in the 1st week of November. (ii) Nil. (iii) Grain yield and plant height. (iv) (a) 1955—N.A. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 2399 lb./ac (ii) 235.20 lb./ac. (iii) Treatment difference is highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2
Av. yield	2758	2040

S.E./mean = 67.9 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 56(57).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'CM'.**

Object :—To test the superiority of the departmental method of Jowar cultivation over the local method.

1. BASAL CONDITIONS :

(i) (a) No. (b) China *Mug*—Wheat. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 17.6.1956. (iv) (a) 4 harrowings. (b) Drill sowing. (c) 4 lb./lac. (d) Between rows 6″. (e) N.A. (v) 5 C.L./ac. of F.Y.M. spread over the soil by broadcasting. (vi) *Nandyal* (early). (vii) Unirrigated. (viii) 1 interculturing and 1 weeding. (ix) 37.71″. (x) 19.12.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt no. 55(117) on page 364.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—N.A. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 2681 lb./ac. (ii) 283.4 lb./ac. (iii) Treatment difference is highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2
Av. yield	2920	2442

S.E./mean = 81.8 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :-Ms. 57(57).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'CM'.**

Object :—To test the superiority of the departmental method of Jowar cultivation over the local method.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 16.7.1957. (iv) (a) 4 harrowings. (b) N.A. (c) 4 lb./ac. (d) As per treatments. (e) N.A. (v) 5 C.L./ac. of F Y.M. (vi) *Nandyal*. (vii) Unirrigated. (viii) Gap-filling and 1 interculturing. (ix) 20.18″. (x) 27.12.1957.

2. TREATMENTS :

M_1 = Departmental method : 40 lb./ac. of N as A/S + 20 lb./ac. of P_2O_5 as Super. N applied in two doses half at sowing and half 3 weeks after sowing with spacing 18″ between rows.

M_2 : Local method of manuring with spacing of 18″ between rows.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) 30′×20′. (b) 24′×15′. (v) 3′×2½′. (vi) Yes.

4. GENERAL :

(i) Satisfactorv —lodging commenced on 28.10.1957. (ii) Nil. (iii) Height measurements and grain yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1741 lb./ac. (ii) 182.3 lb./ac. (iii) Treatment difference is highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2
Av. yield	2012	1470

S.E./mean = 52.6 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 58(3).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'CM'.**

Object :—To compare the superiority of departmental method of Jowar cultivation over the local method.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut intercroped in Cotton. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 27.7.1958. (iv) (a) 5 harrowings. (b) As per treatments. (c) 4 lb./ac. (d) As per treatments. (e) N.A. (v) 5 C.L./ac. of F.Y.M. (vi) *Nandyal*. (vii) Unirrigated. (viii)Gap-filling, interculturing and hand weeding. (ix) 96.26". (x) 30 and 31.12.1958.

2. TREATMENTS :

M_1 = Departmental method : 40 lb./ac. of N as A/S half at sowing and the other half after 3 weeks+20 lb./ac. of P_2O_5 before sowing, row spacing 24".

M_2 = Local method : No top dressing. row spacing 15".

M_3 = Improved method : 20 lb./ac. of N as A/S half at sowing and the other half after another 3 weeks+20 lb./ac. of P_2O_5 before sowing, row spacing 24".

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 12. (iv) (a) 35'×20'. (b) 25'×10'. (v) 5'×5'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height measurements and grain yield. (iv) (a) 1958—N.A. (b) and (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1948 lb./ac. (ii) 245.8 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	2370	2044	1430

S.E./mean = 71 0 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 59(131).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'CM'.**

Object :—To assess the superiority of departmental method of Jowar cultivation over local and improved methods.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton+Groundnut. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Light red to medium black soil. (b) Refer soil analysis, Dharwar. (iii) 30.7.1959. (iv) (a) Ploughing. (b) Drilling. (c) 4 lb./ac. (d) As per treatments. (e) —. (v) 5 C.L./ac. of F.Y.M. (vi) N.A. (vii) Unirrigated. (viii) N.A. (ix) 24.48". (x) N.A.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(3) above.

5. RESULTS :

(i) 1444 lb./ac. (ii) 102.1 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	1708	1017	1608

S.E./mean = 29.5 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 58(109).**

Site :-Agri. Res. Stn., Dharwar. **Type :- 'CM'.**

Object :—To find out a suitable combination of method of sowing with fertilizer application.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 6.8.1958. (iv) (a) Ploughing and harrowing. (b) As per treatments. (c) 6 lb./ac. (d) 18" between rows. (e) N.A. (v) Nil. (vi) *Nandyal*. (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 17.5". (x) 17.1.1959.

2. TREATMENTS :

Main-plot treatments :

M_1=Drilling, M_2=Dibbling with 18"×18" and M_3=Dibbling with 15"×15".

Sub-plot treatments :

3 fertilizers : F_0=control, F_1=20 lb./ac. N+15 lb./ac. P_2O_5 in 2 doses and F_2=40 lb./ac. N+30 lb./ac. P_2O_5 in two doses.

DESIGN :

(i) Split plot. (ii) (a) 3 main-plots/replication ; 3 sub-plots/main plot. (b) N.A. (iii) 6. (iv) (a) 15'×24'. (b) 11'×19'. (v) N.A. (vi) Yes.

GENERAL :

(i) Normal. (ii) Nil. (iii) Size of earheads and grain yield. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3723 lb./ac. (ii) (a) 672.8 lb./ac. (b) 818.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	F_0	F_1	F_2	Mean
M_1	3647	3856	4342	3948
M_2	3335	3543	4168	3682
M_3	3109	4186	3317	3537
Mean	3364	3862	3942	3723

S.E. of difference of two

1. M marginal means = 224.3 lb./ac.
2. F marginal means = 272.8 lb./ac.
3. F means at the same level of M = 472.5 lb./ac.
4. M means at the same level of F = 446.2 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref. :- Ms. 58(108).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'CM'.**

Object :—To study the effect of green manuring on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Chilly. (c) 4 C.L./ac. of F.Y.M.+20 lb./ac. of N. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 28.7.1958. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 6 lb./ac. (d) 15″ between rows. (e) N.A. (v) Nil. (vi) *Nandyal.* (vii) Unirrigated. (viii) 2 interculturings and 2 weedings. (ix) 17.5″. (x) 1st. week of Jan., 1959.

2. TREATMENTS :

T_1=*Jowar* sowing 15″ apart, T_2=*Jowar* sowing 30″ apart, T_3=*Jowar* sowing 30″ with one line of sannhemp in between and T_4=2 lines of *Jowar* 15″ apart and one line of sannhemp.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N A. (iii) 6. (iv) (a) 36′×22½′. (b) 31′×17½′. (v) 2½′×2½′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield and size of earheads. (iv) (a) 1958—N.A. (b) —. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1888 lb./ac. (ii) 514.7 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb. ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	1724	1922	1485	2422

S.E /mean = 210.1 lb./ac.

Crop :- Jowar. **Ref :- Ms. 54(112).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'CM'.**

Object :—To study the residual effect of Cotton, Groundnut mixed cropping with and without P on the succeeding crop of Jowar.

1. BASAL CONDITIONS :

(i) (a) to (c) As per treatments. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 12.7.1954. (iv) (a) Two harrowings. (b) Drilled. (c) 4 lb./ac. (d) Rows 18″ apart. (e) N.A. (v) F.Y.M. at 5000 lb./ac. (vi) *Nandyal.* (vii) Unirrigated. (viii) Two interculturings. (ix) 36.29″. (x) 16.12.1954.

2. TREATMENTS :

3 preceding crops with and without P_2O_5 : C_1=Cotton only, C_2=Groundnut+Cotton and C_3=Groundnut+Cotton with 50 lb./ac. of P_2O_5.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 42′×30′. (b) 30′×18′. (v) 6′×6′. (vi) Yes.

4. GENERAL ;

(i) Satisfactory. (ii) No. (iii) Height at various stages of crops, length of earhead, grain and straw yield. (iv) (a) 1948—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2140 lb /ac. (ii) 480.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_1	C_2	C_3
Av. yield	2046	2165	2208

S.E./mean = 196.0 lb./ac.

Crop :- Jowar. **Ref :- Ms. 55(114).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'CM'.**

Object :—To study the residual effect of Cotton, Groundnut mixed cropping with and without P on the succeeding crop of Jowar.

1 BASAL CONDITIONS :

(i) (a) to (c) As per treatments. Cotton—Groundnut. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 17.7.1955. (iv) (a) Harrowing. (b) Seed drill. (c) 4 lb./ac. (d) Between rows 18". (e) —. (v) F.Y.M. at 5 C.L./ac. broadcast on 5.6.1955. (vi) *Nandyal* (early). (vii) Unirrigated. (viii) One interculturing and 2 weedings. (ix) 29.56". (x) 7.12.1955.

2. TREATMENTS :

Same as in expt. no. 54(112) on page 368.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 62'×36'. (b) 50'×24'. (v) 6'×6'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield and plant height. (iv) (a) 1948—contd. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 2219 lb./ac. (ii) 157·7 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_1	C_2	C_3
Av. yield	2070	2330	2257

S.E./mean = 644 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 56(80).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'CM'.**

Object :—To study the residual effect of Cotton, Groundnut mixed cropping with and without P on the succeeding crop of Jowar.

1. BASAL CONDITIONS :

(i) (a) to (c) As per treatments. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 17.7.1956. (iv) (a) Nil. (b) Drilling. (c) 4 lb./ac. (d) Between rows 18". (e) N.A. (v) 5 C.L./ac. of F.Y.M. (vi) *Nandyal* (early). (vii) Unirrigated. (viii) Gapfilling and 2 interculturing. (ix) 37.71". (x) 20.12.1956.

2. TREATMENTS to 4. GENERAL.

Same as in expt. no. 55(114) above.

5. RELULTS :

(i) 1292 lb./ac. (ii) 202.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_1	C_2	C_3
Av. yield	1190	1313	1374

S.E./mean = 82.6 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 57(66).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'CM'.**

Object :—To study the residual effect of Cotton, Groundnut mixed cropping with and without P on the succeeding crop of Jowar.

1. BASAL CONDITIONS :

(i) (a) As per treatments. (b) Groundnut—Cotton. (c) As per treatments. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 19.7.1957. (iv) (a) 4 harrowings. (b) Drilling. (c) 4 lb./ac. (d) Between rows 18″. (e) N.A. (v) Nil. (vi) *Nandyal.* (vii) Unirrigated. (viii) Gap-filling 2 interculturings and one weeding. (ix) 24.1″. (x) 17.12.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. 55(114) on page 369.

5. RESULTS :

(i) 1326 lb./ac. (ii) 161.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	C_1	C_2	C_3
Av. yield	1181	1370	1428

S.E./mean = 66.1 lb./ac.

Crop :- Jowar *(Kharif).* **Ref :- Ms. 58(2).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'CM'.**

Object :—To study the residual effect of Cotton, Groundnut mixed cropping with and without P on the succeeding crop of Jowar.

1. BASAL CONDITIONS :

(i) (a) to (c) As per treatments. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 25.7.1958. (iv) (a) 5 harrowings. (b) Drilling. (c) 4 lb./ac. (d) Between rows 18″. (e) N.A. (v) Nil. (vi) *Nandyal.* (vii) Unirrigated. (viii) Gap-filling, 2 interculturings and one weeding. (ix) 11.28″. (x) 29.12.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. 55(114) on page 369.

5. RESULTS :

(i) 1497 lb./ac. (ii) 202.0 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	C_1	C_2	C_3
Av. yield	1555	1485	1450

S.E./mean = 82.4 lb./ac.

Crop :- Jowar *(Kharif).* **Ref :- Ms. 59(130).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'CM'.**

Object :—To study the residual effect of Groundnut intercropped in cotton on the succeeding crop of Jowar.

1. BASAL CONDITIONS :

(i) (a) to (c) As per treatments. (ii) (a) Light red to medium black soil. (b) Refer soil analysis, Dharwar. (iii) 28.7 1957. (iv) (a) N.A. (b) Drilling. (c) 4 lb /ac. (d) 2′×1′. (e) 1. (v) 5 C.L./ac. of F.Y.M. (vi) N.A. (vii) Unirrigated. (viii) N.A. (ix) 24.48″. (x) 4.1.1960.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 sowings : C_1=Entire cotton and C_2=Groundnut intercropped in cotton.

(2) 4 levels of N as A/S : N_0=0, N_1=10, N_2=20, and N_3=30 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 30′×40′. (b) 20′×32′. (v) 5′×4′. (vi) Yes.

4. GENERAL :

(i) Healthy. (ii) Red rest was noticed in all the treatments. No control measure. (iii) Straw and grain yield. (iv) (a) N.A. (b) No. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1256 lb./ac. (ii) 56.4 lb./ac. (iii) N and C effects are highly significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	N_3	Mean
C_1	1119	1134	1259	1219	1183
C_2	1318	1303	1308	1387	1329
Mean	1218	1218	1284	1303	1256

S.E. of N marginal mean = 19.9 lb./ac.
S.E. of C marginal mean = 14.1 lb./ac.
S.E. of body of table = 28.2 lb./ac.

Crop :- Jowar (*Kharif*). **Ref :- Ms. 56(14).**

Site :- Agri. Res. Stn., Raichur. **Type :- 'CM'.**

Object :—To study the effect of manure under dry conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Tur*. (c) 4 C.L./ac. of F.Y.M.+128 lb./ac. of paddy fertilizer mixture+60 lb./ac. of G.N.C. (ii) (a) Red sandy loam. (b) N.A. (iii) 9.7.1956. (iv) (a) Tractor tillering and 3 *bakherings*. (b) By seed drill. (c) 8 lb./ac. (d) As per treatments. (e) N.A. (v) As per treatments. (vi) PJ—8K (medium). (vii) Unirrigated. (viii) 2 intercultures with one weeding for M_1 and one interculture with one weeding for M_2. (ix) 47.65" (whole year). (x) 7.12.1956.

2. TREATMENTS :

M_1=Modified Farm method : 5 C.L./ac. of F.Y.M.+100 lb./ac. of A/S+50 lb./ac. of Super and row spacing 18" and M_2=Ordinary Farm method : 5 C.L./ac. of F.Y.M. with row spacing 15".
Manures are applied at the time of sowing by making a furrow and putting the manure in it by hand.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 3. (iv) (a) and (b) 68'×95'. (v) No. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yields were recorded. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 287 lb./ac. (ii) 157.0 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2
Av. yield	406	168

S.E /mean = 90.6 lb./ac.

Crop :- Jowar. **Ref :- Ms. 56(15).**

Site :- Agri. Res. Stn., Raichur. **Type :- 'CM'.**

Object :—To study the effect of manure under dry conditions.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) *Laxmi* cotton. (c) 300 lb./ac. of G.N.C. (ii) (a) Black cotton soil. (b) N.A. (ii) 26.10.1956. (iv) (a) Tractor tillering and 5 *bakherings*. (b) By seed drill. (c) 6 lb./ac. (d) As per treatments. (e) N.A. (v) As per treatments. (vi) PJ—4R (medium). (vii) Unirrigated. (viii) 2 intercultures for M_1 and one interculture for M_2. (ix) N.A. (x) 26.2.1957.

2. TREATMENTS:

Same as in expt. no. 56(14) on page 371.

3. DESIGN:

(i) R.B.D. (ii) (a) 2. (b) N A. (iii) 3. (iv) (a) and (b) 64′×68′. (v) No. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Yield data. (iv) (a) 1955—1957. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS:

(i) 439 lb./ac. (ii) 61.5 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2
Av. yield	494	383

S.E./mean = 35.5 lb./ac.

Crop :- Jowar *(Khairf)*. **Ref :- Ms. 56(MAE).**

Site :- M.A.E. Farm, Gangavati. **Type :- 'CM'.**

Object :—Type VIII—To study the effect of N and P along with different spacings on the yield of Jowar.

1. BASAL CONDITIONS:

(i) (a) to (c) N.A. (ii) (a) Deep black soil. (b) N.A. (iii) 21,22.7.1956. (iv) (a) and (b) N.A. (c) 30 lb./ac. (d) 4″ to 5″ within rows. (e) N.A. (v) F.Y.M. at 5000 lb./ac. (vi) 340. (vii) Irrigated. (viii) Gap-filling. (ix) N.A. (x) 21 to 24.11.1956.

2. TREATMENTS:

All combinations of (1), (2) and (3).

(1) 3 levels of N : N_0=0, N_1=20 and N_2=40 lb./ac.

(2) 3 levels of P_2O_5 : P_0=0, P_1=20 and P_2=40 lb./ac.

(3) 3 spacings between rows : S_1=9″, S_2=12″ and S_3=15″.

3. DESIGN:

(i) 3^3 fact. confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 2. (iv) (a) 36′×15′. (b) S_1=12½′×13½′, S_2=33½′×13′ and S_3=34′×12½′. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Normal. (ii) Very mild attack of sugary disease. (iii) Grain yield. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:

(i) 1386 lb./ac. (ii) 457.8 lb./ac. (iii) Main effects of N and S and interaction N×S are highly significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean	P_0	P_1	P_2
S_1	1516	2231	3354	2367	2178	2298	2626
S_2	624	997	934	852	833	799	924
S_3	565	866	1384	938	780	1071	964
Mean	902	1365	1891	1386	1264	1389	1505
P_0	808	1298	1686				
P_1	969	1237	1960				
P_2	928	1560	2026				

S.E. of any marginal mean = 107.9 lb./ac.
S.E. of body of any table = 186.9 lb./ac.

Crop :- Jowar *(Khairf).* **Ref :- Ms. 57 (MAE).**

Site :- M.A.E. Farm, Gangavati. **Type :- 'CM'.**

Object :—Type VIII—To study the effect of N and P along with different spacings on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Deep black soil. (b) N.A. (iii) 17, 18.7.1957. (iv) (a) Ploughing, 3 to 4 harrowings and no irrigation before sowing. (b) By hand drill. (c) 45 lb./ac. (d) 3" to 5" within rows. (e) N.A. (v) 5000 lb./ac of F.Y.M. (vi) K—340 (late). (vii) Irrigated. (viii) 3 intercultures and 2 weedings. (ix) 19". (x) 19 to 27.10.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. 56(MAE) Type VIII on page 372.

4. GENERAL :

(i) Not satisfactory. (ii) Attack of stem-borer noticed. Effected plants uprooted and burnt. (iii) Grain yield. (iv) (a) 1956—contd. (b) No (c) Nil. (v) (a) and (b) Nil. (vi) Heavy rains in the last week of October adversely effected the crop. (vii) Nil.

5. RESULTS :

(i) 769 lb./ac. (ii) 237.6 lb./ac. (iii) Main effect of N alone is highly significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean	P_0	P_1	P_2
S_1	372	604	1127	701	734	670	698
S_2	309	895	1128	777	731	770	831
S_3	383	767	1338	829	689	1016	784
Mean	355	755	1198	769	718	819	771
P_0	429	748	977				
P_1	281	767	1408				
P_2	355	750	1208				

S.E. of any marginal mean = 56.0 lb./ac.
S.E. of body of any table = 97.0 lb./ac.

Crop :- Jowar *(Khairf).* **Ref :- Ms. 58(MAE).**

Site :- M.A.E. Farm., Gangevati. **Type :- 'CM'.**

Object :—Type VIII—To study the effect of N and P along with different spacings on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Deep black soil. (b) N.A. (iii) 4th week of June 1958. (iv) (a) 2 ploughings and 2 harrowings. (b) N.A. (c) 15 lb./ac. (d) 4" within rows. (e) N.A. (v) 5000 lb./ac. of F.Y.M. (vi) D—340 (late). (vii) Irrigated. (viii) 3 weedings and 2 hoeings. (ix) 24". (x) 4th week of Oct. to 1st week of Nov, 1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(MAE) type VIII on page 372.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) Crop was damaged due to water logging. (vi) and (vii) Nil.

5. RESULTS :

(i) 2530 lb./ac. (ii) 469.9 lb./ac. (iii) Main effects of S and N are highly significant. (iv) Av. yield of grain in lb /ac.

	N_0	N_1	N_2	Mean	P_0	P_1	P_2
S_1	1819	2831	2650	2433	2450	2576	2273
S_2	1827	2411	2712	2317	2074	2296	2581
S_3	2173	3455	2888	2839	2855	2773	2889
Mean	1940	2899	2750	2530	2460	2548	2581
P_0	2016	2773	2591				
P_1	1893	2946	2805				
P_2	1911	2978	2854				

S.E. of any marginal mean = 110.8 lb./ac.
S.E. of body of any table = 191.8 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 59(MAE).**

Site :- M.A.E. Farm, Gangavati. **Type :- 'CM'.**

Object :—Type VIII—To study the effect of N and P along with different spacings on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jawar*—cotton—Gram. (b) Gram. (c) 20 lb./ac. of N as A/S. (ii) (a) Deep black soil. (b) N.A. (iii) 24.6.1959. (iv) (a) 1 ploughing and 3 harrowings. No irrigation before sowing. (b) By hand drill. (c) 12 lb./ac. (d) 4″ to 5″. (e) N.A. (v) 5000 lb./ac. of N. (vi) D—340. (vii) Irrigated. (viii) to (x) N.A.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(MAE) type VIII on page 372.

4. GENERAL :

(i) N.A. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2094 lb./ac. (ii) 611.8 lb./ac. (iii) Main effect of P is significant and interaction S×N×P is highly significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean	P_0	P_1	P_2
S_1	2255	1736	2082	2024	1876	2362	1834
S_2	1884	2444	2164	2164	1851	2296	2345
S_3	1900	2164	2221	2095	1851	1917	2517
Mean	2013	2115	2155	2094	1859	2192	2232
P_0	1753	1753	2071				
P_1	2288	2394	1894				
P_2	1998	2198	2500				

S.E. of any marginal mean = 144.2 lb./ac.
S.E. of body of any table = 249.8 lb./ac.

Crop :- Jowar *(Kharif).* **Ref :- Ms. 55(199).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To study the requirement of water for Jowar under different manurial conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) N.A. (ii) (a) Sandy loam. (b) N.A. (iii) 2.7.1955. (iv) (a) Ploughing. (b) Dibbling. (c) 10 lb./ac. (d) 18" between rows. (e) 2 to 3. (v) 5 C.L./ac. of F.Y.M. (vi) *Nandyal.* (vii) Irrigated. (viii) Weeding and interculturing. (ix) 20.64". (x) 2.12.1955.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 4 levels of N : N_0=0, N_1=30, N_2=60 and N_3=90 lb./ac.

(2) 2 levels of water under field conditions : I_1=Minimum and I_2=Maximum.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 45'×20'. (b) 41'×17'. (v) 2 rows around the plot. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Germination count, plant height, grain and straw yield. (iv) (a) 1954—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1814 lb./ac. (ii) 296.5 lb./ac. (iii) Effect of N alone is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	N_3	Mean
I_1	1578	1547	1875	1906	1726
I_2	1844	1766	1766	2234	1902
Mean	1711	1656	1820	2070	1814

S.E. of I marginal mean = 74.1 lb./ac.
S.E. of N marginal mean = 104.8 lb./ac.
S.E. of body of table = 148.2 lb./ac.

Crop :- Jowar *(Kharif).* **Ref :- Ms. 56(160).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To study the requirement of water for Jowar under different manurial conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) N.A. (ii) (a) Sandy loam. (b) N.A. (iii) 2.7.1956. (iv) (a) Ploughing. (b) Dibbling. (c) 9 lb./ac. (d) 18"×12". (e) 2—3 seeds. (v) 5 C.L./ac. of F.Y.M. (vi) *Nandyal.* (vii) Irrigated. (viii) Weeding and interculturing. (ix) 25.86". (x) 4.12.1956.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 levels of N : N_1=20, N_2=40 and N_3=60 lb./ac.

(2) 2 levels of irrigations : I_1=3 acre inches and I_2=4½ acre inches.

3. DESIGN:

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 18′×23′. (b) 14′×20′. (v) 2′×1½′. (vi) Yes.

4. GENERAL;

(i) Good. (ii) Nil. (iii) Germination count, plant height, grain and straw yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3323 lb./ac. (ii) 582.8 lb./ac. (iii) N effect alone is significant. (iv) Av. yield of grain in lb./ac.

	N_1	N_2	N_3	Mean
I_1	2758	3232	3823	3271
I_2	3018	3422	3687	3376
Mean	2888	3327	3755	3323

S.E. of N marginal mean = 205.9 lb./ac.
S.E. of I marginal mean = 168.2 lb./ac.
S.E. of body of table = 291.4 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 57(166).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To study the water requirements of Jowar under different manurial conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) N.A. (ii) (a) Kirl. (b) N.A. (iii) 5.7.1957. (iv) (a) Ploughing. (b) Dibbling. (c) 10 lb./ac (d) 18″×12″. (e) 2 to 3. (v) 5 C.L./ac. of F.Y.M. (vi) *Nandyal.* (vii) Irrigated. (viii) Weeding and interculturing. (ix) 18.54″. (x) 7.12.1957.

2. TREATMENTS :

Same as in expt. no. 56(160) on page 375.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 24′×48′. (b) 18′×36′. (v) 3′×6′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Germination count, plant height and grain yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS

(i) 1684 lb./ac. (ii) 336.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_1	N_2	N_3	Mean
I_1	1452	1740	1892	1695
I_2	1537	1706	1776	1673
Mean	1494	1723	1834	1684

S.E. of N marginal mean = 118.8 lb./ac.
S.E. of I marginal mean = 97.1 lb./ac.
S.E. of body of table = 168.1 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 59(10).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To find the optimum water and manurial requirements of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) Nil. (ii) (a) Sandy loam. (b) N.A. (iii) 20.6.1959. (iv) (a) Ploughing. (b) Dibbling. (c) 10 lb./ac. (d) 18″×12″. (e) 2 to 3. (v) 5 C.L./ac. of F.Y.M. (vi) *Nandyal*. (vii) Irrigated. (viii) Weeding, interculturing and thinning. (ix) 17.37″. (x) 24 and 25.11.1959.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of irrigation : $I_1=2\frac{1}{2}$ and $I_2=3\frac{1}{2}$ ac. inches.

(2) 5 manurial treatments : $M_0=0$ lb./ac. of N, $M_1=30$ lb./ac. of N as A/S and G.N.C in 1 : 2 ratio, $M_2=30$ lb./ac. of N as A/S+10 lb./ac. of P_2O_5 as Super+10 lb /ac. of K_2O as Pot. Sul., $M_3=60$ lb./ac. of N as A/S and G.N.C. in 1 : 2 ratio and $M_4=60$ lb./ac. of N as A/S+20 lb./ac. of P_2O_5+20 lb./ac. of K_2O.

1st dose 3 weeks after sowing—Full K_2O+Full P_2O_5+$\frac{1}{2}$ N.

2nd dose 8 weeks after sowing—rest of N.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 10. (b) N.A. (iii) 3. (iv) (a) 24′×22′. (b) 21′×20′. (v) 1½′×1′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Slight attack of leaf rust at earing. (iii) Height of plant, size of earhead and grain yield. (iv) (a) 1959—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3677 lb./ac. (b) 415.7 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	M_0	M_1	M_2	M_3	M_4	Mean
I_1	3699	3409	3688	3887	3943	3725
I_2	3325	3710	3710	3571	3826	3628
Mean	3512	3559	3699	3729	3884	3677

S.E. of I marginal mean = 187.4 lb./ac.
S.E. of M marginal mean = 169.7 lb./ac.
S.E. of body of table = 240.0 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 56(21).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'IM'.**

Object :—To find out the irrigational and manurial requirements of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton. (c) As per treatments. (ii) (a) Black clayey. (b) N.A. (iii) 24.10.1956. (iv) (a) 2 ploughings, and 4 to 5 harrowings. (b) to (e) N.A. (v) 30 lb./ac. of P_2O_5 as Super. (vi) $M_{35}-1$ (medium) (vii) Irrigated. (viii) Gap-filling, thinning, two weedings and interculturing. (ix) 12.67″. (x) 23.3.1957.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 4 levels of N as A/S : $N_0=0$, $N_1=20$, $N_2=40$ and $N_3=60$ lb./ac.

(2) 5 levels of irrigation : $I_1=0$, $I_2=2$, $I_3=4$, $I_4=6$ and $I_5=8$.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 20. (b) N.A. (iii) 3. (iv) (a) and (b) 26′×26′. (v) No. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—1957. (b) N.A. (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 724 lb./ac. (ii) 259.5 lb./ac. (iii) N effect is highly significant and I effect is significant. (iv) Av. yield of grain in lb./ac.

	I_1	I_2	I_3	I_4	I_5	Mean
N_0	432	609	350	651	332	475
N_1	655	619	818	375	523	598
N_2	641	511	900	1211	1141	881
N_3	473	1003	729	1353	1146	941
Mean	550	685	699	897	785	724

S.E. of I marginal mean = 74.9 lb./ac.
S.E. of N marginal mean = 67.0 lb./ac.
S.E. of body of table = 149.8 lb /ac.

Crop :- Jowar *(Rabi).* **Ref :- Ms. 57(11).**

Site :-Agri. Res. Stn., Dhadesagur. **Type :- 'IM'.**

Object :—To find out the irrigational and manurial requirements of Jowar.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*. (b) Cotton. (c) As per treatments. (ii) (a) Black clayey soil. (b) N.A. (iii) 10.10.1957 (iv) (a) 1-2 ploughings, and 4-5 harrowings. (b) to (e) N.A. (v) 30 lb./ac. of P_2O_5 as Super. (vi) M_{35}—1. (vii) Irrigated. (viii) Gap-filling, thinning, weeding and interculturings. (ix) 7.11". (x) 10 to 15.2 1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(21) on page 377.

5. RESULTS :

(i) 771 lb /ac. (ii) 236.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	I_1	I_2	I_3	I_4	I_5	Mean
N_1	899	746	859	695	499	740
N_2	805	883	528	571	660	689
N_3	889	847	746	864	895	848
N_4	943	765	656	1003	664	806
Mean	884	810	697	783	680	171

S.E. of I marginal mean = 68.2 lb./ac.
S.E. of N marginal mean = 61.0 lb./ac.
S.E. of body of table = 136.4 lb./ac.

Crop :- Jowar *(Rabi).* **Ref :- Ms. 58(62).**

Site :. Agri. Res. Stn., Dhadesagur. **Type :- 'IM'.**

Object :—To study N, P and irrigation requirement for Jowar to get maximum yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton. (c) 40 lb./ac. of **N+20 lb./ac. of P_2O_5.** (ii) (a) Medium to deep black cotton soil. (b) N.A. (iii) 6.10.1958. (iv) (a) Cross ploughing. (b) Drilling. (c) 8 to 10 lb./ac. (d) 18″×6″ to 8″. (e) N.A. (v) As per treatments. (vi) M-35—1. (vii) Irrigated. (viii) Hoeing and hand weeding. (ix) 3 33″. (x) 22.2.1959.

2. TREATMENTS :

Main-plot treatments :

4 levels of irrigation : I_0=0, I_1=2, I_2=4 and I_3=6 irrigations.

Sub-plot treatments :

All combinations of (1) and (2)

(1) 5 levels of P_2O_5 as Super : P_0=0, P_1=10, P_2=20, P_3=30 and P_4=40 lb./ac.

(2) 5 levels of N as A/S : N_0=0, N_1=20, N_2=40, N_3=60 and N_4=80 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/replication ; 25 sub-plots/main-plot. (b) N.A. (iii) 2. (iv) (a) and (b) 26′×15′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Severe attack of earhead bug. Endrine sprayed at 6 c.c./gallon. (iii) Nil. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 769 lb./ac. (ii) (a) 1874.8 lb./ac. (b) 246.4 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	N_3	N_4	Mean	P_0	P_1	P_2	P_3	P_4
I_0	368	276	484	426	478	406	345	462	378	469	389
I_1	1003	886	878	878	1005	930	915	874	888	965	1008
I_2	868	834	930	878	867	875	791	845	946	884	910
I_3	811	865	798	912	937	865	906	709	859	782	1068
Mean	763	715	773	774	822	769	739	723	768	775	842
P_0											
P_1											
P_2	N.A.										
P_3											
P_4											

S.E. of difference of two

1. I marginal mean = 375.0 lb./ac.
2. N or P marginal means = 55.1 lb./ac.
3. N or P means at the same level of I = 110.2 lb./ac.
4. I means at the same level of N or P = 387.3 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 59(97).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'IM'.**

Object :—To study N, P and irrigation requirements for Jowar to get maximum yield.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) As per treatments. (ii) (a) Deep black cotton soil. (b) N.A. (iii) 14, 15.10.1959. (iv) (a) Ploughing. (b) Drilling. (c) 8 to 10 lb./ac. (d) 18″×6″ to 8″. (e) N.A. (v) Nil. (vi) M-35—1. (vii) Irrigated. (viii) Hoeing and hand weeding. (ix) Nil. (x) February to March, 1960.

2. TREATMENTS :

Same as in expt. no. 58(62) on page 378.

3. DESIGN:

(i) Split-plot. (ii) (a) 4 main plots/replication ; 25 sub-plots/main plot. (b) N.A. (iv) (a) and (b) 1/111.1 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal (ii) Earhead bug was observed—Endrine sprayed. (iii) Grain yield. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1798 lb./ac. (ii) (a) 112.9 lb./ac. (b) 376.7 lb./ac. (iii) Main effect of P is highly significant and main effect of N is significant. (iv) Av. yield of grain in lb./ac.

	I_1	I_2	I_3	I_4	Mean	N_0	N_1	N_2	N_3	N_4
P_0	1203	1347	1742	1717	1502	1542	1521	1570	1205	1674
P_1	1342	1364	1999	2134	1709	1479	1715	1740	1910	1703
P_2	1436	1654	1934	2095	1780	1476	1702	1931	1889	1901
P_3	1367	1947	2278	2392	1996	1827	1952	2059	2018	2125
P_4	1411	1875	2377	2345	2002	1813	1889	2045	2209	2045
Mean	1352	1638	2066	2136	1798	1627	1758	1869	1846	1890
N_0	1436	1517	1784	1772						
N_1	1356	1681	1929	2064						
N_2	1281	1725	2272	2197						
N_3	1328	1603	2214	2239						
N_4	1358	1663	2129	2409						

S.E. of difference of two

1. I marginal means = 202.6 lb./ac.
2. N or P marginal means = 84.2 lb./ac.
3. N or P means at the same level of I = 168.5 lb./ac.
4. I means at the same level of N or P = 252.4 lb./ac.

S.E. of body of N×P table = 133.2 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 59(117).**

Site :- Soil Cons. Res. Centre, Bellary. **Type :- 'D'.**

Object :—To find out the comparative merit of pre-soaked seed over ordinary unsoaked seed.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cowpea. (c) Nil. (ii) (a) (a) Black cotton soil. (b) N.A. (iii) 5.10.1959. (iv) (a) Harrowing. (b) Drilling. (c) 4 lb./ac. (d) 18" between rows. (e) —. (v) Nil. (vi) T_1. (vii) No. (viii) Interculturing. (ix) 1.2". (x) 13.2.1960.

2. TREATMENTS :

1. Pre-soaked (for 24 hrs.) seed.
2. Ordinary unsoaked seed.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 6. (iv) (a) 18'×12'. (b) 15'×10'. (v) 1 row. (vi) Yes.

4. GENERAL :

(i) The crop. suffered a set-back due to failure of timely rains. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1959—1960. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 353 lb./ac. (ii) 61.3 lb./ac. (iii) Treatments differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	1	2
Av. yield	399	307

S.E./mean = 25.0 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 54(227).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'D'.**

Object :—To study the effect of hormone treatment of seed on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) Cereals rotated with legumes. (b) Groundnut. (c) 5 C.L./ac. of F.Y.M. once in 3 years as per dry farming method. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 12.10 1954. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 4 lb./ac. (d) 18" between rows. (e) N.A. (v) 5 C.L./ac. of F.Y M. once in 3 years as per dry farming methods. (vi) M-53—1. (vii) Unirrigated. (viii) Interculturing. (ix) 1.31". (x) 4.3.1955.

2. TREATMENTS :

T_0=Control, T_1=Soaking in water for 2 hrs. T_2=Soaking in 0.1 ppm of 2-4-D for 2 hrs. T_3= Soaking in 1.0 ppm of 2-4-D for 2 hrs. T_4=Soaking in 1.0 ppm of I.A.A. for 2 hrs. T_5= Soaking in 10.0 ppm of I.A.A. for 2 hrs. T_6= Soaking in 0.01 ppm of 2-4-D for 20 hrs. T_7=Soaking in 0.1 ppm of 2-4-D for 20 hrs. T_8=Soaking in 1.0 ppm of 2-4-D for 20 hrs. and T_9=Soaking in 1.0 ppm of I.A.A. for 20 hrs.

3. DESIGN :

(i) R.B D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 40'×18'. (b) 36'×12'. (v) 2'×3'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Light attack of sugary disease noticed. (iii) Grain and straw yield. (iv) (a) 1952—1954. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 714 lb./ac. (ii) 267.9 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb /ac.

Treatment	T_0	T_1	T_2	T_2	T_4	T_5	T_6	T_7	T_8	T_9
Av. yield	726	868	740	624	690	693	654	712	660	778.

S.E./mean = 134.0 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 57(240).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'D'.**

Object :—To see the effect of foliar spray with micro-nutrients on Rabi Jowar.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Gram. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur (iii) 16.9 1957. (iv) Ploughing and harrowing. (b) Dibbling. (c) 4 lb./ac. (d) 18"×12". (e) N.A. (v) Nil. (vi) $M_{35}-1$ (early). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) N.A. (x) 18.2 1958.

2. TREATMENTS :

All combinations of (1), (2), (3), (4) and (5)

(1) 2 levels of Cu as Cu. sul. : C_0=0 and C_1=20 lb./ac.
(2) 2 levels of Mn as Mn. Sul. : Mn_0=0 and Mn_1=20 lb./ac.
(3) 2 levels of zinc as Zn. sul. : Z_0=0 and Z_1=20 lb./ac.
(4) 2 levels of Borax : B_0=0 and B_1=20 lb./ac.
(5) 2 levels of Molybdenum as Sod. molybdate : M_0=0 and M_1=2.5 ozs./ac.

3. DESIGN :

(i) 2^5 Fact. (ii) (a) 8. (b) 144′×72′. (iii) 4. (iv) (a) 18′×18′. (b) 12′×12′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Gappy germination and stunted growth due to heavy rainfall. (ii) Sugary disease was predominant. Spraved as per treatments. (iii) Yield of grain. (iv)(a) 1956—1958. (b) No. (c) Nil. (v)(a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 776 lb./ac. (ii) 509.4 lb./ac. (iii) Main effect of Mn and Cu×B and B×Mo interactions are significant- (iv) Mean and differential responses in lb./ac.

Factor	Mean response	Differential response									
		Cu		Zn		Mn		B		Mo	
		—	+	—	+	—	+	—	+	—	+
Cu	127.0	—	—	68.4	185.5	—35.5	289.4	205.7	48.4	212.7	41.4
Zn	1.7	—56.8	60.3	—	—	160.7	—157.2	181.9	—178.6	—123.0	126.5
Mn	—104.5	—267.0	57.9	54.5	—263.6	—	—	—163.0	—46.1	—14.1	—195.0
B	—43.1	35.5	—121.8	137.1	—223.3	—101.3	15.2	—	—	—61.4	—24.8
Mo	—215.7	—130.0	—301.4	—340.4	—90.9	—125.3	—306.1	—234.1	—197.4	—	—

S.E. of mean response = 90.0 lb./ac.
S.E. of differential response = 127.4 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 58(249).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'D'.**

Object :—To see the effect of foliar spray with micro-nutrients on Rabi Jowar.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 18.9.1958. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 4 lb./ac. (d) 18″×12″. (e) N.A. (v) Nil. (vi) M-35—1 (early). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 8.11″. (x) 2.2.1959.

2. TREATMENTS :

Same as in expt. no. 57 (240) on page 381.

3. DESIGN :

(i) 2^5 Fact. in R.B.D. (ii) (a) 8. (b) 144′×72′. (iii) 4. (iv) (a) 18′×18′. (b) 12′×12′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Sugary disease was predominent. Foliar spray as per treatments. (iii) Yield of grain. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1313 lb./ac. (ii) 207.8 lb./ac. (iii) Main effect of Mn and Cu×B and B×Mo interactions are significant. (iv) Mean and differential responses in lb./ac.

Factor	Mean response	Differential response									
		Cu		Mn		Zn		B		Mo	
		−	+	−	+	−	+	−	+	−	+
Cu	−82.1	—	—	1.7	−166.0	−93.2	−70.9	87.3	−251.6	37 8	−202.1
Mn	−184.3	−100.4	−268.3	—	—	−114.6	−254.1	−215.1	−153.5	−105.1	−263.5
Zn	−109.8	−112.2	−98.5	−40.1	−179.6	—	—	−110.8	−108.9	−48.4	−171.3
B	−104.0	65.6	−273.6	−134.6	−73.3	−105.1	−102 8	—	—	74.5	−282.4
Mo	−43.7	76.2	−163.7	35.5	−122.9	17.8	−105.1	134.6	−222.1	—	—

S.E. of mean response = 36.7 lb./ac.
S.E. of differential response = 51 9 lb./ac.

Crop :- Jowar. **Ref :- Ms. 54(118).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'D'.**

Object :—To find out the optimum treatment of 2—4—Dichlorophenoxy acetic acid which would give maximum Jowar yield.

4. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*. (b) Cotton. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 16.7.1954. (iv) (a) and (b) Seed drilled through 3-coultered drill coulters. (c) 4 lb./ac. (d) 18" between rows. (e) N.A. (v) 5 C.L./ac. of F Y.M. (vi) *Nandyal—Jowar*. (vii) Unirrigated. (viii) 4 harrowings and 3 interculturings. (ix) 25.56". (x) 29.12.1954.

2. TREATMENTS :

All combinations of (1) and (2)+a control (untreated).

(1) 3 durations of soaking : D_1=12 minutes, D_2=2 hrs. and D_3=20 hrs.

(2) 3 concentrations : C_0=0, C_1=0.1 ppm. and C_2=1·0 ppm.

Seeds treated with 2—4—D acetic acid.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 30'×15'. (b) 24'×9'. (v) 3' alround. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of the crop at various stages of crop growth, length of earhead and weight of grain and fodder. (iv) (a) 1954. (b) No. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1952 lb./ac. (ii) 213.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb /ac.

Control = 1916 lb./ac.

	D_1	D_2	D_3	Mean
C_0	1916	2057	2158	2044
C_1	1936	2017	1936	1963
C_2	1856	1815	1916	1862
Mean	1903	1963	2003	1956

S.E. of any marginal mean = 61.7 lb./ac.
S.E. of body of table or control = 106.9 lb./ac.

Crop :- Jowar. **Ref :- Ms. 54(119).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'D'.**

Object :—To find out the optimum treatment of Indole acetic acid which would give the maximum Jowar yield.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*. (b) Cotton. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 14.7.1954. (iv) (a) and (b) Seeds were drilled. (c) 4 lb./ac. (d) 18″ between rows. (e) N.A. (v) 5 C.L./ac. of F.Y.M. (vi) *Nandyal—Jowar*. (vii) Unirrigated. (viii) 4 harrowings and 3 interculturings. (ix) 25.56″. (x) 29.12.1954.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(118) on page 383.

4. GENERAL :

(i) Uneven growth. (ii) Nil. (iii) Biometric observations and yield of gratn. (iv) (a) 1954. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 1979 lb./ac. (ii) 213.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 1940 lb./ac.

	D_1	D_2	D_3	Mean
C_0	1866	1890	2017	1924
C_1	2142	2092	1916	2050
C_2	2067	1916	1940	1974
Mean	2025	1966	1958	1983

S.E. of any marginal mean = 61.7 lb./ac.

S.E. of body of table or control = 106.9 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 57(55).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'D'.**

Object :—To find out the best time of foliar application of A/S to Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton. (c) N.A. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 18.7.1957. (iv) (a) 4 harrowings. (b) and (c) N.A. (d) Between rows 12″. (e) N.A. (v) Nil. (vi) Fulgar—White (*Jowar*). (vii) Unirrigated. (viii) Nil. (ix) 20.18″. (x) 23.12.1957.

2. TREATMENTS :

5 times of spraying and a control : T_0=No spray, T_1=6 A.M., T_2=9 A.M., T_3=12 Noon, T_4=3 P.M. and T_5=6 P.M.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 24′×50′. (b) 15′×38′ (v) 4½′×6′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height measurements and grain yield. (iv) (a) 1957—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1025 lb./ac. (ii) 177.7 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5
Av. yield	997	1060	1044	1009	1028	1013

S.E./mean = 72.5 lb./ac.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 58(218).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'D'.**

Object :—To find out a suitable insecticide to control "Atherigora Indica".

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) 5 tons/ac. of F.Y.M.+40 lb./ac. of N. (ii) (a) Black cotton soil. (b) Refer soil analysis, Siruguppa. (iii) 20.10.1958. (iv) (a) Ploughing. (b) Drilling. (c) 6 lb./ac. (d) 12″×6″ to 7″. (e) —. (v) 5 tons/ac. of F.Y.M.+40 lb./ac. of N+20 lb./ac. of P. (vi) M-31—2. (vii) Irrigated. (viii) Hand weeding. (ix) 46.81″. (x) 10.2.1959.

2. TREATMENTS :

T_0=Control, T_1=Folidol, T_2=Basudin, T_3=Ekatox, T_4=Paramar and T_5=Diptrix.
One spraying 15 days after germination and the other one week after.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) and (b) 1 cent. (v) No. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Incidence of "Atherigora Indica". (iii) Weekly count of dead hearts and yield data. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) Not known. (vi) and (vii) Nil.

5. RESULTS :

(i) 359 dead hearts/plot. (ii) 49.6 dead hearts/plot. (iii) Treatment differences are not significant. (iv) Mean number of dead hearts/plot.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5
Av. yield	351	409	329	362	356	345

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 58(217).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'D'.**

Object :—To find suitable insecticide [spraying once] that can control the pest 'Atherigora Indica'.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) 5 tons/ac. of F.Y.M.+40 lb./ac. of N. (ii) (a) Black cotton soil. (b) Refer soil analysis, Siruguppa. (iii) 20.10.1958. (iv) (a) Ploughing. (b) Drilling. (c) 15 lb./ac. (d) 12″×6″ to 7″. (v) 5 tons/ac. of F.Y.M.+40 lb./ac. of N+20 lb./ac. of P_2O_5. (vi) M-31—2. (vii) Irrigated. (viii) Hand weeding. (ix) 46.81″. (x) 10.2.1959.

2. TREATMENTS :

1. Heptachlor—20% E.C.
2. Heptachlor—26% W.P.
3. Malix—20% E.C.
4. Endrin—19.5% E.C.
5. B.H.C.—50% W.P.
6. D.D.T.—50% W.P.
7. Control.

Sprayed one week after germination.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) and (b) 1/100 ac. (v) Ni. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Incidence of *Atherigora Indica*. (iii) Weekly count of dead hearts and yield data. (iv) (a) N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 512 dead hearts/plot. (ii) 82.4 dead hearts/plot. (iii) Treatment effects are not significant. (iv) Average number of dead hearts/plot.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6
Av. yield	541	494	552	489	495	524	489

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 57(100).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'D'.**

Object :—To find out the insecticidal dust that can control the fly-borer.

1. BASAL CONDITIONS :

(i) (a) Cotton and *Jowar*. (b) Cotton. (c) 5 tons/ac. of F.Y.M.+40 lb./ac. of N. (ii) (a) Black cotton soil. (b) Refer soil analysis, Siruguppa. (iii) 18.9.1957. (iv) (a) Ploughing. (b) Drilling. (c) 6 lb./ac. (d) Between rows 12" and plants 6"-8". (e) N.A. (v) 5 tons/ac. of F.Y.M.+40 lb./ac. of N+20 lb./ac. of P_2O_5. (vi) M_{31}—2 (medium). (vii) Irrigated. (viii) Working *danthies* and hand weeding. (ix) 9.30". (x) 29.1.1958.

2. TREATMENTS :

T_0=Control, T_1=B.H.C. 50%, T_2=B.H.C. 10% and T_3=D.D.T. 10%.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) and (b) ½ cent. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Incidence of *Atherigora Indica* fairly heavily. (iii) Dead heart counts. (iv) (a) 1957—1959. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 774 lb./ac. (ii) 242.0 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	T_0	T_1	T_2	T_3
Av. yield	728	850	705	814

S.E./mean = 108.2 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 57(92).**

Site :- Agri. Res. Stn , Siruguppa. **Type :- 'D'.**

Object :—To find out the insecticidal dust that can control the fly borer.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) 5 tons/ac. of F.Y.M.+40 lb./ac of N. (ii) (a) Black cotton soil. (b) Refer soil analysis, Siruguppa. (iii) 3.7 1957. (iv) (a) Ploughing. (b) Drilling. (c) 6 lb./ac. (d) Between rows 12". (e) N.A. (v) 5 tons/ac. of F.Y.M.+40 lb./ac. of N+20 lb./ac. of P_2O_5. (vi) CO—9 (early). (vii) Irrigated. (viii) Hand weeding. (ix) 22.59". (x) 29.10.1957.

2. TREATMENTS and 3. DESIGN:

Same as in expt. no. 57(100) above.

4. GENERAL :

(i) Normal. (ii) Incidence of *Atherigora Indica* negligible. (iii) Dead heart counts were taken at weekly intervals. (iv) (a) 1957—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2492 lb./ac. (ii) 653.4 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	T_0	T_1	T_2	T_3
Av. yield	2322	2595	2535	2518

S.E./mean = 292.2 lb./ac.

Crop :- Jowar *(Kharif).* **Ref :- Ms. 57(102).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'D'.**

Object :—To find out the insecticidal dust that can control the fly-borer.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) 5 ton/ac. of F.Y.M.+40 lb./ac. of N. (ii) (a) Black cotton soil. (b) Refer soil analysis, Siruguppa. (iii) 3.7.1957. (iv) (a) Ploughing. (b) Drill sowing. (c) 6 lb./ac. (d) Between rows 12" and plants 6". (e) N.A. (v) 5 ton/ac. of F.Y.M.+40 lb./ac. of N+20 lb./ac. of P_2O_5. (vi) CO—9 (early). (vii) Irrigated. (viii) Working *danthies* and hand weeding. (ix) 25.34". (x) 29.10.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(100) on page 386.

4. GENERAL :

(i) Normal. (ii) Incidence of *Atherigora Indica* negligible. (iii) Dead hearts count were taken at weekly intervals. (iv) (a) 1957—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2297 lb./ac. (ii) 654 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of grain in lb./ac.

Treatment	T_0	T_1	T_2	T_3
Av. yield	2170	2392	2460	2165

S.E./mean = 292.5 lb./ac.

Crop :- Jowar *(Rabi).* **Ref :- Ms. 57(214).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'D'.**

Object :—To find the control measures of Jola fly borer by dusting (once) different insecticides when seedlings are 10 to 15 days old.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jola.* (b) Cotton. (c) 5 ton/ac. of F.Y.M+40 lb./ac. of N. (ii) (a) Black cotton soil. (b) Refer soil analysis, Siriguppa. (iii) 18.9.1957. (iv) (a) Ploughing. (b) Drilling. (c) 6 lb./ac. (d) 12" between lines. (e) N.A. (v) 5 tons/ac. of F.Y.M.+40 lb./ac. of N+20 lb./ac. of P_2O_5. (vi) M_{31}—2. (vii) Irrigated. (viii) Hand weeding. (ix) 12.6". (x) 29.1.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(100) on page 386.

4. GENERAL :

(i) Normal. (ii) As per treatments. (iii) Incidence of *Atherigora Indica.* Dead heart counts were taken from 2nd to 6th week. (iv) (a) Nil. (b) No. (c) Nil. (v) (a) and (b) Not known. (vi) and (vii) Nil.

5. RESULTS :

(i) 9.7 dead hearts/unit area. (ii) 3.16 dead hearts/unit area. (iii) Treatment differences are significant. (iv) Av. number of dead hearts/unit area.

Treatment	T_0	T_1	T_2	T_3
Av. no. of dead hearts	14.2	8.8	8.6	7.2

S.E./mean = 1.41 dead hearts/unit area.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 58(216).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'D'.**

Object :—To find out the efficacy of dusting (twice) different insecticides on Jola fly borer.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jola.* (b) Cotton. (c) 5 tons/ac. F.Y.M.+40 lb./ac. of N. (ii) (a) Black cotton. (b) Refer soil analysis, Siruguppa. (iii) 20.10.1958. (iv) (a) Ploughing. (b) Drilling. (c) 6 lb./ac. (d) 12″ to 6″. (e) —. (v) 5 tons/ac. of F.Y.M.+40 lb./ac. of N+20 lb./ac. of P_2O_5 (vi) M-31—2 (medium). (vii) Irrigated. (viii) Hand weeding. (ix) 4.68″. (x) 12.2.1959.

2. TREATMENTS :

(1) B.H.C. 10% dust.
(2) D.D.T. 10 % dust.
(3) Malix 2.5% dust.
(4) Heptachlor 3% dust.
(5) Control.

Dusting twice 2nd and 4th week after sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) and (b) 1/100. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Incidence of *Atherigora Indica.* (iii) Weekly count of dead hearts and yield data. (iv) (a) 1957—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 317 dead hearts/plot. (ii) 63.4 dead hearts/plot. (iii) Treatment differences are not significant. (iv) Av. number of dead hearts/plot.

Treatment	1	2	3	4	5
Av. no. of dead hearts	367	292	304	327	293

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 56(107).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'D'.**

Object :—To find out a suitable insecticide that can control the fly borer Atherigora Indica when seeds are dipped in the insecticidal solution prior to sowing.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—cotton. (b) Cotton. (c) 5 tons/ac. of F.Y.M.+40 lb./ac of N. (ii) (a) Black cotton soil. (b) Refer soil analysis, Siruguppa. (iii) 2.7.1956. (iv) (a) Working victory plough and country plough. (b) Drill sowing. (c) 6 lb./ac. (d) 12″×6″ to 8″. (e) N.A. (v) 5 tons/ac. of F.Y.M.+40 lb /ac. of N+20 lb./ac. of P_2O_5. (vi) CO—9. (vii) Irrigated. (viii) Hand weeding and working *danthies.* (ix) 6.24″. (x) 23.10.1956.

2. TREATMENTS :

T_0=Control (water soaked), T_1=Systox 2 c.c. in 4000 c.c. of water, T_2=Systox 4 c.c. in 4000 c.c. of water, T_3=Pestox 4 c.c. in 760 c.c. of water and T_4=Pestox 8 c.c. in 760 c.c. of water.

3. DESIGN :

(i) L. sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) and (b) 8′×6′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—61. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1840 lb./ac. (ii) 343.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4
Av. yield	1857	1746	2029	1757	1813

S.E./mean = 153.6 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 56(111).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'D'.**

Object :—To find out a suitable insecticide that can control the fly borer Atherigora Indica when seeds are dipped in the insecticidal solution prior to sowing.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Sweet potato. (c) 5 tons/ac. of F.Y.M.+40 lb./ac. of P_2O_5. (ii) (a) Black cotton soil. (b) Refer soil analysis, Siruguppa. (iii) 27.9.1956. (iv) (a) Working country and victory plough. (b) Drill sowing. (c) 6 lb./ac. (d) 12″×6″ to 8″. (e) N.A. (v) 5 tons/ac. of F.Y.M.+40 lb./ac. of N+20 lb./ac. of P_2O_5. (vi) M-31—2. (vii) Irrigated. (viii) Hand weeding. (ix) 18.25″. (x) 26.1.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(107) on page 388.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) % of deals hearts. (iv) (a) 1956—1961. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Due to heavy rains the young seedlings were washed away in different treatments. (vii) The yields were vitiated due to heavy bird damage.

5. RESULTS :

(i) 8.32%. (ii) 3.43%. (iii) Treatment differences are highly significant. (iv) Mean % of dead hearts.

Treatment	T_0	T_1	T_2	T_3	T_4
Av. yield	17.60	6.40	5.80	5.40	6.40

S.E./mean = 1.53 %.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 57(101).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'D'.**

Object :—To find out a suitable insecticides that can control the fly borer Atherigora Indica when seeds are dipped in the insecticidal solution prior to soaking.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) 5 tons/ac. of F.Y.M.+40 lb./ac. of N. (ii) (a) Black cotton soil. (b) Refer soil analysis, Siruguppa. (iii) 4.7.1957. (iv) (a) Ploughing. (b) Drill sowing. (c) 6 lb./ac. (d) 12″×6″ to 8″. (e) N.A. (v) 5 tons/ac. of F.Y.M.+40 lb./ac. of N+20 lb./ac. of P_2O_5. (vi) CO—9 (early). (vii) Irrigated. (viii) Working *danthies* and hand weeding. (ix) 22.55″. (x) 26.10.1955.

2. TREATMENTS :

Same as in expt. no. 56(107) on page 388.

3. DESIGN :

(i) L. Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) and (b) 1/250 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Incidence of *Atherigora Indica* neglegible. (iii) Dead heart counts were taken at weekly interval. (iv) (a) 1956—1959. (b) Yes. (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 27.5 lb./ac. (ii) 540.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4
Av. yield	2700	3044	2780	2625	2428

S.E./mean = 241.5 lb./ac.

Crop :- Jowar *(Kharif)*. **Ref :- Ms. 57(99).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'D'.**

Object :—To find out a suitable insecticide that can control the fly borer Atherigora Indica when seed are dipped in the insecticidal solution prior to sowir g.

1. BASAL CONDITIONS :

(i) (a) *Jowar* is rotated with cotton. (b) Cotton. (c) 5 tons/ac. of F.Y.M.+40 lb./ac. of N. (ii) (a) Black cotton soil. (b) Refer soil analysis, Siruguppa. (iii) 18.9.1957. (iv) (a) Plcughing. (b) Drill sowing. (c) 6 lb./ac. (d) 12″×6″ to 8″. (e) N.A. (v) 5 tons/ac. of F.Y.M.+40 lb./ac. of N+20 lb./ac. of P_2O_5. (vi) M-31—2 (medium). (vii) Irrigated. (viii) Working *danthies* and hand weeding. (ix) 9.30″. (x) 28.1.1958.

2. TREATMENTS :

Same as in expt. no. 56(107) on page 388.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) and (b) 1/200 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Incidence of *Atherigora Indica* heavy. (iii) Dead heart counts were taken at weekly intervals and grain yield. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1095 lb./ac. (ii) 388.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4
Av. yield	930	1355	1350	985	855

S.E./mean = 173.9 lb./ac.

Crop :- Jowar. **Ref :- Ms. 58(215).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'D'.**

Object :—To find out a suitable insecticide that can control the fly borer Atherigora Indica when seeds are dipped in the insecticidal solution prior to sowing.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) 5 tons/ac. of F.Y.M.+40 lb./ac. of N. (ii) (a) Black cotton soil. (b) Refer soil analysis, Siruguppa. (iii) 11.10.1958. (iv) (a) Ploughing. (b) Drilling. (c) 6 lb./ac. (d) 12" between rows. (e) N.A. (v) 5 tons/ac. of F.Y.M.+40 lb./ac. of N+20 lb./ac. of P_2O_5. (vi) M-31—2. (vii) Irrigated. (viii) Hand weeding and passing danthies. (ix) 4.68". (x) Last week of January, 1959.

2. TREATMENTS :

Same as in expt. no. 56(107) on page 388.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) Nil. (iii) 5. (iv) (a) and (b) 1/50 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Incidence of *Atherigora Indica.* (iii) Dead heart counts at weekly intervals and grain yield. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Due to bird damage yields are vitiated. (vii) 4th week counts could not be taken due to marshy conditions.

5. RESULTS :

(i) 469 dead hearts. (ii) 91.7 dead hearts. (iii) Treatment differences are significant. (iv) Av. number of dead hearts.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. no. of dead hearts	418	438	443	482	564

S.E./mean = 41.00 dead hearts.

Crop :- Jowar *(Rabi).* **Ref :- Ms. 59(175).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'D'.**

Object :—To find out a sultable insecticide that can control the fly borer Atherigora Indica when seeds are dipped in the insecticidal solution prior to sowing.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) Cotton. (c) 5 tons/ac. of F.Y.M+40 lb./ac. of N. (ii) (a) Black cotton soil. (b) Refer soil analysis, Siruguppa. (iii) 17.9.1959. (iv) Ploughing and harrowing, (b) Drilling. (c) 5 lb./ac. (d) 12" to 6" to 7". (e) N.A. (v) 5 tons/ac. of F.Y.M.+40 lb./ac. of N+20 lb./ac. of P_2O_5. (vi) M-31—2. (vii) Irrigated. (viii) Hand weeding and passing *danthies*. (ix) 10.99". (x) 29.1.1960.

2. TREATMENTS :

Same as in expt. no. 56(107) on page 388.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 1/66.6 ac. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) As per treatments. (iii) No of dead hearts at weekly intervals upto 6th week. Grain and straw yield. (iv) (a) 1957—1960. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Yield was vitiated due to heavy bird damage inspite of scaring. (vii) Nil.

5. RESULTS :

(i) 192 lb./ac. (ii) 232.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4
Av. yield	180	289	196	89	209

S.E./mean = 116.1 lb./ac.

Dead Hearts

(i) 844 dead hearts/plot. (ii) 125.0 dead hearts/plot. (iii) The treatment differences are not significant. (iv) Av. no. of dead hearts/plot.

Treatment	T_0	T_1	T_2	T_3	T_4
Av. no dead hearts	850	844	825	805	897

S.E./mean = 63 dead hearts.

Crop :- Jowar *(Rabi)*. **Ref :- Ms. 59(176).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'D'.**

Object :—To find out a suitable insecticide that can control Atherigora Indica.

1. BASAL CONDITIONS :

(i) Cotton – *Jola*. (b) Cotton. (c) 5 tons/ac. of F.Y.M.+40 lb./ac. of N. (ii) (a) Black cotton soil. (b) Refer soil analysis, Siruguppa. (iii) 17.9.1959. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 5 lb./ac. (d) 12″×6″ to 7″. (e) —. (v) 5 tons/ac. F.Y.M.+40 lb./ac. of N+20 lb./ac. of P_2O_5 (vi) M-31—2. (vii) Irrigated (viii) Hand weeding and passing *danthies*. (ix) 10.99″. (x) 29.1.1960.

2. TREATMENTS :

T_0=Control. T_1=Folidol 0.05%—2½ c.c./gal. of water. T_2=Endrin 20E--6½ c.c./gal. of water and T_3= Heptachlor 25% W.P—1 lb./ac in 8 gallons of water.
The insecticide are sprayed twice once 10 days after germination and another after 25 days.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) and (b) 1/100 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) As per treatments. (iii) No. of dead hearts at weekly intervals upto 6th week—Grain and straw yield. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) There were heavy bird damage, inspite of scaring, and hence the yield was vitiated. (vii) Nil.

5. RESULTS :

(i) 246 lb./ac. (ii) 72.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_0	T_1	T_2	T_3
Av. yield	252	247	271	216

S.E./mean = 32.6 lb./ac.

Dead Hearts

(i) 783 dead hearts. (ii) 142 dead hearts. (iii) Treatment differences are not significant. (iv) Av. number of dead hearts/plot.

Treatment	T_0	T_1	T_2	T_3
Av. yield	837	756	725	812

S.E./mean = 64 dead hearts.

Crop :- Maize *(Kharif)*. **Ref :- Ms. 54(219).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'M'.**

Object :—To study the effect of manure on Maize under irrigated conditions.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Medium black—slighly alkaline. (b) N.A. (iii) 3.7.1954. (iv) (a) Ploughing, clod crushing and harrowing. (b) Dibbling. (c) 12 lb./ac. (d) 18″×12″. (e) 2. (v) As per treatments. (vi) 3 way hybrid (medium). (vii) Irrigated. (viii) Interculturing and hand weeding. (ix) 12″. (x) 9.10.1954.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of F.Y.M. : F_1=5000 and F_2=10000 lb./ac.

(2) 4 levels of N : N_0=0, N_1=30, N_2=60 and N_3=90 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) 288′×40′. (iii) 4. (iv) (a) 40′×36′. (b) 34′×30′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Normal and vigorous in the beginning. (ii) Affected by *Helmintho sporium Terlium* and *Aphides*. Hence the yield was low (iii) No. of germinated plants, height of plants, moisture studies and grain yield. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 807 lb./ac. (il) 356.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	N_3	Mean
F_1	512	898	811	834	764
F_2	689	793	891	1026	850
Mean	600	846	851	930	807

S.E. of N marginal mean = 126.0 lb./ac.
S.E. of F marginal mean = 89.1 lb./ac.
S.E. of body of table = 178.2 lb./ac.

Crop :- Maize *(Kharif)*. **Ref :- Ms. 56(163).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To study the requirement of water for Maize under different manurial conditions.

1. BASAL CONDITIONS :

(i) (a) Maize—Wheat—*Jowar*—Gram. (b) Gram. (c) N.A. (ii) (a) Medium black soil slightly alkaline. (b) N.A. (iii) 7.7.1956. (iv) (a) Ploughing, clod crushing and harrowing. (b) Dibbling. (c) 12 lb./ac. (d) 18″×12″. (e) 2. (v) 5 C.L./ac. of F.Y.M. (vi) 3 way hybrid (medium). (vii) Irrigated. (viii) Interculturing and hand weeding. (ix) 6.86″. (x) 3.10.1956.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of irrigations : I_1=2 and I_2=3½ acre inches.

(2) 3 levels of N : N_1=20, N_2=40 and N_3=60 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 40′×33′. (b) 36′×27′. (v) 2′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Moisture studies and grain yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 329 lb./ac. (ii) 123.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_1	N_2	N_3	Mean
I_1	320	356	361	346
I_2	417	235	283	312
Mean	368	296	322	329

S.E. of I marginal mean = 35.5 lb./ac.
S.E. of N marginal mean = 43.6 lb./ac.
S.E. of body of table = 61.6 lb./ac.

Crop :- Maize *(Kharif)*. **Ref :- Ms. 57(165).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To study the manurial requirement of Maize under different irrigated conditions.

1. BASAL CONDITIONS :

(i) (a) Maize—Wheat—*Jowar*—Gram. (b) Gram. (c) As per treatments. (ii) (a) Medium black—slightly alkaline. (b) N.A. (iii) 8.7.1957. (iv) (a) Ploughing, clod crushing and harrowing. (b) Dibbling. (c) 12 lb./ac. (d) 18″×12″. (e) 2. (v) 5 C.L./ac. of F.Y.M. (vi) 3 way hybrid (medium). (vii) Irrigated. (viii) Interculturing and weeding. (ix) 5.67″. (x) 8.10.1957.

2. TREATMENTS :

All combinations of (1) and (2)
(1) 2 levels of irrigations : I_1=2 and I_2=3½ acre/inches.
(2) 3 levels of N : N_1=20, N_2=40 and N_3=60 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) and (b) 1/40 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) No. of germinated plants, height of plants, moisture studies and grain yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1212 lb./ac. (ii) 309.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_1	N_2	N_3	Mean
I_1	1511	1231	1063	1268
I_2	1372	1086	1008	1155
Mean	1442	1158	1036	1212

S.E. of I marginal mean = 89.4 lb./ac.
S.E. of N marginal mean = 109.5 lb./ac.
S.E. of body of table = 154.9 lb./ac.

Crop :- Maize *(Kharif)*. **Ref :- Ms. 58(157).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To study the water requirement for Maize under different manurial conditions.

1. BASAL CONDITIONS :

(i) (a) Maize—Wheat—*Jowar*—Gram. (b) Gram. (c) As per treatments. (ii) (a) Medium black—slightly alkaline. (b) N.A. (iii) 29.5.1958. (iv) (a) Ploughing, clod crushing and harrowing. (b) Dibbling. (c) 12 lb./ac. (d) 18″×12″. (e) 2. (v) 5 C.L./ac. of F.Y.M. (vi) 3 way hybrid (medium). (vii) Irrigated. (viii) Interculturing and hand weeding. (ix) 7.93″. (x) 7.9.1958.

2. TREATMENTS :

Same as in expt. no. 56(163) on page 393.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 22′×33′. (b) 20′×30′. (v) 1′×1½′. (vi) Yes.

4. GENERAL :

(i) Normal and very vigorous in the beginning. (ii) Nil. (iii) No. of germinated plants, height of plants, moisture studies and yield data. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) N.A.

5. RESULTS :

(i) 5357 lb./ac. (ii) 267.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_1	N_2	N_3	Mean
I_1	5273	5350	5565	5396
I_2	5169	5349	5436	5318
Mean	5221	5350	5500	5357

S.E. of I marginal mean = 77.1 lb./ac.
S.E. of N marginal mean = 94.4 lb./ac.
S.E. of body of table = 133.6 lb./ac.

Crop :- Maize *(Rabi)*. **Ref :- Ms. 56(161).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To study the water requirements of Maize under different manurial conditions.

1. BASAL CONDITIONS :

(i) (a) Adsali cane - G.M.—Maize. (b) Adsali cane. (c) 15 C.L./ac. of F.Y.M. (ii) (a) Sandy loam. (b) N.A. (iii) 22.10.1956. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 12 lb./ac. (d) 18″×12″. (e) N.A. (v) 10 C.L./ac. of F.Y.M. (vi) 3 way hybrid ($I_5 \times L_5$)—S_{23}. (vii) Irrigated. (viii) Interculturing, weeding and thinning. (ix) 9.54″. (x) 6.2.1957.

2. TREATMENTS :

Main-plot treatments :

2 levels of irrigation : I_1=2 and I_2=3 acre inches.

Sub-plot treatments :

3 levels of N : N_1=20, N_2=40 and N_3=60 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plot/replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 21′×42″. (b) 15′×38′. (v) 2 rows around the plots. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Average stand count, height of plant and grain yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2202 lb./ac. (ii) (a) 330.8 lb./ac. (b) 232.3 lb./ac. (iii) N effect alone is significant. (iv) Av. yield of grain in lb./ac.

	N_1	N_2	N_3	Mean
I_1	1984	2334	2007	2108
I_2	2181	2476	2228	2295
Mean	2083	2405	2117	2202

S.E. of difference of two

1. I marginal means = 135.0 lb./ac.
2. N marginal means = 116.2 lb./ac.
3. N means at the same level of I = 164.3 lb./ac.
4. I means at the same level of N = 190.3 lb./ac.

Crop :- Maize *(Rabi)*. **Ref :- Ms. 57(158).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To study the water requirements of Maize under different manurial conditions.

1. BASAL CONDITIONS :

(i) (a) Adsali cane—G.M.—Maize. (b) Adsali cane. (c) 15 C.L./ac. of F.Y.M. (ii) (a) Sandy loam. (b) N.A. (iii) 5.11.1957. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 20 lb./ac. (d) 18″×12″. (e) N.A. (v) 10 C.L./ac. of F.Y.M. (vi) 3 way hybrid ($I_5 \times L_5$)—S_{23}. (vii) Irrigated. (viii) Interculturing, weeding and thinning. (ix) 3.55″. (x) 24.2.1958.

2. TREATMENTS :

Same as in expt. no. 56(161) on page 395.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication ; 3 sub-plot/main-plot. (b) N.A. (iii) 4. (iv) (a) 40′×27′. (b) 36′×21′. (v) 2 rows alround the plot. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Average stand count, height of plant and yield of grain. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2973 lb./ac. (ii) (a) 440.7 lb./ac. (b) 262.8 lb./ac. (iii) Only N effect is highly significant. (iv) Av. yield of grain in lb./ac.

	N_1	N_2	N_3	Mean
I_1	2709	2836	3099	2882
I_2	2619	3104	3471	3065
Mean	2664	2970	3285	2973

S.E. of difference of two

1. I marginal means = 179.9 lb./ac.
2. N marginal means = 131.4 lb./ac.
3. N means at the same level of I = 185.9 lb./ac.
4. I means at the same level of N = 235.4 lb./ac.

Crop :- Maize *(Rabi)*. **Ref :- Ms. 58(148).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To study the water requirements of Maize under different manurial conditions.

1. BASAL CONDITIONS :

(i) (a) Adsali cane—G.M.—Maize. (b) Adsali cane. (c) 15 C.L./ac. of F.Y.M. (ii) (a) Black soil. (b) N.A. (iii) 5.11.1958. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 20 lb./ac. (d) 18″×12″. (e) N.A. (v) 10 C.L./ac. of F.Y.M. (vi) 3 way hybrid ($I_5 \times L_5$)—S_{23}. (vii) Irrigated. (viii) Interculturing, weeding and thinning. (ix) 1.5″. (x) 24.2.1959.

2. TREATMENTS :

Same as in expt. no. 56(161) on page 395.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plot/replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 27′×40′. (b) 21′×36′. (v) 2 rows around the plot. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Average stand count, height of plant and grain yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3820 lb./ac. (ii) (a) 171.9 lb./ac. (b) 150.3 lb./ac. (iii) Only N effect is highly significant. (iv) Av. yield of grain in lb./ac.

	N_1	N_2	N_3	Mean
I_1	3382	3716	4190	3763
I_2	3562	3976	4096	3878
Mean	3472	3846	4143	3820

S.E. of difference of two
1. I marginal means = 70.2 lb./ac.
2. N marginal means = 75.1 lb./ac.
3. N means at the same level of I = 106.3 lb./ac.
4. I means at the same level of N = 111.6 lb./ac.

Crop :- Maize *(Rabi)*. **Ref :- Ms. 55(198).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To study the water requirements of Maize under different manurial conditions.

1. BASAL CONDITIONS :

(i) (a) Adsali cane—G.M.—Maize. (b) Adsali cane. (c) Nil. (ii) (a) Sandy loam. (b) N.A. (iii) 19.11.1955. (iv) (a) Ploughing and harrowing (b) Dibbling. (c) 25 lb./ac. (d) 18″×12″. (e) N.A. (v) Sannhemp as G.M. at 30,000 lb./ac. (vi) 3 way hybrid. (vii) Irrigated. (viii) Interculturing and weeding. (ix) 0.47″ (x) 25.3.1956.

2. TREATMENTS :

All combinations of (1) and (2)
(1) 2 levels of irrigations : $I_1=1$ and $I_2=1\frac{1}{2}$ acre inches.
(2) 4 levels of N : $N_0=0$, $N_1=30$, $N_2=60$ and $N_3=90$ lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 20′×26′. (b) 17′×23′. (v) $1\frac{1}{2}$′ around the plot (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Average stand count, height of plants and grain yield. (vi) (a) and (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil

5. RESULTS :

(i) 2687 lb./ac. (ii) 383.8 lb./ac. (iii) Only N effect is highly significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	N_3	Mean
I_1	2041	2786	2693	3437	2739
I_2	1712	2894	2971	2964	2635
Mean	1876	2840	2832	3201	2687

S.E. of N marginal mean = 135.7 lb./ac.
S.E. of I marginal mean = 96.0 lb./ac.
S.E. of body of table = 191.9 lb./ac.

Crop :- Maize *(Rabi)*. **Ref :- Ms. 54(217).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To study the water requirements of Maize under different manurial conditions.

1. BASAL CONDITIONS :

(i) (a) Adsali cane – G.M. in *Kharif* and Maize in *Rabi*. (b) and (c) Nil. (ii)(a) Sandy loam. (b) N.A. (iii) 1.11.1954. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 25 lb./ac. (d) 18″×12″. (e) N.A. (v) 10 C.L./ac. of F.Y.M. (vi) 3 way hybrid. (vii) Irrigated. (viii) Interculturing, weeding and thinning. (ix) 0.65″. (x) 24.2.1955.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 levels of irrigations : I_1=10, I_2=15 and I_3=20 acre inches.

(2) 4 levels of N : N_0=0, N_1=30, N_2=60 and N_3=90 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) 33′×19.5′. (b) 30′×16.5′. (v) 1½′ around the plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Average stand, plant counts and grain yield. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2567 lb./ac. (ii) 285.5 lb./ac. (iii) Only N effect is highly significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	N_3	Mean
I_1	2222	2498	2643	2925	2572
I_2	1988	2634	2841	2913	2594
I_3	2069	2472	2687	2911	2635
Mean	2093	2535	2723	2916	2567

S.E. of N marginal means = 82.4 lb./ac.
S.E. of I marginal mean = 71.4 lb./ac.
S.E. of body of table = 142.7 lb./ac.

Crop :- Maize *(Kharif)*. **Ref :- Ms. 55(204).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To study the water requirements of Maize under different conditions of manure.

1. BASAL CONDITIONS :

(i) (a) Maize—Wheat—*Jowar*—Gram. (b) Gram. (c) As per treatments. (ii) (a) Masari type. (b) N.A. (iii) 1.7.1955. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 18 lb./ac. (d) 18″. (e) N.A. (v) 10 C.L /ac. of F.Y.M. (vi) 3 way hybrid. (vii) Irrigated. (viii) Interculturing and weeding. (ix) 12.77″. (x) 2.10.1955.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of irrigations : I_1=2.6 and I_2=3.4 acre inches.

(2) 4 levels of N : N_0=0, N_1=40, N_2=80, and N_3=120 lb./ac.

N applied in one dose 3 weeks after sowing as A/S and G.N.C. in the ratio of 1 : 2.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 1/30.3 ac. (b) 1/37.0 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Moisture studies, grain and fodder yield. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 846 lb./ac. (ii) 228.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	N_3	Mean
I_1	759	852	870	852	833
I_2	657	889	935	954	859
Mean	708	870	903	903	846

S.E. of I marginal mean = 57.1 lb./ac.
S.E. of N marginal mean = 80.7 lb./ac.
S.E. of body of table = 114.1 lb./ac.

Crop :- Maize *(Kharif)*. **Ref :- Ms. 59(11).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To study the water requiments of Maize under different conditions of manure.

1. BASAL CONDITIONS :

(i) (a) Maize—Wheat—*Jowar*—Gram. (b) Gram. (c) Nil. (ii) (a) Sandy loam—Brown colour. (b) N.A. (iii) 19.6.1959. (iv) (a) Ploughing, broadcasting, discing and harrowing. (b) Dibbling. (c) 8 lb./ac. (d) 18"×12". (e) 1. (v) 5 C.L./ac. of F.Y.M. (vi) 3 way hybrid $(I_5 \times L_5) - S_{23}$. (vii) Irrigated. (viii) Interculturing, weeding and thinning. (ix) 8.22". (x) 18th to 20th Sept., 1959.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of irrigation : $I_1=2$ and $I_2=3$ acre inches.

(2) 5 manurial treatments : $M_0=0$ lb./ac. of N, $M_1=20$ lb./ac. of N as A/S and G.N.C. in 1 : 2 ratio, $M_2=20$ lb./ac. of N as A/S+10 lb./ac. of P_2O_5+10 lb./ac. of K_2O, $M_3=40$ lb./ac. of N as A/S and G.N.C. in 1 : 2 ratio and $M_4=40$ lb./ac. of N as A/S+20 lb./ac. of P_2O_5+20 lb./ac. of K_2O.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 10. (b) N.A. (iii) 3. (iv) (a) 24'×22'. (b) 21'×20'. (v) 1½'×1'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Mild attack of *Heliminthosporium* during August. (iii) Average stand count, height of plant, size of earhead and grain yield. (iv) (a) 1959—1960. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 3186 lb./ac. (ii) 762.9 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	M_0	M_1	M_2	M_3	M_4	Mean
I_1	2988	3921	3578	3185	3034	3341
I_2	2483	2949	2887	3351	3483	3031
Mean	2735	3435	3232	3268	3258	3186

S.E. of I marginal mean = 197.0 lb./ac.
S.E. of M marginal mean = 311.4 lb./ac.
S.E. of body of table = 498.2 lb./ac.

Crop :- Maize *(Rabi)*. **Ref :- Ms. 59(23).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To study the water requirements of Maize under different conditions of manure.

1. BASAL CONDITIONS :

(i) (a) Adsali cane—G.M.—Maize. (b) G.M. (c) 20 lb./ac. of P_2O_5 to sannhemp as single super befor sowing. (ii) Medium black - Slightly alkaline. (b) N A. (iii) 20.10.1959. (iv) (a) Ploughing and clod crushing. (b) Drilling. (c) 12 lb./ac. (d) 18″×12″. (e) 2. (v) 5 C.L./ac. of F.Y.M. (vi) 3 way hybrid (medium). (vii) Irrigated. (viii) Interculturing and weedeing. (ix) 5.48″. (x) 24.1 1960.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of irrigation : I_1=2½ and I_2=3½ acre inches.

(2) 5 manurial treatments : M_0=No manure, M_1=30 lb./ac. of N as A/S and G.N.C. in 1 : 2 ratio ; M_2=30 lb./ac. of N as A/S+10 lb./ac. of P_2O_5 as Super+10 lb./ac. of K_2O as Pot. Sul., M_3=60 lb./ac. of N as A/S and G.N.C. in 1 : 2 ratio and M_4=60 lb./ac. of N as A/S+20 lb./ac. of P_2O_5 as Super+20 lb./ac. of K_2O as Pot. Sul.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 10. (b) N.A. (iii) 3. (iv) (a) 40′×27′. (b) 36′×21′. (v) 2 rows. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Mild attack of *Heliminthosporium*. No control measures. (iii) Average stand count, height of plant and grain yield. (iv) (a) 1959—1960. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 4377 lb./ac. (ii) 112.5 lb /ac. (iii) All effects are highly significant. (iv) Av. yield of grain in lb./ac.

	M_0	M_1	M_2	M_3	M_4	Mean
I_1	3361	4398	4149	4725	4456	4217
I_2	3323	4974	4494	5051	4840	4536
Mean	3342	4681	4322	4888	4648	4377

S.E. of I marginal mean = 29.0 lb./ac.
S.E. of M marginal mean = 45.9 lb./ac.
S.E. of body of table = 64.9 lb./ac.

Crop :- Ragi *(Kharif)*. **Ref :- 59(189).**

Site :- Agri. Res. Stn., Hebbal. **Type -: 'M'.**

Object :—To find out the optimum dose of P for Ragi.

1. BASAL CONDITIONS :

(1) (a) *Ragi*—Groundnut. (b) Groundnnt. (c) 2 C.L./ac. of F.Y.M.+2 mds./ac. of A/S+2 mds./ac- of Super. (ii) (a) Sandy loam. (b) N.A. (iii) 18.7.1959. (iv) (a) Ploughing. (b) Drilling. (c) 10 lb./ac. (d) 8″ between rows. (e) N.A. (v) 2 C.L./ac. of F.Y.M.+2 mds./ac. of A/S. (vi) H 22 (late). (vii) Un-irrigated. (viii) Interculturing and weeding. (ix) 21.63″. (x) 20.11.1959.

2. TREATMENTS :

5 levels of P_2O_5 : P_0=0 P_1=10, P_2=20, P_3=30 and P_4=40 lb./ac.

3. DESIGN :

(i) R B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) and (b) 1/40 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Grain yield. (iv) (a) to (c) No. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1445 lb./ac. (ii) 176.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	P_0	P_1	P_2	P_3	P_4
Av. yield	1362	1487	1535	1375	1465

S.E./mean = 88.3 lb./ac.

Crop :- Ragi *(Kharif)*. **Ref :- Ms. 59(190).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To find out the optimum dose of N for Ragi.

1. BASAL CONDITIONS :

(i) (b) *Ragi*—Groundnut. (b) Groundnut. (c) 2 C.L./ac. of F.Y.M.+2 mds./ac. of Super. (ii) (a) Sandy loam. (b) N.A. (iii) 9.7.1959. (iv) (a) Ploughing. (b) Drilling. (c) 10 lb./ac. (d) 8" between rows. (e) —. (v) 2 C.L./ac. of F.Y.M.+2 mds./ac. of Super. (vi) H—22 (late). (vi:) Unirrigated. (vii) Irrigated. (viii) Interculturing and weeding. (ix) 21.63". (x) 20.11.1959.

2. TREATMENTS :

5 levels of N as A/S : N_0=0, N_1=5, N_2=10, N_3=15 and N_4=20 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) and (b) 1/40 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Grain yield. (iv) (a) to (c) No. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS .

(i) 1044 lb./ac. (ii) 172.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	N_0	N_1	N_2	N_3	N_4
Av. yield	985	910	1102	1130	1090

S.E./mean = 86.0 lb./ac.

Crop :- Ragi. **Ref :- Ms. 57(76).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To study the effect of different levels and sources of P on Ragi.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) Red loamy. (b) N.A. (iii) 14.8.1957. (iv) (a) 4 ploughings. (b) Drill sowing. (c) 8 srs./ac. (d) 9"×2". (e) 2 to 3. (v) 4 C.L./ac. of F.Y.M. by broadcasting. (vi) H—22 (late). (viii) Weeding once and thinning twice. (ix) 6.60". (x) 24.12.1957.

2. TREATMENTS :

All combinations of (1) and (2)+Control (2 plots).

(1) 2 levels of P_2O_5 : P_1=10 and P_2=20 lb./ac.

(2) 2 sources of P_2O_5 : S_1=Dical. Phos. and S_2=Triple Super.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) and (b) 1/40 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) to (c) No. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 396 lb./ac. (ii) 108.1 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

Control = 416 lb./ac.

	P_1	P_2	Mean
S_1	442	379	410
S_2	358	364	361
Mean	400	372	386

S.E. of any marginal mean or control mean = 34.2 lb./ac.
S.E. of body of table = 48.3 lb./ac.

Crop :- Ragi *(Kharif)*. **Ref :- Ms. 57(69).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To study the effect of N and P on Ragi.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Ragi* and oilseeds. (c) N.A. (ii) (a) Red loamy. (b) N.A. (iii) 3.7.1957. (iv) (a) 4 ploughings. (b) Drill sowing. (c) 8 srs./ac. (d) 9"×2". (e) 2 to 3. (v) 4 C.L /ac. of F.Y.M. (vi) H—22 (late). (vii) Unirrigated. (viii) Weeding once and thinning once. (ix) 8.28". (x) 27.11.1957/2, 11.12.1957.

2. TREATMENTS :

4 manurial treatments : M_0=No manure, M_1=15 lb./ac. of N as A/S+15 lb./ac. of P_2O_5 as Super, M_2=30 lb./ac. of N as A/S+30 lb./ac. of P_2O_5 as Super and M_3=30 lb./ac. of P_2O_5 as Super.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 3. (iv) (a) and (b) 1/13.3 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) to (c) No. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 388 lb./ac. (ii) 16.3 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3
Av. yield	334	469	421	329

S.E./mean = 9.4 lb./ac.

Crop :- Ragi *(Kharif)*. **Ref :- Ms. 54(195).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To compare the effects of A/S and Ammonia on Ragi.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Ragi*. (c) 4000 lb./ac. of F.Y.M. (ii) (a) Red loam to sandy loam. (b) N.A. (iii) 12.8 1954. (iv) (a) 4 ploughings. (b) Drilling. (c) 8 srs./ac. (d) 9"×2". (e) 2 to 3. (v) 4000 lb./ac. of F.Y M. (vi) H—22 (late). (vii) Unirrigated. (viii) Weeding once and thinning twice. (ix) 15.30". (x) 28.12 1954.

2. TREATMENTS :

3 sources of N at 15 lb./ac. : S_0=Control (No N), S_1=Ammonia and S_2=A/S.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/40 ac. (v) 3′ alround. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) to (c) No. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 518 lb./ac. (ii) 67.6 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	S_0	S_1	S_2
Av. yield	430	520	603

S.E./mean = 33.8 lb./ac.

Crop :- Ragi *(Kharif)*. **Ref :- Ms. 54(196).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To study the effect of different methods of application of P on Ragi.

1. BASAL CONDITIONS :

(i) (a) Cereals—Leguminous crops. (b) Pulses. (c) N.A. (ii) (a) Red loamy soil. (b) N.A. (iii) 9.8.1954. (iv) (a) 4 ploughings. (b) Drilling. (c) 8 srs./ac. (d) 9″×2″. (e) 2 to 3. (v) 4 C.L./ac. of F.Y.M. (vi) H—22 (late). (vii) Unirrigated. (viii) Weeding once and thinning twice. (ix) 15.32″. (x) 27.12.1954.

2. TREATMENTS :

4 manurial treatments : M_0=Control (no chemical fertilizer), M_1=15 lb./ac. N as A/S, M_2=M_1+10 lb./ac. of P_2O_5 as Super at last ploughing and M_3=M_1+10 lb./ac. of P_2O_5 drilled to a depth of 3″ at last ploughing.

3. DESIGN :

(i) R.B D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/40 ac. (v) 3′ alround. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1952—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 849 lb./ac. (ii) 243.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3
Av. yield	778	857	910	850

S.E./mean = 121.7 lb./ac.

Crop :- Ragi *(Kharif)*. **Ref :- Ms. 57(78).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To study the effect of different methods of application of P on Ragi.

1. BASAL CONDITIONS :

(i) (a) Cereals—Leguminous crops. (b) Pulses. (c) N.A. (ii) (a) Red loamy. (b) N.A. (iii) 13.8.1957 (iv) (a) 4 ploughings. (b) Drilling. (c) 8 srs./ac. (d) 9″×2″. (e) 2 to 3. (v) 4 C.L./ac. of F.Y.M. (vi). H—22 (late). (vii) Unirrigated. (viii) Weeding once and thinning twice. (ix) 6.60″. (x) 19.12.1957.

2. TREATMENTS to 4. GENERAL:

Same as in expt. no. 54(196) on page 403.

5. RESULTS :

(i) 563 lb./ac. (ii) 205.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3
Av. yield	506	623	547	576

S.E./mean = 102.5 lb./ac.

Crop :- Ragi *(Kharif)* **Ref :- Ms. 54(193).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To study the effect of $ZnSO_4$ on Ragi.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) Red loamy. (b) N.A. (iii) 5.8.1954. (iv) (a) 4 ploughings. (b) Drill sowing. (c) 8 srs./ac. (d) 9″×2″. (e) 2 to 3. (v) 48 lb./ac. of G.N.C. powder+48 lb./ac. of Super. (vi) H—22 (late). (vii) Unirrigated. (viii) Weeding once and thinning twice. (ix) 15.32″. (x) 29.12.1954.

2. TREATMENTS :

4 levels of $ZnSO_4$: L_0=0, L_1=5, L_2=10 and L_3=15 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 1/40 ac. (v) 3′ all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 387 lb./ac. (ii) 131.8 lb./ac. (iii) The treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	L_0	L_1	L_2	L_3
Av. yield	320	340	469	419

S.E./mean = 58.9 lb./ac.

Crop :- Ragi *(Kharif)*. **Ref :- Ms. 55(173).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To study the effect of $ZnSO_4$ on Ragi.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) Red loamy. (b) N.A. (iii) 7.7.1955. (iv) (a) 4 ploughings. (b) Drill sowing. (c) 8 srs./ac. (d) 9″×2″. (e) 2 to 3. (v) 48 lb./ac. of G.N.C. powder+48 lb./ac. of Super. (vi) H—22 (late). (vii) Unirrigated. (viii) Weeding once and thinning twice. (ix) 20.13″. (x) 17.11.1955.

2. TREATMENTS :

Same as in expt. no. 54(193) above.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 1/120 ac. (v) 3′ all around. (vi) Yes.

4. GENERAL :

Same as in expt. no. 54(193) on page 404.

5. RESULTS :

(i) 462 lb /ac. (ii) 129.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb /ac.

Treatment	L_0	L_1	L_2	L_3
Av. yield	487	564	406	390

S.E./mean = 58.1 lb./ac.

Crop :- Ragi *(Kharif)*. **Ref :- Ms. 57(72).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To study the effect of $ZnSO_4$ on Ragi.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) Red loamy. (b) N.A. (iii) 14.8.1957. (iv) (a) 4 ploughings. (b) Drill sowing, (c) 8 srs./ac. (d) 9"×2". (e) 2 to 3. (v) 2 C.L./ac. of F.Y.M. (vi) H—22 (late). (vii) Unirrigated. (viii) Weeding once and thinning twice. (ix) 6.60". (x) 18.12.1957.

2. TREATMENTS :

Same as in expt. no. 54(193) on page 404.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 1/20 ac. (v) 3' all around. (vi) Yes.

4. GENERAL :

Same as in expt. no. 54(193) on page 404.

5. RESULTS :

(i) 375 lb./ac. (ii) 61.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	L_0	L_1	L_2	L_3
Av. yield	351	398	399	353

S.E./mean = 27.3 lb./ac.

Crop :- Ragi *(Kharif)*. **Ref :- 54(192).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To study the effect of soaking of seeds in $ZnSo_4$ solution on Ragi.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) Red loamy. (b) N.A. (iii) 5.8.1954. (iv) (a) 4 ploughings. (b) Drill sowing. (c) 8 srs./ac. (d) 9"×2". (e) 2 to 3. (v) 48 lb./ac. of G.N.C. powder+48 lb./ac. of Super. (vi) H—22 (late). (vii) Unirrigated. (viii) Weeding once and thinning twice. (ix) 15.32". (x) 29.12.1954.

2. TREATMENTS :

3 seed treatments : T_0=Control (untreated seed), T_1=Soaked in 0.5% $ZnSo_4$ solution, and T_2=Soaked in 1% $ZnSo_4$ solution.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 1/40 ac. (v) 3' all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 435 lb./ac. (ii) 61.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_0	T_1	T_2
Av. yield	416	428	461

S.E./mean = 27.3 lb./ac.

Crop :- Ragi *(Kharif)*. **Ref :- Ms. 55(172).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To study the effect of soaking of seeds in $ZnSo_4$ solution on Ragi.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) Red loamy. (b) N.A. (iii) 3.7.1955. (iv) (a) 4 ploughings. (b) Drill sowing. (c) 8 srs./ac. (d) 9″×2″. (e) 2 to 3. (v) 48 lb./ac. of G.N.C.+48 lb./ac. of Super. (vi) H-22 (late). (vii) Unirrigated. (viii) Weeding once and thinning twice. (ix) 15.93″. (x) 17.11.1955.

2. TREATMENTS :

Same as in expt. no. 54(192) on page 405.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 1/120 ac. (v) 3′ all around. (vi) Yes.

4. GENERAL :

Same as in expt. no. 54(192) on page 405.

5. RESULTS :

(i) 462 lb./ac. (ii) 30.9 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_0	T_1	T_2
Av. yield	450	501	433

S.E. = 13.8 lb./ac.

Crop :- Ragi *(Kharif)*. **Ref :- Ms. 57(71).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To study the effect of soaking of seeds in $ZnSO_4$ solution on Ragi.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) Red loamy. (b) N.A. (iii) 13.8.1957. (iv) (a) 4 ploughings. (b) Drill sowing. (c) 8 srs./ac. (d) 9″×2″. (e) 2 to 3. (v) 2 C.L./ac. of F.Y.M. (vi) Unirrigated. (viii) Weeding once and thinning twice. (ix) 6.60″. (x) 18.12.1957.

2. TREATMENTS :

Same as in expt. no. 54(192) on page 405.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 1/20 ac. (v) 3′ all around. (vi) Yes.

4. GENERAL :

Same as in expt. no. 54(192) on page 405.

5. RESULTS :

(i) 394 lb./ac. (ii) 28.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_0	T_1	T_2
Av. yield	379	386	418

S.E./mean = 12.6 lb./ac.

Crop :- Ragi *(Kharif)*. **Ref :- Ms. 54(194).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To study the effect of different methods of application of P on Ragi.

1. BASAL CONDITIONS :

(i) (a) Cereals—Leguminous crops. (b) Red gram. (c) Nil. (ii) (a) Red loamy. (b) N.A. (iii) 3.8.1954. (iv) (a) 4 ploughings. (b) Drill sowing. (c) 8 srs./ac. (d) 9″×2″. (e) 2 to 3. (v) 4000 lb./ac. of F.Y.M. (vi) H—22 (late). (vii) Unirrigated. (viii) Weeding once and thinning twice. (ix) 15.38″. (x) 28.12.54.

2. TREATMENTS :

4 methods of application of 10 lb./ac. of P_2O_5 as super : M_0=No P_2O_5 M_1=Applied separately, M_2=Mixed with F.Y.M. just before application, and M_3=Composted with F.Y.M.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/80 ac. (v) 3′ all around. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 490 lb./ac. (ii) 202.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3
Av. yield	499	376	538	546

S.E./mean = 101.2 lb./ac.

Crop :- Ragi *(Kharif)*. **Ref :- Ms. 55(174).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To study the effect of different methods of application of P on Ragi.

1. BASAL CONDITIONS :

(i) (a) Cereals—Leguminous crops. (b) Red gram. (c) Nil. (ii) (a) Red loamy. (b) N.A. (iii) 21.7.1955. (iv) (a) 4 ploughings. (b) Drill sowing. (c) 8 srs./ac. (d) 9″×2″. (e) 2 to 3. (v) 4000 lb /ac. of F.Y.M. (vi) H—22 (late). (vi) Unirrigated. (viii) Weeding once and thinning twice. (ix) 18.15″. (x) 13.12.1955.

2. TREATMENTS :

Same as in expt. no. 54(194) above.

3. DESIGN :

(i) R B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/120 ac. (v) 3′ all around. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) N.A. (iii) Grain and straw yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 254 lb./ac. (ii) 85.0 lb./ac. (iii) Treatment differences are not significant (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3
Av. yield	272	255	234	255

S.E./mean = 42.5 lb./ac.

Crop :- Ragi (*Kharif*). **Ref :- Ms. 75(73).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To study the effect of different methods of application of P on Ragi.

1. BASAL CONDITIONS :

(i) (a) Cereals—Leguminous crops. (b) Red gram. (c) Nil. (ii) (a) Red loamy (b) N.A. (iii) 13.8.1957. (iv) (a) 4 ploughings. (b) Drill sowing. (c) 8 srs./ac. (d) 9″×2″. (e) 2 to 3. (v) 4000 lb./ac. of F.Y M. (vi) H—22. (vii) Unirrigated. (viii) Weeding once and thinning twice. (ix) 6.60″. (x) 18.2.1957.

2. TREATMENTS :

Same as in expt. no. 54(194) on page 407.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/40 ac. (v) 3′ all around. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 638 lb /ac. (ii) 145.8 lb./ac. (iii) The treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3
Av. yield	681	677	570	625

S.E./mean = 72.9 lb./ac.

Crop :- Ragi. **Ref :- Ms. 55(5).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To find out the effect of applying different kinds of compost at different levels on Ragi.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Ragi*. (c) 2 tons/ac. of compost. (ii) (a) Sandy soil. (b) Refer soil analysis, Mandya. (iii) N.A./3.10.1955. (iv) (a) 3 ploughings, levelling, harrowing and opening furrows. (b) Transplanting. (c) 2 srs./ac. (d) 10″×9″. (e) N.A. (v) Nil. (vi) CO—1 (early). (vii) Unirrigated. (viii) Weeding. (ix) 10.28″. (x) 19.12.1955.

2. TREATMENTS :

6 B.Ds. : B_0=No B.D., B_1=Night soil compost at 4 tons/ac., B_2=F.W.C. at 8 tons/ac., B_3=F.W.C. at 12 tons/ac., B_4=F.Y.M. at 8 tons/ac. and B_5=F.Y.M. at 12 tons/ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) and (b) 1/100 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) The crop was poor due to abnormal seasonal conditions. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—1956. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 750 lb./ac. (ii) 316.4 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	B_0	B_1	B_2	B_3	B_4	B_5
Av. yield	425	1037	419	753	950	916

S.E./mean = 158.2 lb./ac.

Crop :- Ragi *(Rabi).* **Ref :- Ms. 56(164).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To find out the effect of application of different kinds of compost at different levels on Ragi.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Ragi.* (c) As per treatments. (ii) (a) Sandy soil. (b) Refer soil analysis, Mandya. (iii) 6.10.1956. (iv) (a) 3 ploughings, levelling and harrowing. (b) Transplanting. (c) 2 srs./ac. (d) 10″×9″. (e) N A. (v) Nil. (vi) CO—1 (early). (vii) Unirrigated. (viii) Weeding. (ix) 15″. (x) 23.12.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(5) on page 408.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—1956. (b) Yes. (c) Nil. (v) (a) and (b) N A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1796 lb./ac. (ii) 555.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	B_0	B_1	B_2	B_3	B_4	B_5
Av. yield	1400	2050	1850	1900	1650	1925

S E./mean = 277.9 lb./ac.

Crop :- Ragi *(Rabi).* **Ref :- Ms. 57(141).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of different levels and sources of P_2O_5 on Ragi.

1. BASAL CONDITIONS :

(i) (a) Paddy—*Ragi*—Sugarcane. (b) Paddy. (c) Nil. (ii) (a) Sandy. (b) Refer soil analysis, Mandya. (iii) 4.10.1957./N.A. (iv) (a) 3 ploughings, levelling, harrowing and opening furrows. (b) Transplanting. (c) 4 lb./ac. (d) 10″×9″. (e) N.A. (v) 20 lb./ac. of N as A/S at planting+5 C.L./ac. of compost applied one week before planting. (vi) CO—1 (early). (vii) Unirrigated. (viii) Weeding. (ix) 13.65″. (x) 17.12.1957.

2. TREATMENTS :

All combinations of (1) and (2)+Control (No P_2O_5 in 2 plots/replication).

(1) 2 levels of P_2O_5 : P_1=10 and P_2=20 lb./ac.

(2) 2 sources of P_2O_5 : S_1=Dical. Phos. and S_2=Super.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) and (b) 1/40 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) to (c) No. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1137 lb./ac. (ii) 392.2 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

Control = 968 lb./ac.

	S_1	S_2	Mean
P_0	1192	1280	1236
P_1	1216	1200	1208
Mean	1204	1240	1222

S.E. of any marginal mean or control mean = 124.0 lb./ac.
S.E. of body of table = 175.5 lb./ac.

Crop :- Ragi *(Kharif)*. **Ref :- Ms. 58(SFT).**

Centre :- Bangalore (c.f.). **Type :- 'M'.**

Object :— Type A—To study the response of Ragi to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red soil. (iii) Nil. (iv) and (v) N.A. (vi) July-August, 1958. (vii) Unirrigated. (viii) and (ix) N.A. (x) November, 1958.

2. TREATMENTS :

0 =Control (no manure).
n =20 lb./ac. of N as A/S.
p =20 lb./ac of P_2O_5 as Super.
np=20 lb./ac. of N as A/S+20 lb./ac. of P_2O_5 as Super.
k =20 lb./ac. of K_2O as Mur. pot.
nk=20 lb./ac. of N as A/S+20 lb./ac. of K_2O as Mur. Pot.
pk=20 lb./ac. of P_2O_5 as Super+20 lb./ac. of K_2O as Mur. Pot.
npk=20 lb./ac. of N as A/S+20 lb./ac. of P_2O_5 as Super+20 lb./ac. of K_2O as Mur. Pot.

3. DESIGN :

(i) and (ii) The district has been divided into four agriculturally homogenous zones and one field assistant posted in each zone. The field assistant conducts the trials in one Revenue circle or thana in the zone and the circle/thana is changed once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year, 8 on *kharif* cereal, 8 on *rabi* cereal, 8 on cash crops, 4 on an oilseed crop and 3 on a leguminous crop. Half the number of trials conducted are of Type A and the other half of Type B on crops other than the legumes. The three trials on legumes are of Type C. Residual effects of phosphate application are studied on Type C trials in two out of the four zones in each district every year. The experiments are laid out in randomly located fields in randomly selected villages in each of the 4 zones at the rate of one experiment per village. (iii) (a) 1/40 ac. (b) 1/80 ac. (iv) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—contd. (b) No. (c) N.A. (v) As per design. (vi) and (vii)) Nil.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	189	74	66	24.7	58	—41	—33	41	19.7

Control mean = 683 lb./ac, and no. of trials=10.

Crop :- Ragi *(Kharif)*. **Ref :- Ms. 59(SFT).**

Centre :- Bangalore. **Type :- 'M'.**

Object :—Type A—To study the response of Ragi to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Laterite and others. (iii) Nil. (iv) and (v) N.A. (vi) July—August. (vii) Unirrigated. (viii) and (ix) N.A. (x) November.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(SFT) type A on page 410 conducted at Bangalore.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	148	148	49	65.8	66	82	58	41	82.3

Control mean = 1053 lb./ac. and no. of trials=14.

Crop :- Ragi *(Kharif)*. **Ref :- Ms. 59(SFT).**

Centre :- Hassan. **Type :- 'M'.**

Object :—Type—To study the response of Ragi to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS to 4. GENERAL :

Same as in expt. no. 58(SFT) type A on page 410 conducted at Bangalore.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	296	296	280	65.8	33	16	—49	16	74.1

Control mean = 625 lb./ac. and no. of trials=6.

Crop :- Ragi *(Kharif)*. **Ref :- Ms. 58(SFT).**

Centre :- Bangalore. **Type :- 'M'.**

Object—Type B : —To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red soil. (iii) Nil. (iv) and (v) N.A. (vi) July—August, 1958. (vii) Unirrigated. (viii) and (ix) N.A. (x) November, 1958.

2. TREATMENTS :

0 = Control (no manure).
n_1' =20 lb./ac. of N as urea.
n_2' =40 lb./ac. of N as urea.
n_1'' =20 lb./ac. of N as A/S/N.
n_2'' =40 lb /ac. of N as A/S/N.
n_1'''=20 lb./ac of N as C/A/N.
n_2'''=40 lb./ac. of N as C/A/N.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 58(SFT) type A on page 410 conducted at Bangalore.

5. RESULTS :

Treatment	0	n_1'	n_2'	n_1''	n_2''	n_1'''	n_2'''
Av. yield	782	946	979	913	1012	938	971

G.M. = 934 lb./ac. S.E.=49.5 lb./ac. and no. of trials=11.

Crop :- Ragi *(Kharif)*. **Ref :- Ms. 59(SFT).**

Centre :- Bangalore. **Type :- 'M'.**

Object—Type B :—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Laterite and others. (iii) Nil. (iv) and (v) N.A. (vi) July—August, 1959. (viii) Unirrigated. (viii) and (ix) N.A. (x) November, 1959.

2. TREATMENTS :

0 =Control.
n_1' =20 lb./ac. of N as Urea.
n_2' =40 lb./ac. of N as Urea.
n_1'' =20 lb./ac. of N as A/S/N.
n_2'' =40 lb./ac. of N as A/S/N.
n_1'''=20 lb./ac. of N as C/A/N.
n_2'''=40 lb./ac. of N as C/A/N.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 58(SFT) type A on page 410 conducted at Bangalore.

5. RESULTS :

Treatment	0	n_1'	n_2'	n_1''	n_2''	n_1'''	n_2'''
Av. yield	905	1020	955	971	1103	1201	1234

G.M. = 1056 lb./ac., S.E. = 12.2 lb./ac. and no. of trials = 5.

Crop :- Ragi *(Kharif)*. **Ref :- Ms. 59(SFT).**

Centre :- Bangalore. **Type :- 'M'.**

Object—Type B :—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Laterite and others. (iii) Nil. (iv) and (v) N.A. (vi) July—August, 1959. (vii) Unirrigated. (viii) and (ix) N.A. (x) November, 1959.

2. TREATMENTS :

0 =Control.
n_1 =20 lb./ac. of N as A/S.
n_2 =40 lb./ac. of N as A/S.
n_1' =20 lb./ac. of N as Urea.
n_2' =40 lb./ac. of N as Urea.
n_1'''=20 lb./ac. of N as C/A/N.
n_2'''=40 lb./ac. of N as C/A/N.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 58(SFT) type A on page 410 conducted at Bangalore.

5. RESULTS :

Treatment	0	n_1	n_2	n_1'	n_2'	n_1'''	n_2'''
Av. yield	1127	1160	1193	1160	1185	1185	1275

G.M. = 1184 lb./ac. ; S.E. = 37.84 lb./ac. and no. of trials = 9.

Crop :- Ragi *(Kharif)*. **Ref :- Ms. 59(SFT).**

Centre :- Hassan. **Type :- 'M'.**

Object :—Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Laterite and others. (iii) Nil. (iv) and (v) N.A. (vi) July—August, 1959. (vii) Unirrigated. (viii) and (ix) N.A. (x) November 1959.

2. TREATMENTS :

0 =Control (no manure).
n_1 =20 lb./ac. of N as A/S.
n_2 =40 lb./ac. of N as A/S.
n_1' =20 lb /ac. of N as Urea.
n_2' =40 lb./ac. of N as Urea.
n_1'''=20 lb./ac. of N as C/A/N.
n_2'''=40 lb./ac. of N as C/A/N.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 58(SFT) type A on page 410 conducted at Bangalore.

5. RESULTS :

Treatment	0	n_1	n_2	n_1'	n_2'	n_1'''	n_2'''
Av. yield	1144	1424	1588	1349	1424	1251	1292

G.M. = 1353 lb./ac. ; S.E. = 126.8 lb./ac. and no. of trials = 7.

Crop :- Ragi *(Kharif)*. **Ref :- Ms. 59(SFT).**

Centre :- Hassan. **Type :- 'M'.**

Object :—Type B—To investigate the relative efficiancy of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red soil. (iii) Nil. (iv) and (v) N.A. (vi) July—August, 1959. (vii) Unirrigated. (viii) and (ix) Nil. (x) November, 1959.

2. TREATMENTS :

0 =Control (no manure).
n_1 =20 lb./ac. of N as A/S.
n_2 =40 lb./ac. of N as A/S.
n_1' =20 lb./ac. of N as Urea.
n_2' =40 lb./ac. of N as Urea.
n_1'' =20 lb./ac. of N as A/S/N.
n_2'' =40 lb./ac. of N as A/S/N.

3. DESIGN and 4. GENERAL :

Same as in experiment no. 58(SFT) type A on page 410 conducted at Bangalore.

5. RESULTS :

Treatment	0	n_1	n_2	n_1'	n_2'	n_1''	n_2''
Av. yield	576	741	872	806	839	658	699

G.M. = 742 lb./ac. ; S.E. = 115.2 lb /ac. and no. of trials = 7.

Crop :- Korra *(Kharif).* **Ref :- Ms. 57(183).**

Site :- Soil Cons. Res. Centre, Bellary. **Type :- 'M'.**

Object :—To determine the optimum does of N and P for Korra.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Black cotton soil. (b) N.A. (iii) 15.7.1957. (iv) (a) 3 harrowings. (b) Drilling. (c) 3 lb./ac. (d) 12" between rows. (e) N.A. (v) 72 lb./ac. of A/S+144 lb./ac. of Super. (vi) H—2. (vii) Unirrigated. (viii) Interculturing and stirring well. (ix) 10". (x) 5.11.1957.

2. TREATMENT :

All combinations of (1) and (2)

(1) 3 levels of N : $N_0=0_1$ $N_1=20$ and $N_2=40$ lb./ac.

(2) 4 levels of P_2O_5 : $P_0=0$, $P_1=20$, $P_2=40$ and $P_3=100$ lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 3. (iv) (a) 84'×10'6". (b) 82'×8'6". (v) 1 row alround. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1957—1960. (b) Yes. (c) Nil. (v) (a) and (b) No. (vi) and (vii) Nil.

5. RESULTS :

(i) 192 lb./ac. (ii) 84.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	P_3	Mean
N_0	142	178	183	178	170
N_1	170	174	211	254	202
N_3	163	212	223	221	205
Mean	158	188	206	218	192

S.E. of N marginal mean = 24.4 lb./ac.

S.E. of P marginal mean = 28.2 lb./ac.

S.E. of body of table = 48.8 lb./ac.

Crop :- Korra *(Kharif).* **Ref :- Ms. 58(175).**

Site :- Soil Cons. Res. Centre, Bellary. **Type :- 'M'.**

Object :—To find out the optimum dose of N and P for Korra.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Korra* (*Setaria*). (c) As per treatments. (ii) (a) Black cotton soil. (b) N.A. (iii) 7.8.1958. (iv) Harrowing. (b) Drilling. (c) 3 lb./ac. (d) 12" between rows. (e) N.A. (v) 90 lb./ac. of Super+72 lb./ac. of A/S. (vi) H—2. (vii) Unirrigated. (viii) Interculturing and stirring well. (ix) 12.5". (x) 16.11.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(183) above.

5. RESULTS :

(i) 549 lb./ac. (ii) 61.8 lb./ac. (iii) N and P effects are highly significant. (iv) Av. yield of grain in lb /ac.

	P_0	P_1	P_2	P_3	Mean
N_0	423	467	431	486	452
N_1	466	593	633	645	584
N_2	497	570	672	700	610
Mean	462	543	579	610	549

S.E. of N marginal mean = 17.8 lb./ac.
S.E. of P marginal mean = 20 6 lb./ac.
S.E. of body of table = 35.6 lb./ac.

Crop :- Korra. **Ref :- Ms. 54(28).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the optimum dose of P required for Korra crop.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Cotton. (c) G.M. grown and ploughed in *situ*. (ii) (a) Heavy black clay soil. (b) Refer soil analysis, Siruguppa. (iii) 23.7.1954. (iv) (a) 2 ploughings and working *guntaka*. (b) *Akkadi* sowing behind *gorru*. (c) to (e) N.A. (v) 5 tons/ac. of F.Y.M. (vi) N—1 (*Navanai*). (vii) Irrigated. (viii) *Dantulu* was worked in between lines of *korra* to check weeds and create mulch when the crop was a month old. Weeding was done twice during the crop growth. Thinning was done at the time of interculti-vation with *dantalu*. (ix) 11.56". (x) 27.10.1954.

2. TREATMENTS :

5 manurial doses : M_0=Control (no manure), M_1=60 lb./ac. of N, M_2=60 lb./ac. of N+30 lb./ac. of P_2O_5, M_3=60 lb./ac. of N+60 lb./ac. of P_2O_5 and M_4=60 lb./ac. of N+90 lb./ac. of P_2O_5.

N applied as A/S and P_2O_5 as Super.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 1/80 ac. (b) 1/200 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Tiller count, grain and straw yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) No. (b)—. (vi) and (vii) Nil.

5. RESULTS :

(i) 1370 lb./ac. (ii) 154 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4
Av. yield	760	1454	1490	1512	1638

S.E./mean = 63 lb./ac.

Crop :- Korra. **Ref :- Ms. 55(28).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the optimum dose of P for Korra crop.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Cotton. (c) G.M. crop of sannhemp grown in *situ* and ploughed in. (ii) (a) Heavy black clayey soil. (b) Refer soil analysis, Siruguppa. (iii) 30.7.1955. (iv) (a) 2 ploughings, working *guntaka* and spacing of bunds. (b) *Akkadi* sowing behind *gorru*. (c) to (e) N.A. (v) 5 tons/ac. of F.Y.M. (vi) N—1 (*Navanai*). (vii) Irrigated. (viii) *Dantalu* was worked in between lines of *Navanai* to check weeds. Weeding was done twice. Thinning was done at the time of intercultivation with *dantalu*. (ix) 26.43". (x) 11.11.1955.

2. TREATMENTS :

Same as in expt. no. 54(28) on page 415.

3. DESIGN :

(i) R.B D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 1/67 ac. (b) 1/133 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) Nil. (b)—. (vi) and (vii) Nil.

5. RESULTS :

(i) 1105 lb./ac. (ii) 148.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4
Av. yield	756	1322	1173	1190	1081

S.E./mean = 60.7 lb./ac.

Crop :- Korra *(Kharif)*. **Ref :- Ms. 56(115).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the optimum dose for Korra.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Cotton. (c) 5 tons/ac. of F.Y.M.+40 lb./ac. of N as A/S. (ii) (a) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) 6.7.1956. (iv) (a) Ploughing and harrowing. (b) Placement method. (c) to (e) N.A. (v) 5 tons/ac. of F.Y.M. (vi) N—1 (medium). (vii) Irrigated. (viii) Weeding. (ix) 26.67". (x) 20.10.1956.

2. TREATMENTS :

Same as in expt. no. 54(28) on page 415.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 1/67 ac. (b) 1/133 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) Nil. (b)—. (vi) and (vii) Nil.

5. RESULTS :

(i) 1338 lb./ac. (ii) 215.7 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4
Av. yield	619	1483	1689	1389	1511

S.E./mean = 88.0 lb./ac.

Crop :- Bajri *(Kharif).* **Ref :- Ms. 58(223).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'C'.**

Object :—To find out the suitable spacing and economic seed rate for Bajri in Bijapur Dist.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 1st week of July, 1958. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) and (d) As per treatments. (e) N.A. (v) N.A. (vi) Golgeri—1-8-5. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 19.35". (x) 6.12.1958.

2. TREATMENTS :

Main-plot treatments :

3 row spacings : S_1=9", S_2=12" and S_3=15".

Sub-plot treatments :

3 seed rates : R_1=2, R_2=4 and R_3=6 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) For S_1= 24'×18', for S_2=24'×19' and for S_3=24'×20'. (b) 20'×15'. (v) 4 rows. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 359 lb./ac. (ii) (a) 103.7 lb./ac. (b) 54.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	R_1	R_2	R_3	Mean
S_1	356	388	395	380
S_2	340	352	365	352
S_3	322	361	349	344
Mean	339	367	370	359

S.E. of difference of two

1. S marginal means = 42.3 lb./ac.
2. R marginal means = 22.2 lb./ac.
3. R means at the same level of S = 38.5 lb./ac.
4. S means at the same level of R = 52.7 lb./ac.

Crop :- Bajri *(Kharif).* **Ref :- Ms. 59(193).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'C'.**

Object :—To find out the suitable spacing and economic seed rate for Bajri in Bijapur Dist.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Tur.* (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 7.7.1959. (iv) (a) Ploughing. (b) Drilling. (c) and (d) As per treatments. (e) N.A. (v) Nil. (vi) Golgeri—1-8-5. (vii) Unirrigated. (viii) 2 interculturings and weeding. (ix) 11.07". (x) 6.12.1959.

2. TREATMENTS and 3 DESIGN :

Same as in expt. no. 58(223) above.

4. GENERAL :

(i) Normal. (ii) Slight infection of Ergot disease. No control measures taken. (iii) Yield data. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 627 lb./ac. (ii) (a) 89.2 lb./ac. (b) 82.0 lb./ac. (iii) R effect alone is highly significant. (iv) Av. yield of grain in lb./ac.

	R_1	R_2	R_3	Mean
S_1	701	594	517	604
S_2	733	622	526	627
S_3	728	640	583	650
Mean	721	619	542	627

S.E. of difference of two

1. S marginal means = 36.4 lb./ac.
2. R marginal means = 33.5 lb./ac.
3. R means at the same level of S = 58.0 lb./ac.
4. S means at the same level of R = 59.7 lb./ac.

Crop :- Bajri. **Ref :- Ms. 55(151).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'CM'.**

Object :—To compare the effect of the departmental method of cultivation over local method of cultivation on Bajri.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 6.8.1955. (iv) (a) Ploughing. (b) Sowing with seed drill (c) and (d) As per treatments. (e) N.A. (v) Nil. (vi) Bijapur. (vii) Uinrrigated. (viii) Gap-filling. (ix) N.A. (x) 19.12.1955.

2. TREATMENTS :

2 methods of manuring : M_1=Local method with row spacing 12" and seed rate 2 lb./ac. M_2=5 C.L./ac. of F.Y.M.+40 lb./ac. of N as A/S(half at sowing and half one month after)+20 lb./ac. of P_2O_5 as Super with row spacing 15" and seed rate 4 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) 39'×20'. (b) 33'×15'. (v) 3'×2½'. (vi) Yes.

4. GENERAL :-

(i) Germination was very poor. (ii) Nil. (iii) Grain yield. (iv) (a) to (c) No. (v) to (vii) Nil

5. RESULTS :

(i) 274 lb./ac. (ii) 103 lb./ac. (iii) Treatment difference is highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2
Av. yield	120	429

S.E./mean = 29.7 lb./ac.

Crop :- Sweet Potato. **Ref :- Ms. 54(89).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'M'.**

Object :—To find out an optimum dose of manure for Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) Paddy—Sweet Potato. (b) Paddy. (c) C.M. at 2 tons/ac.+A/S at 100 lb./ac.+Super at 150 lb./ac. (ii) (a) Red loam. (b) Refer soil analysis, Mangalore. (iii) 2, 3.6.1954. (iv) (a) 5 to 6 ploughings, making ridges at 2' apart. (b) Planting 9" cuttings. (c) N.A. (d) Between rows 1'. (e) N.A. (v) Nil. (vi) F. B. 4004. (vii) Unirrigated. (viii) One weeding. (ix) 115.77". (x) 22, 23, 24.10.1954.

2. TREATMENTS :

Main-plot treatments :
3 basal dressings : B_0=0, B_1=10000 lb./ac. of F.Y.M. and B_2=10000 lb./ac. of G.L.

Sub-plot treatments :
All combinations of (1), (2) and (3)
(1) 3 levels of N as A/S : N_0=0, N_1=50 and N_2=100 lb./ac.
(2) 3 levels of K_2O as Pot. Nitrate : K_0=0, K_1=80 and K_2=160 lb./ac.
(3) 2 levels of P_2O_5 as Super : P_0=0 and P_1=80 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block, 18 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) (a) 15'×8'. (b) 13'×6'. (v) 1' alround left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Negligible. (iii) Weight of tubers and vines. (iv) (a) 1952—contd. (b) No. (c) Nil. (v) to (vii)Nil.

5. RESULTS :

(i) 11271 lb./ac. (ii) (a) 145.6 lb./ac. (b) 150.2 lb./ac. (iii) Main effects of B, N, P and K are highly significant. Interactions N×K, P×K and B×K are highly significant while N×P is significant. (iv) Av. yield of tuber in lb./ac.

	B_0	B_1	B_2	P_0	P_1	K_0	K_1	K_2	Mean
N_0	7508	9215	10331	8315	9721	7601	9059	10394	9018
N_1	11510	12582	12472	10621	13755	10269	12985	13309	12188
N_2	11976	12782	13061	11397	13817	9804	13185	14830	12607
Mean	10331	11526	11955	10111	12431	9225	11743	12844	11271
K_0	8004	9401	10269	8273	10176				
K_1	11076	12737	11417	11035	12452				
K_2	11914	12441	14179	11024	14665				
P_0	8935	10497	10900						
P_1	11727	12555	13010						

S.E. of difference of two

1.	B marginal means	= 280.2 lb./ac.
2.	P marginal means	= 236.0 lb./ac.
3.	N or K marginal means	= 289.0 lb./ac.
4.	P means at the same level of B	= 408.7 lb./ac.
5.	B means at the same level of P	= 402.5 lb./ac.
6.	N or K means at the same level of B	= 500.6 lb./ac.
7.	B means at the same level of N or K	= 495.6 lb./ac.

Crop :- Sweet Potato. **Ref :- Ms. 55(150).**

Site :- Paddy Breeding Stn , Mangalore. **Type :- 'M'.**

Object—To find out the optimum dose of manure for Sweet Potato.

1. BASAL CONDITIONS

(i) (a) Sweet Potato—Paddy—Sweet Potato. (b) Paddy. (c) G.L. at 2 tons/ac.+Super at 100 lb./ac.+A/S at 100 lb./ac. (ii) (a) Red loam. (b) Refer soil analysis, Mangalore. (iii) 8, 9.7.1955. (iv) (a) 4—5 ploughings. Ridges formed at 2′ apart. (b) and (c) N.A. (d) 1′ apart. (e) N.A. (v) Nil. (vi) F.B.—4004. (vii) Unirrigated. (viii) Weeding, earthing up and gap-filling. (ix) 81.97″. (x) 3 to 5.11.1955.

2. TREATMENTS :

Sams as in expt. no. 54(89) on page 418.

3. DESIGN :

(i) Split plot. (ii) (a) 3 main-plots/replication ; 18 sub-plots/main-plot (b) N.A. (iii) 2. (iv) (a) 24′×15′. (b) 22′×13′. (v) 1′ all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Slight attack of sweet potato weevil noticed in the latter stage of crop. (iii) Weight of vines. (iv) (a) 1951—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 11987 lb./ac. (ii) (a) 1676 lb./ac. (b) 3072 lb./ac. (iii) Main effect of B, N, P and K are highly significant. (iv) Av. yield of tuber in lb./ac.

	B_0	B_1	B_2	P_0	P_1	K_0	K_1	K_2	Mean
N_0	7475	8593	13277	9350	10214	8720	9912	10712	9781
N_1	10738	12642	14381	11871	13301	10052	13708	14000	12587
N_2	11335	14952	14495	12972	14215	10116	14241	16423	13593
Mean	9850	12061	14050	11397	12576	9629	12620	13712	11987
K_0	6880	9138	12870	9400	9857				
K_1	11157	12401	14305	12257	12987				
K_2	11511	14647	14976	12539	14883				
P_0	9358	11559	13277						
P_1	10374	12565	14824						

S.E. of difference of two

1. B marginal means	= 395 lb./ac.	6. N or K means at the same levels of B	= 887 lb./ac.
2. P marginal means	= 418 lb./ac.	7. B means at the same level of N or K	= 877 lb./ac.
3. N or K marginal means	= 512 lb./ac.	8. means of the body of N×K table	= 887 lb./ac.
4. P means at the same level of B	= 724 lb./ac.	9. means of the body of N×P or N×K table	= 724 lb./ac.
5. B means at the same level of P	= 716 lb./ac.		

Crop :- Sweet Potato. **Ref :- Ms. 56(50).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'M'.**

Object :—To find out the optimum dose of manure for Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) Sweet potato—Paddy—Sweet potato. (b) Paddy. (c) G.L. at 2 tons/ac.+Lime at 100 lb./ac.+P_2O_5 at 30 lb./ac. as Super+N at 30 lb /ac. as A/S+K_2O at 15 lb./ac as Mur. pot. (ii) Red loam. (b) Refer soil analysis, Mangalore. (iii) 13.7.1956. (iv) (a) and (b) 4—5 ploughings, ridges formed at 2½′ apart. (c) and (d) Between rows 9″. (e) N.A. (v) Nil. (vi) F.B. 4004 (V. 8 late). (vii) Unirrigated. (viii) Weeding, thinning of vines and earthing up one month after planting. (ix) 57.59″. (x) 3.11.1956 and 5.11.1956.

2. TREATMENTS:

Main-plot treatments

3 basal dressings : B_0=0, B_1=10000 lb./ac. of F.Y.M. and B_2=10000 lb./ac. of G.L. on equal nitrogen basis.

Sub-plot treatments

All combinations of (1) and (2)

(1) 3 levels of N as A/S : N_0=0, N_1=50 and N_2=100 lb./ac.

(2) 3 levels of K_2O as Mur. Pot : K_0=0, K_1=50 and K_2=100 lb./ac.

Sub-Sub-plot treatments :

2 levels of P_2O_5 as Super : P_0=0 and P_1=80 lb./ac.

The quantity of fertilisers required for each treatment were weighed and uniformly spread in the rows and covered and ridges formed.

3. DESIGN:

(i) Split-plot. (ii) (a) 3 main-plots/replications ; 9 sub-plots/main-plot ; 2 sub-sub plots/sub-plot. (b) N.A. (iii) 2. (iv) (a) 20′×7½′. (b) 15′×6′. (v) One row on either side of the plot and one plant at either end of the row (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 8571 lb./ac. (ii) (a) 2286 lb./ac. (b) 3372 lb./ac. (c) 2175 lb./ac. (iii) Main effects of B,N,P and K are highly significant. (iv) Av. yield of tuber in lb./ac.

	B_0	B_1	B_2	P_0	P_1	K_0	K_1	K_2	Mean
N_0	3953	7421	4921	4692	6171	6011	5203	5082	5432
N_1	6312	9518	9841	7327	9787	7663	6332	11676	8557
N_2	10426	12846	11898	9357	14090	12785	10245	12140	11723
Mean	6897	9928	8887	7125	10016	8820	7260	9633	8571
K_0	7401	10144	8914	7327	10312				
K_1	5102	8954	7724	5741	8779				
K_2	8188	10688	10023	8309	10957				
P_0	5485	8026	7865						
P_1	8309	11831	9909						

S.E. difference of two

1. B marginal means = 539 lb./ac.
2. N or K marginal means = 795 lb./ac.
3. P marginals means = 419 lb./ac.
4. N or K means at the same levels of B = 1377 lb./ac.
5. B means at the same levels of N or K = 1246 lb./ac.
6. P means at the same level of B = 725 lb./ac.
7. P means at the same level of N or K = 725 lb./ac.
8. B means at the same level of P = 743 lb./ac.
9. N or K means at the same level of P = 946 lb./ac.

S.E. of body of N×K table = 649 lb./ac.

Crop :- Sweet Potato. **Ref :- Ms. 56(51).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'M'.**

Object :—To study the effect of N and P applied in two different forms, on the yield of Sweet Potato.

1. BASAL CONDITIONS:

(i) (a) Sweet Potato—Paddy—Sweet Potato. (b) Paddy. (c) G.L. at 2 tons/ac.+Lime at 100 lb./ac.+Super at 30 lb./ac. of P_2O_5+A/S at 30 lb./ac. of N+Mur. Pot. at 15 lb./ac. of K_2O. (ii) (a) Red loam. (b) Refer soil analysis, Mangalore. (iii) 6.7.1956. (iv) (a) Land ploughed 4 to 5 times, Ridges formed at 2½′ apart. (b) Vines planted. (c) N.A. (d) Between rows 9″. (e) N.A. (v) G.L. at 10,000 lb./ac. and Pot. Sul. at 160 lb./ac. applied in furrows before ridges were formed. (vi) F.B. 4004 (late). (vii) Unirrigated. (viii) Weeding earthing up and gap-filling. (ix) 65.75″. (x) 26.10.1956.

2. TREATMENTS :

T_1=100 lb./ac. of N as A/S, T_2=100 lb./ac. of N as Sodium nitrate, T_3=80 lb./ac. of P_2O_5 as B.M. and T_4=80 lb./ac. of P_2O_5 as Super.
Manures applied before the formation of ridges.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 8. (iv) (a) 25′×6′. (b) 20′×3′. (v) 2½′×1½′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Vines and tubers yield. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 14793 lb./ac. (ii) 3175 lb./ac. (iii) Treatment differences are highly signif cant. (iv) Av. yield of tuber in lb./ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	19693	18604	11254	9620

S.E./mean = 1123 lb./ac.

Crop :- Sweet Potato *(Khairf)*. **Ref :- Ms. 56(172).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'M'.**

Object :—To study the effect of N and P applied in two different forms on the yie d of Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) Sweet Potato—Paddy—Sweet Potato. (b) Paddy. (c) 5000 lb./ac. of F.Y.M.+224 lb./ac. of lime+ 150 lb./ac. of A/S+150 lb./ac. of Super+150 lb./ac. of Pot. Sul. (ii) (a) Laterite loamy texture. (b) Refer soil analysis, Mangalore. (iii) 6.7.1956. (iv) (a) 4 to 5 ploughings. (b) Planting 9″ long vine cuttings (c) N.A. (d) 2½′ apart on ridges. 9″ between plants. (e) N.A (v) G.L. at 10,000 lb./ac. and Pot. Sul at 160 lb./ac. (vi) v—8 (medium). (viii) Irrigated. (viii) Hand weeding. (ix) 103.03″. (x) 26.10.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(51) on page 421.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Tuber yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 14790 lb./ac. (ii) 3181 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in lb./ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	19690	18614	9610	11245

S.E./mean = 1125 lb./ac.

Crop :- Sweet Potato *(Kharif)*. **Ref :- Ms. 57(179).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'M'.**

Object :—To study the effect of N and P applied in different forms, on the yield of Sweet Potato.

1. BASAL CONDITIONS :

(i) (a).Sweet Potato—Paddy—Sweet Potato. (b) Paddy. (c) 5000 lb./ac. of F.Y.M.—224 lb./ac. of Lime+ 150 lb./ac. of A/S+150 lb /ac. of Super+150 lb /ac. of Pot. Sul. (ii) (a) Laterite loamy soil. (b) Refer soil analysis, Mangalore. (iii) 9.7.1957. (iv) (a) 4 to 5 ploughings. (b) Planting 9″ long vine cuttings. (c) N.A. (d) 2½′ apart on ridges and 9″ between plants (e) N.A. (v) G.L. at 10,000 lb./ac. and Pot. Sul. at 160 lb./ac. (vi) V_8— (medium). (vii) Irrigated. (viii) Hand weeding. (ix) 108.94″. (x) 30.10.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(51) on page 421.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Tuber yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 8064 lb./ac. (ii) 1389 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	7661	7437	8758	8400

S.E./mean = 491.1 lb./ac.

Crop :- Sweet Potato *(Kharif).* **Ref :- Ms. 58(168).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'M'.**

Object :—To study the effect of N and P applied in different forms, on the yield of Sweet Potato.

1 BASAL CONDITIONS :

(i) (a) Sweet Potato—Paddy—Sweet Potato. (b) Paddy. (c) 5000 lb./ac. of F.Y.M.+224 lb./ac. of Lime+ 150 lb./ac. of A/S+150 lb /ac. of Super+150 lb./ac. of Mur. Pot. (ii) (a) Laterite loamy soil. (b) N.A. (iii) 29.7.1958. (iv) (a) 4 to 5 ploughings. (b) Planting 9" long vine cuttings. (c) N.A. (d) 2½' apart on ridges and 9" between plants. (e) N.A. (v) G.L. at 10000 lb./ac. and Pot. Sul. at 160 lb./ac. (vi) V_8—(medium). (vii) Irrigated. (viii) Hand weeding. ' (ix) 124.47". (x) 25.11.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(51) on page 421.

4 GENERAL :

(i) Normal. (ii) Nil. (iii) Tuber yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 11374 lb./ac. (ii) 1792 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	10528	13866	10528	10573

S.E./mean = 633.6 lb./ac.

Crop :- Sweet Potato. **Ref :- Ms. 54(95).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To compare the yields of the local type of vines raised from tubers and vines raised from vines.

1. BASAL CONDITIONS :

(i) (a) Paddy—Sweet Potato. (b) Paddy. (c) G.M. at 2 tons/ac.+Super at 150 lb./ac.+A/S at 100 lb./ac. (ii) (a) Red loam. (b) Refer soil analysis, Mangalore. (iii) 24.6.1954. (iv) (a) 5 to 6 ploughings, making ridges at 2½' apart. (b) Planting 9" cuttings. (c) N.A. (d) Between rows 9". (e) N.A. (v) Basal dressing of 5 tons/ac. of F.Y.M. applied to the tranches before the formation of ridges. 2000 lb./ac. of ash is also applied. (vi) FB—4004. (vii) Unirrigated. (viii) Weeding and earthing up top dressing with A/S at 112 lb./ac. one month after planting. (ix) 115.77". (x) 12.10.1954.

2. TREATMENTS :

T_1=Planting vines multiplied from vines and T_2=Planting vines multiplied from tubers.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) 21½′×10′. (b) 20′×5′. (v) One row alround. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) No. (iii) Tuber and vine yield. (iv) (a) 1952--1954. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 7754 lb./ac. (ii) 1715.0 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	T_1	T_2
Av. yield	7640	7867

S.E./mean = 495.0 lb./ac.

Crop :- Sweet Potato. **Ref :- Ms. 54(96)**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To test the difference in yield due to different methods of planting.

1. BASAL CONDITIONS :

(i) (a) Paddy—Sweet Potato. (b) Paddy. (c) C.M. at 2 tons/ac.+Super at 150 lb./ac.+A/S at 100 lb./ac. (ii) (a) Red loam. (b) Refer soil analysis, Mangalore. (iii) 25.6.1954. (iv) (a) 5 to 6 ploughings and making ridges at 2½′ apart. (b) Planting 9″ cuttings as per treatments. (c) to (e) N.A. (vi) Basal dressing of 5 tons/ac. F.Y.M. applied to the trenches before the ridges are formed. 2000 lb./ac. of ash also is applied. (vi) TST (white). (vii) Unirrigated. (viii) Weeding and earthing up after application of 112 lb./ac. of A/S 1 month after planting. (ix) 115.77″. (x) 14 to 18.10.1954.

2. TREATMENTS :

T_1=Erect planting and T_2=Horizontal planting like sugarcane setts.

3. DESIGN :

(i) R.B.D. (il) (a) 2. (b) N.A. (iii) 12. (iv) (a) 21½′×15′. (b) 20′×10′. (v) One row alround. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Negligible. (iii) Tuber and vines yield. (iv) (a) 1952—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 4234 lb./ac. (ii) 786.3 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	T_1	T_2
Av. yield	4551	3916

S.E./mean = 227.0 lb./ac.

Crop :- Sweat Potato. **Ref :- 54(94).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To test the difference in yield due to different methods of planting.

1. BASAL CONDITIONS :

(i) (a) Paddy—Sweet Potato. (b) Paddy. (c) C.M. at 3 tons/ac.+A/S at 150 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Mangalore. (iii) 11.11.1954. (iv) (a) 4 to 5 ploughings making ridges 2½′ apart. (b) Planting 9″ cutting as per the treatments. (c) to (e) N.A. (v) Basal dressing of 5 tons/ac. of F.Y.M. applied to the trenches before the ridges are formed. 2000 lbs. of ash is also applied (vi) TST (White). (vii) Irrigated. (viii) Weeding the crop and earthing up after application of 112 lb./ac. of A/S 1 month after planting. (ix) 1.19″. (x) 22, 23.2.1955.

2. TREATMENTS and 3 DESIGN :

Same as in expt. no. 54(96) on page 424.

4. GENERAL ;

(i) Satisfactory. (ii) Negligible. (iii) Tuber and vine yield. (iv) (a) 1952—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 6970 lb./ac. (ii) 2779.0 lb /ac. (iii) Treatment difference is highly significant. (iv) Av. yield of tuber in lb./ac.

Treatment	T_1	T_2
Av. yield	7569	6371

S.E /mean = 802.3 lb./ac.

Crop :- Sweet Potato (1st. crop). **Ref :- Ms. 55(139).**

Site :- Padds Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To test the difference in yield due to different methods of planting.

1. BASAL CONDITIONS :

(i) (a) Sweet Potato—Paddy—Sweet Potato. (b) Paddy. (c) C.M. at 2 tons/ac.+Anmo. phos. at 100 lb./ac. +A/S at 100 lb./ac. (ii) Red loam. (b) Refer soil analysis, Mangalore. (iii) 10.7.1955. (iv) (a) and (b) 4 to 5 ploughings. Ridges formed. (c) N.A. (d) 2′×1′. (e) N.A. (v) 5 tons/ac. of C.M. and 2000 lb./ac. of ash applied in trenches before they are covered and ridges formed. (vi) V—8 (medium). (vii) Unirrigated. (viii) Gap-filling a week after planting, weeding, turning vines and earthing up after top dressing with A/S at 250 lb./ac. one month after planting. (ix) 81.29″. (x) 12.11.1955.

2. TREATMENTS :

Same as in expt. no. 54(96) on page 424.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 15. (iv) (a) 22′×6′. (b) 20′×2′. (v) 2′×1′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) No. of big and small tubers, tuber and vine yield. (iv) 1952—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 7223 lb./ac. (ii) 1508 lb./ac. (iii) Treatment difference is significnt. (iv) Av. yield of tuber in lb./ac.

Treatment	M_1	M_2
Av. yield	7949	6497

S.E./mean = 389.4 lb./ac.

Crop :- Sweet Potato (2nd crop). **Ref :- Ms. 55(140).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To test the difference in yield due to different methods of planting.

1. BASAL CONDITIONS :

(i) (a) Sweet Potato – Paddy—Sweet Potato. (b) Paddy. (c) C.M. 2 tons/ac.+Ammo. phos. at 100 lb./ac. +Lime a 100 lb./ac.+Mur. pot at Pot. at 25 lb./ac.+A/S at 100 lb /ac. (ii) 28.11.1955. (iv) (a) and (b) 4 to 5 ploughings, ridges formed. (c) N.A. (d) 2′×1′. (e) N.A. (v) 5 tons/ac. of C.M. and 2000 lb./ac. of ash applied in the trenches before they are covered and ridges formed. (vi) V—8 (medium). (vii) Irrigated. (viii) Gap-filling, a week after planting, weedings turning vines, earthing up. Top dressing with A/S at 250 lb./ac. one month after planting. (ix) 0.07″. (x) 5.4.1956.

2. TREATMENTS :

Same as in expt. no. 54(96) on page 424.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 15. (iv) (a) 22′×6′. (b) 20′×2′. (v) 2′×1″ (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) No. of big and small tubers, tuber and vine yield. (iv) (a) 1952—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 12052 lb./ac. (ii) 2143 lb./ac. (iii) Treatment differences is not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	M_1	M_2
Av. yield	12197	11906

S.E./mean = 553.3 lb./ac.

Crop :- Sweet Potato (1st crop). **Ref :- Ms. 54(98).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To find out the optimum spacing for planting of Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) Paddy—Sweet Potato. (b) Paddy. (c) C.M. at 2 tons/ac.+Super 150 lb./ac.+A/S at 100 lb./ac. (ii) (a) Red loam. (b) Refer soil analysis, Mangalore. (iii) 7, 8.6.1955. (iv) (a) 5 to 6 ploughings, making ridges. (b) Planting 9″ cuttings. (c) N.A. (d) As per treatments. (e) N.A. (v) Basal dressing of 5 tons of F.Y.M. applied to the trenches before the ridges are formed 2000 lb./ac. of ash also is applied. (vi) F.B.—4004. (vii) Unirrigated. (viii) Crop weeded and earthed up one month after planting. (ix) 115.77″. (x) N.A.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 row spacings : R_1=2′, R_2=2½′ and R_3=3′.

(2) 3 plant spacings : P_1=6″, P_2=9″ and P_3=12″.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 36′×15′. (b) 30′×12′. (v) One row left as border row. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Vine and tuber yield. (iv) (a) 1952—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 13385 lb./ac. (ii) 2673 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of tuber in lb./ac.

	R_1	R_2	R_3	Mean
P_1	14278	14671	12705	13885
P_2	15034	12847	13210	13697
P_3	13371	14278	10073	12574
Mean	14228	13932	11996	13385

S.E. of any marginal mean = 772 lb./ac.

S.E. of body of table = 1337 lb./ac.

Crop :- Sweet Potato (2nd Crop). **Ref :- Ms. 54(97).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To find out the optimum spacing for Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) Paddy—Sweet Potato. (b) Paddy. (c) C.M. at 3 tons/ac.+A/S at 150 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Mangalore. (iii) 17, 18.11.1954. (iv) (a) 4 to 5 ploughings, making ridges as per treatments. (b) Planting 9" cuttings. (c) N.A. (d) As per treatments. (e) N.A. (v) Basal dressing of 5 tons/ac. of F.Y.M. applied to the trenches before the ridges are formed. 2000 lb./ac. of ash is also applied. (vi) F.B.—4004. (vii) Irrigated. (viii) Crop weeded and earthed up one month after planting. (ix) 1.19". (x) 24, 25.3.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(98) on page 426.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Weight of vines and tubers. (iv) (a) 1952—contd. (b) No (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 8268 lb./ac. (ii) 2388 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of tuber in lb./ac.

	R_1	R_2	R_3	Mean
P_1	8470	8742	9620	8944
P_2	7744	8077	7139	7653
P_3	8591	8803	7230	8208
Mean	8268	8541	7996	8268

S.E. of any marginal mean = 689.4 lb./ac.
S.E. of body of table = 1194 lb./ac.

Crop :- Sweet Potato (1st crop). **Ref :- Ms. 55(143).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To find out the optimum spacing for planting of Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) Sweet Potato—Paddy—Sweet Potato. (b) Paddy. (c) C.M. at 2 tons/ac.+Ammo. Phos. at 100 lb./ac.+A/S at 100 lb./ac. (ii) (a) Red loam. (b) Refer soil analysis, Mangalare. (iii) 23.6.1955. (iv) (a) and (b) 4 to 5 ploughings, ridges formed. (c) N.A. (d) As per treatments. (e) N.A. (v) 5 tons/ac. of C.M. and 2000 lb./ac. of ash applied in the trenches before they are covered and ridges formed. (vi) FB—4004 (medium). (vii) Unirrigated. (viii) Gap-filling a week after planting, weedings, turning vines, earthing up after top dressing with A/S at 250 lb./ac. one month after planting. (x) 99.81". (x) 21 to 30.10.1955.

2. TREATMENTS :

Same as in expt. no. 54(98) on page 426.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 9. (b) N.A. (iii) 6. (iv) (a) 36'×15'. (b) 30'×12'. (v) 3'×1½'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) No. of tubers and vine yield. (iv) (a) 1952—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 12304 lb./ac. (ii) 2343.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of tuber in lb./ac.

	R_1	R_2	R_3	Mean
P_1	12483	11878	11616	11992
P_2	12947	12039	12523	12503
P_3	11253	12725	13270	12416
Mean	12228	12214	12470	12304

S.E. of any marginal mean = 552.2 lb./ac.
S.E. of body of table = 956.5 lb./ac.

Crop :- Sweet Potato (2nd crop). **Ref :- Ms. 55(144).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To find out the optimum spacing for planting of Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) Sweet Potato—Paddy—Sweet Potato. (b) Paddy. (c) C.M. at 2 tons/ac.+Ammo. Phos. at 100 lb./ac.+Lime at 100 lb./ac.+A/S at 100 lb./ac.+Mur. Pot. at 25 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Mangalore. (iii) 9.11.1955. (iv) (a) 4 to 5 ploughings. Formation of ridges. (b) and (c) N.A. (d) As per treatments. (e) N.A. (v) 5 tons/ac. of C.M. and 2000 lb./ac. of ash applied in trenches before they are covered and ridges formed. (vi) V—8 (medium). (vii) Irrigated. (viii) Gap-filling a week after planting, weeding, turning vines and earthing up after top dressing with A/S at 250 lb./ac. one month after planting. (ix) 0.19". (x) 7 to 15.3.1956.

2. TREATMENTS :

Same as in expt. no. 54(98) on page 426.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 6. (iv) (a) 36'×15'. (b) 30'×12'. (v) 3'×1½'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Weight of tubers and no. of tubers. (iv) (a) 1952—contd.. (b) No. (c) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 10721 lb./ac. (ii) 2116 lb./ac. (iii) R effect alone is highly significant. (iv) Av. yield of grain in lb./ac.

	R_1	R_2	R_3	Mean
P_1	13905	10567	10109	11527
P_2	11354	10507	10048	10636
P_3	11041	10487	8475	10001
Mean	12100	10520	9544	10721

S.E. of any marginal mean = 498.8 lb./ac.
S.E. of body of table = 863.8 lb./ac.

Crop :- Sweet Potato (1st crop). **Ref :- Ms. 56(40).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To find the optimum spacing for Sweet Potato.

1. BASAL CONDITIONS:

(i) (a) Sweet Potato—Paddy—Sweet Potato. (b) Paddy. (c) C.M. at 2 tons/ac.+Ammo. phos. at 100 lb./ac. +Lime at 100 lb./ac.+Mur. Pot at 25 lb./ac.+A/S at 100 lb./ac. (ii) (a) Red loam. (b) Refer soil analysis, Mangalore. (iii) 18, 20.6 1956. (iv) (a) 4 to 5 ploughings. Ridges formed. (b) and (c) N.A. (d) As per treatments. (e) N.A. (v) 5 tons/ac. of C.M. and 2000 lb./ac. of ash applied in trenches before they are covered and ridges fermed. (vi) V—8 (medium). (vii) Unirrigated. (viii) Gap-filling a week after planting, weeding, turning vines, and earthing up one month after planting and giving a top dresing of A/S at 250 lb./ac. (ix) 103.03". (x) 23 to 25.10.1956.

2. TREATMENTS :

Main plot treatments :
3 spacings between ridges : $R_1=2'$, $R_2=2\frac{1}{2}'$ and $R_3=3'$.
Sub-plot treatments :
3 spacings between plants : $P_1=6''$, $P_2=9''$ and $P_3=12''$.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication, sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) $36'\times5'$. (b) $30'\times3'$. (v) $3'\times1'$. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Light white ant incidence at the fag end of the crop. (iii) Tuber yield. (iv) (a) 1952—contd. (modified in 1956). (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 18956 lb /ac. (ii) (a) 4151.0 lb./ac. (b) 2465.0 lb./ac. (iii) P effect alone is highly significant. (iv) Av. yield of tuber in lb./ac.

	R_1	R_2	R_3	Mean
P_1	21699	22183	21699	21860
P_2	18836	17182	17908	17975
P_3	18311	16658	16133	17034
Mean	19615	18674	18580	18956

S.E. of difference of two
1. R marginal means = 1384 lb./ac.
2. P marginal means = 822 lb./ac.
3. P means at the same level of R = 1423 lb./ac.
4. R means at the same level of P = 1807 lb./ac.

Crop :- Sweet Potato (2nd crop). **Ref :- Ms. 56(41).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To find out the optimum spacing for planting of Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) Sweet Potato—Paddy—Sweet Potato. (b) Paddy. (c) C.M. at 2 tons/ac.+A/S at 150 lb./ac.+Triple Super at $26\frac{2}{3}$ lb./ac.+Mur. Pot. at 25 lb./ac.+Lime at 100 lb /ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Mangalore. (iii) 16.11.1956. (iv) (a) 4 to 5 ploughings, ridges formed (b) and (c) N.A. (d) As per treatments. (e) N.A. (v) 5 tons/ac. of C.M. and 2000 lb./ac. of ash in the trenches before they are covered and ridges formed. (vi) V –8 (medium). (vii) Irrigated. (viii) Gap-filling a week after planting, weeding, turning vines and earthing up one month after planting. Top dressing with A/S at 250 lb./ac. (ix) 0.22". (x) 13.3.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(40) on page 428.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1952—contd. (modified in 1956). (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 15004 lb./ac. (ii) (a) 4283 lb./ac. (b) 2326 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of tuber in lb./ac.

	R_1	R_2	R_3	Mean
P_1	16295	15891	15972	16053
P_2	14520	14359	14601	14493
P_3	14923	14439	14036	14466
Mean	15246	14896	14870	15004

S.E. of differences of two

1. R marginal means = 1428 lb./ac.
2. P marginal means = 775 lb./ac.
3. P means at the same level of R = 1343 lb./ac.
4. R means at the same level of P = 1800 lb./ac.

Crop :- Sweet Potato (2nd crop). **Ref :- Ms. 58(170).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object : - To find out the optimum spacing for planting of Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) Sweet Potato—Paddy—Sweet Potato. (b) Paddy. (c) 5000 lb./ac. of F.Y.M.+224 lb./ac. of Lime+ 150 lb./ac. of A/S+150 lb./ac. of Super+25 lb./ac. of Mur. Pot. (ii) (a) Laterite, loamy intexture. (b) Refer soil analysis, Mangalore. (iii) 19.11.1958. (iv) (a) 4 to 5 ploughings. (b) Planting 9" long line cutting. (c) N.A. (d) As per treatments. (e) N.A. (v) F.Y.M. at 5 tons/ac. (vi) V—8 (medium). (vii) Irrigated. (viii) Hand weeding. (ix) 3.95". (x) 16.3.1959 to 18.3.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(40) on page 428.

4. GENERAL :

(i) Satisfactory. (ii) Nil. However as a prophylactic measure the cuttings were dipped in Endrex solution before planting. The crop was also sprayed with Endrex once. (iii) Yield of tuber. (iv) (a) 1952—contd. (modified in 1956). (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Out of total rainfall of 3.95" during the period 3.85" was received soon after planting and hence the rains were not beneficial. (vii) Nil.

5. RESULTS :

(i) 17229 lb./ac. (ii) (a) 2827 lb./ac. (b) 2122 lb./ac. (iii) P effect and interaction $R \times P$ is highly significant. (iv) Av. yield of tuber in lb./ac.

	R_1	R_2	R_3	Mean
P_1	16678	16073	16093	16281
P_2	19078	19037	17666	18594
P_3	15226	19158	16053	16812
Mean	16994	18090	16604	17229

S.E. of difference of two

1. R marginal means = 942 lb./ac.
2. P marginal means = 707 lb./ac.
3. P means at the same level of R = 1225 lb./ac.
4. R means at the same level of P = 1374 lb./ac.

Crop :- Sweet Potato (1st crop). **Ref :- Ms. 56(45).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To find out the effect of lifting vines to break and disconnect the roots on yield of Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) Sweet Potato—Paddy—Sweet Potato. (b) Paddy. (c) C.M. at 2 tons/ac.+A/S at 100 lb./ac.+Lime at 100 lb /ac.+Mur. Pot. at 25 lb./ac.+Ammo. Phos. at 100 lb./ac. (ii) (a) Red loam. (b) Refer soil analysis, Mangalore. (iii) 9.7.1956. (iv) (a) 4—5 ploughings, ridges are formed at 2½' apart after the application of manures in the trenches. (b) to (e) N.A. (v) 5 tons/ac. of C.M. and 2000 lb./ac. of ash applied in trenches before they are covered and ridges formed. (vi) V—8. (medium). (vii) Unirrigated. (viii) Gap filling a week after planting, weeding and earthing up one month after planting after giving a top dressing with A/S at 250 lb./ac. (ix) 65.89". (x) 29.10.1956.

TREATMENTS:

5 cultural operations : T_1=Vines undisturbed, T_2=Vines disturbed twice, T_3=Vines disturbed 4 times, T_4=Vines disturbed 6 times and T_5=Vines disturbed 8 times during the life time of the crop.

The first and the last operations to be done one month after planting and one month before harvest respectively.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 45'×6'. (b) 40'×3'. (v) 2½'×1½'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 9510 lb./ac. (ii) 1064 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	10285	9377	9317	9196	9377

S.E./mean = 434.4 lb./ac.

Crop :- Sweet Potato (2nd crop). **Ref :- Ms. 56(46).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To find the effect of lifting vines to break and disconnect the new roots, on the yield of Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) Sweet Potato—Paddy—Sweet Potato. (b) Paddy. (c) C.M. at 2 ton/ac.+A/S at 150 lb./ac.+Triple Super at 26⅔ lb./ac.+Mur. Pot. at 25 lb./ac.+Lime at 100 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis Mangalore. (iii) 20.11.1956. (iv) (a) and (b) 4—5 ploughings. Ridges prepared. (c) N.A. (d) Between rows 2½'. (e) N.A. (v) 5 ton/ac. of C.M. and 2.000 lb /ac. of ash applied in trenches before they are covered and ridges formed. (vi) V—8 (medium). (vii) Irrigated. (viii) Gap-filling a week after planting, weeding and earthing up one month after planting after giving a top dressing of 250 lb./ac. of A/S. (ix) 0.22". (x) 5.3.1957.

2. TREATMENTS :

Same as in expt. no. 56(45) above.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 45'×6'. (b) 40'×3'. (v) 2½'×1½'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Slight attack of white ants at late stage. (iii) Tuber yield. (iv) (a) 195[illegible]
(c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 13510 lb./ac. (ii) 2043 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	14278	14490	13280	13824	11677

S.E./mean = 834 lb./ac.

Crop :- Sweet Potato (1st crop). **Ref :- Ms. 56(47).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To test the effect of pruning vines on the yield of Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) Sweet Potato—Paddy—Sweet Potato. (b) Paddy. (c) C.M. at 2 tons/ac.+Ammo. Phos. at 100 lb./ac. +Lime at 100 lb./ac.+Mur. Pot. at 25 lb./ac.+A/S at 100 lb./ac. (ii) (a) Red loam. (b) Refer soil analysis, Mangalore. (iii) 11.7.1956. (iv) (a) 4—5 ploughings and ridges formed. (b) Planted in furrows. (c) N.A. (d) $2\frac{1}{2}' \times \frac{3}{4}'$. (e) N.A. (v) 5 tons/ac. of C.M. and 2000 lb./ac. of ash applied in trenches before they are covered and ridges formed. (vi) V—8 (medium). (vii) Unirrigated. (viii) Gap-filling done a week after planting. Weeding and earthing up one month after planting. Top dressing of A/S at 250 lb./ac.(x) 64.36". (x) 26.10.1956.

2. TREATMENTS :

5 cultural operations : T_1=Vines not pruned, T_2=Vines not pruned but rolled, T_3=Vines pruned to 1'. T_4=Vines pruned to 2' and T_5=Vines pruned to 3'.

Pruning was so done that the length of the vines (primary. secondary. etc. on each vine) did not exceed the length specified under the treatment.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) $37\frac{1}{2}' \times 7\frac{1}{2}'$. (b) $32\frac{1}{2}' \times 4\frac{1}{2}'$. (v) $2\frac{1}{2}' \times 1\frac{1}{2}'$. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 6751 lb./ac. (ii) 1009 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	7893	7496	5361	6404	6602

S.E./mean = 412 lb./ac.

Crop :- Sweet Potato (2nd crop). **Ref :- Ms. 56(48).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To test the effect of pruning vines on yield.

1. BASAL CONDITIONS :

(i) (a) Sweet Potato—Paddy—Sweet Potato. (b) Paddy. (c) C.M. at 2 tons/ac.+A/S at 150 lb./ac.+Triple Super at $26\frac{2}{3}$ lb./ac.+Mur. Pot. at 25 lb./ac.+Lime at 100 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Mangalore. (iii) 20.11.1956. (iv) (a) 4 – 5 ploughings. Ridges formed. (b) Planted in furrows. (c) N.A. (d) $2\frac{1}{2}' \times \frac{3}{4}'$. (e) N.A. (v) 5 tons/ac. of C.M. and 2000 lb./ac. of ash applied in trenches before they are covered and ridges formed. (vi) V—8 (medium). (vii) Irrigated. (viii) Gap-filling done a week after planting, weeding and earthing up done 1 month after planting after giving the top dressing of A/S at 250 lb./ac. (x) 29.3.1957.

2. TREATMENTS :

Same as in expt. no. 56(47) on page 432.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 37½'×7½'. (b) 32½'×4½'. (v) 2½'×1½'. (vi) Yes.

4. GENERAL :

(I) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 18506 lb./ac. (ii) 1801 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5
Av. yield	19360	21048	14893	17672	19559

S.E./mean = 735 lb./ac.

Crop :- Sweet Potato (1st crop). **Ref :- Ms. 55(141).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object : —To test the difference in yield due to difference in planting long and short vines.

1. BASAL CONDITIONS :

(i) (a) Paddy—Sweet Potato. (b) Paddy. (c) C.M. at 2 tons/ac.+A/S at 100 lb./ac.+Ammo. Phos. at 100 lb./ac. (ii) (a) Red loam. (b) Refer soil analysis, Mangalore. (iii) 3.7.1955. (iv) (a) 4—5 ploughings. Ridges prepared. (b) and (c) N.A. (d) 2'×1'. (e) N.A. (v) 5 tons/ac. of C.M. and 2000 lb./ac. of ash applied in the trenches before they are covered and ridges formed. (vi) V—8 (medium). (vii) Unirrigated. (viii) Gap-filling after planting. Weeding, turning vines and earthing up after one month giving a top dressing of 250 lb./ac. of A/S. (ix) 81.44". (x) 2.11.1955.

2. TREATMENTS :

T_1=Planting 18" long vine cuttings and T_2=Planting 9" long vine cuttings.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 15. (iv) (a) 22'×6'. (b) 20'×2'. (v) 1'×2'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) No. of long and short tubers and vine yield. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 9157 lb./ac. (ii) 1560 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	T_1	T_2
Av. yield	9311	9002

S.E./mean = 403 lb./ac.

Crop :- Sweet Potato (2nd crop). **Ref :- Ms. 55(142).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'C'.**

Object :—To test the differences in yield due to the difference in planting long and short vines.

1. BASAL CONDITIONS :

(i) (a) Sweet Potato—Paddy—Sweet Potato. (b) Paddy. (c) C.M. at 2 tons/ac.+A/S at 100 lb./ac.+Lime analysis, Mangalore. at 100 lb./ac.+Mur. Pot. at 25 lb./ac.+Ammo. Phos. at 100 lb./ac. (ii) (a) Sandy loam. (b) Refer soil (iii) 28.11.1955. (iv) (a) 4-5 ploughings, ridges formed. (b) and (c) N.A. (d) 2′×1′. (e) N.A. (v) 5 tons/ac. of C.M. and 2000 lb./ac. of ash applied in the trenches before they are covered and ridges formed. (vi) V—8 (medium). (vii) Irrigated. (viii) Gap-filling a week after planting, weeding, turning vines and earthing up after applying A/S as top-dressing at 250 lb./ac. one month after planting. (ix) Nil. (x) 27.3.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(141) on page 433.

5. RESULTS :

(i) 13250 lb./ac. (ii) 3620 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2
Av. yield	13068	13431

S.E./mean = 934.7 lb./ac.

Crop :- Sweet Potato (2nd crop). **Ref :- Ms. 56(49).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'IC'.**

Object :—To test the time of planting and frequency of irrigation on yield and weevil incidence.

1. BASAL CONDITIONS :

(i) (a) Sweet Potato—Paddy—Sweet Potato. (b) Paddy (nursery). (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Mangalore. (iii) As per treatments. (iv) (a) 4—5 ploughings, r dges formed. (b) and (c) N.A. (d) Between rows 2½′. (e) N.A. (v) 5 ton/ac. of C.M. and 2000 lb./ac. of ash applied in trenches before they are covered and ridges formed. (vi) V—8. (vii) Irrigated. (viii) Gap-filling a week after planting, weeding and earthing up done a month after planting and giving the top dressing of A/S at 250 lb./ac. (ix) Rainfall for D_1=12.17″, D_2=1.90″, D_3=1.59″ and D_4=0.22″. (x) D_1=1.2.1957, D_2=15.2.1957, D_3=1.3.1957 and D_4=14.3.1957.

2. TREATMENTS :

Main-plot treatments :

4 dates of planting : D_1=1.10.1956, D_2=15.10.1956, D_3=1.11.1956 and D_4=15.11.1956.

Sub-plot treatments :

3 intervals of irrigations : I_1=4, I_2=8 and I_3=12 days.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/replication and 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 35′×6′. (b) 30′×3′. (v) 2½′×1½′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1956—1959. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 19501 lb./ac. (ii) (a) 3306 lb./ac. (b) 2543 lb./ac. (iii) I effect alone is significant. (iv) Av. yield of tuber in lb./ac.

	D_1	D_2	D_3	D_4	Mean
I_1	20772	20651	19925	20247	20399
I_2	19441	20046	19320	20651	19864
I_3	19279	20893	16093	16698	18241
Mean	19831	20530	18446	19199	19501

S.E. of difference of two

1. D marginal means = 1102 lb./ac.
2. I marginal means = 734 lb./ac.
3. I means at the same level of D = 1468 lb./ac.
4. D means at the same level of I = 1628 lb./ac.

Crop :- Sweet Potato *(Rabi)*. **Ref :- Ms. 58(169).**

Site :- Paddy Breeding Stn., Mangalore. **Type :- 'IC'.**

Object :—To test of the effect of time of planting and frequency of irrigation on the yield of Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) Sweet Potato—Paddy—Sweet Potato. (b) Paddy (nursery). (c) Nil. (ii) (a) Laterite, loamy in texture. (b) Refer soil analysis, Mangalore. (iii) As per treatments. (iv) (a) 4—5 ploughings. (b) Planting 9" long vine cuttings. (c) N.A. (d) 2½'×3'. (e) N.A. (v) F.Y.M. at 5 tons/ac. and wood ash at 2000 lb./ac. applied in trenches which are then covered and ridges formed. 250 lb./ac. of N as A/S at earthing up. (vi) V—8 (medium). (vii) As per treatments. (viii) Hand weeding. (ix) 22.46". (x) 9.2.1959 to 19.3.1959.

2. TREATMENTS:

Main-plot treatments :

4 dates of planting : D_1=1.10.1958, D_2=15.10.1958, D_3=1.11.1958 and D_4=15.11.1958.

Sub-plot treatments :

3 intervals of irrigation : I_1=4, I_2=8 and I_3=12 days.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/replication and 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 35'×4½'. (b) 30'×3'. (v) 1 row alround. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 15411 lb./ac. (ii) (a) 3026 lb./ac. (b) 2535 lb./ac. (iii) I effect alone is highly significant. (iv) Av. yield of tuber in lb./ac.

	D_1	D_2	D_3	D_4	Mean
I_1	17485	15851	17283	18090	17177
I_2	14903	15670	14843	13814	14807
I_3	13955	13733	16638	12665	14248
Mean	15448	15085	16254	14856	15411

S.E. of difference of two

1. D marginal means = 1009 lb./ac.
2. I marginal means = 732 lb./ac.
3. I means at the same level of D = 1464 lb./ac.
4. D means at the same level of I = 1564 lb./ac.

Crop :- Sweet Potato *(Kharif)*. **Ref :- Ms. 57(213).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'D'.**

Object :—To find out by regular spraying of different insecticides the possibility of controlling weevil of Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) 26.6.1957. (iv) (a) N.A. (b) Planted in ridges. (c) 150.00 lb./ac. cuttings. (d) 2′ to 3′×9″. (e) N.A. (v) 5 ton/ac, of F.Y.M +40 lb./ac. of N applied 40 days after sowing. (vi) IB—24. (vii) Irrigated. (viii) Turning over vines. (ix) 27″. (x) 10.9.1958.

2. TREATMENTS :

5 insecticides : T_0=Control, T_1=Folidol 0.025%, T_2=B.H.C. 50% wettable powder (1 lb. in 16 gallon), T_3=Endrin 10 c.c./gallon and T_4=Basudin.

Spraying once in 3 week 40 days after sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 1/907.5 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) N.A. (iii) Weight of good and bad tubers. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 93.90% good tubers. (ii) 5.54 per cent. (iii) Treatment differences are not significant. (iv) Av. % of good tubers.

Treatment	T_0	T_1	T_2	T_3	T_4
Av. yield	91.82	96.81	91.24	96.59	93.03

S.E./mean = 2.48 %.

Crop :- Sweet Potato *(Kharif)*. **Ref :- Ms. 57(212).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'D'.**

Object :—To find the effect of dusting the insecticide, the controlling the 'weevil' of Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) N.A. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) 26.6.1957. (iv) (a) N.A. (b) Planted in ridges. (c) 15,000 cuttings/ac. (d) 2′3″×9″. (e) N.A. (v) 5 tons/ac. of F.Y.M. (vi) IB—24. (vii) Irrigated. (viii) Turning over the vines. (ix) 27″. (x) 10.1.1958.

2. TREATMENTS :

4 insecticide dustings : I_0=Control, I_1=Lindane, I_2=B.H.C. 5% and I_3=D.D.T. 2%.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 1/90.75 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) N.A. (iii) Weight of good and bad tubers. (iv) (a) to (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 95.33% good tubers. (ii) 4.62 percent. (iii) Treatment differences are not significant. (iv) Av. percentage of good tubers.

Treatment	I_0	I_1	I_2	I_3
Av. yield	90.88	95.30	95.80	99.32

S.E./mean = 2.07 per cent.

Crop :- Sweet Potato. **Ref :- Ms. 58(82).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'D'.**

Object :—To study the effects of dusting and spraying on Sweet Potato weevil.

1. BASAL CONDITIONS :

(l) (a) N.A. (b) *Jowar*. (c) 5 tons/ac. of F.Y.M.+40 lb./ac. of N+20 lb./ac. of P_2O_5. (ii) (a) Black cotton soil. (b) Refer soil analysis, Siruguppa. (iii) 2.7.1958. (iv) (a) Ploughing. (b) and (c) N.A. (d) 2′×1′. (e) N.A. (v) 5 tons/ac. of F.Y.M.+40 lb./ac. of P_2O_5. (vi) IB—24. (vii) Irrigated. (viii) Turning over the vines and hand weeding. (ix) 19.50″. (x) 9.1.1959.

2. TREATMENTS :

6 insecticides : I_0=Control, I_1=Lindane 2% dust, I_2=Heptachlor 3%, I_3=Malix 2.5%, I_4=D.D.T. 2% and I_5=Heptachlor 25% liquid.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) and (b) 1/100 ac. (v) 3 ridges of 2′3″ each on one side and a channel of 2′ on the other. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Heavy incidence of Cylas Formicatius. (iii) Tuber yield and mean angle. (iv) (a) 1958—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 75.38 degrees. (ii) 29.06 degrees. (iii) Treatment differences are not significant. (iv) Mean angle in degrees.

Treatment	I_0	I_1	I_2	I_3	I_4	I_5
Av. yield	77.38	72.45	75.65	73.66	75.84	77.28

S.E./mean = 14.53 degrees.

Crop :- Potato. **Ref :- Ms. 58(SFT).**

Site :- Bangalore. **Type :- 'M'.**

Object :—Type A—To study the response of potato to levels of N, P and K, applied individually and combinations.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red soil. (iii) Nil. (iv) and (v) N.A. (vi) October—January. (vii) Irrigated. (viii) and (ix) N.A. (x) January—March.

2. TREATMENTS :

0 =Control (no manure).
n =50 lb./ac. of N as A/S.
p =25 lb./ac. of P_2O_5 as Super.
np =50 lb./ac. of N as A/S +25 lb./ac. of P_2O_5 as Super.
k =50 lb./ac. of K_2O as Mur. Pot.
nk =50 lb./ac. of N as A/S+50 lb./ac. of K_2O as Mur. Pot.
pk = 25 lb./ac. of P_2O_5 as Super+50 lb./ac. of K_2O as Mur. Pot.
npk =50 lb./ac of N as A/S=25 lb./ac. of P_2O_5 as Super+50 lb./ac. of K_2O as Mur. Pot.

3. DESIGN :

(i) and (ii) The district has been divided four agriculturally homogenous zones and one field assistant posted in each zone. The field assistant conducts the trials in one Revenue circle or thana in the zone and the circle/thana is changed once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year. 8 on *khaiif* cereal, 8 on *rabi* cereal, 8 on cash crops, 4 on an oilseed crop and 3 on a leguminous crop. Half the number of trials conducted are of type A and the other half of type B on crops other than the legumes. The three trials on legumes are of type C. Residual effects of phosphate application are studied on type C trials in two out of the four zones in each district every year. The experiments are laid out in randomly located fields in randomly selected villages in which of the 4 zones at the rate of one experiment per village. (iii) (a) 1/40 ac. (b) 1/80 ac. (iv) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Tuber yield. (iv) (a) 1958—contd. (b) No. (c) N.A. (v) As per design. (vi) and (vii) Nil.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	214	132	156	34.6	33	8	49	—8	26.3

Control yield = 5883 lb./ac. and no. of trials = 4.

Crop :- Potato. **Ref :- Ms. 59(SFT).**

Centre :- Bangalore (c.f.). **Type :- 'M'.**

Object :—Type A—To study the response of Potato to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Laterite. (iii) Nil. (iv) and (v) N.A. (vi) October—January. (vii) Irrigated. (viii) and (ix) N.A. (x) February—March.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(SFT) type A on page 437 conducted at Banglore.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S E.
Av. response in lb./ac.	1884	1210	773	357.1	444	—683	1053	930	420.5

Control mean = 16251 lb./ac. and no. of trials = 10.

Crop :- Urid *(Kharif)*. **Ref :- Ms. 54(106).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the effect of P on Urid crop.

1. BASAL CONDITIONS :

(i) (a) *Urid*—Wheat. (b) Wheat. (c) F.Y.M. at 5 C.L./ac. (ii) (a) Medium black. (b) Refer soil analysis, Dharwar. (iii) 17.6.1954. (iv) (a) 4 ploughings and harrowings. (b) Drilling. (c) 7 lb./ac. (d) Rows 12" apart. (e) N.A. (v) N.A. (vi) Local. (vii) Unirrigated. (viii) 2 interculturings. (ix) 18.33". (x) 26.9.1954.

2. TREATMENTS :

5 manurial doses ; M_0=Control (no P_2O_5), M_1=50 lb./ac. of P_2O_5 as Super, M_2=100 lb /ac. of P_2O_5 as Super, M_3=150 lb./ac. of P_2O_5 as Super and M_4=Fallow in *Kharif*.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 42'×27'. (b) 30'×15'. (v) 6' on all sides. (vi) Yes.

4. GENERAL :

(i) Satisfactory. No lodging. (ii) Nil. (iii) No. of pods/plant and grain and straw yield. (iv) (a) 1949—1955. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

Treatment	M_0	M_1	M_2	M_3
Av. yield	823	871	955	1022

S.E./mean = 95.7 lb./ac.

Crop :- Tur. **Ref :- Ms. 56(35).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To study the effect of N and P at different levels on Tur.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 40 lb./ac. of N+20 lb./ac. of P_2O_5. (ii) (a) Medium black. (b) N.A. (iii) 19.6.1956. (iv) (a) 1 ploughing and 2 harrowings. (b) Sowing by draw tubes. (c) 10 lb./ac. (d) 3' between rows. (e) N.A. (v) Nil. (vi) C—28 (late). (vii) Irrigated. (viii) Once hoeing and weeding. (ix) 37.80'. (x) 28.3.1957.

2. TREATMENTS :

All combinations of (1) and (2)+2 extra treatments.

(1) 3 levels of P_2O_5 as Super : P_1=20, P_2=40 and P_3=60 lb./ac.

(2) 4 levels of N as A/S : N_0=0, N_1=20, N_2=40 and N_3=60 lb./ac.

Extra treatments : T_0=Control (no manure) and T_1=30 lb./ac. of N as A/S.

3. DESIGN :

(i) R.B.D. (ii) (a) 14. (b) N.A. (iii) 2. (iv) (a) and (b) 70'×20'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 177 lb./ac. (ii) 62.8 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

T_0=128 lb./ac. and T_1=215 lb./ac.

	N_0	N_1	N_2	N_3	Mean
P_1	147	210	155	249	190
P_2	146	212	141	152	163
P_3	223	166	148	191	182
Mean	172	196	148	197	178

S.E. of N marginal mean = 25.7 lb./ac.
S.E. of P marginal mean = 22.2 lb./ac.
S.E. of body of table or extra treatment means = 44.4 lb./ac.

Crop :- Tur. **Ref :- Ms. 55(73).**

Site :- Agri. Res. Stn., Raichur. **Type :- 'M'.**

Object :—To find out the effect of N and P at different levels on Tur.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat—Paddy. (c) 50 lb./ac. of A/S+50 lb./ac. of Super. (ii) (a) Black cotton soil. (b) N.A. (iii) 26.7.1955. (iv) (a) Tractor tillering and *bakhering* 5 times. (b) Sowing by seed drill. (c) 8 lb./ac. (d) 3' between rows. (e) N.A. (v) No. (vi) C—28. (vii) Unirrigated. (viii) Two weedings and five interculturings. (ix) 33.84". (x) 27.3.1956.

2. TREATMENTS :

Same as in expt. no. 56(35) above.

3. DESIGN :

(i) R.B.D. (ii) (a) 14. (b) N.A. (iii) 2. (iv) (a) N.A. (b) 73'×24'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) No lodging. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Heavy rainfall immediately after sowing affected the crop. (vii) Nil.

5. RESULTS :

(i) 960 lb./ac. (ii) 68.8 lb./ac. (iii) Main effects of N, P and the interaction N×P are highly significant. (iv) Av. yield of grain in lb./ac.

T_0 = 93 lb./ac. and T_1 = 34 lb./ac.

	N_0	N_1	N_2	N_3	Mean
P_0	162	17	177	42	99
P_1	100	127	184	94	126
P_2	45	105	146	22	79
Mean	102	83	169	52	101

S.E. of N marginal mean = 28.1 lb./ac.
S.E. of P marginal mean = 24.3 lb./ac.
S.E. of body of table or any extra treatment = 48.6 lb./ac.

Crop :- Tur. **Ref :- Ms. 56(11).**

Site :- Agri. Res. Stn., Raichur. **Type :- 'M'.**

Object :—To find out the effect of N and P at different levels on Tur.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) Black cotton soil. (b) N.A. (iii) 9.7.1956. (iv) (a) Tractor tillering and *bakhering* 3 times. (b) Seed drill. (c) 8 lb./ac. (d) 3′ between rows. (e) N.A. (v) 79 lb./ac. 8 ozs. of A/S+36 lb. 6 ozs./ac. of Ammo. Phos.+12 lb. 6 ozs./ac. of Super was applied at the time of sowing by hand spreading. (vi) C—28 (medium). (vii) Unirrigated. (viii) Three intercultures by bullocks and one hand weeding. (ix) N.A. (x) 23.2.1957.

2. TREATMENTS :

Same as in expt. no. 56(35) on page 439.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 2. (iv) (a) and (b) 21′×52′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 663 lb./ac. (ii) 139.8 lb./ac. (iii) The effect of N is significant. The interaction N×P is highly significant. (iv) Av. yield of grain in lb./ac.

T_0 = 109 lb./ac. and T_1 = 494 lb./ac.

	N_0	N_1	N_2	N_3	Mean
P_0	1020	654	832	534	760
P_1	205	657	713	769	586
P_2	998	830	801	670	825
Mean	741	714	782	658	724

S.E. of N marginal mean	=	57.1 lb./ac.
S.E. of D marginal mean	=	49.4 lb./ac.
S.E. of body of table or any extra treatment mean	=	98.8 lb./ac.

Crop :- Tur *(Kharif)*. **Ref :- Ms. 57(86).**

Site :- Agri. Res. Stn., Raichur. **Type :- 'M'.**

Object :—To find out the effect of N and P at different levels on Tur.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton. (c) 3 C.L./ac. of F.Y.M. (ii) (a) Black cotton soil. (b) N.A. (iii) 15.7.1957. (iv) (a) Tractor tillering and blade harrowing. (b) Seed drill. (c) 8 lb./ac. (d) 3′ between rows. (e) N.A. (v) 3 C.L./ac. of F.Y.M. 15 days before sowing. Spreading F.Y.M. and mixing with blade harrow. (vi) C—28 (medium). (vii) Unirrigated. (viii) 2 interculturings and one hand weeding. (ix) 16.2″. (x) 6.1.1958.

2. TREATMENTS :

Same as in expt. no. 56(35) on page 439.

3. DESIGN :

(i) R.B.D. (ii) (a) 14. (b) 252′×77′. (iii) 2. (iv) (a) 18′×77′. (b) 12′×77′. (v) Two guard rows at either end and one foot on either side of rows. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Attack of pod-borer. (iii) Grain yield. (iv) (a) 1955—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 436 lb./ac. (ii) 69.8 lb./ac. (iii) Effect of N is significant. The effect of P is highly significant. The interaction N×P is not significant. (iv) Av. yield of grain in lb./ac.

T_1 = 200 lb./ac. and T_2 = 218 lb./ac.

	N_0	N_1	N_2	N_3	Mean
P_0	277	377	465	489	402
P_1	324	383	689	601	499
P_2	536	418	548	584	521
Mean	379	393	567	558	474

S.E. of N marginal mean	=	28.5 lb./ac.
S.E. of P marginal mean	=	24.7 lb./ac.
S.E. of body of the table or any extra treatment mean	=	49.3 lb./ac.

Crop :- Tur *(Kharif)*. **Ref :- Ms. 58(59).**

Site :- Agri. Res. Stn., Raichur. **Type :- 'M'.**

Object :—To find out the optimum dose of N and P for Tur crop.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Setaria and *Jowar*. (c) 3 C.L./ac. of F.Y.M.+100 lb./ac. of A/S+55 lb./ac. of Super. (ii) (a) *Chalka* (Red sandy) soil. (b) N.A. (iii) 7.7.1958. (iv) (a) Planting and blade harrowing. (b) By draw tubes. (c) 8 lb./ac. (d) 3′ between rows. (e) N.A. (v) 5 C.L./ac. of F.Y.M. spreading and mixing by blade harrow a fortnight before sowing. (vi) C—28. (vii) Unirrigated. (viii) 2 interculturings and one weeding. (ix) 22.1″. (x) 15.1.1959.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 4 levels of N as A/S : N_0=0, N_1=15, N_2=30 and N_3=45 lb./ac.

(2) 4 levels of P_2O_5 as Super : P_0=0, P_1=15, P_2=30 and P_3=45 lb./ac.

Manures applied by draw tubes just at sowing.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 16. (b) 288′×60′. (iii) 3. (iv) (a) 60′×18′. (b) 55′×12′. (v) One row on either side and 2½′ on both edges. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Pod-borer attack was severe—spraying with 50% DDT. (iii) Grain yield. (iv) (a) 1958—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 442 lb./ac. (ii) 109.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	N_3	Mean
P_0	357	324	506	385	393
P_1	352	423	423	456	414
P_2	517	429	528	402	467
P_3	390	407	473	699	492
Mean	404	396	483	485	442

S.E. of any marginal mean = 31.5 lb./ac.
S.E. of body of table = 63.0 lb./ac.

Crop :- Tur *(Kharif)*. **Ref :- Ms. 59(76).**

Site :- Agri. Res. Stn., Raichur. **Type :- 'M'.**

Object :—To find out the optimum dose of N and P on Tur crop.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Tur. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M.+20 lb./ac. of N+10 lb./ac. of P_2O_5. (ii) (a) Red *chalka* soil. (b) N.A (iii) 6.7.1959. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 6 lb./ac. (d) 3′ between lines. (e) N.A. (v) 5 C.L./ac. of F.Y.M. (vi) C—28. (vii) Unirrigated. (viii) 4 interculturings and one weeding. (ix) 18.4″. (x) 5.1.1960.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 58(59) on page 441.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—1960. (b) No. (c) Nil. (v) to (vii) Nil.

6. RESULTS :

(i) 464 lb./ac. (ii) 126.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	N_3	Mean
P_0	491	520	540	454	501
P_1	557	437	581	482	514
P_2	367	557	507	367	450
P_3	356	478	293	441	392
Mean	442	498	480	436	464

S.E. of any marginal mean = 36,5 lb./ac.
S.E. of body of table = 72.9 lb./ac.

Crop :- Tur *(Kharif)*. **Ref :- Ms. 59(77).**

Site :- Agri. Res. Stn., Raichur. **Type :- 'M'.**

Object :—To find the optimum dose of N and P for Tur.

1. BASAL CONDITIONS :

(i) (a) *Jowar—Tur*. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M.+20 lb./ac. of N+10 lb./ac. of P_2O_5. (ii) (a) Black soil. (b) N.A. (iii) 6.7.1959. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 6 lb./ac. (d) 3' between lines. (e)—. (v) 5 C.L./ac. of F.Y.M. (vi) C—28. (vii) Unirrigated. (viii) 4 interculturings and one weeding. (ix) 18.4". (x) 5.1.1960.

2. TREATMENTS :

Same as in expt. no. 58(59) on page 441.

3. DESIGN :

(i) R.B.D. (ii) (a) 16. (b) N.A. (iii) 3. (iv) (a) 18'×42'. (b) 12'×37'. (v) One row on either side of the plot and 3' on both sides. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 517 lb./ac. (ii) 188.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	N_3	Mean
P_0	331	448	429	619	457
P_1	374	644	533	711	565
P_2	772	484	399	411	516
P_3	662	466	570	423	530
Mean	535	510	483	541	517

S.E. of any marginal mean = 54.5 lb./ac.
S.E. of body of table = 109.0 lb./ac.

Crop :- Tur. **Ref :- Ms. 56(10).**

Site :- Agri. Res. Stn., Raichur. **Type :- 'M'.**

Object :—To fix up suitable manurial dose for Tur crop under dry conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 4 C.L./ac. of F.Y.M.+128 lb./ac. of paddy fertilizer mixture+60 lb./ac. of ground cake. (ii) (a) Red sandy loam. (b) N.A. (iii) 7.7.1956. (iv) (a) Tractor tillering, disc. harrow once and *bakharing* 4 times. (b) Sowing by seed drilling. (c) 8 lb./ac. (d) Spacing 3' between rows. (e) N.A. (v) 5 C.L./ac. of F.Y.M. applied by making a furrow and putting the manure in it by hand. (vi) C—28(medium). (vii) Unirrigated. (viii) 4 intercultures by bullocks and one hand weeding. (ix) 47.65" during the year. (x) 22.2.1957.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 levels of N as A/S : N_0=0, N_1=15 and N_2=30 lb./ac.
(2) 3 levels of P_2O_5 as Triple Super : P_0=0, P_1=15 and P_2=30 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 9. (b) N.A. (iii) 2. (iv) (a) and (b) 21′×103′. (v) No. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 237 lb./ac. (ii) 54.8 lb./ac. (iii) Main effect of N alone is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean
P_0	121	258	211	197
P_1	184	289	230	235
P_2	230	265	342	279
Mean	178	271	261	237

S.E. of any marginal mean = 22.4 lb./ac.
S.E. of body of table = 38.8 lb./ac.

Crop :- Tur *(Kharif)*. **Ref :- Ms. 57(87).**

Site :- Agri. Res. Stn., Raichur. **Type :- 'M'.**

Object :—To fix up suitable manurial dose for Tur crop under rainfed conditions.

1. BASAL CONDITIONS :

(i) (a) *Tur—Jowar*—Groundnut. (b) *Tur+Jowar* mixture. (c) 5 C.L /ac. of F.Y.M. (ii) (a) *Chalka* soil. (b) N.A. (iii) 8.7.1957. (iv) (a) Tractor tillering and blade harrowing. (b) Sowing by seed bowel. (c) 8 lb./ac. (d) Rows 3′ apart. (e) N.A. (v) 3 C.L./ac of F.Y.M. 15 days prior to sowing. Spreading F.Y.M. and mixing with blade harrow. (vi) C—28 (medium). (vii) Unirrigated. (viii) 2 interculturings and 3 hand weedings. (ix) 22.1″. (x) 10.1.1958.

2. TREATMENTS :

Same as in expt. no. 56(10) on page 433.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 9. (b) 216′×91′. (iii) 2. (iv) (a) 93′×24′. (b) 91′×24′. (v) Two guard rows at either end and 1′ on either side of rows. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Attack of pod-borers. (iii) Grain yield. (iv) (a) 1957—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 628 lb./ac. (ii) 68.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	Mean
N_0	424	555	688	556
N_1	528	718	653	633
N_2	571	748	763	695
Mean	508	674	701	628

S.E. of any marginal mean = 27.8 lb./ac.
S.E. of body of table = 48.2 lb./ac.

Crop :- Gram. **Ref :- Ms. 55(101).**

Site :- Bailhongal. **Type .- 'M'.**

Object :—To study the effect of micronutrients on Gram crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Light soil. (b) N.A. (iii) 28.10.1955. (iv) (a) Ploughing and 2 harrowings. (b) Drilling. (c) N.A. (d) 12" (e) N.A. (v) Nil. (vi) *Chafa* gram (early) (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 0.89". (x) 15.2.1956.

2. TREATMENTS :

All combinations of (1), (2), (3), (4) and (5)

(1) 2 levels of zinc sulphate: $Z_0=0$ and $Z_1=2$ lb. dissolved in 1/2 gallon of water.

(2) 2 levels of Manganese : $M_0=0$ and amd $M_1=2$ lb dissolved in ½ gallon of water.

(3) 2 levels of Copper as Cu SO_4 : $C_0=0$ and $C_1=4$ lb. dissolved in 1 gallon of water kept overnight.

(4) 2 levels of Sodium Molybdate : $S_0=0$ and $S_1=2$ ozs. dissolved in 1000 c.c. of water.

(5) 2 levels of Borax : $B_0=0$ and $B_1=1½$ lb. dissolved in ½ gallon of water.

3. DESIGN :

(i) 2^5 Fact. in R.B.D. (ii) (a) 32. (b) N.A. (iii) 4. (iv) (a) 16'×14'. (b) 12'×10'. (v) 2'×2'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Attack of pod borers to some extent—control measures N.A. (iii) No. of shoots, no. of pods/plant and grain yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 276 lb./ac. (ii) 61.7 lb./ac. (ii) None of the effects is significant. (iv) Table of Mean and differential responce in lb./ac.

Factor	Mean response	Differential response									
		Z		M		C		S		B	
		−	+	−	+	−	+	−	+	−	+
Z	−2.38	—	—	−10.66	+1.13	+1.59	+11.11	−17.46	+7.94	−2.95	−6.58
M	+9.98	+14.06	+25.86	—	—	−54.66	−14.74	−7.94	+47.85	+35.61	+4.31
C	−7.48	−8.62	−21.32	+19.73	−59 67	—	—	+7.48	−37.42	−17.01	−12.93
S	+12.25	+11.79	+37.20	−3.40	+52.39	+46.95	+2.04	—	—	+50.12	−1.13
B	−21.09	−40.47	−44.00	−26.54	−57.83	−44.23	−40.14	−16.56	−67.81	—	—

S.E. of meen response = 10.91 lb./ac.
S.E. of differential response = 15.43 lb./ac.

Crop :- Gram. **Ref :- Ms. 56(42).**

Site :- Bailhangal. **Type :- 'M'.**

Object :—To study the effect of micronutrients on Gram crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) China Mug. (c) 5 C-L./ac. of F.Y.M. (ii) (a) Light soil. (b) N.A. (iii) 24.10.1956. (iv) (a) Ploughing and 2 horrowings. (b) to (e) N:A. (v) Nil. (vi) *Chifa* (early). (vii) unirrigated. (viii) One weeding. (ix) 5.51". (x) 21.1.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55 (101) above.

4. GFNERAL :

(i) Normal. (ii) Pod borer attack noticed. (iii)Heigh and spread of the plant and caneyield. (iv) (a) 1955—1958. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 940 lb./ac. (ii) 127.6 lb./ac. (iii) None of the effects is significant. (iv) Table of mean and differential responses :

Factor	Mean response	Differential response									
		Z		M		C		S		B	
		—	+	—	+	—	+	—	+	—	+
Z	+30	—	—	+47.0	+13.0	+35.0	+25.0	+35.0	+25.0	+55.0	+5.0
M	—35.5	—18.0	—52.0	—	—	—15.0	—56.0	—34.0	—37.0	—36.0	—35.0
C	+3.5	+9.0	—2.0	+24.0	—17.0	—	—	—6.0	+13.0	—34 0	—27.0
S	+8.5	+14.0	+3.0	+10.0	+7.0	—1.0	+18.0	—	—	+6.0	+11.0
B	—17.0	+8.2	—42.0	—18.0	—16.0	—13.0	—47.0	—20.0	—14.0	—	—

S.E. of mean response = 22.6 lb./ac.
S.E. of differential response = 31.9 lb./ac.

Crop :- Gram. *(Rabi).* **Ref :- Ms. 57(131).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'M'.**

Object : To study the effect of micronutrients on Gram.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) China mug. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Light soil. (b) N.A. (iii) 17.10.57. (iv) (a) 2 harrowings. (b) Drill Sowing. (c) 40 lb./ac. (d) 12" between rows. (e) —. (v) Nil. (vi) *Chafa* (early). (vii) Unirrigated. (ix) 18.81". (x) 12.1.58.

2. TREATMENTS and 3. DESIGN .

Same as in expt. no. 55 (101) on page 444.

4. GENERAL :

(i) Normal. (ii) Pod borer attack was noticed ; control measures N.A. (iii) Hight and spread of the plant, no. of pods plant and yield of pods. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 629 lb./ac. (ii) 130.0 lb./ac. (iii) None of the effects is significant. (iv) Table of meen and differential response in lb./ac.

Factor	Mean response	Differential response									
		Z		M		C		S		B	
		—	+	—	+	—	+	—	+	—	+
Z	4.02	—	—	—14.41	22.46	—11.46	19.51	—39.59	47.64	25.07	—17.01
M	—14.92	—33.35	3.52	—	—	—14.41	—15.43	—20.99	—8.85	—38.45	8.62
C	—31.48	—46.96	—15.99	—30.96	—31.99	—	—	—43.90	—19.06	—30.74	—32.21
S	—33.97	—77.59	9.64	—40.04	—27.91	—46.40	—21.55	—	—	—63.18	—4.76
B	—7.66	13.39	—28.70	—31.20	15.88	—6.92	—8.39	—36.87	21.55	—	—

S.E. of mean response = 23.0 lb./ac.
S.E. of differential response = 31.9 lb./ac.

Crop :- Gram *(Rabi)*. **Ref :- Ms. 58(124).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'M'.**

Object :—To study the effect of micronutrients on Gram.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) China mug. (c) 5 C.L./ac. of C.Y.M. (ii) (a) Light soil. (b) N.A. (iii) 20.10.58. (iv) (a) 2 horrowings. (b) Drill sowing. (c) 40 lb./ac. (d) 12" between rows. (e) 40 lb./ac. (v) Nil. (vi) *Chafa* (early). (vii) Unirrigated. (viii) One weeding. (ix) 58.2". (x) 16.1.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55 (101) on page 445.

4. GENERAL :

(i) Normal. (ii) Pod borer attack was noticed. (iii) Hight and spread of the plant, no. of pods and yield of pods. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 515 lb /ac. (ii) 156 4 lb./ac. (iii) None of the effects its significant. (iv) Table of mean and differential response in lb./ac.

Factor	Mean response in lb./ac.	Differential response in lb./ac.									
		Z		M		C		S		B	
		—	+	—	+	—	+	—	+	—	+
Z	—7.54	—	—	6.13	—21.21	7.03	—22.12	19.85	—34 94	—18.83	3.74
M	—4.37	9.30	—18.04	—	—	6.47	—15.20	37.32	—46 06	4.08	—12.82
C	—57.34	—42.76	—71.92	—46.51	—68.18	—	—	—70.67	—44.01	—82.58	—32.10
S	17.75	45.15	—9 64	59.44	—23.94	44.2	—31.08	—	—	9.30	26.20
B	—13.22	—24.50	—1.93	—4.76	—21.67	—38.45	—12.02	—21.67	—4.76	—	—

S.E. of mean response = 27.6 lb./ac.
S.E. of differential response = 39.1 lb./ac.

Crop :- Gram. **Ref :- Ms. 54(115).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To determine N, P and K requirements of Gram.

1. BASAL CONDITIONS :

(i) (a) *Chinamng*—Gram. (b) *Chinemug*. (c) 5 C.L./ac. of F.Y.M. (ii) (a)Medium black. (b) Refer soil analysis, Dharwar. (iii) 15.10.1954. (iv) (a) 4 harrowing. (b) Drilling. (c) 30 lb./ac. (d) 18" apart. (e) N.A. (v N.A. (vi) *Chafa*. (vii) Unirrigated. (viii) N.A. (ix) 25.56". (x) 16.1.1955.

2. TREATMENTS :

All combinations of (1), (2) and (3)+a control.

(1) 2 levels of N as A/S : N_0=0 and N_1=20 lb./ac.
(2) 2 levels of P_2O_5 as Super : P_0=0 and P_1=20 lb /ac.
(3) 2 levels of K_2O as Pot. Sul. : K_0=0 and K_1=40 lb./ac.

5 C.L./ac. of F.Y.M. given to all combinations of (1), (2) and (3). N, P and K drilled with coulters 18" apart on 14.10.1954.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 60'×15'. (b) 45'×9'. (v) 7½'×3'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) No. (iii) Height of the crop, grain and straw yield. (iv) (a) 1951—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 830 lb./ac. (ii) 109.7 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 846.5 lb./ac.

	N_0	N_1	Mean	P_0	P_1
K_0	801.3	843.2	822.2	798.0	846.5
K_1	819.6	848.6	834.1	781.4	886.8
Mean	810.4	845.9	828.2	789.7	866.6
P_0	788.4	791.1			
P_1	832.5	900.8			

S.E. of any marginal mean = 27.4 lb./ac.
S.E. of body of any table = 38.8 lb./ac.

Crop :- Gram. **Ref :- Ms. 55(122).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To determine N, P and K requirements of Gram.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *China mug.* (c) 5 C.L./ac. of F.Y.M. spread by broadcasting prior to sowing. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 31.10.1955. (iv) (a) Harrowing. (b) Drill sowing. (c) 30 lb./ac. (d) Rows 18" apart. (d) Rows 18" apart. (e) N.A. (v) Nil. (vi) *Chafa* (early). (vii) Unirrigated. (viii) Interculturing. (ix) 4.69". (x) 14.2.1956.

2. TREATMENTS :

Same as in expt no. 54(115) on page 447.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 35'×24'. (b) 25'×18'. (v) 5'×3'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1951—contd. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 1011 lb./ac. (ii) 88.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 964 lb./ac.

	N_0	N_1	P_0	P_1	Mean
K_0	1016	1024	1014	1026	1020
K_1	995	1032	984	1042	1013
Mean	1006	1028	999	1034	1017
P_0	1014	984			
P_1	997	1072			

S.E. of any marginal mean = 22.05 lb./ac.
S.E. of body of any table = 31.18 lb./ac.

Crop :- Gram *(Rabi)*. **Ref :- Ms. 56(88).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To determine the N, P and K requirements of Gram.

1. BASAL CONDITIONS :

(i) (a) *Chinamug*—Gram. (b) *Chinamug*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 27.10.1956. (iv) (a) N.A. (b) Drilling. (c) 40 lb./ac. (d) 18"×6". (e) N.A. (v) Nil. (vi) *Chafa* (early). (vii) Unirrigated. (viii) Nil. (ix) 11.37". (x) 16.2.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(115) on page 447. N, P, K and F.Y.M. applied on 27.10.1956.

5. RESULTS :

(i) 1304 lb./ac. (ii) 98.7 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 1236 lb./ac.

	N_0	N_1	Mean	P_0	P_1
K_0	1335	1318	1326	1292	1361
K_1	1300	1298	1299	1316	1282
Mean	1318	1308	1313	1304	1322
P_0	1332	1276			
P_1	1304	1340			

S.E. of any marginal mean = 24.68 lb./ac.
S.E. of body of any table = 34.91 lb./ac.

Crop :- Gram *(Rabi)*. **Ref :- Ms. 55(103).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To study the residual effect of Gypsum and F.Y.M. on Gram.

1. BASAL CONDITIONS :

(i) (a) Gram—Wheat. (b) Wheat. (c) As per treatments. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 21.10.1955. (iv) (a) 2 harrowings. (b) Drilling. (c) 30 lb./ac. (d) 12" between rows. (e) —. (v) Nil. (vi) *Chafa* (early). (vii) Unirrigated. (viii) Weeding and 2 interculturings. (ix) N.A. (x) 31.1.1956 and 8.2.1956.

2. TREATMENTS :

All combinations of (1) and (2)
(1) 5 levels of Gypsum : G_0=0, G_1=0.5, G_2=1, G_3=1.5 and G_4=2 tons/ac.
(2) 2 levels of F.Y.M. : F_0=0 and F_1=10 C.L./ac.
Manures applied to previous wheat crop.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 42'×24'. (b) 36'×18'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—1958. (b) Duplicate blocks have been arranged to study the residual effect. (v) to (vii) Nil.

5. RESULTS :

(i) 399 lb./ac. (ii) 49.8 lb./ac. (iii) Only main effect of F is highly significant. (iv) Av. yield of grain in lb./ac.

	G_0	G_1	G_2	G_3	G_4	Mean
F_0	335	314	266	289	273	295
F_1	508	524	479	497	504	502
Mean	421	419	373	393	389	399

S.E. of F marginal mean = 11.1 lb./ac.
S.E. of G marginal mean = 17.6 lb./ac.
S.E. of body of table = 24.9 lb./ac.

Crop :- Gram *(Rabi)*. **Ref :- Ms. 56(132).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To study the residual effect of Gypsum and F.Y.M. on Gram.

1. BASAL CONDITIONS :

(i) (a) Wheat—Gram. (b) Wheat. (c) As per treatments. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 17.10.1956. (iv) (a) Harrowing. (b) Drilling. (c) 40 lb./ac. (d) 12" between rows. (e) —. (v) Nil. (vi) *Chafa*. (vii) Unirrigated. (viii) Nil. (ix) 11.92". (x) 3.2.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(103) on page 449.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—1958. (b) Duplicate blocks have been arranged to study the residual effect. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 435 lb./ac. (ii) 43.0 lb./ac. (iii) Main effects of F and G and interactions F×G are highly significant. (iv) Av. yield of grain in lb./ac.

	G_0	G_1	G_2	G_3	G_4	Mean
F_0	421	298	343	387	381	366
F_1	449	468	532	553	521	505
Mean	435	383	437	470	451	435

S.E. of G marginal mean = 15.2 lb./ac.
S.E. of F marginal mean = 9.6 lb./ac.
S.E. of body of table = 21.5 lb./ac.

Crop :- Gram *(Rabi)*. **Ref :- Ms. 57(155).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To find out the residual effects of Gypsum and F.Y.M. on Gram.

1. BASAL CONDITIONS :

(i) (a) Wheat—Gram. (b) Wheat. (c) As per treatments. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 11.10.1957. (iv) (a) 3 harrowings. (b) Drilling. (c) 40 lb./ac. (d) 12" between rows. (e) —. (v) Nil. (vi) *Chafa* (medium). (vii) Unirrigated. (viii) Interculturing. (ix) N.A. (x) 26.1.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(103) on page 449.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 328 lb./ac. (ii) 65.7 lb./ac. (iii) Main effect of F is highly significant. (iv) Av. yield of grain in lb./ac.

	G_0	G_1	G_2	G_3	G_4	Mean
F_0	247	244	234	213	247	237
F_1	397	451	402	438	412	420
Mean	322	348	318	325	330	328

S.E. of F marginal mean = 14.7 lb./ac.
S.E. of G marginal mean = 23.2 lb./ac.
S.E. of body of table = 32.8 lb./ac.

Crop :- Gram *(Rabi)*. **Ref :- Ms. 58(143).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To study the residual effect of Gypsum and F.Y.M. on Gram.

1. BASAL CONDITIONS :

(i) (a) Wheat—Gram. (b) Wheat. (c) As per treatments. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 21.10.1958. (iv) (a) 3 harrowings. (b) Drilling. (c) 40 lb./ac. (d) 12" between rows. (e) N.A. (v) Nil. (vi) *Chafa*. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 12.18". (x) 26.1.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(103) on page 449.

4. GENERAL :

(i) Unsatisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 229 lb./ac. (ii) 68.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	G_0	G_1	G_2	G_3	G_4	Mean
F_0	228	182	213	206	243	214
F_1	207	262	289	216	246	244
Mean	218	222	251	211	244	229

S.E. of F marginal mean = 15.4 lb./ac.
S.E. of G marginal mean = 24.3 lb./ac.
S.E. of body of table = 34.4 lb./ac.

Crop :- Gram *(Rabi)*. **Ref :- Ms. 57(114).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'CV'.**

Object :—To find out suitable spacings and seed rates for different varieties of Gram.

1. BASAL CONDITIONS :

(i) (a) Gram—*Jowar*—Gram. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Alkaline. (b) Refer soil analysis, Bijapur. (iii) 10.10.1957. (iv) (a) Ploughing. (b) Dibbling. (c) and (d) As per treatments. (e) N.A. (v) Nil. (vi) As per treatments. (vii) Unirrigated. (viii) Nil. (ix)N.A. (x) 12.2.1958.

2. TREATMENTS

Main-plot treatments :

3 varieties : V_1=Niphad C type, V_2=*Bada Chana* and V_3=*Chafa*.

Sub-plot treatments :

3 row spacings : S_1=12″, S_2=15″ and S_3=18″.

Sub-sub-plot treatments :

3 seed rates : R_1=30, R_2=40 and R_3=50 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication ; 3 sub-plots/main-plot. 3 sub-sub-plots/sub-plot. (b) N.A. (iii) 4. (iv) (a) 40′×19′. (b) 36′×15′. (v) 2′×2′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Slight attack of pod borer. (iii) Grain yield. (iv) (a) 1956—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 249 lb./ac. (ii) (a) 144.2 lb./ac. (b) 102.2 lb./ac. (c) 95.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	V_3	Mean	R_1	R_2	R_3
S_1	252.9	243.7	276.9	257.8	218.9	292.0	262.6
S_2	220.2	258.8	245.4	241.4	213.0	241.6	269.7
S_3	236.1	312.6	195.4	248.0	246.6	242.8	254.6
Mean	236.4	271.7	239.2	249.1	226.2	258.8	262.3
R_1	214.3	253.3	211.0				
R_2	247.0	284.8	244.5				
R_3	247.9	276.9	262.1				

S.E. of difference of two

1. V marginal means = 33.99 lb./ac.
2. S marginal means = 24.08 lb./ac.
3. R marginal means = 22.50 lb./ac.
4. S means at the same level of V = 41.71 lb./ac.
5. V means at the same level of S = 48.12 lb./ac.
6. R means at the same level of V = 38.97 lb./ac.
7. V means at the same level of R = 39.91 lb./ac.
8. R means at the same level of S = 38.97 lb./ac.
9. S means at the same level of R = 46.56 lb./ac.

Crop :- Gram *(Rabi)*. **Ref :- Ms. 58(88).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'CV'.**

Object :—To find out the optimum spacing for different varieties of Gram.

1. BASAL CONDITIONS :

(i) (a) and (b) N.A. (c) Nil. (ii) (a) Alkaline. (b) Refer soil analysis, Bijapur. (iii) 16.12.1958. (iv) (a) Ploughing. (b) Dibbling. (c) 40 lb./ac. (d) As per treatments. (e) N.A. (v) 20 lb./ac. of N as A/S. (vi) As per treatments. (vii) unirrigated. (viii) Interculturing. (ix) 7·82″. (x) 28.3.1959.

2. TREATMENTS :

Main-plot treatments :

3 varieties : V_1=*Chafa*, V_2=*Bada Chana* and V_3=N–1.

Sub-plot treatments :

3 row spacings : R_1=12″, R_2=15″ and R_3=18″.

Sub-sub-plot treatments :

3 plant spacings :S_1=4″, S_2=6″ and S_3=8″.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication; 3 sub-plots/main-plot. 3 sub-sub-plots/sub-plot. (b) N.A. (iii) 4. (iv) a) and (b) 15′×6′. (v) Nil. (vi) yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS ;

(i) 307 lb./ac. (ii) (a) 508.7 lb./ac. (b) 606.7 lb./ac. (c) 362.7 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of gram in lb./ac.

	V_1	V_2	V_3	Mean	S_1	S_2	S_3
R_1	323.0	276.6	348.0	315.9	326.8	318.0	302.8
R_2	318.2	325.9	431.5	358.5	388.7	348.1	338.8
R_3	267.4	225.5	243.8	245.6	272.8	241.5	222.4
Mean	302.9	276.0	341.1	306.6	329.4	302.5	288.0
S_1	330.9	278.9	378.5				
S_2	290.6	284.6	332.4				
S_3	287.1	264.4	312.4				

S.E. of difference of two

1. V marginal means = 119.9 lb./ac.
2. R marginal means = 143.0 lb./ac.
3. S marginal means = 85.5 lb./ac.
4. R means at the same level of V = 247.7 lb./ac.
5. V means at the same level of R = 332.5 lb./ac.
6. S means at the same level of V = 148.1 lb./ac.
7. V means at the same level of S = 170.2 lb./ac.
8. S means at the same level of R = 148.1 lb./ac.
9. R means at the same level of S = 187.3 lb./ac.

Crop :- Gram. **Ref :- Ms. 55(100).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'CM'.**

Object :—To study the effect of spacing, seedrate and manures on Gram.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Light soil. (b) N.A. (iii) 25.10.1955. (iv) (a) Ploughing and 2 harrowings. (b) N.A. (c) and (d) As per treatments. (e) N.A. (v) Nil. (vi) *Chafa* (early). (vii) Unirrigated. (viii) Intercutluring twice. (ix) 1.85″. (x) 14.2.1956.

2. TREATMENTS :

All combinations of (1), (2), (3), (4) and (5).

(1) 2 levels of N as A/S: N_0=0 and N_1=10 lb./ac.
(2) 2 levels of P_2O_5 as Super : P_0=0 and P_1=50 lb./ac.
(3) 2 levels of K_2O as Pot. Sul. : K_0=0 and K_1=50 lb./ac.
(4) 2 levels of seed rate: R_1=30 and R_2=40 lb./ac.
(5) 2 levels of row spacing : S_1=12″ and S_2=18″.

3. DESIGN :

(i) 2^5 confd. (PKR, NKS and NPRS effects confounded). (ii) (a) 4 blocks of 8 plots each. (b) N.A. (iii) 1. (iv) (a) 30′×18′ (b) 24′×12′. (v) 3′ all round. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Crop was attacked by pod borers to some extent. Control measures—N.A. (iii) Height of plant, No. of branches, No. of pods/plant and grain yield. (iv) (a) 1955—contd. (b) and (c) No (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 392 lb./ac. (ii) 145.2 lb./ac. (iii) Main effect of N and interaction N×P are significant. Interation N×R is highly significant. (iv) Table of mean and differential responses in lb./ac.

	Mean response in lb./ac.	Differential response in lb./ac.									
		N		P		K		R		S	
		—	+	—	+	—	+	—	+	—	+
N	—171.10	—	—	—337.66	—4.53	—136.88	—205.32	—397.41	+55.21	—200.78	—141.42
P	—50.48	—217.04	+116.08	—	—	+89.99	—190.95	—51.05	—49.91	—115.33	+14.36
K	+60.30	+94.53	+26.09	+200.78	—89.16	—	—	+19.28	+101.34	+77.51	+43.11
R	—53.50	—279.81	+172.80	—54.07	—52.93	—94.53	—12.48	—	—	—30.62	—76.38
S	—83.76	—113.44	—54.07	—148.60	—18.91	—66.55	—100.96	—60.88	—106.63	—	—

S.E. of mean response = 51.3 lb./ac.
S.E. of differential response = 72.6 lb./ac.

Crop :- Gram. **Ref :- Ms. 56(24).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'CM'.**

Object :—To study the effect of spacing, seedrate and manures on Gram.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Chinamug.* (c) 5 C.L./ac. of F.Y.M. (ii) (a) Light soil. (b) N.A. (iii) 24.10.1956. (iv) (a) 2 harrowings. (b) Sowing by drilling. (c) and (d) As per treatments. (e) N.A. (v) Nil. (vi) *Chafa* (early). (vii) Unirrigated. (viii) 1 interculturing and 1 weeding. (ix) 5.51". (x) 23.1.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(100) on page 453.

4. GENERAL :

(i) Normal. (ii) Pod borer attack noticed. Control measures—N.A. (iii) Height, spread of plants, no. of pods/plant and grain yield. (iv) (a) 1955—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 674 lb./ac. (ii) 101.5 lb./ac. (iiii) None of the effects is significant. (iv) Table of the mean and differential responses in lb./ac.

	Mean response in lb./ac.	Differential response in lb./ac.									
		N		P		K		R		S	
		—	+	—	+	—	+	—	+	—	+
N	—34.98	—	—	—9.45	—60.50	—36.86	—33.08	—72.31	+2.36	—96.89	+26.94
P	—71.36	—45.85	—96.89	—	—	—100.20	—42.54	—8.03	—134.70	—27.89	—114.85
K	—39.23	—41.12	—37.33	—68.06	—10.40	—	—	+15.60	—94.05	—98.78	+20.32
R	+139.90	+102.56	+177.24	+203.23	+76.57	+194.73	+85.07	—	—	+115.80	+164.01
S	+16.07	—45.85	+77.98	+59.55	—27.41	—43.48	+75.62	—8.03	+40 17	—	—

S.E. of mean response = 36.9 lb./ac.
S.E. of differential response = 50.8 lb./ac.

Crop :- Gram *(Rabi)*. **Ref :- Ms. 57(135).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'CM'.**

Object :—To study the effect of spacing, seedrate and manures on Gram.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Chinamug*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Light soil. (b) N.A. (iii) 17.10.1957. (iv) (a) 2 harrowings. (b) Drilling. (c) and (d) As per treatments. (e) N.A. (v) Nil. (vi) *Chafa* (early). (viii) 1 interculturing and 1 weeding. (ix) 18.81". (x) 13.1.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(100) on page 453.

4. GENERAL :

(i) Normal. (ii) Pode borer attack was noticed. Control measures—N.A. (iii) Height, spread of plants, no. of pods plant and grain yield. (iv) (a) 1955—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 437 lb./ac. (ii) 115.4 lb./ac. (iii) Interaction N×K×S is highly significant. (iv) Table of mean and differential responses in lb./ac.

	Mean response in lb./ac.	Differential response in lb./ac.									
		N		P		K		R		S	
		—	+	—	+	—	+	—	+	—	+
N	−0.76	—	—	−21.17	19.66	−23.63	22.12	−1.13	−0.38	15.88	−17.39
P	−17.39	−37.81	3.02	—	—	−59.93	25.15	−17.01	−17.77	−17.01	−17.77
K	57.28	80.16	34.40	99.82	14.75	—	—	72.60	41.97	72.98	41.59
R	9.07	8.70	9.45	9.45	8.70	−6.24	24.39	—	—	−1.51	19.66
S	8.32	24.96	−8.32	8.70	7 94	−7.37	24.01	−2.27	18.91	—	—

S.E. of mean response = 40.8 lb./ac.
S.E. of differential response = 57.8 lb./ac.

Crop :- Gram *(Rabi)*. **Ref :- Ms. 58(123).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'CM'.**

Object :—To study the effect of spacing, seedrate and manures on Gram.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Chinamug*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Light soil. (b) N.A. (iii) 15.10.1958. (iv) (a) 2 harrowings. (b) Drilling. (c) and (d) N.A. (e) As per treatments. (v) Nil. (vi) *Chafa* (early). (vii) Unirrigated. (viii) 1 interculturing and 1 weeding. (ix) 1.98". (x) 12.1.1959.

2. TREATMENTS and 3. DESIGN:

Same as in expt. no. 55(100) on page 453.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height and spread of plants, no. of pods/plant and grain yield. (iv) (a) 1955—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 648 lb./ac. (ii) 333.2 lb./ac. (iii) None of the effects is significant. (iv) Table of mean and differential responses in lb./ac.

	Mean response in lb./ac.	Differential response in lb./ac.									
		N		P		K		R		S	
		—	+	—	+	—	+	—	+	—	+
N	—13.14	—	—	—16.45	—9.83	—95.85	69.58	—21.93	—4.35	—52.94	26.66
P	6.33	9.64	3.02	—	—	—18.72	31.38	2.64	10.02	2.64	10.02
K	50.76	—31.95	133.48	25.71	75.81	—	—	39.32	62.20	110.41	—8.88
R	60.78	51.99	69.58	57.10	64.47	49.34	72.22	—	—	84.32	37.24
S	27.51	—12.29	67.31	23.82	31.20	87.16	—32.14	51.04	3.97	—	—

S.E. of mean response = 117.7 lb /ac.
S.E. of differential response = 166.5 lb./ac.

Crop :- Gram *(Rabi)*. **Ref :- Ms. 54(221).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To find out the optimum requirement of irrigation and manure for Gram crop.

1. BASAL CONDITIONS :

(i) (a) Maize—Wheat—*Jowar*— Gram. (b) *Jowar*. (c) N.A. (ii) (a) Sandy loam. (b) N.A. (iii) 17.12.1954. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 60 lb./ac. (d) 12″×9″. (e) 2 to 3. (v) Nil. (vi) *Chafa* (early). (vii) Irrigated. (viii) 1 weeding and 2 interculturings. (ix) 0.65″. (x) 26.3.1955.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 intensities of irrigation : I_1=4″ and I_2=5″.

(2) 4 levels of N as G.N.C. and A/S in 2 : 1 ratio : N_0=0, N_1=30, N_2=60 and N_3=90 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 20′×15′. (b) 18′×14′. (v) 1′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Slight attack of pod borers ; no control measures taken. (iii) Moisture studies, grain and fodder yield. (iv) (a) 1954—1955. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 530 lb./ac. (ii) 110.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	N_3	Mean
I_1	577	466	514	576	533
I_2	563	574	562	407	527
Mean	570	520	538	492	530

S.E. of I marginal mean = 27.5 lb./ac.
S.E. of N marginal mean = 39.0 lb./ac.
S.E. of body of table = 55.1 lb./ac.

Crop :- Gram *(Rabi)*. **Ref :- Ms. 55(206).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To find out the optimum requirement of irrigation and manure for Gram crop.

1. BASAL CONDITIONS :

(i) (a) Maize—Wheat—*Jowar*—Gram. (b) *Jowar*. (c) N.A. (ii) (a) Sandy loam. (b) N.A. (iii) 27.12.1955. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 60 lb./ac. (d) 12″×9″. (e) 2 to 3. (v) Nil. (vi) *Chafa* (early). (vii) Irrigated. (viii) Weeding once and interculturing twice. (ix) 1.15″. (x) 3.4.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(221) on page 456.

5. RESULTS :

(i) 719 lb./ac. (ii) 106.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	N_3	Mean
I_1	660	686	730	817	723
I_2	636	765	698	760	715
Mean	648	726	714	788	719

S.E. of I marginal mean = 26.5 lb./ac.
S.E. of N marginal mean = 37.5 lb./ac.
S.E. of body of table = 53.0 lb./ac.

Crop :- Gram *(Rabi)*. **Ref :- Ms. 56(134).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To find out the optimum requirement of irrigation and manure for Gram crop.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Gram—Maize. (b) *Jowar*. (c) N.A. (ii) (a) Sandy loam. (b) N.A. (iii) 19.12.1956. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 40 lb./ac. (d) 12″×9″. (e) 2 to 3. (v) Nil. (vi) *Chafa* (early). (vii) Irrigated. (viii) 1 weeding and 2 interculturings. (ix) 5.4″. (x) 30.3.1957.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 intensities of irrigation : I_1==3″ and I_2=3.5″.

(2) 3 levels of N as A/S : N_1=20, N_2=40 and N_3=60 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 28′×23′. (b) 24′×20′. (v) 2′×1½′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Slight attack of pod borers ; no control measures taken. (iii) Grain yield. (iv) (a) 1956—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1381 lb./ac. (ii) 189.1 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N_1	N_2	N_3	Mean
I_1	1484	1374	1385	1414
I_2	1308	1331	1406	1348
Mean	1396	1352	1396	1381

S.E. of I marginal mean = 54.6 lb./ac.
S.E. of N marginal mean = 66.9 lb./ac.
S.E. of body of table = 94.6 lb./ac.

Crop :- Gram *(Rabi)*. **Ref :- Ms. 57(113).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To find out the optimum requirement of irrigation and manure for Gram crop.

1. BASAL CONDITIONS :

(a) *Jowar*—Gram—Maize. (b) *Jowar*. (c) N.A. (ii) (a) Sandy loam. (b) N.A. (iii) 21.12.1957. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 40 lb./ac. (d) 12″×9″. (e) 2 to 3. (v) Nil. (vi) *Chafa* (early). (vii) Irrigated. (viii) Weeding once and interculturing twice. (ix) 9.8″. (x) 2.4.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56 (134) on page 457.

5. RESULTS :

(i) 394 lb./ac. (ii) 156.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yiled of grain lb./ac.

	N_1	N_2	N_3	Mean
I_1	314	347	392	351
I_2	428	428	456	437
Mean	371	387	424	394

S.E. of I marginal mean = 45.3 lb./ac.
S.E. of N marginal mean = 55.4 lb./ac.
S.E. of body of table = 78.4 lb./ac.

Crop :- Gram. *(Rabi)*. **Ref :- Ms. 58(95).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To find out the optimum requirement of irrigation and manure for Gram crop.

1. BASAL CONDITIONS.

(i) (a) *Jowar*—Gram—Maize. (b) *Jowar*. (c) N.A. (ii) (a) Sandy loam. (b) N.A. (iii) 17.12.1958. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 40 lb./ac. (d) 12″×9″. (e) 2 to 3. (v) Nil. (vi) *Chafa* (early). (vii) Irrigated. (viii) Weeding once and interculturing twice. (ix) 6.7″. (x) 28.3.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56 (134) on page 457.

5. RESULTS :

(i) 785 lb./ac. (ii) 186.9 lb./ac. (iii) Main effect of I is significant. (iv) Av. yiled of grain in lb./ac.

	N_1	N_2	N_3	Mean
I_1	661	775	657	698
I_2	895	827	893	872
Mean	778	801	775	785

S.E. of I marginal mean = 53.9 lb./ac.
S.E. of N marginal mean = 66.1 lb /ac.
S.E. of body of table = 93.4 lb./ac.

Crop :- Gram *(Rabi)*. **Ref :- Ms. 59(13).**

Site :- Govt. Res. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To find out the optimum requirement of irrigation and manure for Gram.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) N.A. (ii) (a) Sandy loam. (b) N.A. (iii) 18 to 20.12.1959. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 40 lb./ac. (d) 12"×9". (e) 2 to 3. (v) Nil. (vi) *Chafa*. (vii) Irrigated as per treatments. (viii) Weeding and interculturing. (ix) 1.2" (x) 30.3.1960.

2. TREATMENTS :

All combinations of (1) and (2) :

(1) 2 levels of irrigation : I_1=2½ and I_2=3½ ac. inches.

(2) 5 manurial treatments : M_0=No manure, M_1=20 lb./ac. of N as A/S+20 lb./ac. of P_2O_5 as Super, $M_2=M_1+10$ lb./ac. of K_2O as Mur. Pot., M_3=40 lb./ac. of N as A/S+40 lb./ac. of P_2O_5 as Super and $M_4=M_3+20$ lb./ac. of K_2O as Mur. Pot.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 10. (b) N.A. (iii) 3. (iv) (a) 24'×22'. (b) 21'×20'. (v) 1½'×1'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Slight attack of pod borers—no control measures taken. (iii) Yield and height of plants. (iv) (a) 1956—N.A. (b) Nil. (c) N.A. (v) to (vii) Nil.

5. RESULTS :

(i) 1598 lb./ac. (ii) 308.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	M_0	M_1	M_2	M_3	M_4	Mean
I_1	1398	1880	1590	1476	1748	1618
I_2	1826	1395	1523	1592	1555	1578
Mean	1612	1638	1556	1534	1652	1598

S.E. of M margiral mean = 125.7 lb./ac.
S.E. of I marginal mean = 79.4 lb./ac.
S.E. of body of table = 177.9 lb./ac.

Crop :- Horse Gram. **Ref :- Ms. 58(SFT).**

Centre :- Bangalore (c.f.). **Type :- 'M'.**

Object—Type C :—To compare the responses of leguminous crops to alternative sources and levels of phosphate.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red and laterite. (iii) Nil. (iv) and (v) N.A. (vi) September—October 1958. (vii) Unirrigated. (viii) and (ix) N.A. (x) December 1958.

2. TREATMENTS :

0 = Control (no manure).
p_1 = 30 lb./ac. of P_2O_5 as Super.
p_2 = 60 lb./ac. of P_2O_5 as Super.
p_1' = 30 lb./ac. of P_2O_5 as Dicalcium phosphate.
p_2' = 60 lb./ac. of P_2O_5 as Dicalcium phosphate.

3. DESIGN :

(*i*) and (ii) The district has been divided into four agriculturally homogeneous zones and one field assistant posted in each zone. The field assistant conducts the trials in one Revenue circle or thana in the zone and the circle/thana is changed once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year, 8 on *kharif* cereal, 8 on *rabi* cereal, 8 on cash crops, 4 on an oilseed crop, 3 on a leguminous crop. Half the number of trials coducted are of type A and the other half of type B on crops other than the legumes. The three trials on legumes are of type C. Residual effects of phosphate application are studied on type C trials in two out of the four zones in each district every year. The experiments are laid out in randomly located fields in randomly selected villages in each of the 4 zones at the rate of one experiment per village (iii) (a) 1/40 ac. (b) 1/80 ac. (iv) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—contd. (b) No. (c) N.A. (v) As per design. (vi) and (vii) Nil.

5. RESULTS :

Treatment	0	p_1	p_2	p_1'	p_2'
Av. yield	469	584	667	584	724

G.M. = 606 lb./ac. S.E. = 29.1 lb./ac. and no. of trials = 9.

Crop :- Horse Gram. **Ref :- Ms. 59(SFT).**

Centre :- Bangalore (c.f.). **Type :- 'M'.**

Object—Type C :—To compare the responses of leguminous crops to alternative sources and levels of phosphate.

1. BASAL CONDITIONS to 4. GENERAL :

Same as in expt. no. 58 (SFT) type C on page 459 conducted at Bangalore.

5. RESULTS :

Treatment	p_0	p_1	p_2	p_1'	p_2'
Av. yiled	2806	2896	3300	3028	3333

G.M. = 3073 lb./ac. S.E. = 27.9 lb./ac. and no. of trials = 9.

Crop :- Horse Gram. **Ref :- Ms. 59(SFT).**

Centre :- Belgaum (c.f.). **Type :- 'M'.**

Object :—Type C—To compare the responses of leguminous crops to alternative doses of phosphate.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red and black soils. (iii) Nil. (iv) and (v) N.A. (vi) September—October 1959. (vii) Unirrigated. (viii) and (ix) N.A. (x) December 1959.

2. TREATMENTS :

3 doses of P_2O_5 as Super, 0=Control (no manure), p_1=30 and p_2=60 lb./ac.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 58(SFT) type C on page 459 condueted at Bangalore.

5. RESULTS :

Treatment	p_0	p_1	p_2
Av. yield	922	987	1103

G.M. = 1004 lb./ac. S.E. = 27.9 lb./ac. and no. of trials = 3.

Crop :- Horse Gram. **Ref :- Ms. 59(SFT).**

Centre :- Hassan (c.f.). **Type :- 'M'.**

Object :—Type C—To compare the responses of leguminous crops to alternative doses of phosphate.

1. BASAL CONDITIONS:

(i) (a) to (c) N.A. (ii) Red soil. (iii) Nil. (iv) and (v) N.A. (vi) September—October 1959. (vii) Unirrigated. (viii) and (ix) N.A. (x) December 1959.

2. TREATMENTS :

3 doses of P_2O_5 as Super : 0=control (no manure), p_1=30 and p_2=60 lb./ac.

3. DESIGN and 4. GENERAL:

Same as in expt. no. 58(SFT) type C on page 459 conducted at Bangalore.

5. RESULTS :

Treatment	0	p_1	p_2
Av. yield	741	946	1136

G.M. = 941 lb./ac. S.E. = 40.7 lb./ac. and no. of trials = 9.

Crop :- Horse Gram. **Ref :- Ms. 58(SFT).**

Centre :- Mandya (c.f.). **Type :- 'M'.**

Object :—Type C—To compare the responses of leguminous crops to alternative sources and levels of phosphate.

1, BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red soil. (iii) Nil. (iv) and (v) N.A. (vi) September—October 1958. (vii) Unirrigated. (viii) and (ix) N.A. (x) December 1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(SFT) type C on page 459 conducted at Bangalore.

5. RESULTS :

Treatment	0	p_1	p_2	p_1'	p_2'
Av. yield	1094	1210	1424	1218	1382

G.M. = 1266 lb./ac. S.E. = 33.2 lb./ac. and no. of trials = 11

Crop :- Horse Gram. **Ref :- Ms. 59(SFT).**

Centre :- Mandya (c.f.). **Type :- 'M'.**

Object :—Type C—To compare the responses of leguminous crops to alternative sources and levels of phosphate.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red soil. (iii) Nil. (iv) and (v) N.A. (vi) September—October 1959. (vii) Unirrigated. (viii) and (ix) N.A. (x) December 1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(SFT) type C on page 459 conducted at Bangalore.

5. RESULTS :

Treatment	0	p_1	p_2	p_1'	p_2'
Av. yield	510	675	773	691	790

G.M. = 688 lb./ac. S.E. = 16.3 lb./ac. and no. of trials = 3.

Crop :- Horse Gram. **Ref :- Ms. 59(SFT).**

Centre :- Mandya (c.f.). **Type :- 'M'.**

Object :—Type C—To compare the responses of leguminous crops to alternative doses of phosphate.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red soil. (iii) Nil. (iv) and (v) N.A. (vi) September—October, 1959. (vii) Unirrigated. (viii) and (ix) N.A. (x) December, 1959.

2. TREATMENTS :

3 doses of P_2O_5 as Super : 0=control (no manure), p_1=30 and p_2=60 lb./ac.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 58(SFT) type C on page 459 conducted at Bangalore.

5. RESULTS :

Treatment	0	p_1	p_2
Av. yield	1127	1382	1481

G.M. = 1330 lb./ac. ; S.E. = 47.1 lb./ac. and no. of trials = 5.

Crop :- Horse Gram. **Ref :- Ms. 59(SFT).**

Centre :- Mysore (c.f.). **Type :- 'M'.**

Object :—Type C—To compare the responses of leguminous crops to alternative sources and levels of phosphate.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red and black soil. (iii) Nil. (iv) and (v) N.A. (vi) September—October, 1959. (vii) Unirrigated. (viii) and (ix) N.A. (x) December, 1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(SFT) type C on page 459 conducted at Bangalore.

5. RESULTS :

Treatment	0	p_1	p_2	p_1'	p_2'
Av. yield	543	732	848	699	848

G.M. = 734 lb./ac. ; S.E. = 23.3 lb./ac. and no. of trials = 3.

Crop :- Horse Gram. **Ref :- Ms. 59(SFT).**

Centre :- Mysore (c.f.). **Type :- 'M'.**

Object :—Type C—To compare the responses of leguminous crops to alternative doses of phosphate.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red and black soil. (iii) Nil. (iv) and (v) N.A. (vi) September—October 1959. (vii) Unirrigated. (viii) and (ix) N.A. (v) December, 1959.

2. TREATMENTS :

3 doses of P_2O_5 as Super : 0=Control (no manure), p_1=30 and p_2=60 lb./ac.

3. DESIGN : and 4. GENERAL :

Same as in expt. no. 58(SFT) type C on page 459 conducted at Bangalore.

5. RESULTS :

Treatment	0	p_1	p_2
Av. yield	1531	2378	3472

G.M. = 2460 lb./ac. ; S.E. = 107.6 lb./ac. and no. of trials = 7.

Crop :- Bengal Gram. **Ref :- Ms. 59(SFT).**

Centre :- Belgaum (c.f.). **Type :- 'M'.**

Object :—Type C—To compare the responses of leguminous crops to alternative sources and levels of phosphate.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red and black soils. (iii) Nil. (iv) and (v) N.A. (vi) October, 1959. (vii) to (ix) N.A. (x) February—March, 1960.

2. TREATMENTS :

3 levels of P_2O_5 as Super : 0 =Control (no manure), p_1=30 and p_2=60 lb./ac.

3. DESIGN :

(i) and (ii) The district has been divided into four agriculturally homogeneous zones and one field assistant posted in each zone. The field assistant conducts the trials in one Revenue circle or thana in the zone and the circle/thana is changed once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year, 8 on *kharif* cereal, 8 on *rabi* cereal, 8 on cash crops, 4 on an oilseed crop and 3 on a leguminous crop. Half the number of trials conducted are of type A and the other half of type B on crops other than the legumes. The three trials on legumes are of type C. Residual effects of phosphate application are studied on type C trials in two out of the four zones in each district every year. The experiments are laid out in randomly located fields in randomly selected villages in each of the 4 zones at the rate of one experiment per village. (iii) (a) 1/40 ac. (b) 1/80 ac. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1959—contd. (b) No. (c) N.A. (v) As per design. (vi) and (vii) Nil.

5. RESULTS :

Treatment	0	p_1	p_2
Av. yield	189	395	411

G.M. = 332 lb./ac. ; S.E. = 15.7 lb./ac. and no. of trials = 3.

Crop :- Bengal Gram. **Ref :- Ms. 59(SFT).**

Centre :- North Kanara (c.f.). **Type :- 'M'.**

Object :—Type C—To compare the responses of leguminous crops to alternative sources and levels of phosphate.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Laterite and others. (iii) Nil. (iv) and (v) N.A. (vi) October, 1959. (vii) to (ix) N.A. (x) February—March, 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59(SFT) type C on page 463 conducted at Belgaum.

5. RESULTS :

Treatment	0	p_1	p_2
Av. yield	922	1012	1037

G.M. = 990 lb./ac. ; S.E. =12.8 lb./ac. and no. of trials = 3.

Crop :- Green Gram. **Ref :- Ms. 59(SFT).**

Centre :- South Kanara (c.f.). **Type :- 'M'.**

Object :—Type C—To compare the responses of leguminous crops to alternative sources and levels of phosphate.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Coastal alluvial. (iii) Nil. (iv) and (v) N.A. (vi) July, 1959. (vii) to (ix) N.A. (x) October, 1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59(SFT) type C on page 463 conducted at Belgaum on Bengal Gram crop.

5. RESULTS :

Treatment	0	p_1	p_2
Av. yield	1037	1037	1185

G.M. = 1086 lb./ac. ; S.E. = 47.1 lb./ac. and no. of trials = 3.

Crop :- Black Gram. **Ref :- Ms. 59(SFT).**

Centre :- South Kanara (c.f.). **Type :- 'M'.**

Object :—Type C—To compare the responses of leguminous crops to alternative sources and levels of phosphate.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Laterite and others. (iii) Nil. (iv) and (v) N.A. (vi) July, 1959. (vii) to (ix) N.A. (x) October, 1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59(SFT) type C on page 463 conducted at Belgaum on Bengal Gram crop.

5. RESULTS :

Treatment	0	p_1	p_2
Av. yield	1391	1621	1728

G.M. = 1580 lb./ac. ; S.E. = 59.3 lb./ac. and no. of trials = 7.

Crop :- Sugarcane. **Ref :- Ms. 54(146).**

Site :- Agri. Res. Stn., Alnavar. **Type :- 'M'.**

Object :—To find out long range effect of A/S and G.N.C. in different proportions on sugarcane (ratoon crop).

1. BASAL CONDITIONS :

(i) (a) Plantcane –Ratoon—Paddy. (b) Sugarcane. (c) 150 lb./ac. of N as per treatments. (ii) (a) Medium black soil. (b) Refer soil analysis, Alnavar. (iii) Ratoon of previous crop. (iv) (a) 1 light ploughing and 1 deep ploughing, 3 times clod crushing. (b) to (e) N.A. (v) Nil. (vi) CO—419 (early). (vii) Irrigated. (viii) Weeding. (ix) 42.32". (x) 17.1.1955.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of F.Y.M. : F_0=0 and F_1=10 C.L./ac.

(2) 150 lb./ac. of N as A/S and G.N.C. in three ratios : R_1=G.N.C. alone, R_2=1 : 2 and R_3=1 : 1. All manures applied at planting.

3. DESIGN :

(i) R B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) 38'×18'. (b) 30'×12'. (v) 4'×3'. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Slight attack of stem borer and top borer. Removed the affected shoots. (iii) Tiller count and cane yield. (iv) (a) 1950—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 25.30 tons/ac. (ii) 4.03 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	R_1	R_2	R_3	Mean
F_0	24.39	26.49	27.00	25.96
F_1	22.68	25.97	25.24	24.63
Mean	23.54	26.23	26.12	25.30

S.E. of F marginal mean = 1.04 tons/ac.
S.E. of R marginal mean = 1.27 tons/ac.
S.E. of body of table = 1.80 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 54(145).**

Site :- Agri. Res. Stn., Alnavar. **Type :- 'M'.**

Object :—To find the long range effect of A/S and G.N.C. in different proportions on Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Plantcane—Ratoon—Paddy. (b) Paddy. (c) 40 lb./ac. of N as A/S. (ii) (a) Medium black soil. (b) Refer soil analysis, Alnavar (iii) 11.2.1954 (iv) (a) One light ploughing, one deep ploughing, harrowing once and 3 times clod crushing. (b) Planting in furrows. (c) to (e) N.A. (v) Nil. (vi) CO—419 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 42.32". (x) 31.1.1955.

2. TREATMENTS and 3. DESIGN:

Same as in expt. no. 54(146) above.

4. GENERAL :

(i) Good. (ii) Slight attack of stem-borer and top-borer. Removed the affected shoots. Yellowing of chlorophyll and leaf-spot—No control measures were taken. (iii) Germination, tiller count and cane yield. (iv) (a) 1950—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 27.04 tons/ac. (ii) 2.98 tons./ac. (iii) None of the effects is significant. (iv) Av. yield of sugarcane. in tons/ac.

	R_1	R_2	R_3	Mean
F_0	26.70	27.69	26.29	26.89
F_1	28.28	25.05	28.23	27.19
Mean	27.49	26.37	27.26	27.04

S.E. of F marginal mean = 0.77 tons/ac.
S.E. of R marginal mean = 0.94 tons/ac.
S.E. of body of table = 1.33 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 55(94).**

Site :- Agri. Res. Stn., Alnavar. **Type :- 'M'.**

Object :—To find out long range effect of A/S and G.N.C. in different proportions on Sugarcane (ratoon) crop.

1. BASAL CONDITIONS :

(i) (a) Plantcane—Ratoon—Paddy. (b) Plantcane. (c) As per treatments. (ii) (a) Medium black soil. (b) Refer soil analysis, Alnavar. (iii) Ratoon of previous crop (iv) (a) One light ploughing, one deep ploughing and 3 times clod crushing (b) to (e) N.A. (v) Nil. (vi) CO—419 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 39.39". (x) 23.1.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(145) on page 465 except that the dose of N is 100 lb./ac.

5. RESULTS :

(i) 26.79 tons/ac. (ii) 2.66 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of cane in tons./ac.

	R_1	R_2	R_3	Mean
F_0	25.86	28.64	26.55	27.02
F_1	26 60	26.84	26.22	26.55
Mean	26.23	27.74	26.39	26.79

S.E. of R marginal mean = 0.84 tons/ac.
S.E. of F marginal mean = 0.69 tons/ac.
S.E. of body of table = 1.19 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 55(93).**

Site :- Agri. Res. Stn., Alnavar. **Type :- 'M'.**

Object :—To find out long range effect of A/S and G.N.C. in different proportions on Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Plantcane—Ratoon—Paddy. (b) Paddy. (c) 40 lb./ac. of N as A/S. (ii) (a) Medium black soil. (b) Refer soil analysis, Alnavar. (iii) 11.1.1955. (iv) (a) One light ploughing, one deep ploughing, clod crushing, opening furrows and one harrowing. (b) Dry planting in furrows. (c) to (e) N.A. (v) Nil. (vi) CO—419 (early). (vii) Irrigated. (viii) Weeding twice. (ix) 39.39". (x) 8.3.1956.

TREATMENTS :

A=N_1 as A/S, B=N_1 as A/S and G.N.C. in the ratio 2 : 1, C=N_1 as A/S and G.N.C. in the ratio 1 : 1, D=F_1+A, E=F_1+B, F=F_1+C, G=F_2+A, H=D+100 lb./ac. of P_2O_5 as Super, I=F_2+300 lb./ac. of N as A/S and J=F_1+300 lb./ac. of N as A/S+100 lb./ac. of P_2O_5 as Super.
Where N_1=150 lb./ac. of N, F_1=10 C.L./ac. of F.Y.M. and F_2=15 C.L./ac. of F.Y.M.
In all the treatments N is applied in 3 equal doses at (i) Planting. (ii) Ist week of May. (iii) Earthing up. P_2O_5 is applied in a single dose at planting in furrows 4" deep.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 3. (iv) (a) 38'×18'. (b) 30'×12'. (v) 4'×3'. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Stem-borer, top borer, slight pyrilla—Removing affected shoots and spraying D.D.T. Yellowing of chlorophyll, leaf-spot—no control measures taken. (iii) Bicmetric observations and cane yield. (iv) (a) 1950—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 31.86 tons/ac. (ii) 4.75 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in tons/ac.

Treatment	A	B	C	D	E	F	G	H	I	J
Av. yield	27.82	25.94	29.19	28.49	34.98	33.26	31.75	33.93	36.00	37.22

S.E./mean = 2.74 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 56(8).**

Site :- Agri. Res. Stn., Alnavar. **Type :- 'M'.**

Object :—To find out long range effect of A/S and G.N.C. in different proportions on Sugarcane (ratoon) crop.

1. BASAL CONDITIONS :

(i) (a) Ratoon—Paddy—Plantcane. (b) Sugarcane. (c) As per treatments. (ii) (a) Medium black soil. (b) Refer soil analysis, Alnavar. (iii) Ratoon of previous year. (iv) Planting, clod crushing opening furrows etc. (b) to (e) N.A. (v) Nil. (vi) CO—419 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 60.11". (x) 24.1.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(93) on page 466.
N is applied in 2 equal doses (i) At 1st irrigation. (ii) At earthing. P_2O_5 is applied in a single dose at first irrigation 3" deep.

5. RESULTS :

(i) 17.98 tons/ac. (ii) 2.99 tons/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	A	B	C	D	E	F	G	H	I	J
Av. yield	16.91	20.25	16.52	16.12	19.48	13.91	14.41	18.87	16.53	26.82

S.E /mean = 1.73 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 56(6).**

Site :- Agri. Res. Stn., Alnavar. **Type :- 'M'.**

Object :—To find out long range effect of A/S and G.N.C. in different proportions on Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—Ratoon—Paddy. (b) Paddy. (c) 40 lb./ac. of N as A/S. (ii) (a) Medium black soil. (b) Refer soil analysis, Alnavar. (iii) 10.2.1956. (iv) (a) Ploughing, clod crushing, and opening furrows etc. (b) to (e) N.A. (v) Nil. (vi) CO—419 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 60.11". (x) 8.3.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(93) on page 466.

5. RESULTS :

(i) 16.59 tons/ac. (ii) 2.61 tons/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	A	B	C	D	E	F	G	H	I	J
Av. yield	13.43	14.00	13.02	11.07	14.78	15.80	15.48	22.44	18.59	27.95

S.E./mean other than I = 1.51 tons/ac.
S.E./mean of I (2 replication) = 1.85 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 57(105).**

Site :- Agri. Res. Stn., Alnavar. **Type :- 'M'.**

Object :—To find out long range effect of A/S and G.N.C. in different proportions on Sugarcane (ratoon) crop.

1. BASAL CONDITIONS :

(i) (a) Plant cane—Ratoon—Paddy. (b) Paddy. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Alnavar. (iii) Ratoon crop. (v) (a) Ploughing. (b) Planted in furrows. (c) 10,000 setts/ac. (d) 3′×2′. (e) One sett only. (v) Nil. (vi) CO—419. (vii) Irrigated. (viii) 1 weeding. (ix) 62.87″. (x) 19.2.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(93) on page 466.
Method of application of N and P_2O_5 is N.A.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Height, no. of tillers, girth and cane yield. (iv) (a) 1950—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 21.91 tons/ac. (ii) 2.50 tons/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of cane in tons/ac.

Treatment	A	B	C	D	E	F	G	H	I	J
Av. yield	19.79	21.05	20.92	21.28	21.13	19.00	21.20	28.43	19.74	26.60

S.E./mean = 1.44 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 57(103).**

Site :- Agri. Res. Stn., Alnavar. **Type :- 'M'.**

Object :—To find out long range effect of A/S and G.N.C. in different proportions on Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—Ratoon—Paddy. (b) Paddy. (c) N A. (ii) (a) Med ium black soil. (b) Refer soil analysis, Alnavar. (iii) N.A. (iv) (a) Ploughing and clod crushing. (b) Planted in furrows. (c) 10,000 setts/ac. (d) 3′×2′. (e) 1 sett only. (v) Nil. (vi) CO—419. (vii) Irrigated. (viii) 1 weeding. (ix) 62″. (x) 23.2.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(93) on page 446.
Method of application of N and P_2O_5 is N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height, no. of tillers, girth and cane yield. (iv) (a) 1950—1959. (b) No (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 21.99 tons/ac. (ii) 4.84 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of cane in tons/ac.

Treatment	A	B	C	D	E	F	G	H	I	J
Av. yield	21.89	18.10	19.61	21.82	21.09	21.77	15.43	28.64	22.81	28.77

S.E./mean = 2.79 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 58(69).**

Site :- Agri. Res. Stn., Alnavar. **Type :- 'M'.**

Object :—To find out long range effect of A/S and G.N C. in different proportions on Sugarcane (ratoon).

1. BASAL CONDITIONS :

(i) (a) Plantcane—Ratoon—Paddy. (b) Sugarcane. (c) As per treatment. (ii) (a) Medium black. (b) Refer soil analysis, Alnavar. (iii) 25.1.1958. (iv) (a) Ploughing, harrowing, opening ridges and furrows. (b) Planted in furrows. (c) 10,000 setts/ac. (d) 3'×2'. (e) 1 sett. (v) Nil. (vi) CO—419. (vii) Irrigated. (viii) 1 weeding. (ix) 62.49". (x) 29.1.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(93) on page 466.
Method of application of N and P_2O_5 is N.A.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Height, no. of tillers, girth and cane yield. (iv) (a) 1950—1959. (b) No. (c) (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 18.71 tons/ac. (ii) 4.72 tons/ac. (iii) Treatment difference are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	A	B	C	D	E	F	G	H	I	J
Av. yield	18.37	16.38	14.96	19.69	17.05	18.92	13.42	25.08	19.58	23.65

S.E./mean = 2.73 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 58(70).**

Site :- Agri. Res. Stn., Alnavar. **Type :- 'M'.**

Object :—To find out long range effect of A/S and G.N.C. in different proportions on Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—Ratoon—Paddy. (b) Paddy. (c) N.A. (ii) (a)Medium black soil. (b) Refer soil analysis, Alnavar. (iii) 23.1.1958. (iv) (a) Ploughing, clod crushing, levelling and opening ridges and furrows. (b) Planted in furrows. (c) 10,000 setts/ac. (d) 2'×3'. (e) 1 sett only. (v) Nil. (vi) CO—419. (vii) Irrigated. (viii) 1 weeding. (ix) 62.49". (x) 27.1.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(93) on page 466.
Method of application of N and P_2O_5 is N.A.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Height, no. of tillers and cane yield. (iv) (a) 1950—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 18.02 tons/ac. (ii) 3.75 tons/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	A	B	C	D	E	F	G	H	I	J
Av. yield	11.33	15.62	16.17	12.43	17.71	19.58	14.63	27.83	16.83	28.05

S.E./mean = 2.17 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 59(106).**

Site :- Agri. Res. Stn., Alnavar. **Type :- 'M'.**

Object :—To find out long range effect of A/S and G.N.C. in different proportions on Sugarcane (ratoon).

1. BASAL CONDITIONS :

(i) (a) Paddy—Plantcane—Ratoon. (b) Plantcane. (c) As per treatments. (ii) (a) Medium black soil. (b) Refer soil analysis, Alnavar. (iii) N.A. (iv) (a) Ploughing between lines. (b) Planted in furrows. (c) 10,000 setts/ac. (d) 3′ between lines. (e) N.A. (v) Nil. (vi) CO—419. (vii) Irrigated. (viii) Nil. (ix) 67.54″. (x) 2 to 7.2.1960.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(93) on page 466.
N applied in 2 doses and P_2O_5 given before ploughing.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height, tillers and yield of cane. (iv) (a) 1950—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 11.45 tons/ac. (ii) 1.59 tons/ac. (iii) Treatment differences are significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	A	B	C	D	E	F	G	H	I	J
Av. yield	8.95	10.59	10.37	8.77	11.89	12.99	12.84	14.14	12.28	11.63

S.E./mean = 0.92 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 59(107).**

Site :- Agri. Res. Stn., Alnavar. **Type :- 'M'.**

Object :—To find out long range effect of A/S and G.N.C. in different proportions on Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Paddy—Plantcane—Ratoon. (b) Paddy. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Alnavar. (iii) 6.2.1959. (iv) (a) Ploughing, clod crushing and levelling. (b) Planted in furrows. (c) 10,000 setts/ac. (d) 3′ between lines. (e) N.A. (v) Nil. (vi) CO—419. (vii) Irrigated. (viii) Loosening the soil with hands, interculturing and earthing up with the ridges. (ix) 67.54″. (x) 8 to 20.2.1960.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(93) on page 466.

4. GENERAL :

(i) Satisfactory. (ii) Grass hoppers controlled by dusting Gammexane. (iii) Height, tillers, girth, no. of internodes and yield of cane. (iv) (a) 1950—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 12.69 tons/ac. (ii) 1.10 tons/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	A	B	C	D	E	F	G	H	I	J
Av. yield	11.45	11.06	13.71	10.07	13.04	12.07	11.94	16.62	11.35	15.63

S.E./mean = 0.64 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 56(7).**

Site :- Agri. Res. Stn., Alnavar. **Type :- 'M'.**

Object :—To find out suitable doses of N and P for Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 40 lb./ac. of N as A/S. (ii) (a) Medium black soil. (b) Refer soil analysis, Alnavar (iii) 7 2.1956. (iv) (a) Ploughing, breaking clods and opening furrows, etc. (b) to (e) N.A. (v) 10 C.L./ac. of F.Y.M. in furrows at the time of planting. (vi) CO—419 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 60.11". (x) 15.3.1957.

2. TREATMENTS :

6 manurial treatments : A=P_1+N_1, B=P_1+N_2, C=P_2+N_1, D=P_2+N_2, E=N_1+100 lb./ac. of P_2O_5 as B.M., and F=$P_1+N_1+\frac{1}{2}$ ton/ac. of lime.

N_1=150 and N_2=200 lb./ac. of N as A/S and G.N.C. in equal ratio each applied in 3 doses.

P_1=100 and P_2=150 lb./ac. af P_2O_5 as Super each applied in 2 equal doses (i) at planting (ii) at earthing up.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 38'×18'. (b) 30'×12'. (v) 4'×3'. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Stem-borer, top-borer and pyrilla noticed. Removed the affected shoots and D.D.T. was sprayed Yellowing of chlorophyll and leaf spot—no control measures taken. (iii) Germination count, tillering count, botanical observations and cane yield. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 25.39 tons/ac. (ii) 2.46 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of cane in lb./ac.

Treatment	A	B	C	D	E	F
Av. yield	25.43	23.97	25.64	28.24	23.79	25.25

S.E./mean = 1.23 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 57(104).**

Site :- Agri. Res. Stn., Alnavar. **Type :- 'M'.**

Object :—To find out suitable doses of N and P for Sugarcane.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Paddy. (c) 40 lb./ac. of N+40 lb./ac. of P_2O_5. (ii) (a) Medium black soil. (b) Refer soil analysis, Alnavar. (iii) N.A. (iv) (a) Ploughing and clod crushing. (b) Planted in furrows. (c) 10,000 setts/ac. (d) 3'×2'. (e) One sett only. (v) 10 C.L./ac. of F.Y.M. (vi) CO—419. (vii) Irrigated. (viii) 1 weeding. (ix) 62". (x) 27.2.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(7) above.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height, no. of tillers, girth and cane yield. (iv) (a) 1956—1959. (b) No. (c). Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 30.68 tons/ac. (ii) 3.00 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcnae in tons/ac.

Treatment	A	B	C	D	E	F
Av. yield	29.39	30.80	32.18	31.22	30.36	30.11

S.E./mean = 1.50 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 58(71).**

Site :- Agri. Res. Stn., Alnavar. **Type :- 'M'.**

Object :—To find out suitable doses of N and P for Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) Top-dressing with 40 lb./ac. of N+40 lb./ac. of P_2O_5. (ii) (a) Medium black soil. (b) Refer soil analysis, Alnavar. (iii) 24.1.1958. (iv) (a) Ploughing, clod crushing and opening ridges and furrows. (b) Planted in furrows. (c) 10,000 to 11,000 setts/ac. (d) 3′×2′. (e) 1. (v) 10 C.L./ac. of F.Y.M. (vi) CO—419. (vii) Irrigated. (viii) Weeding. (ix) 62.49″. (x) 23.1.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(104) on page 471.

5. RESULTS :

(i) 28.73 tons/ac. (ii) 3.17 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	A	B	C	D	E	F
Av. yield	27.00	27.66	28.76	31.74	27.70	29.50

S.E./mean = 1.59 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 59(105).**

Site :- Agri. Res. Stn., Alnavar. **Type :- 'M'.**

Object :—To find out suitable doses of N and P for Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—Paddy—Sugarcane. (b) Paddy. (c) Top-dressing with 40 lb./ac. of N+40 lb./ac. of P_2O_5. (ii) (a) Medium black soil. (b) Refer soil analysis, Alnavar. (iii) 3.2.1959. (iv) (a) Ploughing, clod crushing and opening ridges and furrows. (b) Planted in furrows. (c) 10,000 setts/ac. (d) 3′ between lines. (e) —. (v) 10 C.L./ac. of F.Y.M. applied in furrows before planting. (vi) CO—419. (vii) Irrigated. (viii) Loosening the soil, cultivation and weeding. (ix) 67.54″. (x) 20 to 27.2.1960.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(7) on page 471.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height, no. of tillers, girth and cane yield. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 16.50 tons/ac. (ii) 1.35 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	A	B	C	D	E	F
Av. yield	17.55	16.83	16.68	16.24	15.86	15.85

S.E./mean = 0.68 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 54(147).**

Site :- Agri. Res. Stn., Alnavar. **Type :- 'M'.**

Object :—To find out the response of sugarcane to P.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—Paddy—Sugarcane. (b) Paddy. (c) 40 lb./ac. of N as A/S. (ii) (a) Medium black soil. (b) Refer soil analysis, Alnavar. (iii) 10.2.1954. (iv) (a) One light ploughing, one deep ploughing, clod crushing, one harrowing, and opening furrows. (b) Dry planting in furrows. (c) to (e) N.A. (v) 10 C L./ac. of F.Y.M. at planting in furrows. (vi) CO—419 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 42.32". (x) 6.3.1955.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 levels of N as A/S and G.N.C. in equal proportions applied in 3 equal doses (i) at planting (ii) in 1st week of May and (iii) in 1st week of June : N_1=150, N_2=225 and N_3=300 lb./ac.

(2) 2 levels of P_2O_5 as Dical. Phos. : P_0=0 and P_1=100 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 38'×18'. (b) 30'×12'. (v) 4'×3'. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Slight attack of top-borer, stem-borer and pyrilla-Removed the affected shoots and spraying D.D.T. Yellowing of chlorophyll and leaf-spot—no control measures were taken. (iii) Germination and tillering count, botanical observations and cane yield. (iv) (a) 1953—1955. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 27.34 tons/ac. (ii) 2.30 tons/ac. (iii) Effects of N and P are highly significant. Interaction N×P is not significant. (iv) Av. yield of cane in tons./ac.

	N_1	N_2	N_3	Mean
P_0	20.93	24.13	27.86	24.31
P_1	28.16	30.77	32.16	30.36
Mean	24.55	27.45	30.01	27.34

S.E. of N marginal mean = 0.81 tons/ac.
S.E. of P marginal mean = 0.66 tons/ac.
S.E. of body of table = 1.15 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 55(95).**

Site :- Agri. Res. Stn., Alnavar. **Type :- 'M'.**

Object :—To find out the response of Sugarcane to P.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—Paddy—Sugarcane. (b) Paddy. (c) 40 lb./ac. of N as A/S. (ii) (a) Medium black soil. (b) Refer soil analysis, Alnavar. (iii) 10.1.1955. (iv) (a) One light ploughing, one deep ploughing, 3 to 4 times clod crushing, opening furrows and one harrowing. (b) Dry planting in furrows. (c) to (e) N.A. (v) 10 C.L./ac. of F.Y.M. applied in furrows at the time of planting. (vi) CO—419 (early). (vii) Irrigated. (viii) Weeding twice. (ix) 39.39". (x) 8.3.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(147) on page 472.

5. RESULTS :

(i) 38.86 tons/ac. (ii) 3.86 tons./ac. (iii) Effect of P is highly significant. (iv) Av. yield of cane in tons./ac.

	N_1	N_2	N_3	Mean
P_0	32.36	33.63	35.36	33.78
P_1	40.23	44.72	46.84	43.93
Mean	36.29	39.18	41.10	38.86

S.E. of P marginal mean = 1.11 tons/ac.
S.E. of N marginal mean = 1.36 tons/ac.
S.E. of body of table = 1.93 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 57(106).**

Site :- Agri. Res. Stn., Alnavar. **Type :- 'M'.**

Object :- To find out the effect of trace elements, N, P and K on deteriorated seed.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—Paddy—Sugarcane. (b) Paddy. (c) Top dressed with 40 lb./ac. of N+40 lb./ac. of P_2O_5. (ii) (a) Medium black soil. (b) Refer soil analysis, Alnavar. (iii) N.A. (iv) (a) Ploughing and clod crushing. (b) Planted in furrows. (c) 10,000 setts/ac. (d) 3'×2'. (e) 1. (v) 150 lb./ac. of N as A/S and G.N.C. in 1 : 1 ratio. (vi) CO—419. (vii) Irrigated. (viii) Weeding. (ix) 62.87". (x) 2.3 1958.

2. TREATMENTS :

A=Second year seed, B=Deteriorated seed, C=B+150 lb./ac. of P_2O_5, D=B+200 lb./ac. of K_2O, E=D+150 lb./ac. of P_2O_5, F=E+Minor elements, G=B+Minor elements and H=B+1 ton/ac. of lime. Treatments A to E received 10 C.L./ac. of F.Y.M. also.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) 120'×63'. (iii) 2. (iv) (a) 30'×15'. (b) 24'×9'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Height, no. of tillers, girth and cane yield. (iv) (a) 1957—1959. (b) No. (c) Nil (v) to (vii) Nil.

5. RESULTS :

(i) 33.16 tons/ac. (ii) 1.53 tons/ac. (iii) Treatment differences are significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	A	B	C	D	E	F	G	H
Av. yield	33.02	33.53	34.50	39.64	27.20	36.26	32.10	29.04

S.E./mean = 1.08 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 58(72).**

Site :- Agri. Res. Stn., Alnavar. **Type :- 'M'.**

Object :—To find out the effect of N, P, K and trace elements on deteriorated seed.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—Paddy—Sugarcane. (b) Paddy. (c) Top dressed with 40 lb./ac. of N+40 lb./ac. of P_2O_5. (ii) (a) Medium black soil. (b) Refer soil analysis, Alnavar. (iii) 15.2.1958. (iv) (a) Ploughing, clod crushing, planting, opening ridges and furrows, etc. (b) Planted in furrows. (c) 10,000 to 11,000 setts/ac. (d) 3'×2'. (e) 1. (v) As per treatments. (vi) CO—419. (vii) Irrigated. (viii) Weeding. (ix) 62.49". (x) 13 to 15.2.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(106) on page 474.

5. RESULTS :

(i) 29.52 tons/ac. (ii) 3.32 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	A	B	C	D	E	F	G	H
Av. yield	23.94	27.46	30.50	27.64	31.35	38.95	28.60	27.74

S.E./mean = 2.35 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 59(104).**

Site :- Agri. Res. Stn., Alnavar. **Type :- 'M'.**

Object :—To find out the effect of N, P, K and trace elements on deteriorated seed.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 40 lb./ac. of N+40 lb./ac. of P_2O_5. (ii) (a) Medium black soil. (b) Refer soil analysis, Alnavar. (iii) 13 to 25.1.1959. (iv) (a) Ploughing, clod crushing and opening ridges. (b) Planted in furrows. (c) 10,000 setts/ac. (d) 3' between rows. (e) N.A. (v) 150 lb./ac. of N as A/S and G.N.C. in the ratio 1 : 1. (vi) CO—419. (vii) Irrigated. (viii) Loosening the soil, and light earthing up with cultivator. (ix) 67.54". (x) 1 to 8.3.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(106) on page 474.

5. RESULTS :

(i) 17.37 tons/ac. (ii) 2.41 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	A	B	C	D	E	F	G	H
Av. yield	15.98	15.44	16.16	16.34	20.31	21.92	15.94	16 88

S.E./mean = 1.70 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 58(156).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'M'.**

Object :—To study the effect of N, P and K on Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Maize—Sannhemp. (c) 30 lb./ac. of N+20 lb./ac. of P_2O_5+5 C.L./ac. of F Y.M. (ii) (a) Brown sandy loam. (b) N.A. (iii) 13, 14.1.1958. (iv) (a) Ploughing and harrowing. (b) By furrows end to end planting. (c) 12,000 setts/ac. (d) 3½' between rows. (e) 2 to 3. (v) 15 C.L./ac of F.Y.M. (vi) CO—419. (vii) Irrigated. (viii) Interculturing and hand weeding. (ix) 14.1". (ix) 30.1.1959 to 2.2.1959.

2. TREATMENTS :

4 manurial treatments : M_1=200 lb./ac. of N as A/S, M_2=M_1+75 lb./ac. of P_2O_5 as Super, M_3=M_1+75 lb./ac. of K_2O as K_2SO_4 and M_4=M_3+75 lb./ac. of P_2O_5 as Super.

P_2O_5 was applied along with F.Y.M. at planting. K_2O also at planting. N applied in 4 equal doses (i) at planting, (ii) 8 weeks after planting, (iii) 16 weeks after planting and (iv) at earthing up.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 34'×14'. (b) 34'×7'. (v) One row on either side. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Germination count and yield of cane. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 30.91 tons/ac. (ii) 7.40 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in lb./ac.

Treatment	M_1	M_2	M_3	M_4
Av. yield	32.73	32.39	30.14	28.37

S.E./mean = 3.02 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 55(128).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To find out the manurial requirements of Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) N.A. (c) No. (ii) (a) Black clayey. (b) N.A. (iii) 16 to 18.2.1955. (iv) (a) 2 to 3 deep ploughings and 4 to 5 harrowings. (b) to (e) N.A. (v) Nil. (vi) CO—419 (early). (vii) Irrigated. (viii) 2 earthings, 2 top dressings as per treatments and weeding 3 to 4 times. (ix) 36.16". (x) 10,1.1956 to 28.2.1956.

2. TREATMENTS :

10 manurial treatments : M_0=Control (no manure), $M_1=N_1$, $M_2=N_2$, $M_3=N_1P_2$, $M_4=N_1P_3$, $M_5=N_2P_2$ $M_6=N_2P_3$, $M_7=N_1P_1K_1$, $M_8=N_2P_2K_2$ and $M_9=N_2P_3K_3$.

Where N_1=150 and N_2=300 lb /ac. of N as G.N.C. and A/S in the ratio 3 : 1. 50% of the mixture applied at planting and the remainder in 2 equal doses at 1st and 2nd earthings. P_1=75, P_2=150 and P_3=300 lb./ac. of P_2O_5 as Super applied at planting, K_1=75, K_2=150 and K_3=300 lb./ac. of K_2O as K_2SO_4 applied at planting.

3. DESIGN :

(i) R.B D. (ii) (a) 10. (b) N.A. (iii) 3. (iv) (a) and (b) 21'×45'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield data. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 27.89 tons/ac. (ii) 3.80 tons/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8	M_9
Av. yield	12.88	25.64	25.03	25.75	26.89	32.85	33.92	26.71	31.91	37.32

S E./mean = 2.19 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 55(209).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To find out the effect of growing G.M. crop in standing crop of Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) 10 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 22.1.1955. (iv) (a) Ploughing, harrowing and levelling. (b) End to end planting. (c) 10,000 setts/ac (d) Rows 3' apart. (e) One sett. (v) 10 C.L./ac. of F.Y.M. (vi) CO—419. (vii) Unirrigated. (viii) Weeding and burying the G.M. (ix) 25.0". (x) 8 to 12.1.1956.

2. TREATMENTS :

T_1=No green manuring and T_2=Green manuring.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 9. (iv) (a) 33′×33′. (b) 27′×27′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) No. and length of internodes, and yield of sugarcane. (iv) (a) 1955—1956. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 28.32 tons/ac. (ii) 3.13 tons/ac. (iii) Treatment difference is not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	T_1	T_2
Av. yield	28.64	28.00

S.E./mean = 1.04 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 56(167).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To find out the effect of growing G.M. crop in a standing crop of Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) 10 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 30, 31.1.1956. (iv) (a) Ploughing, harrowing and levelling. (b) End to end planting. (c) 10,000 setts/ac. (d) Row to row 3′. (e) 1. (v) 10 C L./ac. of F.Y.M. (vi) CO—419. (vii) Unirrigated. (viii) Top dressing, weeding and buying G.M. (ix) 65.0″. (x) 9 to 11, 22, 24.1.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(209) on page 476.

5. RESULTS :

(i) 35.20 tons/ac. (ii) 6.10 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	T_1	T_2
Av. yield	36.08	34.32

S.E./mean = 2.03 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 58(114).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To find out the suitable dose of N, P and K for Sugarcane in transmission tract.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 20 lb./ac. of N+20 lb./ac. P_2O_5+3 C.L./ac. of F Y.M. (ii) (a) Red soil. (b) Refer soil analysis, Dharwar. (iii) 21st to 26th Jan. 1958. (iv) (a) Ploughing and clod crushing. (b) Planted in furrows. (c) 12,000 setts/ac. (d) Ridges 3′ apart. (e) One set only. (v) 250 lb./ac. of N. (vi) CO—419. (vii) Unirrigated. (viii) Weeding twice. (ix) 98.5″ (x) Feb. 1959.

2. TREATMENTS :

7 manurial treatments : M_1=N, M_2=N+K_1, M_3=N+P_1, M_4=N+P_1+K_1, M_5=N+P_2, M_6=N+P_2 +K_1 and M_7=N+P_2+K_2.

where N=150 lb./ac. P_1=75 and P_2=150 lb./ac. of P_2O_5, K_1=150 and K_2=300 lb./ac of K_2O.

P_2O_5 to be applied in 2 equal doses (i) At planting and (ii) At earthing, K_2O to be applied in full at planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) 36′×36′. (b) 30′×24′. (v) 3′×6′. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Height of plants and yield of cane. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 40.51 tons/ac. (ii) 4.66 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of Sugarcane in tons/ac.

Treatment	M_1	M_2	M_3	M_4	M_5	M_6	M_7
Av. yield	38.77	42.23	41.16	38.31	40.78	38.91	43.38

S.E./mean = 2.33 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 59(209).**

Site :- Sugarcane Res. Stn., Gangavathy. **Type :- 'M'.**

Object :—To find the optimum requirements of N, P and K for Sugarcane.

1. BASAL CONDITIONS :

(i) and (ii) N.A. (iii) 8.4.1959. (iv) (a) to (e) N.A. (v) N.A. (vi) CO—419. (vii) to (ix) N.A. (x) 15.4.1960.

2. TREATMENTS :

All combinations of (1), (2) and (3)
(1) 3 levels of N as A/S : N_1=150, N_2=225 and N_3=300 lb./ac.
(2) 3 levels of P_2O_5 as Super : P_0=0, P_1=50 and P_2=100 lb./ac.
(3) 3 levels of K_2O as potash : K_0=0, K_1=75 and K_2=150 lb./ac.

3. DESIGN :

(i) 3^3 contd. (ii) (a) 9. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 30′×15′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) N.A. (iii) Yield of Cane. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) No details are available being the first year.

5. RESULTS :

(i) 25.10 tons/ac. (ii) 8.70 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of sugarcane in tons/ac.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_1	22.47	26.39	22.12	23.66	26.42	24.66	19.90
N_2	23.48	21.61	25.41	23.50	25.00	23.56	21.94
N_3	25.72	32.23	26.44	28.13	28.88	29.71	25.80
Mean	23.89	26.74	24.66	25.10	26.77	25.98	22.55
K_0	23.68	28.07	28.56				
K_1	24.98	28.27	24.68				
K_2	23.01	23.89	20.73				

S.E. of any marginal mean = 1.64 tons/ac.
S.E. of body of any table = 2.90 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 59(206).**

Site :- Sugarcane Res. Stn., Gangavathi. **Type :- 'M'.**

Object :—To study the effect of organic manure on the yield of Sugarcane.

1. BASAL CONDITIONS :

(i) and (ii) N.A. (iii) 8.4.1959. (iv) and (v) N.A. (vi) CO—419. (vii) to (ix) N.A. (x) 15.4.1960.

2. TREATMENTS :

10 manurial treatments : M_1=Control (no manure), M_2=20 C.L./ac. of F.Y.M., M_3=N, P and K equivalent of M_2 in inorganic form, M_4=M_2+M_8, M_5=M_3+M_8, M_6=10 C.L./ac. of F.Y.M.+M_8+N, P and K equivalent of $\frac{1}{2}$ of M_2 in inorganic form, M_7=M_8+5 C.L./ac. of F.Y.M,+N, P and K equivalent of $\frac{1}{2}$ of M_2 in inorganic form, M_8= 300 lb./ac. of N+75 lb./ac. of P_2O_5+100 lb./ac. of K_2O as top dressing, M_9=M_8 with N as A/S and G.N.C. in 1 : 1 ratio and M_{10}=M_2+N_9.

(M_3=156 lb./ac. of N+112 lb./ac. of P_2O_5+224 lb./ac. of K_2O).

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 40′×18′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) N.A. (iii) Yield of cane. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 12.86 tons/ac. (ii) 4.94 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of cane in tons/ac.

Treatment	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8	M_9	M_{10}
Av. yield	5.41	10.23	13.51	13.16	14.26	15.10	13.41	13.22	15.06	15.21

S.E./mean = 2.47 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 54(60).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To find the effect of placement of Super on the yield of Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 15 C.L./ac. of F.Y.M. (ii) (a) Sandy loam mixed with clay. (b) N.A. (iii) 13.3.1954. (iv) (a) 3 ploughings. (b) to (d) N.A. (e) 1. (v) 40 C.L./ac. of compost+3 cwt./ac. of A/S+ 1 ton/ac. of G.N.C. (vi) HM—320 (medium). (vii) Irrigated. (viii) Weeding, 2 earthings and wrapping. (ix) 26.55″. (x) 10 to 15.3.1955.

2. TREATMENTS :

4 depths of placement of 2 cwt./ac. of Super : D_0=Control (no Super), D_1=at surface, D_2=3″ deep and D_3=6″ deep.

3. DESIGN :

(i) R.B D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 1/40 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of sugarcane. (iv) (a) 1950—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 24.30 tons/ac. (ii) 4.50 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	D_0	D_1	D_2	D_3
Av. yield	24.3	24.9	24.4	23.5

S.E./mean = 2.01 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 56(103).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To find out the effect of placement of Super on the yield of Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L./ac. of F.Y.M +40 lb./ac. of A/S+112 lb./ac. of G.N.C.+56 lb./ac. of Super. (ii) (a) Sandy loam to clay loam. (b) N.A. (iii) 6.3.1956. (iv) (a) 4 ploughings, discing once, passing cultivator once, opening furrows by ridger and deepening the furrows, to suit the expt. (b) Planted in furrows. (c) 10,000 to 11,000 setts/ac. (d) 3′×2′. (e) 1. (v) 20 C.L./ac. of F.Y.M.+3 cwt./ac. of A/S+1 ton/ac. of G.N.C. powder. (vi) HM−320 (medium). (vii) Irrigated. (viii) 2 weedings and 2 earthings. (ix) 35.01″. (x) 26.3 1957 to 16.4.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt no. 54(60) on page 479.

5. RESULTS :

(i) 22.19 tons/ac. (ii) 2.23 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	D_0	D_1	D_2	D_3
Av. yield	21.96	22.41	22.03	22.37

S.E./mean = 1.02 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 57(77).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To find out effect of placement of Super at different depths on Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sweet Potato. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Sandy to clay loam. (b) N.A. (iii) 8.3.1957. (iv) (a) 4 ploughings, discing once, passing cultivator once, opening furrows by ridger, deepening the furrows as required in the experiment. (b) Planted in furrows. (c) 10,000 to 11,000 setts/ac. (d) 3′×2′. (e) 1. (v) 4 C.L./ac. of F.Y.M +168 lb./ac. of A/S+560 lb /ac. of G.N.C.+36 lb./ac. of Super. (vi) HM—320. (vii) Irrigated. (viii) 2 weedings and 2 earthings. (ix) 22.74″. (x) 15, 23.4.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(60) on page 479.

5. RESULTS :

(i) 26.39 tons/ac. (ii) 2.89 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	D_0	D_1	D_2	D_3
Av. yield	26.23	26.90	26.94	25.50

S.E./mean = 1.29 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 54(59).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To compare the effect of N in the form of liquid Ammonia and A/S.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 15 C.L./ac. of F.Y.M. (ii) (a) Sandy loam mixed with clay. (b) N.A. (iii) 25.3.1954. (iv) (a) 3 ploughings. (b) to (d) N.A. (e) One. (v) 20 C.L./ac. of compost+2 cwt./ac. of Super+75 lb./ac. of N as G.N.C. (vi) HM—320 (medium). (vii) Irrigated. (viii) Weeding, 2 earthings and wrapping. (ix) 26.55″. (x) 17, 18.3.1955.

2. TREATMENTS :

3 manurial treatments : M_1=300 lb./ac. of N as liquid Ammonia (in 4 divided doses), M_2=150 lb./ac. of N as liquid Ammonia (½ at planting and ½ after 6 weeks of planting)+150 lb./ac. of N as G.N.C. (12 weeks after planting) and M_3=150 lb./ac. of N as A/S (½ at planting and ½ after 6 weeks of planting)+150 lb./ac. of N as C.N.C. (12 weeks after planting).

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 5. (iv) (a) and (b) 42′×27′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of sugarcane. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 17.1 tons/ac. (ii) 3.60 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	M_1	M_2	M_3
Av. yield	19.5	16.9	14.8

S.E./mean = 1.61 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 56(102).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To compare the effects of N as A/S and liquid Ammonia.

1. BASAL CONDITIONS :

(i) (a) Nil (b) Paddy. (c) 4000 lb /ac. of F.Y.M.+40 lb./ac. of A/S+112 lb./ac. of G.N.C. powder+56 lb./ac. of Super. (ii) (a) Sandy to clay loam. (b) N.A. (iii) 14.3.1956. (iv) (a) 4 ploughings, discing once, opening furrows by ridger to the required depth in the experiment. (b) Planted in furrows. (c) 10,000 to 11,000 setts/ac. (d) 3′×2′. (e) 1. (v) 20 C.L./ac. of F.Y.M.+2 cwt/ac. of Super applied at planting+1 ton/ac. of G.N.C. powder(½ at light earthing and ½ at final earthing). (vi) HM—320 (medium) (vii) Irrigated. (viii) 2 weedings and 2 earthings. (ix) 35.01". (x) 6.3.1957 to 30.4.1957.

2. TREATMENTS :

A=56 lb./ac. of liquid Ammonia 1 day before planting+28 lb./ac. of liquid Ammonia at light earthing up and B=2 cwt/ac. of A/S at planting+1 cwt/ac. of A/S at light earthing up.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 4. (iv) (a) 55′×30′. (b) 55′×15′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield data. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) Light earthing after 6 weeks of planting. Final earthing after 12 weeks of planting.

5. RESULTS :

(i) 73.83 tons/ac. (ii) 6.08 tons/ac. (iii) Treatment difference is not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	A	B
Av. yield	66 41	81.24

S.E./mean = 3.04 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 57(75).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To compare the effects of N as A/S and liquid Ammonia on Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sweet Potato. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Sandy loam to clay loam. (b) N.A. (iii) 14.3.1957. (iv) (a) 4 ploughings, discing once, passing cultivator, opening furrows by ridger, and deepening the furrows, (b) Planted in furrows. (c) 10,000 to 11,000 setts/ac. (d) 3′×2′. (e) 1. (v) 4 C.L./ac. of F.Y.M. (vi) HM—320 (medium). (vii) Irrigated. (viii) 2 weedings and 2 earthings. (ix) 22.74". (x) 23 to 25.4.1958.

2. TREATMENTS :

A=112 lb./ac. of liquid Ammonia ($\frac{1}{2}$ at planting and $\frac{1}{2}$ at light earthing) and B=2 cwt./ac. of A/S at planting+1 cwt./ac. of A/S at light earthing.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 2. (iv) (a) 55′×30′. (b) 55′×15′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Yield of sugarcane. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 62.08 tons/ac. (ii) 4.09 tons/ac. (iii) Treatment difference is not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	A	B
Av. yield	60.06	64.10

S.E./mean = 2.89 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 56(184).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'M'.**

Object :—To study the effect of different levels of N applied in two forms on the yield of cane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) N.A. (c) —. (ii) (a) Clay loam. (b) N.A. (iii) 6.7.1956. (iv) (a) Ploughing. (b) Planting in furrows. (c) 15,000 setts/ac. (d) 2′9" between rows. (e) 1 sett. (v) 10 tons/ac. of F.Y.M. (vi) CO—419. (vii) Yes. (viii) Interculturing and weeding. (ix) 27.68". (x) 20.3.1957.

2. TREATMENTS :

A=200 lb./ac. of N ($\frac{1}{2}$ as A/S and $\frac{1}{2}$ as G.N.C.) and B=300 lb./ac. of N ($\frac{1}{2}$ as A/S and $\frac{1}{2}$ as G.N.C.).

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 4. (iv) (a) and (b) 27.2′×36′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Top shoot borer—affected plants were removed and burnt. (iii) Tiller counts and cane yield. (iv) (a) 1956—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 72.20 tons/ac. (ii) 4.18 tons/ac. (iii) Treatment difference is not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	A	B
Av. yield	61.3	83.1

S.E./mean = 2.09 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 57(198).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'M'.**

Object :—To study the effect of different levels of N applied in two forms on the yield of cane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Clay loam. (b) N.A. (iii) 19.3.1957. (iv) (a) Ploughing. (b) Planting in furrows. (c) 15,000 setts/ac. (d) 2'9" between rows. (e) 1 sett. (v) 10 tons/ac. of F.Y.M. (vi) CO—419. (vii) Yes. (viii) Interculturing and weeding. (ix) 28.69". (x) 25.1.1958.

2. TREATMENTS :

A=200 lb./ac. of N as A/S and G.N.C. in the ratio 1 : 1 and B=300 lb./ac. of N as A/S and G.N.C. in the ratio 1 : 1.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 4. (iv) (a) and (b) 53'×49'6". (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Top shoot borer—affected parts were removed and burnt. (iii) Tiller counts and yield of cane. (iv) (a) 1956—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 26.58 tons/ac. (ii) 3.34 tons/ac. (iii) Treatment difference is not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	A	B
Av. yield	25.09	28.06

S.E./mean = 1.67 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 56(177).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'M'.**

Object :—To find out the performance of Sugarcane with the injection of Ammonia gas into the soil.

1. BASALCONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) Nil. (ii) (a) Clay loam. (b) N.A. (iii) 2.3.1956. (iv) (a) Ploughing and ridging. (b) Planting in furrows. (c) 15000 setts/ac. (d) 2'9" between rows. (e) 2 to 3. (v) 20 C.L./ac. of F.Y.M. (vi) CO—419. (vii) Irrigated. (viii) Lodging in May due to whirl wind. (ix) 55.16". (x) 2.3.1957.

2. TREATMENTS :

5 manurial treatments : A=200 lb./ac. of N as A/S and G.N.C., B=200 lb./ac. of N as G.N.C. and Ammonia gas, C=200 lb./ac. of N as A/S (50 lb./ac. at planting, 75 lb./ac. after 6 weeks of planting and 75 lb./ac. 12 weeks after planting), D=200 lb./ac. of N as Ammonia gas in 3 doses as under C and E=200 lb./ac. of N as Ammonia gas in 2 doses (at planting and after 14 weeks of planting).

3. DESIGN :

(i) R.B.D. (ii) (a) and (b) N.A. (iii) 5. (iv) (a) 33'×45'. (b) 30'×41'. (v) $1\frac{1}{2}$'×2'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height of plant, yield of cane and tiller counts. (iv) (a) 1956—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 39.25 tons/ac. (ii) 4.02 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	A	B	C	D	E
Av. yield	34.70	39.49	41.92	40.24	39.90

S E./mean = 1.80 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 57(187).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'M'.**

Object :—To find out the performance of Sugarcane with the injection of Ammonia gas into the soil.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) Nil. (ii) (a) Clay loam. (b) N.A. (iii) 16.6.1957. (iv) (a) Ploughing and ridging. (b) Planting in furrows. (c) 15000 setts/ac. (d) 2'9" between rows. (e) N.A. (v) 20 C.L./ac. of F.Y.M. (vi) CO—419. (vii) Irrigated. (viii) Weeding and interculturing. (ix) 40.9" (x) 29.11.1958.

2. TREATMENTS :

6 manurial treatments : M_1=200 lb./ac. of N as A/S and G.N.C. in equal ratio, M_2=100 lb./ac. of N as Ammonia gas and as G.N.C., in equal ratio M_3=300 lb./ac. of A/S in 2 doses M_4=200 lb /ac. of N as A/S in 3 doses, M_5=200 lb./ac. as Ammonia gas in 2 doses and M_6=200 lb./ac. of N as Ammonia gas in 3 doses.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) 33'×45'. (b) 30'×41'. (v) 1½'×2'. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Tiller counts and yield data. (iv) (a) 1956—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 38.70 tons/ac. (ii) 4.61 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	M_1	M_2	M_3	M_4	M_5	M_6
Av. yield	40.01	41.30	39.25	36.17	39.01	36.48

S.E /mean = 2.06 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 55(21).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'M'.**

Object :—To find out the usefulness of Urea as manure for Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) 20 C.L./ac. of F.Y.M.+200 lb./ac. of N as A/S and G.N.C. in 1 : 1 ratio (ii) (a) Clayey loam. (b) N.A. (iii) 6.4.1955. (iv) (a) Lifting stubbles, breaking clods, ploughing, and ridging. (b) N.A. (c) 15,000 3 budded setts/ac. (d) 2'9" from row to row. (e) N.A. (v) 20 C.L./ac. of F.Y.M. before planting. (vi) CO—419 (medium). (vii) Irrigated. (viii) Weeding, intercultivation, earthing up and wrapping cane. (ix) 34.01". (x) 6.5.1956.

2. TREATMENTS :

5 manurial treatments : M_1=250 lb./ac. of N as A/S and G.N.C. in 1 : 1 ratio, M_2=250 lb./ac. of N as A/S in 3 doses, M_3=250 lb./ac. of N as Urea in 3 doses, M_4=200 lb./ac. of N as A/S +50 lb./ac. of N as compost and M_5=200 lb./ac. of N as Urea+50 lb./ac. of N as compost.

3. DESIGN :

(i) L. Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 42'×33'. (b) 36'×27.5'. (v) One row on either side. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Early shoot borer—Light earthing up and destruction of dead hearts. (iii) Cane yield. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 29.72 tons/ac. (ii) 3.42 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	M_1	M_2	M_3	M_4	M_5
Av. yield	33.33	28.25	28.20	28.98	29.86

S.E./mean = 1.53 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 57(196).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'M'.**

Object :—To study the performance of Urea as fertilizer to sugarcane in comparison with A/S and G.N.C.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) N.A. (ii) (a) Clay loam. (b) N.A. (iii) 14.6.1957. (iv) (a) Ploughing. (b) Planted in furrows. (c) 15,000 setts/ac. (d) 2'9" between rows. (e) 1 sett/ac. (v) Nil. (vi) CO—419. (vii) Irrigated. (viii) Weeding and interculturing. (ix) 28.32". (x) 16.4.1958.

2. TREATMENTS :

5 manurial treatments : M_1=250 lb./ac. of N as A/S and G.N.C. in 1 : 1 ratio and applied in 2 doses, M_2=250 lb./ac. of N as A/S applied in 3 doses (6th, 12th and 14th week after planting), M_3=250 lb./ac. of N as Urea applied in 3 doses (6th, 12th and 14th week after planting), M_4=200 lb./ac. of N as A/S+50 lb./ac. of N as Urea in 3 doses and M_5=200 lb./ac. of N as Urea+50 lb./ac. of N as A/S in 3 doses.

3. DESIGN :

(i) L. Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 35'×27½'. (b) 29'×22'. (v) 2 rows. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) White smut. (iii) Tiller counts and cane yield. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 40.33 tons/ac. (ii) 6.77 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	M_1	M_2	M_3	M_4	M_5
Av. yield	41.36	43.99	47.16	40.03	29.13

S.E./mean = 3.03 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 54(47).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'M'.**

Object :—To study the effect and availability of N from G.M.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) 20 C.L./ac. of F.Y.M.+200 lb./ac. of N as G.N.C. and A/S in 1 : 1 ratio. (ii) (a) Clayey loam. (b) N.A. (iii) 15.12.1954. (iv) (a) Lifting stubbles, breaking clods, ploughing and ridging. (b) N.A. (c) 15,000 three-budded setts/ac. (d) 2'9" furrow to furrow. (e) N.A. (v) 20 C.L./ac. of F.Y.M. before planting. (vi) CO—419 (medium). (vii) Irrigated. (viii) Weeding, intercultivation, earthing up and wrapping cane. (ix) 37.70". (x) 24.11.1955.

2. TREATMENTS :

4 manurial treatments : M_1=200 lb./ac. of A/S and G.N.C. in 1 : 1 ratio, M_2=150 lb./ac. of N+500 lb./ac. of green *Sannhemp*, M_3=150 lb./ac. of N+5000 lb./ac. of green *Sesbania* and M_4=150 lb./ac. of N+5000 lb./ac. of outside G.M.

N applied in 2 doses (1) at planting (2) at earthing up.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 55'×27'. (b) 49.6'×21'. (v) 1 row on either side. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Cane yield. (iv) (a) 1954—1955. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 41.08 tons/ac. (ii) 4.93 tons/ac. (iii) Treatment differences are significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	M_1	M_2	M_3	M_4
Av. yield	40.65	46.89	39.86	36 93

S.E./mean = 2.01 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 57(197).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'M'.**

Object :—To study the performance of Sugarcane with green leaf manure in comparison with concentrated manure.

1. BASAL CONDITIONS : ,

(i) (a) to (c) Nil. (ii) (a) Clay loam. (b) N.A. (iii) 20.6.1957. (iv) (a) Ploughing. (b) Planted in furrows. (c) 15,000 setts/ac. (d) 2'9" between rows. (e) N.A. (v) Nil. (vi) CO—419. (vii) Irrigated. (viii) Interculturing, weeding and rectification of ridges. (ix) 26.40". (x) 15.4.1958.

2. TREATMENTS :

4 manurial treatments : M_1=N as A/S and G.N.C. in 1 : 1 ratio in 2 doses, M_2=N as A/S and *Sesbania* in 1 : 1 ratio in 2 doses, M_3=N as *Sesbania* in single dose at planting and M_4=N as A/S in 2 doses.

Amount of N applied in each case is 200 lb./ac.

3. DESIGN :

(i) L. Sq. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 34'×37½'. (b) 28'×22'. (v) 2 rows. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Top shoot borer. (iii) Tiller counts and cane yield. (iv) (a) 1954—1955. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 38.93 tons/ac. (ii) 7.38 tons/ac. No control measures taken. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	M_1	M_2	M_3	M_4
Av. yield	38.01	43.86	32.96	40.87

S.E./mean = 3.69 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 58(193).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'M'.**

Object :—To find out the effect of N, P and K on Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) 20 C.L./ac. of F.Y.M. (ii) (a) Clay loam. (b) N.A. (iii) 23.5.1958. (iv) (a) Ploughing. (b) Planted in furrows. (c) 12,000 sett/ac. (d) 3' between lines. (e) 1 sett. (v) 20 C.L./ac. compost. (vi) CO—419. (vii) Irrigated. (viii) Weeding and interculturing. (ix) 22". (x) 23.4.1959.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 levels of N : N_1=200, N_2=250 and N_3=300 lb./ac,

(2) 3 levels of P_2O_5 as Super : P_0=0, P_1=50 and P_2=100 lb./ac.

(3) 3 levels of K_2O as Pot. Sul : K_0=0, K_1=75 and K_2=150 lb./ac.

P_1 and K_1 are applied at planting. P_2 and K_2 are applied 1 month after planting.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 1. (iv) (a) 35′×36′. (b) 29′×30′. (v) 1 row. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Top shoot borer—infested plants were removed. (iii) Yield data and germination count. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 41.23 tons/ac. (ii) 5.32 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of sugarcane in tons/ac.

	P_0	P_1	P_2	K_0	K_1	K_2	Mean
N_1	40.28	37.64	40.57	40.22	29.10	39.17	39.50
N_2	44.83	37.12	40.95	39.25	38.43	45.22	40.97
N_3	42.27	40.37	47.01	44.52	41.26	43.87	43.22
Mean	42.46	38.38	42.84	41.33	39.60	42.75	41.23
K_0	42.82	39.03	42.14				
K_1	41.80	35.37	41.62				
K_2	42.76	40.73	44.77				

S.E. of any marginal mean = 1.77 tons/ac.
S.E. of body of any table = 3.07 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 55(20).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'M'.**

Object :—To study the usefulness of C/N as manure for Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) 20 C.L./ac. of F.Y.M.+200 lb./ac. of N as A/S and G.N.C. in the ratio 1 : 1. (ii) (a) Clayey loam. (b) N.A. (iii) 1.3.1955. (iv) (a) Lifting stubbles, breaking clods and ploughing. (b) N.A. (c) 15,000 three-budded setts/ac. (d) 2′9″ row to row. (e) N.A. (v) Nil. (vi) CO—419 (medium). (vii) Irrigated. (viii) Weeding, intercultivation, earthing up and wrapping. (ix) 37.30″. (x) 8.2.1956.

2. TREATMENTS :

All combinations of (1), (2) and (3)+one extra treatment

(1) 2 manurial treatments : M_0=no manure and M_1=1000 lb./ac. of lime+60 lb./ac. of P_2O_5 as Super+60 lb./ac. of K_2O as Pot. Sul.+5 tons/ac. of F.Y.M.

(2) 2 sources of N : S_1=A/S and S_2=C/N.

(3) 2 doses of N : N_1=100 and N_2=150 lb./ac. of N.

Extra treatment (T) : M_1 alone.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 66′×22′. (b) 60′×16.5′. (v) 1 row on other side. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Borer attack—light earthing up and destruction of dead hearts. (iii) Cane yield. (iv) (a) 1952—1955. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 28.34 tons/ac. (ii) 4.08 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of sugarcane in tons/ac.

T = 24.39 tons/ac.

	S_1	S_2	N_1	N_2	Mean
M_0	27.78	28.04	28.61	27.21	27.91
M_1	29.70	29.79	30.08	29.40	29.74
Mean	28.74	28.92	29.35	28.31	28.83
N_1	28.78	29.91			
N_2	28.70	27.91			

S.E. of any marginal mean = 1.02 tons/ac.
S.E. of body of any table = 1.44 tons/ac.
S E. of T mean = 2.04 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 58(46).**

Site :- Sugarcane Res. Stn., Mandya. **Type :- 'M'.**

Object :—To investigate the effect of different nitrogenous fertilizers on yield and quality of Sugarcane.

1. BASAL CONDITIONS :

(i) (a) and (b) Nil. (c) —. (ii) (a) Sandy. (b) Refer soil analysis, Mandya. (iii) 31.10.1958. (iv) (a) Harrowing, levelling and 3 to 4 ploughings. (b) Planted in furrows. (c) 10,000 to 11,000 setts/ac. (d) 3′×2′. (e) One set. (v) 10 C.L./ac. of F.Y.M.+100 lb./ac. of P_2O_5 as Super. (vi) CO—419 (late). (vii) Irrigated. (viii) 2 interculturings and 4 weedings. (ix) 22.3″. (x) 19.12.1959.

2. TREATMENTS :

6 sources of N : S_1=C/A/N, S_2=A/C, S_3=Urea, S_4=A/S/N. S_5=C/N, and S_6=A/S.
Dose of N is N.A.

3. DESIGN :

(i) L. sq. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 32′×24′. (b) 26′×18′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Stem borers and top shoot borers —Mechanical method. (iii) Germination count, tillering, growth observations, Sugar content and cane yield. (iv) (a) 1958—1961. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 51.28 tons/ac. (ii) 8.20 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	S_1	S_2	S_3	S_4	S_5	S_6
Av. yield	46 31	51.14	49.70	57.39	54.07	49.09

S.E./mean = 3.35 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 59(158).**

Site :- Sugarcane Res. Stn , Mandya. **Type :- 'M'.**

Object :—To investigate the effect of different nitrogenous fertilizers on yield and quality of Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) 10 C.L./ac. of F.Y.M.+100 lb./ac. of P_2O_5 as Super. (ii) (a) Sandy. (b) Refer soil analysis, Mandya. (iii) 21.6.1959. (iv) (a) 3 to 4 ploughings, harrowing and levelling. (b) Planted in furrows. (c) 10,000 to 11,000 setts/ac. (d) 3′×2′ (e) 1 sett only. (v) 10 C.L./ac. of F.Y.M.+ 100 lb./ac. of P_2O_5 as Super. (vi) CO—419 (late). (vii) Irrigated. (viii) 2 interculturings and 4 weedings. (ix) 29.19″. (x) 29.9.1960.

2. TREATMENTS :

Same as in expt. no. 58(46) on page 488.

3. DESIGN :

(i) L. Sq. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 30′×30′. (b) 24′×24′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Stem borer and top shoot borer—controlled by mechanical methods. (iii) Germination count, tiller count and yield of cane . (iv) (a) 1958—1961. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 49.86 tons/ac. (ii) 5.39 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	S_1	S_2	S_3	S_4	S_5	S_6
Av yield	51.75	50.71	48.26	54.39	45.21	48.82

S.E /mean = 2.20 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 58(49).**

Site :- Sugarcane Res. Stn., Mandya. **Type :- 'M'.**

Object :—To fix up the suitable manurial schedule for Sugarcane.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Sandy soil. (b) Refer soil analysis, Mandya. (iii) 15.9.1958. (iv) (a) 3 to 4 ploughings, harrowings and levelling. (b) Planted in furrows. (c) 10,000 to 11,000 setts/ac. (d) 3′×2′. (e) 1. (v) 10 C.L./ac. of F.Y.M. (vi) CO—419 (late). (vii) Irrigated. (viii) 2 interculturings and 4 weedings. (ix) 22.3″. (x) 25.11.1959.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 levels of N as A/S : N_0=150, N_1=300 and N_2=450 lb./ac.
(2) 3 levels of P_2O_5 as Super : P_0=0, P_1=75 and P_2=150 lb./ac.
(3) 3 levels of K_2O as Mur. Pot. : K_0=0, K_1=100 and K_2=200 lb./ac.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block, 3 blocks/replication. (b) N.A. (iii) 4. (iv) (a) 39′×26′. (b) 33′×20′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Stem borer, top shoot borer—Mechanical method. (iii) Germination count, tillering, growth observation, sugar content and cane yield. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) As the lay out was not correct, the experiment was analysed as a simple factorial design.

5. RESULTS :

(i) 70.14 tons/ac. (ii) 11.35 tons/ac. (iii) Only the main effect of N is significant. (iv) Av. yield of sugarcane in tons/ac.

	P_0	P_1	P_2	K_0	K_1	K_2	Mean
N_0	66.53	70.62	64.57	71.23	63.18	67.32	67.24
N_1	64.85	69.49	73.48	62.67	73.32	71.83	69.27
N_2	75.74	71.06	74.91	71.61	76.23	73.87	73.90
Mean	69.04	70.39	70.99	68.50	70.91	71.01	70.14
K_0	68.97	66.08	70.46				
K_1	70.77	73.04	68.92				
K_2	67.38	72.05	73.59				

S.E. of any marginal mean = 1.89 tons/ac.
S.E. of body of any table = 3.28 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 59(183).**

Site :- Sugarcane Res. Stn., Mandya. **Type :- 'M'.**

Object :—To fix up the suitable manurial schedule for Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) Nil. (ii) (a) Sandy. (b) Refer soil analysis, Mandya. (iii) 23.7.1959. (iv) (a) 3 to 4 ploughings and harrowing. (b) Planted in furrows. (c) 10,000 to 11,000 setts/ac. (d) 3′×2′. (e) 1 sett only. (v) N.A. (vi) CO–419. (vii) Irrigated. (viii) Interculturings and weeding. (ix) 29.19″. (x) 2.9.1960.

2. TREATMENTS :

Same as in expt. no. 58(49) on page 489.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block, 3 blocks/replication. (b) N.A. (iii) 4. (iv) (a) 30′×30′. (b) 24′×24′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Germination and tiller counts and cane yield. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 59.69 tons/ac. (ii) 8.44 lb./ac. (iii) Only the main effects of N and P are significant. (iv) Av. yield of Sugarcane in tons/ac.

	P_0	P_1	P_2	K_0	K_1	K_2	Mean
N_0	55.60	55.29	58.56	53.61	59.30	56.54	56.48
N_1	53.53	62.49	64.98	61.02	58.33	61.65	60.33
N_2	60.70	64.88	61.20	63.50	61.12	62.17	62.26
Mean	56.61	60.89	61.58	59.38	59.58	60.12	59.69
K_0	55.13	62.81	60.19				
K_1	55.77	60.16	62.82				
K_2	58.93	59.70	61.73				

S.E. of any marginal mean = 1.41 tons/ac.
S.E. of body of any table = 2.44 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 59(184).**

Site :- Sugarcane Res. Stn., Mandya. **Type :- 'M'.**

Object :—To fix up the suitable manurial schedule for Sugarcane.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Sandy. (b) Refer soil analysis, Mandya. (iii) 31.1.1959 to 3.2.1959. (iv) (a) 3 to 4 ploughings. (b) Planted in furrows. (c) 11,000 setts/ac. (d) 3′×2′. (e) 1 sett. (v) Nil. (vi) CO—419. (vii) Irrigated, (viii) 2 interculturings. (ix) 22.3″. (x) 23.1.1.1960.

2. TREATMENTS :

Same as in expt. no. 58(49) on page 489.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block, 3 blocks/replication. (b) N.A. (iii) 4. (iv) (a) 50′×21′. (b) 44′×15′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Germination, tiller count and yield of cane. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) to (vii) Nil.

RESULTS :

(i) 32.69 tons/ac (ii) 5.28 tons/ac. (iii) Main effect of P is highly significant. Main effect of K is significant. No other effect is significant. (iv) Av. yield of sugarcane in tons/ac.

	P_0	P_1	P_2	K_0	K_1	K_2	Mean
N_0	28.49	32.93	33.56	30.15	29.78	35.05	31.66
N_1	31.66	34.98	34.98	31.83	34.92	34.86	33.87
N_2	26 94	35.63	35.03	31 03	33.24	33.34	32.53
Mean	29.03	34.51	34.52	31.00	32.65	34 42	32.69
K_0	26.98	33.32	32 70				
K_1	30.13	32.84	34.97				
K_2	29.98	37.38	35.90				

S.E. of any marginal mean = 0.88 tons/ac.
S.E. of body of any table = 1.52 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 58(48).**

Site :- Sugarcane Res. Stn., Mandya. **Type :- 'M'.**

Object :—To find out the proper depth of placement of Super to obtain the maximum yield of Sugarcane.

1. BASAL CONDITIONS :

(i) (a) and (b) Nil. (c) —. (ii) (a) Sandy soil. (b) Refer soil analysis, Mandya. (iii) 18.10.1958. (iv) (a) 3 to 4 ploughings, harrowing and levelling. (b) Planted in furrows. (c) 10,000 to 11,000 setts/ac. (d) 3′×2′. (e) One sett only. (v) 10 C.L./ac. of F.Y.M.+300 lb./ac. of N as A/S. (vi) CO—419 (late). (vii) Irrigated. (viii) 2 interculturings and 4 weedings. (ix) 22.3″. (x) 11.12.1959.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 2 levels of P_2O_5 : P_0=0 and P_1=150 lb./ac.
(2) 2 depths of application of P_2O_5 : S_1=Surface and S_2=4″.
(3) 3 types of mixing of P_2O_5 : M_0=Not mixed with any other fertilizor, M_1=Mixed with cowdung and M_2=Mixed with F.Y.M.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) 30′×24′. (b) 24′×18′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Stem borer and top shoot borers noticed—controlled by mechanical method. (iii) Germination count, tillering, growth observations, sugar content and cane yield. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESUTTS :

(i) 58.28 tons/ac. (ii) 7.24 tons/ac. (iii) Only the main effect of P is highly significant. (iv) Av. yield of sugarcane in tons/ac.

	S_1	S_2	M_0	M_1	M_2	Mean
P_0	53.53	51.51	54.83	55.08	47.64	52.52
P_1	64.87	63.19	65.92	62.01	64.16	64.03
Mean	59.20	57.35	60.38	58.55	55.90	58.28
M_0	62.77	57.98				
M_1	58.74	58.36				
M_2	56.09	55.71				

S.E. of any S or P marginal mean = 1.48 tons/ac.
S.E. of any M marginal mean = 1.81 tons/ac.
S.E. of body of P×M or S×M table = 2.56 tons/ac.
S.E. of body of P×S table = 2.09 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 59(157).**

Site :- Sugarcane Res. Stn., Mandya. **Type :- 'M'.**

Object :—To find out the proper depth of placement of Super to obtain maximum yield of Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Ragi*. (c) 5 C.L./ac. of F.Y.M.+168 lb./ac. of A/S+112 lb./ac. of Super+84 lb./ac. of Potash. (ii) (a) Sandy. (b) Refer soil analysis, Mandya. (iii) 4.7.1959. (iv) (a) 3 to 4 ploughings, harrowing and levelling. (b) Planted in furrows. (c) 10,000 to 11,000 setts/ac. (d) 3′×2′. (e) N.A. (v) 10 C.L./ac. of F.Y.M.+300 lb /ac. of N as A/S. (vi) CO—419 (late). (vii) Irrigated. (viii) 2 interculturings and 4 weedings. (ix) 29.19″. (x) 16.9.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(48) on page 491.

5. RESULTS :

(i) 47.30 tons/ac. (ii) 5.61 tons/ac. (iii) Main effect of P is highly significant. Main effect of S is significant. No other effect is significant. (iv) Av. yield of sugarcane in tons/ac.

	S_1	S_2	M_0	M_1	M_2	Mean
P_0	42 64	45.36	40.96	46.22	44.82	44.00
P_1	48.33	52.87	49.70	49.97	52.14	50.60
Mean	45.49	49.12	45.33	48.10	48.48	47.30
M_0	43.11	47.55				
M_1	47.53	48.68				
M_2	45.83	51.13				

S.E. of S or P marginal mean	=	1.15 tons/ac.
S.E. of M marginal mean	=	1.40 tons/ac.
S.E. of body of P×S table	=	1.62 tons/ac.
S.E. of body of M×P or M×S table	=	1.98 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 59(2).**

Site :- Sugarcane Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of important G.M. crops on Sugarcane crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) G.M. crops as per treatments. (c) Nil. (ii) (a) Sandy. (b) Refer soil analysis, Mandya. (iii) 29.11 1959. (iv) (a) 3 to 4 ploughings and harrowing. (b) Planted in furrows. (c) 12,000 setts/ac. (d) 3′×2′. (e) 1 sett. (v) Nil. (vi) CO—419. (vii) Irrigated. (viii) 4 weedings and 2 interculturings. (ix) 26.84″. (x) 28.12.1960.

2. TREATMENTS :

T_0=Control (no G.M.). T_1=Sannhemp, T_2=*Dhaincha* and T_3=*Sesbania speciosa.*

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 27′×40′. (b) 21′×34′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Germination and cane yield. (iv) (a) 1959—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 32.00 tons/ac. (ii) 5.78 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	T_0	T_1	T_2	T_3
Av. yield	31.78	32.10	32.42	31.68

S.E./mean = 2.36 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 59(3).**

Site :- Sugarcane Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of application of P on yield and quality of Sugarcane.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Sandy. (b) Refer soil analysis, Mandya. (iii) 27.7.1959. (iv) (a) 3 ploughings and levelling. (b) Planted in furrows. (c) 12,000 setts/ac. (d) 3′×2′. (e) 1 sett only. (v) 10 C.L./ac. of F.Y M.+100 lb./ac. of K_2O at the time of planting and 300 lb./ac. of N in 4 doses of 10, 20, 30 and 40% at planting, 6th, 10th and 14th weeks after planting respectively. (vi) CO—419. (vii) Irrigated. (viii) 2 interculturings and 3 weedings. (ix) 29.19″. (x) 13.9.1960.

2. TREATMENTS :

4 methods of application of P_2O_5 at 75 lb./ac. : T_1=P applied at planting, T_2=P applied 4″ deep at planting, T_3=P applied 4″ deep (half dose at planting and half at earthing) and T_4=P applied 4″ deep at earthing.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 30′×15′. (b) 24′×9′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Cane yield. (iv) (a) 1959—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 45.10 tons/ac. (ii) 9.14 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	39.06	43.42	45.78	52.14

S.E./mean = 3.73 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 58(45).**

Site :- Sugarcane Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the possibility of reducing organic manures by using equivalent inorganic fertilizers as manures to Sugarcane.

1. BASAL CONDITIONS :

(i) (a) and (b) Nil. (c)—. (ii) (a) Sandy soil. (b) Refer soil analysis, Mandya. (iii) 31.8.1958. (iv) (a) Plough ing 3 to 4 times, harrowing and levelling. (b) Planted in furrows. (c) 10,000 to 11,000 setts/ac. (d) 3′×2′. (e) 1. (v) Nil. (vi) CO—419 (late). (vii) Irrigated. (viii) 4 weedings and 2 interculturings. (ix) 22.3″. (x) 4.11.1959.

TREATMENTS :

10 manurial treatments : M_1=Control (no manure), M_2=20 C.L./ac. of F.Y.M., M_3=N, P and K equivalent of M_2 in inorganic form, $M_4=M_2+M_8$, $M_5=M_3+M_8$, M_6=10 C.L./ac. of F.Y.M.+M_8+N, P and K equivalent of $\frac{1}{2}$ of M_2 in inorganic form, $M_7=M_8$+5 C.L./ac. of F.Y.M.+N, P and K equivalent of $\frac{3}{4}$ of M_2 in inorganic form, M_8=300 lb./ac. of N+75 lb./ac. of P_2O_5+100 lb./ac. of K_2O as top dressing, $M_9=M_8$ with N as A/S and G.N.C in 1 : 1 ratio and $M_{10}=M_2+M_9$.

Equivalent of M_2 is 156 lb./ac. of N+112 lb./ac. of P_2O_5+224 lb./ac. of K_2O in inorganic form.

3. DESIGN :

(i) R.B D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 39′×33′. b) 33′×27′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Stem borer and top shoot borers—affected shoots removed by mechanical method. (iii) Germination count, growth observation and sugar content. (iv) (a) 1958—1961. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 47.37 tons/ac. (ii) 8.89 tons/ac. (iii) Treatments differences are highly significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8	M_9	M_{10}
Av. yield	19.80	30.68	45.84	54.40	59.05	60.02	58.68	46.21	46.94	52.08

S.E./mean = 4.45 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 59(159).**

Site :- Sugarcane Res. Stn., Mandya. **Type :- 'M'.**

Object : —To find the possibility of reducing organic manures by using equivalent inorganic fertilizers as manures to Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) Nil. (ii) (a) Sandy. (b) N.A. (iii) 19.8.1959. (iv) (a) Ploughing, harrowing and levelling. (b) Planted in furrows. (c) 10,000 to 11,000 setts/ac. (d) 3′×2′. (e) one sett only. (v) Nil. (vi) CO—419 (late). (vii) Irrigated. (viii) 4 weedings and 2 interculturings. (ix) 26.84″. (x) 10.10.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(45) on page 494 except that the net plot size is 24′×24′.

5. RESULTS :

(i) 51.67 tons/ac. (ii) 6.83 tons/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8	M_9	M_{10}
Av. yield	33.01	35.91	49.00	58.59	48.77	62.09	54.93	51.75	60.24	62.37

S.E./mean = 3.42 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 59(160).**

Site :- Sugarcane Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the possibility of reducing organic manure by using equivalent inorganic fertilizers as manures to Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) N.A. (il) (a) Sandy. (b) N.A. (iii) 30.1.1959. (iv) (a) 3 ploughings and levelling. (b) Planted in furrows. (c) 12,000 setts/ac. (d) 3′×2′. (e) 1 sett. (v) Nil. (vi) CO—419 (late). (vii) Irrigated. (viii) 4 weedings and 2 interculturings. (ix) N.A. (x) Nov. to December 1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(45) on page 494 except that the net plot size is 20′×24′.

5. RESULTS :

(i) 38.79 tons/ac. (ii) 3.97 tons/ac. (iii) Treatment differences are highly significant. (iv) Av yield of sugarcane in tons/ac.

Treatment	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8	M_9	M_{10}
Av. yield	22.42	34.70	39.46	41.59	42.14	41.45	45.68	41.23	38.78	40.44

S.E./mean = 1.99 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 58(SFT).**

Centre :- Belgaum (c.f.). **Type :- 'M'.**

Object—Type A :—To study the response of Sugarcane to levels of N, P and K, applied individually and in combinations.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red loam. (iii) Nil. (iv) and (v) N.A. (vi) February—March, 1958. (vii) Irrigated. (viii) and (ix) N.A. (x) February 1959.

2. TREATMENTS :

0 = Control (no manure).
n = 175 lb./ac. of N as A/S.
p = 80 lb./ac. of P_2O_5 as Super.
np = 175 lb./ac. of N as A/S + 80 lb./ac. of P_2O_5 as Super.
k = 80 lb./ac. of K_2O as Mur. Pot.
nk = 175 lb./ac. of N as A/S + 80 lb./ac. of K_2O as Mur. Pot.
pk = 80 lb./ac. of P_2O_5 as Super + 80 lb./ac. of K_2O as Mur. Pot.
npk = 175 lb./ac. of N as A/S + 80 lb./ac. of P_2O_5 as Super + 80 lb./ac. of K_2O as Mur. Pot.

3. DESIGN :

(i) and (ii) The district has been divided into four agriculturally homogeneous zones and one field assistant has been posted in each zone. The field assistant conducts the trials in one revenue circle or thana in the zone and the circle/thana is changed once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year, 8 on a *kharif* cereal, 8 on a *rabi* cereal, 8 on cash crops, 4 on an oilseed crop and 3 on a leguminous crop. Half the number of trials conducted are of type A and the other half of type B on crops other than the legumes. The three trials on legumes are of type C. Residual effects of phosphate application are studied on type C trials in two out of the four zones in each district every year. The above experiments are laid out in randomly located fields in randomly selected villages in each of the 4 zones at the rate of one experiment per village. (iii) (a) N.A. (b) 1/80 ac. (iv) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Cane yield. (iv) (a) 1958—contd. (b) No. (c) N.A. (v) As per design. (vi) and (vii) Nil.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in tons/ac.	0.90	0.66	4.15	0.935	0.77	—0.51	0.94	1.05	0 647

Control mean = 44.60 tons/ac. and no. of trials = 2.

Crop :- Sugarcane. **Ref :- Ms. 59(SFT).**

Centre :- Belgaum (c.f.). **Type :- 'M'.**

Object—Type A :—To study the response of Sugarcane to levels of N, P and K, applied individually and in combinations.

1. BASAL CONDITIONS to 4. GENERAL :

Same as in expt. no. 58(SFT) type A on page 495 conducted at Belgaum.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in tons/ac.	5.32	1.20	1.22	0.786	0.32	0.67	0.62	0.64	0.332

Control mean = 18.00 tons/ac., and no. of trials = 12.

Crop :- Sugarcane. **Ref :- Ms. 59(SFT).**

Centre :- Mandya (c.f.). **Type :- 'M'.**

Object—Type A :—To study the response of Sugarcane to levels of N, P and K, applied individually and in combinations.

1. BASAL CONDITIONS to 4. GENERAL :

Same as in expt no. 58(SFT) type A on page 495 conducted at Belgaum.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in tons/ac.	1.48	—0.04	0.85	0.217	—0.38	0.40	—0.96	1.65	0.304

Control mean = 18.43 tons/ac., and no. of trials = 3.

Crop :- Sugarcane. **Ref :- Ms. 59(SFT).**

Centre :- North Kanara (c.f.). **Type :- 'C'.**

Object—Type A :—To study the response of Sugarcane to levels of N, P and K, applied individually and in combinations.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Laterite. (iii) Nil. (iv) and (v) N.A. (vi) February—March 1959. (vii) Irrigated. (viii) and (ix) N.A. (x) February, 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(SFT) type A on page 495 conducted at Belgaum.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in tons/ac.	2.51	1.61	1.16	0.409	—0.24	0.46	—0.20	0.36	0.298

Control mean = 16.01 tons/ac., and no. of trials = 16.

Crop :- Sugarcane. **Ref :- Ms. 58(SFT).**

Centre :- Belgaum (c.f.). **Type :- 'M'.**

Object—Type B :—To investigate the relative efficiency of different nitrogenous feritilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red loam. (iii) Nil. (iv) and (v) N.A. (vi) Feb.—March 1958. (vii) Irrigated. (viii) and (ix) N.A. (x) February 1959.

2. TREATMENTS :

0 =Control (no manure).
n_1 =175 lb./ac. of N as A/S.
n_2 =350 lb./ac. of N as A/S.
n_1' =175 lb /ac. of N as Urea.
n_2' =350 lb /ac. of N as Urea.
n_1'''=175 lb./ac. of N as C/A/N.
n_2'''=350 lb./ac. of N as C/A/N.

3. DESIGN :

(i) and (ii) The district has been divided into four agriculturally homogenous zones and one field assistant has been posted in each zone. The field assistant conducts the trials in one revenue circle or thana in the zone and the circle/thana is changed once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year, 8 on a *kharif* cereal, 8 on a *rabi* cereal, 8 on cash crops, 4 on an oilseed crop and 3 on a leguminous crop. Half the number of trials conducted are of type A and the other half of type B on crops other than the legumes. The three trials on legumes are of type C. Residual effects of phosphate application are studied on type C trials in two out of the four zones in each district every year. The above experiments are laid out in randomly located fields in randomly selected villages in each of the 4 zones at the rate of one experiment per per village (iii) (a) N.A. (b) 1/80 ac. (iv) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Cane yield. (iv) (a) 1958—contd. (b) No. (c) N.A. (v) As per design. (vi) and (viii) Nil.

5. RESULTS :

Treatment	0	n_1	n_2	n_1'	n_2'	n_1'''	n_1'''
Av. yield	21.71	23.53	24.41	22.62	24.07	22.91	24.04

G.M. = 23.33 ton/ac ; S.E. = 0.516 ton/ac. and no of trials = 8.

Crop :- Sugarcane. **Ref :- Ms. 59(SFT).**

Centre :- Belgaum (c.f.). **Type :- 'M'.**

Object—Type B :—To investigate the relative efficiency of different nitrogenous feritilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red. (iii) Nil. (iv) and (v) N.A. (vi) Feb.—March 1959. (vii) Irrigated. (viii) and (ix) N.A. (x) February 1960.

2. TREATMENTS :

0 =Control (no manure).
n_1' =175 lb./ac. of N as Urea.
n_2' =350 lb./ac. of N as Urea.
n_1'' =175 lb./ac. of N as A/S/N.
n_2'' =350 lb./ac. of N as A/S/N.
n_1'''=175 lb./ac. of N as C/A/N.
n_2'''=350 lb./ac. of N as C/A/N.

3. DESIGN and 4. GENERAL :

Same as in expt no. 58(SFT) type B on page 497 conducted at Belgaum.

5. RESULTS :

Treatment	0	n_1'	n_2'	n_1''	n_2''	n_1'''	n_2'''
Av. yield	18.01	23.29	25.05	22.70	26.74	21.67	23.99

G.M. = 23.06 tons/ac. ; S.E. = 0.090 tons/ac. and no. of trials = 14.

Crop :- Sugarcane. **Ref :- Ms. 59(SFT).**

Centre :- Mandya (c.f.). **Type :- 'M'.**

Object—Type B :—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS to 4. GENERAL:

Same as in expt. no. 58(SFT) type B on page 497 conducted at Belgaum.

5. RESULTS

Teatment	0	n_1	n_2	n_1'	n_2'	n_1'''	n_2'''
Av. yield	20.52	22.47	23.04	23.65	23.31	22.87	23.56

G.M. = 22.63 tons/ac., S.E. = 0.024 tons/ac. and no. of trials = 4.

Crop :- Sugarcane. **Ref :- Ms. 59(SFT).**

Centre :- North Kanara. **Type :- 'M'.**

Object—Type B :—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Laterite and others. (iii) Nil. (iv) and (v) N A. (vi) Feb.—March 1959. (vii) Irrigated. (viii) and (ix) N.A. (x) February 1960.

2. TREATMENTS :

0 =Control (no manure).
n_1 =175 lb./ac. of N as A/S.
n_2 =350 lb./ac. of N as A/S.
n_1' =175 lb./ac. of N as Urea.
n_2' =350 lb./ac. of N as Urea.
n_1'' =175 lb./ac. of N as A/S/N.
n_2'' =350 lb./ac. of N as A/S/N.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 58(SFT) type B on page 497 conducted at Balgaum.

RESULTS :

Treatment	0	n_1	n_2	n_1'	n_2'	n_1''	n_2''
yield	28.19	39.10	45.18	36.40	44.41	32.43	35.66

G.M. = 37.34 tons/ac., S.E. = 0.055 tons/ac. and no. of trials = 5.

Crop :- Sugarcane. **Ref :- Ms. 58(56).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'C'.**

Object :—To determine the optimum period for sowing and fix the row spacing for Sugarcane.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Medium black soil. (b) N.A. (iii) As per treatments. (iv) (a) Deep ploughing and harrowing. (b) Opening furrows, irrigating and then planting. (c) 2½ tons/ac. (d) As per treatments. (e) N.A. (v) 300 lb./ac. of A/S+150 lb./ac. of Super. (vi) CO—419. (vii) Irrigated. (viii) 3 to 4 weedings. (ix) 16.66". (x) N.A.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 4 dates of planting : D_1=1st week of Dec., D_2=1st week of Jan., D_3=1st week of Feb. and D_4= 1st week of March.

(2) 3 row spacings : S_1=2', S_2=3' and S_3=4'.

3. DESIGN :

(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 3. (iv) (a) and (b) 40'×24'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Borer attack—mechanical methods. (iii) Nil. (iv) (a) 1958—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 33.67 tons/ac. (ii) 2.49 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of Sugarcane in tons/ac.

	D_1	D_2	D_3	D_4	Mean
S_1	32.93	33.77	33.99	37.08	34.44
S_2	35.22	33.70	34.11	31.89	33.73
S_3	32.36	35.36	32.52	31.15	32.85
Mean	33.50	34.28	33.54	33.37	33.67

S.E. of D marginal mean = 0.83 tons/ac.
S.E. of S marginal mean = 0.72 tons/ac.
S.E. of body of table = 1.44 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 59(88).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'C'.**

Object :—To find the optimum period for sowing and to fix the row spacing for Sugarcane.

BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Medium black soil. (b) N.A. (iii) As per treatments. (iv) (a) Ploughing and harrowing. (b) Planting in furrows. (c) 2½ tons/ac. (d) As per treatments. (e) Setts with 3 buds. (v) 300 lb./ac. of A/S+150 lb./ac. of Super. (vi) CO—419. (vii) Irrigated. (viii) Hand weeding. (ix) 23.57". (x) N.A.

2. TREATMENTS :;

Same as in expt. no. 58(56) on page 499.

3. DESIGN :

(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 3. (iv) (a) and (b) 45.3′×24′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Slight borer attack—the affected leaves were picked and burnt. (iii) Height of plant and yield of cane. (iv) (a) 1958—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 33.91 tons/ac. (ii) 4.79 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of sugarcane in tons/ac.

	D_1	D_2	D_3	D_4	Mean
S_1	35.07	31.85	33.32	33.35	33.40
S_2	36.37	31.70	35.25	29.27	33.15
S_3	37.40	38.37	35.71	29.21	35.17
Mean	36.28	33.97	34.76	30.61	33.91

S.E. of D marginal mean = 1.60 tons/ac.
S.E. of S marginal mean = 1.38 tons/ac.
S.E. of body of table = 2.77 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 54(226).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'C'.**

Object :—To study the optimum duration for Sugarcane crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) Nil. (ii) (a) Clay loam. (b) N.A. (iii) 26.12.1954. (iv) (a) Ploughing and harrowing. (b) Planted in furrows. (c) 15,000 setts/ac. (d) 2′ 9″ between rows. (e) 1 sett. (v) 20 C.L./ac. of F.Y.M.+200 lb./ac. of N. (vi) CO—419. (vii) Irrigated. (viii) Weeding and interculti-vation. (ix) 39.74″. (x) As per treatments.

2. TREATMENTS :

4 durations : T_1=10, T_2=11, T_3=12 and T_4=13 months.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) and (b) 24′9″×62.5′. (v) No. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) White smut—removed. (iii) Germination count and cane yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 39.00 tons/ac. (ii) 3.42 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	38.16	38.72	39.66	39.47

S.E./mean = 1.71 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 55(210).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'C'.**

Object :—To find out the optimum duration for the Sugarcane crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) 20 C.L./ac. of F.Y.M. (ii) (a) Clay loam. (b) N.A. (iii) 25.12.1955. (iv) (a) Ploughing. (b) Planted in furrows. (c) 15,000 setts/ac. (d) 2'9" between rows. (e) 1 sett. (v) 20 C.L./ac. of F Y.M.+200 lb./ac. of N. (vi) CO—419. (vii) Irrigated. (viii) Interculturing and weeding. (ix) 40.90". (x) As per treatments.

2. TREATMENTS :

4 duration : T_1=10, T_2=11, T_3=12 and T_4=13 months.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 42'×33'. (b) 39'×30'. (v) 1 row. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) White smut. (iii) Tiller counts and cane yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 30.39 tons/ac. (ii) 1.54 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	29.99	30.08	30.41	31.08

S.E./mean = 0.77 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 57(191).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'C'.**

Object :—To determine the optimum duration for Sugarcane crop.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Clay loam. (b) N.A. (iii) 14.12.1957. (iv) (a) Ploughing. (b) Planted in furrows. (c) 15,000 setts/ac. (d) 2'9" between rows. (e) 1 sett. (v) 20 C.L./ac. of F.Y.M.+200 lb./ac. of N. (vi) CO—419. (vii) Irrigated. (viii) 2 weedings and 2 interculturings. (ix) 30.83". (x) As per treatments.

2. TREATMENTS :

4 durations : T_1=10, T_2=11, T_3=12, and T_4=13 months.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 2. (iv) (a) 78'×16½'. (b) 72'×11'. (v) One row. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Cane yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 49.49 tons/ac. (ii) 3.88 tons/ac. (iii) Treatment differenees are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	45.87	48.08	50.99	53.03

S.E./mean = 2.74 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 55(211).**

Site :- Sugarcane Laison Farm, Hospet. **Type :- 'C'.**

Object :—To study the optimum duration for Sugarcane crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) 200 lb./ac. of N. (ii) (a) Clay loam. (b) N.A. (iii) 25.1.1955. (iv) (a) Ploughing. (b) Planted in furrows. (c) 15,000 setts/ac. (d) 2'9" between rows. (e) 1 sett. (v) 20 C L./ac. of F.Y.M. (vi) CO—419. (vii) Irrigated. (viii) Interculturing and weeding. (ix) 39.74". (x) As per treatments.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(226) on page 500.

4. GENERAL :

(i) Normal. (ii) Top shoot-borer—removed. (iii) Germination count and cane yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 34.67 tons/ac. (ii) 3.55 tons/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	37.83	39.82	31.94	29.10

S.E./mean = 1.78 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 56(180).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'C'.**

Object :—To determine the optimum duration for Sugarcane crop.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Clay loam. (b) N.A. (iii) 22.1.1956. (iv) (a) Ploughing. (b) Planted in furrows. (c) 15,000 setts/ac. (d) 2'9" between rows. (e) 1 sett. (v) 20 C.L./ac. of F.Y.M.+200 lb./ac. of N. (vi) CO—419. (vii) Irrigated. (viii) 3 weedings and interculturings. (ix) 40.90". (x) As per treatments.

2. TREATMENTS :

4 durations : T_1=10, T_2=11, T_3=12 and T_4=13 months.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 45'×30'. (b) 1/40 ac. (v) 1 row. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Cane yield, (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 43.06 tons/ac. (ii) 6.86 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	43.75	40.50	46.97	41.03

S.E./mean = 3.43 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 57(194).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'C'.**

Object :—To determine the optimum duration for Sugarcane crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) Nil. (ii) (a) Clay loam. (b) N.A. (iii) 16.1.1957. (iv) (a) Ploughing. (b) Planted in furrows. (c) 15,000 setts/ac. (d) 2'9" between rows. (e) 1 sett. (v) 10 tons/ac. of F.Y.M.+ 200 lb./ac. of N. (vi) CO—419. (vii) Irrigated. (viii) 2 interculturings and weeding. (ix) 28.69". (x) As per treatments.

2. TREATMENTS :

4 durations : T_1=10, T_2=11, T_3=12 and T_4=13 months.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 2. (iv) (a) 86'×19'3". (b) 80'×13'9". (v) 1 row. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) White smut and stem borer. (iii) Germination count and cane yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 29.73 tons/ac. (ii) 7.67 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	29.98	30.68	28.88	29.38

S.E./mean = 5.42 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 58(189)**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'C'.**

Object :—To find out the optimum duration for Sugarcane planted in January.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) 10 tons/ac. of F.Y.M. (ii) (a) Clay loam. (b) N.A. (iii) 15.1.1958. (iv) (a) Ploughing. (b) Planted in furrows. (c) 15,000 setts/ac. (d) 2'9" between rows. (e) 1 sett. (v) 20 C.L./ac. of F.Y.M.+200 lb./ac. of N. (vi) CO—419. (vii) Irrigated. (vii) 2 interculturings and weeding. (ix) 30.31". (x) As per treatments.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57 (191) on page 501.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Germination count and cane yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 53.64 tons/ac. (ii) 4.58 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	51.82	52.09	60.64	50.00

S.E./mean = 3.24 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 55(212).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'C'.**

Object :—To study the optimum duration for Sugarcane crop.

1: BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) 20 C.L./ac. of F.Y.M. (ii) (a) Clay loam. (b) N.A. (iii) 25.2.1955. (iv) (a) Ploughing. (b) Planted in furrows. (c) 15,000 setts/ac. (d) 2'9" between rows. (e) 1 sett. (v) 20 C.L./ac. of F.Y.M. (vi) CO—419. (vii) Irrigated. (viii) Weeding and 3 interculturings. (ix) 39.74". (x) As per treatments.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54 (226) on page 500.

4. GENERAL

(i) Fair. (ii) White smut and top shoot borer—removed. (iii) Germination count and cane yiled. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 24.40 tons/ac. (ii) 0.96 tons/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	28.34	25.51	23.12	20.63

S.E./mean = 0.48 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 56(181).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'C'.**

Object :—To find out the optimum duration for Sugarcane crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) 10 tons/ac. of compost. (ii) (a) Clay loam. (b) N.A. (iii) 25.2.1956. (iv) (a) Ploughing. (b) Planted in furrows. (c) 15,000 setts/ac. (d) 2'9" between rows. (e) 1 sett. (v) 20 C.L./ac. of F.Y.M.+200 lb./ac. of N. (vi) CO—419. (vii) Irrigated. (viii) 2 weedings and interculturings. (ix) 40.90". (x) As per treatments.

2. TREATMENTS :

4 times of harvest after planting : T_1=10, T_2=11, T_3=12 and T_4=13 months.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 55'×24.75'. (b) 1/40 ac. (v) 1 row. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Cane yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 47.61 tons/ac. (ii) 2.58 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	48.64	46.90	46.85	48.04

S.E./mean = 1.29 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 57(195).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'C'.**

Object :—To study the optimum duration for Sugarcane crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) Nil. (ii) (a) Clay loam. (b) N.A. (iii) 15.2.1957. (iv) (a) Ploughing. (b) Planted in furrows. (c) 15,000 setts/ac. (d) 2'9" between rows. (e) 1 sett. (v) 10 tons/ac. of compost. (vi) CO—419. (vii) Irrigated. (viii) 2 weedings and interculturing. (ix) 28.69". (x) As per treatments.

2. TREATMENTS :

4 durations : T_1=10, T_2=11, T_3=12, and T_4=13 months.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 2. (iv) (a) 86'×16.6'. (b) 80'×11'. (v) 1 row. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Stem-borer. (iii) Cane yield and germination count. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 34.95 tons/ac. (ii) 4.58 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	28.43	40.96	39.40	31.00

S.E./mean = 3.24 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 58(190).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'C'.**

Object :—To study the optimum duration for Sugarcane planted in February.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) Nil. (ii) (a) Clay loam. (b) N.A. (iii) 15.2.1958. (iv) (a) Ploughing and harrowing. (b) Planted in furrows. (c) 15,000 setts/ac. (d) 2'9" between rows. (e) 1 sett. (v) 10 tons/ac. of compost. (vi) CO—419. (vii) Irrigated. (viii) Interculturing and weeding. (ix) 30.31". (x) As per treatments.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(191) on page 501.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Germination count and cane yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 47.57 tons/ac. (ii) 4.57 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	54.84	55.50	45.20	34.74

S.E./mean = 3.23 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 55(213).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'C'.**

Object :—To determine the optimum duration for Sugarcane crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) 10 tons/ac. of F.Y.M. (ii) (a) Clay loam. (b) N.A. (iii) 15.3.1955. (iv) (a) Ploughing. (b) Planted in furrows. (c) 15,0000 setts/ac. (d) 2'9" between rows. (e) 1 sett. (v) Nil. (vi) CO—419. (vii) Irrigated. (viii) Weeding and intercultivation. (ix) 40.17". (x) As per treatments.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(226) on page 500.

4. GENERAL :

(i) Satisfactory. (ii) Stem borer, top shoot borer—removed. (iii) Germination count and cane yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 29.26 tons/ac. (ii) 4.41 tons/ac. (iii) Treatment differences are significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	31.91	33.15	22.68	29.30

S.E./mean = 2.21 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 56(182).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'C'.**

Object :—To find out the optimum duration for Sugarcane planted in March.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane (c) Nil. (ii) (a) Clay loam. (b) N.A. (iii) 25.3.1955. (iv) (a) Ploughing. (b) Planted in furrows. (c) 15,000 setts/ac. (d) 2'9" between rows. (e) 1 sett. (v) 20 C.L./ac. of compost +200 lb./ac. of N. (vi) CO—419. (vii) Irrigated. (viii) Interculturing and weeding. (ix) 40.90". (x) As per treatments.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(181) on page 504.

4. GENERAL :

(i) Good. (ii) White smut and top shoot-borer—removed. (iii) Germination count and cane yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 44.63 tons/ac. (ii) 2.63 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	46.64	41.96	46.15	43.77

S.E./mean = 1.32 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 57(192).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'C'.**

Object :—To find out the optimum duration for Sugarcane crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) 10 tons/ac. of F.Y.M. (ii) (a) Clay loam. (b) N.A. (iii) 27.3.1957. (iv) (a) Ploughing. (b) Planted in furrows. (c) 15,000 setts/ac. (d) 2'9" between rows. (e) 1 sett. (v) 20 C.L./ac. of F.Y.M.+200 lb./ac. of N. (vi) CO—419. (vii) Irrigated. (viii) 2 interculturings and weeding. (ix) 31.81". (x) As per treatments.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(195) on page 505.

4. GENERAL :

(i) Normal. (ii) White smut—removed. (iii) Germination count and yield data. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 36 80 tons/ac. (ii) 10.03 tons/ac. (iii) Treatment differences are not significant. (vi) Av. yield of sugarcane in tons/ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	33.41	25.94	37.54	50.30

S.E./mean = 7.09 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 58(191).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'C'.**

Object :—To study the optimum duration for Sugarcane crop.

1. BASAL CONDITIONS :

(i) (a) Nil (b) Sugarcane. (c) 20 C.L./ac. of compost. (ii) (a) Clay loam. (b) N.A. (iii) 15.3.1958. (iv) (a) Ploughing. (b) Planted in furrows. (c) 15,000 setts/ac. (d) 2'9" between rows. (e) 1 sett. (v) 20 C.L./ac. of compost+200 lb./ac. of N. (vi) CO—419. (vii) Irrigated. (viii) 2 weedings and interculturings. (ix) 30.31". (x) As per treatments.

2. TREATMENTS and 3. DESIGN:

Same as in expt. no. 57(191) on page 501.

4. GENERAL :

(i) Good. (ii) Stem-borer—removed. (iii) Germination count and cane yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 49.47 tons/ac. (ii) 6.30 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	55.50	44.32	55.28	42.79

S.E./mean = 4.45 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 56(183).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'C'.**

Object :—To study the optimum duration for the Sugarcane crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) 10 tons/ac. of F.Y.M. (ii) (a) Clay loam. (b) N.A. (iii) 27.4.1956. (iv) (a) Ploughing. (b) Planted in furrows. (c) 15,000 setts/ac. (d) 2'9" between rows. (e) 1 sett. (v) 20 C.L./ac. of F.Y.M.+200 lb./ac. of N. (vi) CO—419. (vii) Irrigated. (viii) Interculturing and weeding. (ix) 40.90". (x) As per treatments.

2. TREATMENTS and 3 DESIGN :

Same as in expt. no. 56(180) on page 502.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Tiller counts and cane yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 43.36 tons/ac. (ii) 2.64 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	44.44	44.85	41.17	42.98

S.E./mean = 1.32 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 57(193).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'C'.**

Object :—To find out the optimum duration for Sugarcane crop.

1 BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) Nil. (ii) (a) Clay loam. (b) N.A. (iii) 16.4.1957. (iv) (a) Ploughing. (b) Planted in furrows. (c) 15,000 setts/ac. (d) 2'9" between rows. (e) 1 sett. (v) 10 tons/ac. of F.Y M. (vi) CO—419. (vii) Irrigated. (viii) Weeding and intercultivations. (ix) 31.81". (x) As per treatments.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(195) on page 505.

4 GENERAL :

(i) Good. (ii) Nil. (iii) Cane yield and germination count. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 42.03 tons/ac. (ii) 6.24 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	41.88	40.53	45.88	39.81

S.E./mean = 4.41 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 58(192).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'C'.**

Object .—To find out the optimum duration for the Sugarcane crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) Nil. (ii) (a) Clay loam. (b) N.A. (iii) 15.4.1958. (iv) (a) Ploughing. (b) Planted in furrows. (c) 15,000 setts/ac. (d) 2'9" between rows. (e) 1 sett. (v) 20 C.L./ac. of compost. (vi) CO—419. (vii) Irrigated. (viii) Weeding and interculturing. (ix) 30.31". (x) As per treatments.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(191) on page 501.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Germination count and cane yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 45.35 tons/ac. (ii) 3.94 tons/ac. (iii) Treatment differences are significant. (Iv) Av. yield of sugarcane in tons/ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	48.76	56.54	49.49	26.62

S.E./mean = 2.79 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 55(22).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'C'**

Object :—To study the performance of cane under Java method of planting as against local method.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) 20 C.L./ac. of F.Y.M.+200 lb./ac. of N as A/S and G.N.C. in 1 : 1 ratio. (ii) (a) Clayey loam. (b) N.A. (iii) 22 to 24.2 1955. (iv) (a) Lifting stubbles, breaking clods, ploughings, and ridging. (b) N.A (c) 15,000. (d) 2'9" between rows. (e) N.A. (v) 20 C.L./ac. of F.Y.M. +30 lb./ac. of N as A/S at planting and 170 lb./ac. of N as A/S in the 7th week after planting. (vi) CO—4.9 (medium). (vii) Irrigated. (viii) Weeding. intercultivation, earthing up and wrapping cane. (ix) 37.30". (x) 15.2.1956.

2. TREATMENTS :

Main-plot Treatments :

2 types of seeds : T_1=Top setts and T_2=Rayungons.

Sub-plot Treatments :

3 Spacings within rows : S_1=6", S_2=12" and S_3=18".

3. DESIGN :

(i) Split-plot (ii) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 62'5"×24'6". (b) 56'5"×19'3". (v) 1 row of cane on either side. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Cane yield. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 29.27 tons/ac. (ii) (a) 2.34 tons/ac. (b) 4.74 tons/ac. (iii) Only T effect is significant. (iv) Av. yield of sugarcane in tons/ac.

	S_1	S_2	S_3	Mean
T_1	30.68	30.78	31.20	30.89
T_2	28.95	25 63	28.38	27.65
Mean	29.82	28.21	29.79	29.27

S.E. of difference of two

1. T marginal means = 0.96 tons/ac.
2. S marginal means = 2.37 tons/ac.
3. S means at the same level of T = 3.35 tons/ac.
4. T means at the same level of S = 2.90 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 55(18).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'C'**

Object :—To find out the optimum spacing for Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) 20 C.L./ac. of F.Y.M.+200 lb./ac. of N as A/S and G.N.C. in 1 : 1 ratio. (ii) (a) Clayey loam. (b) N.A. (iii) 21.2.1955. (iv) (a) Lifting stubbles, breaking clods and ploughing. (b) N.A. (c) 15000 three-budded setts/ac. (d) 2'9" between rows. (e) N.A. (v) 20 C.L./ac of F.Y.M.+200 lb./ac. of N as A/S and G.N.C. in 1 : 1 ratio applied in 2 equal doses. (vi) CO—419 (medium). (vii) Irrigated, (viii) Weeding, intercultivation, earthing up and wrapping cane. (ix) 37.30". (x) 15.2.1956.

2. TREATMENTS :

5 plant spacings : S_1=21", S_2=27", S_3=33", S_4=39" and S_5=45".

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 51'×27'. (b) 45'×21.5'. (v) 1 row on either side. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Cane yield. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 44.93 tons/ac. (ii) 6.35 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	S_1	S_2	S_3	S_4	S_5
Av. yield	46.07	44.93	45.23	46.83	41.57

S.E./mean = 3.18 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 56(175).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'C'.**

Object :—To find the optimum spacing between rows and seed rate for this tract.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) Nil. (ii) (a) Clay loam. (b) N.A. (iii) 22.4.1956. (iv) (a) Ploughing and ridging (b) Planted in furrows. (c) and (d) As per treatments. (e) N.A. (v) 20.C.L./ac. of compost+200 lb./ac. of N as A/S and G.N.C. in 1 : 1 ratio. (vi) CO—419. (vii) Irrigated. (viii) Interculturing, weeding and earthing up. (ix) 41.17". (x) 26.4.1957.

2. TREATMENTS :

A=Planted 20,000 three-budded setts/ac. at a spacing of 21", B=Planted 18,000 three-budded setts/ac. at a spacing of 27", C=16,000 three-budded setts/ac at a spacing of 33", D=14,000 three-budded setts/ac. at a spacing of 39" and E=Planted 12,000 three-budded setts/ac. at a spacing of 45".

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 46'×24'. (b) 40'×18'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Smut and top shoot borer. (iii) Tiller count, height of cane and can yield. (iv) (a) 1956—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 45.30 tons/ac. (ii) 1.87 tons/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	A	B	C	D	E
Av. yield	40.96	40.74	45.52	48.20	51.08

S.E./mean = 0.94 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 57(185).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'C'.**

Object :—To find the optimum spacing between rows and seed rate for this tract.

1. BASAL CONDITIONS :

(i) (a) Nil. (a) Sugarcane. (c) 20 C.L./ac. of compost+200 lb./ac. of N as A/S and G.N.C in 1 : 1 ratio. (ii) (a) Clay loam. (b) N.A. (iii) 7.7.1957. (iv) (a) Ploughing, and ridging. (b) Planting setts in furrows (c) and (d) As per treatments. (e) N.A. (v) 20 C.L./ac. of compost+200 lb./ac. of N as A/S and G.N.C. in 1 : 1 ratio. (vi) CO—419. (vii) Irrigated. (viii) Interculturing, earthing up and weeding. (ix) 47.14". (x) 12, 19.11.1958.

2. TREATMENTS :

Same as in expt. no. 56 (175) on page 510.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 51'×27'. (b) 45'×21'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Slight lodging in April. (ii) Smut and top shoot borers. (iii) Tiller counts, height of cane and yield data. (iv) (a) 1956—1957. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) The date of harvest was postponed as the factory stopped crushing cane before the due date of harvest.

5. RESULTS :

(i) 40.89 tons/ac. (ii) 5.62 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	A	B	C	D	E
Av. yield	45.77	40.31	39.66	39.87	38.84

S.E./mean = 2.81 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 55(214).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'C'.**

Object :—To find the performance of Sugarcane in various seasons.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—Paddy. (b) Paddy. (c) 5 tons/ac. of F.Y.M.+40 lb./ac. of N+40 lb./ac. of P_2O_5. (ii) (a) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) As per treatments. (iv) (a) Ploughing. (b) Planting setts. (c) 10,000 setts/ac. (d) 3' between rows. (e) N.A. (v) 10 tons/ac. of F.Y.M.+200 lb./ac. of N as A/S and G.N.C. (vi) CO—419. (vii) Irrigated. (viii) Interculturing and earthing up. (ix) 40.44". (x) As per treatments.

2. TREATMENTS :

5 dates of planting sugarcane: D_1=November 1955, D_2=December 1955, D_3=January 1956, D_4= February 1956 and D_5=March, 1956.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 1/66.67 ac. (b) 1/100 ac. (v) 2 rows. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Cane yield. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 28.91 tons/ac. (ii) 3.77 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	D_1	D_2	D_3	D_4	D_5
Av. yield	32.35	26.48	30.49	29.99	25.24

S.E./mean = 1.89 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 57(216).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'C'.**

Object :—To find the performance of Sugarcane in various Seasons.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—Paddy. (b) Paddy. (c) 5 tons/ac. of F.Y.M.+40 lb./ac. of N+40 lb./ac. of P_2O_5. (ii) (a) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) As per treatments. (iv) (a) Ploughing. (b) Planted in furrows. (c) 10,000 setts/ac. (d) 3′ between rows. (e) 3 buds/sett. (v) 10 tons/ac. of F.Y.M.+ 200 lb./ac. of N as A/S and G.N.C. (vi) CO—419. (vii) Irrigated. (viii) Interculturing and earthing up. (ix) 36.2″. (x) As per treatments.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(214) on page 511.

5. RESULTS :

( ) 35.48 tons/ac. (ii) 5.42 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	D_1	D_2	D_3	D_4	D_5
Av. yield	40.87	34.61	35.41	34.50	32.00

S.E./mean = 2.71 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 55(191).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'CM'.**

Object :—To find out a suitable spacing in combination with manurial dose for Sugarcane for Dharwar tract.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5 C.L./ac. of F.Y.M.+50 lb./ac. of N, P and K mixture. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 22.1.1955 to 2.2.1955. (iv) (a) Ploughing, clod crushing and weeding. (b) Planted in furrows. (c) 10,000 to 11,000 setts/ac. (d) As per treatments. (e) One sett. (v) 20 C.L./ac. of F Y.M.+100 lb./ac. of P_2O_5 as Super. (vi) CO—419. (vii) Unirrigated. (viii) 1 interculturing, 2 weedings. (ix) 98″. (x) 13 to 27.1.1956.

2. TREATMENTS :

Main-plot treatments :

3 row spacings : S_1=2′, S_2=3′ and S_3=4′.

Sub-plot treatments :

2 levels of N as A/S : N_1=150 and N_2=225 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) S_1= 40′×32′, S_2=40′×30′ and S_3=40′×40′. (b) 32′×24′. (v) 4′×4′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Mosaic disease appeared in the leaves—no control measures were taken. (iii) Height, girth and yield of cane. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 31.12 tons/ac. (ii) (a) 5.00 tons/ac. (b) 1.48 tons/ac. (iii) Effect of N alone is highly significant. (iv) Av. yield of sugarcane in tons/ac.

	S_1	S_2	S_3	Mean
N_1	30.94	30.71	26.23	29.29
N_2	35.92	32.10	30.83	32.95
Mean	33.43	31.41	28.53	31.12

S.E. of difference of two

1. S marginal means = 2.50 tons/ac.
2. N marginal means = 0.60 tons/ac.
3. N means at the same level of S = 1.05 tons/ac.
4. S means at the same level of N = 2.61 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 59(207).**

Site :- Sugarcane Res. Stn., Gangavathy. **Type :- 'CM'.**

Object :—To study the effect of spacing and manuring on the yield of Cane.

1. BASAL CONDITIONS :

i) and (ii) N.A. (iii) 5 to 7.5.1959. (iv) and (v) N.A. (vi) CO—419. (vii) to (ix) N.A. (x) 24.4.1960 to 3.5.1960.

2. TREATMENTS :

Main-plot treatments :

3 levels of N as A/S : N_1=150, N_2=225 and N_3=300 lb./ac.

Sub-plot treatments :

2 row spacings : S_1=3′ and S_2=4′.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 36′×36′. (b) 30′×24′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) N.A. (iii) Yield of cane. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) to (vii) N.A.

5. RESULTS :

(i) 18.52 tons/ac. (ii) (a) 5.81 tons/ac. (b) 6.69 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of sugarcane in tons/ac.

	N_1	N_2	N_3	Mean
S_1	19.67	17.34	18.77	18.59
S_2	18.70	15.47	21.16	18.44
Mean	19.19	16.41	19.97	18.52

S.E. of difference of two

1. N marginal means = 2.37 tons/ac.
2. S marginal means = 2.23 tons/ac.
3. S means at the same level of N = 3.86 tons/ac.
4. N means at the same level of S = 3.62 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 56(187).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'CM'.**

Object :—To demonstrate the benefits of greater spacing between rows and higher dosage of fertilizers to Sugarcane crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) N.A. (ii) (a) Clay loam. (b) N.A. (iii) 5.4.1958. (iv) (a) Ploughing and making furrows. (b) Planted in furrows. (c) and (d) As per treatments. (e) N.A. (v) 20 C.L./ac. of compost. (vi) CO—419. (vii) Irrigated. (viii) Interculturing and weeding. (ix) 30.31". (x) 8.3.1959.

2. TREATMENTS :

A=2′ spacing, 15000, three-budded setts/ac., 200 lb./ac. of N, B=2′ spacing, 15000 three-budded setts/ac., 400 lb./ac. of N, C=3′ spacing, 12000 three-budded setts/ac., 200 lb./ac. of N and D=3′ spacing, 12000 three-budded setts/ac., 400 lb./ac. of N.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 2. (iv) (a) 87′×40′. (b) 81′×32′6″. (v) One row. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Stem borer. (iii) Tiller counts and cane yield. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 41.67 tons/ac. (ii) 11.86 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	A	B	C	D
Av. yield	29.66	40.60	41.22	55.20

S.E /mean = 8.39 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 58(44).**

Site :- Sugarcane Res. Stn., Mandya. **Type :- 'CM'.**

Object :—To find the optimum spacing and dose of N for Sugarcane in this tract.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Mandya. (iii) 26.10.1958. (iv) (a) 3 to 4 ploughings, harrowing and levelling, (b) Planted in furrows. (c) 10,000 to 11,000 setts/ac. (d) As per treatments. (e) N.A. (v) 10 C.L./ac. of F.Y.M.+100 lb./ac. of P_2O_5. (vi) CO—419 (late). (vii) Irrigated. (viii) 2 interculturings and 4 weedings. (ix) 22.3″ (x) 30.12.1959.

2. TREATMENTS :

Main-plot treatments :

3 levels of N : N_1=150, N_2=300, N_3=450 lb./ac.

Sub-plot treatments :

2 row spacings : S_1=3′ and S_2=4′.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) S_1= 36′×30′ and S_2=36′×32′. (b) 30′×24′. (v) 2 rows. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Stem borer and top shoot borer—mechanical measure adopted. (iii) Germination, tillering growth observations and sugar content and cane yield. (iv) (a) 1958—1959. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 56.32 tons/ac. (ii) (a) 12.10 tons/ac. (b) 13.97 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of sugarcane in tons/ac.

	N_1	N_2	N_3	Mean
S_1	56 76	62.29	58.06	59.04
S_2	51.93	54.94	53.94	53.60
Mean	54.35	58.62	56.00	56.32

S.E. of difference of two

1. N marginal means = 4.93 tons/ac.
2. S marginal means = 4.66 tons/ac.
3. S means at the same level of N = 8.07 tons/ac.
4. N means at the same level of S = 7.55 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 59(156).**

Site :- Sugarcane Res. Stn., Mandya. **Type :- 'CM'.**

Object :—To find the optimum spacing and dose of N for Sugarcane in this tract.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) N.A. (ii) (a) Sandy. (b) Refer soil analysis, Mandya. (iii) 28.8.1959. (iv) (a) 3 to 4 ploughings, harrowing and levelling. (b) Planted in furrows. (c) 10,000 to 11,000 setts/ac. (d) As per treatments. (e) 1 sett. (v) 10 C.L./ac. of F.Y.M.+10 lb./ac. of P_2O_5. (vi) CO—419 (late). (vii) Irrigated. (viii) 2 interculturings and 4 weedings. (ix) 26.84". (x) 30.10.1960.

2. TREATMENTS :

Same as in expt. no. 58(44) on page 514.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 36'×30'. (b) 24'×24'. (v) 2 rows. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Germination, tillering and yield data. (iv) (a) 1958—contd. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 54.27 tons/ac. (ii) (a) 8.77 tons/ac. (b) 9.16 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of sugarcane in tons/ac.

	N_1	N_2	N_3	Mean
S_1	53.50	54.11	60.18	55.93
S_2	49.88	55.01	52.92	52.60
Mean	51.69	54.56	56.55	54.27

S.E. of difference of two

1. N marginal means = 3.58 tons/ac.
2. S marginal means = 3.05 tons/ac.
3. S means at the same level of N = 5.29 tons/ac.
4. N means at the same level of S = 5.18 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 55(92).**

Site :- Agri. Res. Stn., Alnavar. **Type :- 'I'.**

Object :—To find out a suitable interval of irrigation for Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 40 lb./ac. of N as A/S. (ii) (a) Medium black soil. (b) Refer soil analysis, Alnavar. (iii) 10.2.1955. (iv) (a) 1 light ploughing, 1 deep ploughing and 3 to 4 clod crushings. (b) Dry planting in furrows. (c) to (e) N.A. (v) 10 C.L./ac. of F.Y.M.+100 lb./ac. of P_2O_5 in furrows at planting+150 lb./ac. of N as A/S and G.N.C. in 1 : 1 ratio applied in 3 equal doses at planting, 1st week of May and 1st week of June. (vi) CO—419 (early). (vii) As per treatments. (viii) 2 weedings. (ix) 39.39". (x) 18.1.1956.

2. TREATMENTS :

3 intervals of irrigation : I_1=Control (only two irrigations), I_2=21 days and I_3=42 days.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 4. (iv) (a) 30′×18′. (b) 24′×12′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Stem borer, top borer, slight pyrella—removed the affected shoots, and D.D.T. was sprayed, no control measures were taken for yellowing chlorophyll leaf spot. (iii) Biometric observations and cane yield. (iv) (a) 1955—1956. (b) Yes. (c) Nil. (v) (a) and (b) No. (vi) Nil. (vii) Seed soaked in saturated lime solution. Treatment I_3 is based on only 3 replications.

5. RESULTS :

(i) 42.27 tons/ac. (ii) 5.11 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	I_1	I_2	I_3
Av. yield	35.37	45.39	44.31

S.E. of I_1 or I_2 means = 2.56 tons/ac.

S.E. of I_3 mean = 2.95 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 56(9).**

Site :- Agri. Res. Stn., Alnavar. **Type :- 'I'.**

Object :—To find out a suitable interval of irrigation for Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 40 lb./ac. of N as A/S. (ii) (a) Medium black soil. (b) Refer soil analysis, Alnavar. (iii) 8.2.1956. (iv) (a) Deep ploughing, clod crushing and opening furrows. (b) to (e) N.A. (v) 100 lb./ac. of P_2O_5 as Super+10 C.L./ac. of F.Y.M. in furrows at planting+150 lb./ac. of N as G.N.C. and A/S in 3 equal doses at planting, 1st week of May and 1st week of June. (vi) CO—419 (early). (vii) As per treatments. (viii) 2 weedings. (ix) 60.11″. (x) 10.3.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(92) on page 515.

4. GENERAL :

(i) Good. (ii) Stem borer, top borer and pyrilla—removed the effected shoots and D.D.T. sprayed. No control measures taken for yellowing of chlorophyll leaf spot. (iii) Biometric observations and cane yield. (iv) (a) 1955—1956. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 28.66 tons/ac. (ii) 2.32 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	I_1	I_2	I_3
Av. yield	26.72	30.05	29.21

S.E./mean = 1.16 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 55(17).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'I'.**

Object :—To find out a suitable interval of irrigation for Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) 20 C.L./ac. of F.Y.M.+200 lb./ac. of N : ½ as A/S and ½ as G.N.C. (ii) (a) Clayey loam. (b) N.A. (iii) 29.1.1955. (iv) (a) Lifting stubbles, breaking clods, ploughing and ridging. (c) N.A. (c) 15,000 three-budded setts/ac. (d) 2'9" between rows. (e) N.A. (v) 10 tons/ac. of F.Y.M.+200 lb./ac. of N as A/S and G.N.C. in the ratio 1 : 1. (vi) CO—419. (vii) Irrigated. (viii) Weeding, intercultivation, earthing up and wrapping of cane. (ix) 37.30". (x) 11.1.1956.

2. TREATMENTS :

3 intervals of irrigation : I_1=10, I_2=15 and I_3=20 days.

3. GENERAL :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 4. (iv) (a) 57'×33'. (b) 56'×27'6". (v) 1 row on either side. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Cane yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 37.17 tons/ac. (ii) 1.87 tons/ac. (iii) Treatment differences are significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	I_1	I_2	I_3
Av. yield	36.62	39.73	35.16

S.E./mean = 0.94 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 56(178).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'I'.**

Object :—To find out a suitable interval of irrigation after earthing up for Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) N.A. (ii) (a) Clay loam. (b) N.A. (iii) 7.2.1956. (iv) (a) Ploughing, making furrows and ridges. (b) Planted in furrows. (c) 15,000 setts/ac. (d) 2'9" between rows. (e) 1 sett. (v) 20 C.L./ac. of F.Y.M.+200 lb./ac. of N. (vi) CO—419. (vii) As per treatments. (viii) Weeding and interculturing. (ix) 40.90". (x) 28.2.1957.

2. TREATMENTS :

3 intervals of irrigation : I_1=10, I_2=15 and I_3=20 days.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 4. (iv) (a) 72'×30¼'. (b) 69'×27¼'. (v) 1½'×1½'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tiller counts, height of plants and cane yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 34.10 tons/ac. (ii) 3.52 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	I_1	I_2	I_3
Av. yield	35.18	35.19	31.94

S.E./mean = 1.76 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 57(188).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'I'.**

Object :—To find a suitable interval of irrigation after earthing up for Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) 20 C.L./ac. of F.Y.M.+200 lb./ac. of N. (ii) (a) Clay loam. (b) N.A. (iii) 22.3.1957. (iv) (a) Ploughing, making furrows and ridges. (b) Planted in furrows. (c) 15,000 setts/ac. (d) 2'9" between rows. (e) 1 sett. (v) 20 C.L./ac. of F.Y.M.+200 lb./ac. of N. (vi) CO—4.9. (vii) As per treatments. (viii) Weeding and interculturing. (ix) 28.69". (x) 18 to 20.2.1958.

2. TREATMENTS :

4 intervals of irrigation : I_1=10, I_2=15, I_3=20 and I_4=30 days.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 3. (iv) (a) 64'×27'6". (b) 58'×22'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Tiller counts, height and yield of cane. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 47.82 tons/ac. (ii) 6.39 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	I_1	I_2	I_3	I_4
Av. yield	50.33	42.65	49.63	48.67

S.E./mean = 3.69 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 58(179).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'I'.**

Object :—To find out a suitable interval of irrigation after earthing up for Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) 20 C.L./ac. of F.Y.M.+200 lb./ac. of N. (ii) (a) Clay loam. (b) N.A. (iii) 18.3.1958. (iv) (a) Ploughing, making furrow and ridges. (b) Planted in furrows. (c) 12,000 setts/ac. (d) 2'9" between rows. (e) 1 sett. (v) 20 C.L./ac. of F.Y.M.+200 lb./ac. of N. (vi) CO—419. (vii) As per treatments. (viii) Weeding and intercultivation. (ix) 30.31". (x) 18.2.1959.

2. TREATMENTS :

4 intervals of irrigation : I_1=10, I_2=15, I_3=20 and I_4=30 days.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 3. (iv) (a) 69'×30'3". (b) 66'×24'9". (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tiller count, height of plants and cane yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 33.57 tons/ac. (ii) 5.36 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	I_1	I_2	I_3	I_4
Av. yield	34.42	30.49	37.03	32.33

S.E./mean = 3.09 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 54(218).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To study the water requirement of Sugarcane under different manurial conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Maize. (c) As per treatments. (ii) (a) Kirl mixed black. (b) N.A. (iii) 16.8.1954. (iv) (a) Ploughing and harrowing. (b) In furrows. (c) 12,500 setts/ac. (d) 3½' between rows. (e) N.A. (v) 20,000 lb./ac. of compost. (vi) CO—419. (vii) As per treatments. (viii) Interculturing and hand weeding. (ix) 35.25" (x) 8.2.1956.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 levels of irrigation : I_1=Judgement level, I_2=95 and I_3=115 ac. inches in 12 months.
(2) 3 levels of N : N_1=150, N_2=225 and N_3=300 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 31.5'×53.5'. (b) 24.5'×45.5'. (v) 3½'×4'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Germination count, no. and length of internodes and yield of cane. (iv) (a) 1954—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 40.72 tons/ac. (ii) 7.19 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of sugarcane in tons/ac.

	N_1	N_2	N_3	Mean
I_1	38.77	46.98	46.41	44.05
I_2	39.17	34.95	43.38	39.17
I_3	39.33	40.66	36.83	38.94
Mean	39.09	40.86	42.21	40.72

S.E. of any marginal mean = 2.08 tons/ac.
S.E. of body of table = 3.60 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 55(203).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To study the water requirement of Sugarcane under different manurial conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Maize. (c) As per treatments. (ii) (a) Deep black soil mixed with alkaline patches. (b) N.A. (iii) 31 8.1955. (iv) (a) Ploughing, harrowing and opening furrows. (b) Planting in furrows. (c) 12,000 setts/ac. (d) 3½' between rows. (e) N.A. (v) 30 C.L./ac. of F.Y.M. (vi) CO—419. (vii) As per treatments. (viii) Interculturing and hand weeding. (ix) 48.77". (x) 27.3.1957.

2. TREATMENTS :

Main-plot treatments :

3 levels of irrigation : I_1=Judgement level, I_2=95 and I_3=115 ac. inches in 12 months.

Sub-plot trertments :

3 levels of N : N_1=150, N_2=225 and N_3=300 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 5. (iv) (a) 52'×21'. (b) 46'×14'. (v) 3'×3½'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Germination counts, no. and length of internodes and cane yield. (iv) (a) 1954 –1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 31.56 tons/ac. (ii) (a) 5.75 tons/ac. (b) 3.94 tons/ac. (iii) Main effect of N alone is highly significant. (iv) Av. yield of sugarcane in tons/ac.

	I_1	I_2	I_3	Mean
N_1	29.47	27.58	27.55	28.18
N_2	34.71	28.71	31 06	31.49
N_3	35.87	35.73	33.49	35.03
Mean	33.35	30.65	30.70	31.56

S.E. of difference of two

1. I marginal means = 2.10 tons/ac.
2. N marginal means = 1.44 tons/ac.
3. N means at the same level of I = 2.49 tons/ac.
4. I means at the same level of N = 2.92 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 57(159).**

Site :- Agri. Res. Stn., Arbhavi. **Type :- 'IM'.**

Object :—To study the water requirement of Sugarcane under different levels of manure.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Maize. (c) As per treatments.. (ii) (a) Deep black soil mixed with alkaline patches. (b) N.A. (iii) 1.9.1957. (iv) (a) Ploughing and harrowing. (b) Planted in furrow. (c) 12,000 setts/ac. (d) 3½' between rows. (e) N.A. (v) 15 C.L./ac. of F.Y.M. (vi) CO—419. (vii) As per treatments. (viii) Interculturing and hand weeding; (ix) 36.3". (x) 19.1.1959 to 28.1.1959.

2. TREATMENTS :

Same as in expt. no. 54(218) on page 519.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 51'×24.5'. (b) 43'×17.5'. (v) 4'×3½'. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Germination count, no. and length of internodes and yield of cane. (iv) (a) 1954—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 52.08 tons/ac. (ii) 5.13 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of sugarcane in tons/ac.

	I_1	I_2	I_3	Mean
N_1	48.69	50.93	51.67	50.43
N_2	50.23	51.51	53.57	51.77
N_3	53.59	54.05	54.49	54.04
Mean	50.84	52.16	53.24	52.08

S.E. of any marginal mean = 1.48 tons/ac.
S.E. of body of table = 2.57 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 58(150).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To study the water requirement of Sugarcane under different levels of manure.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Maize. (c) As per treatments. (ii) (a) Deep black soil mixed with alkaline patches. (b) N.A. (iii) 31.7.1958. (iv) (a) Ploughing and harrowing. (b) Planted in furrows. (c) 12,000 setts/ac. (d) 3½′ between rows. (e) N.A. (v) 15 C.L./ac. of F.Y.M. (vi) CO—419. (vii) As per treatments. (viii) Interculturing and hand weeding. (ix) 24.12°. (x) 20 to 28.1.1960.

2. TREATMENTS :

Same as in axpt. no. 54(218) on page 519.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 51′×24.5′. (b) 43′×17.5′. (v) 4′×3½′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Attack of shoot borer—affected shoots were cut and destroyed. (iii) Germination counts. No. and length of internodes and yield of cane. (iv) (a) 1954—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 13.51 tons/ac. (ii) 2.19 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of sugarcane in tons/ac.

	N_1	N_2	N_3	Mean
I_1	12.27	12.37	13.04	12.56
I_2	14.22	14.57	11.77	13.52
I_3	14.28	14 77	14.28	14.44
Mean	13.59	13.90	13.03	13.51

S.E. of any marginal means = 0.63 tons/ac.
S.E. of body of table = 1.10 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 58(154).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'IM'.**

Object :—To study the manurial requirements of Sugarcane under irrigated conditions.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—Maize. (b) *Rabi* Maize. (c) N.A. (ii) (a) Deep black soil mixed with alkaline patches. (b) N.A. (iii) 13 to 14.5.1958. (iv) (a) Ploughing and harrowing. (b) Planted in furrows. (c) 12,000 setts/ac. (d) 3½′ between rows. (e) N.A. (v) 15 C.L./ac. of F.Y.M. (vi) CO—419. (vii) As per treatments. (viii) Interculturing and hand weeding. (ix) 13.9°. (x) 30.1.1959 to 2.2.1959.

2. TREATMENTS :

All combinations of (1) and (2)
(1) 3 levels of irrigation : I_1=Judgement level, I_2=95 and I_3=115 ac. inches in 12 months.
(2) 3 levels of N : N_0=200, N_1=250 and N_2=300 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 24.5′×34′. (b) 17.5′×28′. (v) 3½′×7′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Germination count, no. and length of internodes and yield of cane. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 33.83 tons/ac. (ii) 5.67 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of sugarcane in tons/ac.

	I_1	I_2	I_3	Mean
N_1	33.35	36.16	33.88	34.53
N_2	31.26	35.35	36.75	34.45
N_3	29.37	34.12	34.04	32.51
Mean	31.39	35.21	34.89	33.83

S.E. of any marginal mean = 1.64 tons/ac.
S.E. of body of table = 2.84 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 54(222).**

Site :- Agri. Res. Stn., Arbhavi. **Type :- 'IM'.**

Object :—To study the water requirement of Sugarcane under different manurial conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c)—. (ii) (a) Deep black soil with alkaline patches. (b) N.A. (iii) 8 to 28.2.1954. (iv) (a) Clod crushing, discing and harrowing. (b) Furrows method. (c) 12,500 setts/ac. (d) 3½' between rows. (e) N.A. (v) 20,000 lb./ac. of compost. (vi) CO—419. (vii) As per treatments. (viii) Nil. (ix) 17.96". (x) 5 to 11.2.1955.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 levels of N : N_1=100, N_2=150 and N_3=200 lb./ac.

(2) 3 levels of irrigation : I_0=No irrigation, I_1=95 and I_2=115 ac. inches.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 48'×31.5'. (b) 40'×24.5'. (v) 4'×3½'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Germination count and cane yield. (iv) (a) 1954—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 43.55 tons/ac. (ii) 3.58 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of sugarcane in tons/ac.

	N_1	N_2	N_3	Mean
I_0	39.60	43.89	42.00	41.83
I_1	42.68	45.16	45.03	44.29
I_2	44.73	40.76	48.07	44.52
Mean	42.34	43.27	45.03	43.55

S.E. of any marginal mean = 1.03 tons/ac.
S.E. of body of table = 1.79 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 55(207).**

Site :- Agri. Res. Stn., Arbhavi **Type :- 'IM'.**

Object :—To study the water requirement of Sugarcane under different manurial conditions.

1. BASAL CONDITIONS.

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Deep black soil with alkaline patches. (b) N.A. (iii) 7.3.1955. (iv) (a) Clod crushing, discing and harrowing. (b) Furrows method. (c) 12,500 setts/ac. (d) 3½' between rows. (e) N.A. (v) 5 C.L./ac. of F.Y.M. (vi) CO—419. (vii) As per treatments. (viii) Nil. (ix) 28.50". (x) 25 to 28.2.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(222) on page 522.

5. RESULTS :

(i) 38.95 tons/ac. (ii) 3.80 tons/ac. (iii) Only the main effect of N is highly significant. (iv) Av. yield of Sugarcane in tons/ac.

	N_1	N_2	N_3	Mean
I_0	39.23	37.33	45.72	40.76
I_1	33.13	39.54	42.52	38.40
I_2	32.13	38.74	42.19	37.69
Mean	34.83	38.54	43.48	38.95

S.E. of any marginal mean = 1.10 tons/ac.
S.E. of body of table = 1.90 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 56(165)**

Site :- Agri. Res. Stn., Arbhavi. **Type :- 'IM'.**

Object :—To study the water requirement of Sugarcane under different manurial conditions.

1. BASAL CONDITINNS :

(i) (a) Nil. (b) Sannhemp. (c) Nil. (ii) (a) Black alkaline. (b) N.A. (iii) 17.1.1956. (iv) (a) Clod crushing, discing and harrowing. (b) Furrows method. (c) 12,000 setts/ac. (d) 3½' between rows. (e) N.A. (v) 15 C.L./ac. of F.Y.M. (vi) CO—419. (vii) As per treatments. (viii) Nil. (ix) 31 30". (x) 22 to 27.1.1959.

2. TREATMENTS :

Same as in expt. no. 54(222) on page 522.

3. DESIGN :

(i) R.B.D. (ii) 9. (b) N.A. (iii) 4. (iv) (a) 47'×31.5'. (b) 41'×24.5'. (v) 3½'×3'. (vi) Yes.

4. GENERAL :

(i) Normal. (i) Nil. (iii) Gemination count and cane yield. (iv) (a) 1954—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 39.59 tons./ac. (ii) 4.01 tons/ac. (iii) Only the effect of N is highly significant. (iv) Av. yield of Sugarcane in tons/ac.

	N_1	N_2	N_3	Mean
I_0	35.51	41.94	44.79	40.75
I_1	36.46	39.07	42.03	39.19
I_2	38.26	38.26	40.02	38.85
Mean	36.74	39.76	42.28	39.59

S.E. of any marginal mean = 1.16 tons/ac.
S.E. of a body of table = 4.01 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 57(167).**

Site :- Agri. Res. Stn., Arbhavi. **Type :- 'IM'.**

Object :—To study the water requirement of Sugarcane under different manurial conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sannhemp. (c) Nil. (ii) (a) Black alkaline. (b) N.A. (iii) 1.3.1957. (iv) (a) Clod crushing, discing and harrowing. (b) Furrows method. (c) 12,000 setts/ac. (d) 3½' between rows. (e) N.A. (v) 15 C.L./ac. of F.Y.M. (vi) CO—419. (vii) As per treatments. (viii) Nil. (ix) 27.14". (x) 19 to 24.2.1958 and 2 to 6.3.1958.

2. TREATMENTS :

Same as in expt. no. 54(222) on page 522.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 48'×31.5'. (b) 42'×24.5'. (v) 3'×3½'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Germination count, moisture studies and cane yield data. (iv) (a) 1954—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 38.49 tons ac. (ii) 7.39 tons/ac. (iii) Only the effect of N is significant. (iv) Av. yield of sugarcane in tons/ac.

	N_1	N_2	N_3	Mean
I_0	35.39	37.75	41.40	38.18
I_1	29.47	42.38	41.13	37.66
I_2	35.59	38.42	44.87	39.63
Mean	33·48	39.52	42.47	38.49

S.E. of any marginal mean = 2.13 tons/ac.
S.E. of body of table = 3.70 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 59(22).**

Site :- Agri. Res. Stn., Arbhavi. **Type :- 'IM'.**

Object :—To study the water requirement of Sugarcane under different manurial conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Maize+Sannhemp. (c) 20 lb./ac. of N as A/S and G.N.C. in the ratio 1 : 2. (ii) (a) Deep black alkaline. (b) N.A. (iii) 1.1.1959. (iv) (a) Clod crushing, discing and harrowing. (b) Furrows method. (c) 12,500 setts/ac. (d) 3½' between rows. (e) N.A. (v) 15 C.L./ac. of F.Y.M. (vi) CO—419. (vii) As per treatments. (viii) Nil. (ix) 20.14". (x) 2.2.1960.

2. TREATMENTS :

Same as in expt. no. 54(222) on page 522.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 34'×24½'. (b) 28'×17½'. (v) 3'×3½'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Slight attack of stem borer—Controled by cutting affected shoots. (iii) No. and length of internodes and cane yield. (iv) (a) 1954—1959. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) In summer there was extraordinary scarcity of water. (vii) Nil.

5. RESULTS :

(i) 26.38 tons/ac. (ii) 2.67 tons/ac. (iii) The effects of I and interaction I×N are highly significant. (iv) Av. yield of sugarcane in tons/ac.

	N_1	N_2	N_3	Mean
I_0	18.94	27.47	25.22	23.88
I_1	27.93	27.49	26.51	27.31
I_2	32.28.	26.30	25.30	27.96
Mean	26 38	27.09	25.68	26.38

S.E. of any marginal mean = 0.77 tons/ac.
S.E. of body of table = 1.34 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 59(208).**

Site :- Sugarcane Res. Stn., Gangavathy. **Type :- 'IC'.**

Object :—To study the effect of time of sowing and irrigation on the Sugarcane yield.

1. BASAL CONDITIONS :

(i) and (ii) N.A. (iii) As per treatments. (iv) and (v) N.A. (vi) CO—419. (vii) to (ix) N.A. (x) As per treatments.

TREATMENTS :

Main-plot treatments :

6 dates of planting : D_1=21.12.1958, D_2=6.1.1959, D_3=21.1.1959, D_4=6.2.1959, D_5=21.2.1959 and D_6=6.3.1959.

Sub-plot treatments :

5 intervals of irrigation : I_1=Once in 6 days, I_2=Once in 12 days, I_3=Once in 18 days, I_4=Once in 24 days and I_5=Once in 30 days.

3. DESIGN :

(i) Split-plot. (ii) (a) 6 main-plots/replication ; 5 sub-plots/main-plot. (b) N.A. (iii) 2. (iv) (a) N.A. (b) 24′×30′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) and (ii) N.A. (iii) Yield of cane. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

( ) 20.18 tons/ac. (ii) (a) 7.65 tons/ac. (b) 3.16 tons/ac. (iii) Only the effect of I is highly significant. (iv) Av. yield of sugarcane in tons/ac.

	D_1	D_2	D_3	D_4	D_5	D_6	Mean
I_1	24.62	24.67	26.21	26.32	19.05	24.60	24.25
I_2	26.22	20.87	22.25	19.36	14.32	23.35	21.06
I_3	22.81	20.78	14.67	21.02	22.63	16.25	19.69
I_4	23.25	22.29	15.96	14.77	14.12	19.01	18.23
I_5	23.70	21.67	14.55	16.69	14.66	14.58	17.64
Mean	24.12	22·06	18.73	19.63	19,96	19.56	20.18

S.E. of difference of two

1. D marginal means = 3.42 tons/ac.
2. I marginal means = 1.29 tons/ac.
3. I means at the same level of D = 3.16 tons/ac.
4. D means at the same level of I = 4.44 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 55(19).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'D'.**

Object :—To study the performance of different fungicides in controlling the occurrence of Smut in Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) 20 C.L./ac. of F.Y.M.+200 lb./ac. of N as A/S and G.N.C. (ii) (a) Clayey loam. (b) N.A. (iii) 22.3.1955. (iv) (a) Lifting stubbles, breaking clods, ploughing, and ridging. (b) N.A. (c) 15000 three-budded setts/ac. (d) Row to row 2'9". (e) N.A. (v) 10 tons/ac. of F.Y.M.+200 lb./ac. of N : ½ as A/S and ½ as G.N.C. (vi) CO—419 (medium). (vii) Irrigated. (viii) Weeding, intercultivation, earthing up and wrapping cane. (ix) 25.08". (x) 14.3.1956.

2. TREATMENTS :

4 fungicidal treatments : F_0=Control (no fungicide), F_1=Agallol 0.5% solution, F_2=Aretan 0.5% solution and F_3=Formalin 1.0 % solution.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) 42'×30'3". (b) 36'×24'3". (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Appearance of smut whips ; Collectiong whips at inteval of one week and burning the same. (iii) Cane yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 24.48 tons/ac. (ii) 5.38 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	F_0	F_1	F_2	F_3
Av. yield	23.62	24.92	24.72	24.67

S.E./mean = 2.41 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 56(179).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'D'.**

Object :—To study the performance of different fungicides in controlling the occurrence of Smut in Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) 20 C.L./ac. of F.Y.M. (ii) (a) Clay loam. (b) N.A. (iii) 20.4.1956. (vi) (a) Ploughing and ridging. (b) Planted in furrows. (c) 15,000 setts/ac. (d) Row to row 2'9". (e) 1 sett. (v) 200 lb./ac. of N : ½ as G.N.C. and ½ as A/S+20 C.L./ac. of F.Y.M. (vi) CO—419. (vii) Irrigated. (viii) Weeding and intercultivation. (ix) 46.57". (x) 8.7.1957.

2. TREATMENTS :

4 fungicidal treatments : F_0=Steeping setts in water for 24 hours (control), F_1=Steeping setts in 0.5% Aretan solution for 10 minutes, F_2=Steeping setts in 0.5% Agallol solution for 10 minutes and F_3=Steeping setts in 1.0% Formalin solution for 5 minutes and then covering them with moist gunnies for 2 hours before planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 16.5′×63′. (b) 13.5′×60′. (v) 1½′×1½′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Smut whips—Removed. (iii) Tiller counts and cane yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 38.33 tons/ac. (ii) 3.81 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	F_0	F_1	F_2	F_3
Av. yield	40.10	37.36	37.55	38.32

S.E./mean = 1.91 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 57(189).**

Site :- Sugarcane Liaison Farm, Hospet. **Type :- 'D'.**

Object :—To study the performance of different fungicides in controlling the occurrence of Smut in Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) Nil. (ii) (a) Clay loam. (b) N.A. (iii) 19.5.1957. (iv) (a) Ploughing. (b) Planted in furrows. (c) 15,000 setts/ac. (d) Row to row 2′9″. (e) 1 sett. (v) 20 C.L./ac of F.Y.M.+ 200 lb./ac. of N : ½ as G.N.C. and ½ as A/S. (vi) CO—419. (vii) Irrigated. (viii) Intercultivation and weeding. (iv) 28.00″. (x) 14.4.1958.

2. TREATMENETS :

5 fungicidal treatments : F_0=Control (steeping the setts in water for 24 hours before planting). F_1= Steeping the setts in 0.5% Aretan solution for 10 minutes, F_2=Steeping the setts in 0.5% Agallol solution for 10 minutes, F_3=Steeping the setts in 1.0% Formalin solution and then covering the setts with moist gunnies for 2 hours before planting and F_4=Steeping the setts in 1.0% Bordeaux solution for 10 minutes.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 55′×20′. (b) 49′×14½′. (v) 1 row on either side. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Smut whips—removed. (iii) Tiller counts and cane yield data. (vi) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 35.82 tons/ac. (ii) 7.62 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of sugarcane in tons/ac.

Treatment	F_0	F_1	F_2	F_3	F_4
Av. yield	32.24	33.77	37.48	39.86	35.76

S.E./mean = 3.81 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 58(178).**

Site :- Sugarcane Liaison Farm, Hospet. **Type:- 'D'.**

Object :—To study the performance of different fungicides in controlling the occurrence of Smut in Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) 20 C.L./ac. of F.Y.M.+200 lb./ac. of N. (ii) (a) Clay loam. (b) N.A. (iii) 15.5.1958. (iv) (a) Ploughing. (b) Planted in furrows. (c) 15,000 setts/ac. (d) Row to row 2′ 9″. (e) 1 sett. (v) 200 lb./ac. of N : ½ as G.N.C. and ½ as A/S.+20 C.L. of F.Y.M. (vi) CO—419. (vii) Irrigated. (viii) Intecultivation and weeding. (ix) 27.00″. (x) 15.4.1959.

2. TREATMENTS :

Same as in expt. no. 57(189) on page 527.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 63′×17.5′. (b) 60′×14.5′. (v) 1½′×1½′. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Smut whips—removed. (iii) Tiller counts and cane yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 31.00 tons/ac. (ii) 8.12 tons/ac. (iii) Treatment differences are not significant (iv) Av. yield of sugarcane in tons/ac.

Treatment	F_0	F_1	F_2	F_3	F_4
Av. yield.	23.86	32.07	32.56	33.72	32.78

S.E./mean = 4.06 tons/ac.

Crop :- Sugarcane. **Ref :- Ms. 59(41).**

Site :- Sugarcane Res. Stn., Mandya. **Type :- 'D'.**

Object :—To study the effect of salt treatment with different insecticides on the incidence of stem borer at the later stages of the plant.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Sandy. (b) N.A. (iii) 6.12.1959. (iv) (a) 3 to 4 ploughings and harrowing. (b) Planted in furrows (c) 10,000 to 11,000 setts/ac. (d) 3′×2′. (e) 1 sett. (v) Nil. (vi) CO—419. (vii) Irrigated (viii) weeding. (ix) 1.40″. (x) N.A.

2. TREATMENTS :

F_0=Control (no treatment), F_1=Soaking the setts in B.H.C. solution for 24 hours before planting, F_2= Soaking the setts in Endrex solution for 24 hours before planting, F_3=Soaking of setts in the Heptachlore solution for 24 hours before planting, F_4=Sprinkling of B.H.C. at planting time, F_5=Sprinkling of Endrex at planting time, F_6=Sprinkling of the Heptachlore at planting time and F_7=Soaking the setts in cold water for 24 hours before planting.

3. DESIGN :

(i) R B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) and (b) 18′×24′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Stem borer and topshoot borer were observed—Control measures as per treatments. (iii) Germination count and incidence of borers. (iv) (a) 1959—1962. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 7.21%. (ii) 3.29%. (iii) Treatment differences are not significant. (iv) Mean percentage infection.

Treatment	F_0	F_1	F_2	F_3	F_4	F_5	F_6	F_7
Mean percentage	7.38	8.08	7.26	7.21	8.68	5.87	6.16	6.98

S.E./mean = 1.65%.

Crop :- Sugarcane. **Ref :- Ms. 59(1).**

Site :- Sugarcane. Res. Stn., Mandya. **Type :- 'D'.**

Object :—To establish suitable programme of controlling weeds.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) Sandy. (b) N.A. (iii) 6.12.1959. (iv) (a) 3 ploughings and levelling. (b) Planted in furrows. (c) 12,000 setts./ac. (d) 3′×2′. (e) 1 sett. (v) 75 lb./ac. of P_2O_5+30 lb./ac. of N as A/S in 4 instalments of 10, 20, 30, and 40% at planting, 6th, 10th, and 14th weeks after planting respectively. (vi) CO—419. (vii) Irrigated. (viii) 2 weedings. (ix) 26.84″. (x) 23.12.1960.

2. TREATMENTS :

T_0=Control (no weeding etc.), T_1=Pre-emergence spray of 2 lb./ac. of 2-4-D, T_2=T_1+Post-emergence spray of 2 lb./ac. of 2-4-D, T_3=T_1+Stirring, T_4=T_2+Stirring, T_5=Stirring only, T_6=2 weedings—3rd and 5th week after planting and T_7=Pre and post-emergence spray of 1½ lb./ac. of 2-4-D each time.

3. DESIGN :

(i) R.B.D. (ii) (a) 8 (b) N.A. (iii) 3. (iv) (a) 30′×24′. (b) 24′×18′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Cane yield. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 38.32 tons/ac. (ii) 12.17 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of Sugarcane in tons/ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7
Av. yield	42.28	38.31	43.08	37.58	38.98	35.40	37.98	32.95.

S.E./mean = 7.03 tons/ac.

Crop :- Sugarcane. **Ref :- Ms 54(148).**

Site :- Agri. Res. Stn., Alnavar. **Type :- 'DI'.**

Object :— To find out the effect of soaking setts in the saturated lime solution.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 40 lb./ac. of N as A/S. (ii) (a) Medium black soil. (b) Refer soil analysis, Alnavar. (iii) 25.2.1954. (iv) (a) One light ploughing, one deep ploughing and 3 to 4 times clod crushing. (b) Dry ploughing in furrows (c) N.A. (d) 9″×12″. (e) N.A. (v) 10 C.L./ac. of F.Y.M. at planting in furrows+150 lb./ac. of N as A/S and G.N.C. in 1 : 1 ratio. (vi) CO—419 (early). (vii) As per treatments. (viii) Weeding. (ix) 42.32″ (x) 28.2.1955.

2. TREATMENTS :

All combinations of (1) and (2).

(1) S_1 : Setts soaked for 12 hrs. in saturated lime solution before planting.
S_2 : Setts unsoaked.

(2) I_1=Irrigation at 21 days interval.
I_2=Irrigation at 42 days interval.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 2. (iv) (a) 30′×18′. (b) 24′×12′. (v) 3′ all round. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Slight attack of stem borer and top borer—Removing the affected shoots. (iii) Germination, tiller count and cane yield. (iv) (a) 1953—1954. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 33.00 tons./ac. (ii) 1.03 tons./ac. (iii) Main effect of I alone is significant. (iv) Av. yield of cane in tons./ac.

	I_1	I_2	Mean
S_1	35.01	30.14	32.58
S_2	34.44	32.37	33.41
Mean	34.73	31.26	33.00

S.E, of any marginal mean = 0.52 tons/ac.
S.E. of body of table = 0.73 tons/ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 57(184).**

Site :- Soils Cons. Res. Centre, Bellary. **Type :- 'M'.**

Object ;—To find out the optimum dose of N and P for Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Black cotton soil. (b) N.A. (iii) 17.9.1957 and 7.10.1957. (iv) (a) 3 harrowings. (b) Drilling. (c) 7 lb./ac. (d) 36" between rows. (e) N.A. (v) Nil. (vi) W—1 cotton. (vii) Unirrigated. (viii) Weeding and intercultivation. (lx) 11.56". (x) 25.4.1958.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 levels of N : N_0=0, N_1=20 and N_2=40 lb./ac.

(2) 4 levels of P_2O_5 : P_0=0, P_1=20, P_2=40 and P_3=100 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 3. (iv) (a) 126'×7'. (b) 120'×5' (v) 3'×1'. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Plant and boll count and yield of *kapas*. (iv) (a) 1957—contd. (b) Yes. c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 312 lb./ac. (ii) 45.1 lb./ac. (iii) No effect is significant. (iv) Av. yield of *kapas* in lb./ac.

	P_0	P_1	P_2	P_3	Mean
N_0	274	328	248	328	295
N_1	328	302	266	336	308
N_2	304	314	348	362	332
Mean	302	315	287	342	312

S.E. of N marginal mean = 13.0 lb./ac.
S.E. of P marginal mean = 15.0 lb./ac.
S.E. of body of table = 26.0 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 58(176).**

Site :- Soil Cons. Res. Centre, Bellary. **Type :- 'M'.**

Object :—To find out the optimum dose of N and P for Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton. (c) As per treatments. (ii) (a) Black cotton soil. (b) N.A. (iii) 19.9.1958. (iv) (a) 3 harrowings. (b) Drilling. (c) 7 lb./ac. (d) 36" between rows. (e) N.A. (v) Nil. (vi) W—1 cotton. (vii) Unirrigated. (viii) Interculturing and hand weeding. (ix) 7.05". (x) 12 and 31.3.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(184) on page 530.

5. RESULTS :

(i) 183 lb./ac. (ii) 26.4 lb./ac. (iii) No effect is significant. (iv) Av. yield of *kapas* in lb./ac.

	P_0	P_1	P_2	P_3	Mean
N_0	179	184	159	171	173
N_1	180	183	203	197	191
N_2	165	180	196	199	185
Mean	175	182	186	189	183

S.E. of N marginal mean = 7.6 lb./ac.
S.E. of P marginal mean = 8.8 lb./ac.
S.E. of body of table = 15.3 lb./ac.

Crop :- Cotton. **Ref :- Ms. 59(60).**

Site :- Soil Cons. Res. Centre, Bellary. **Type :- 'M'.**

Object :— To find out the optimum dose of N and P for Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton. (c) As per treatments. (ii) (a) Black cotton soil. (b) N.A. (iii) 23.9.1959. (iv) (a) Harrowing. (b) Drilling. (c) 7 lb./ac. (d) 36" between rows. (e) N.A. (v) Nil. (vi) W—1 cotton. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 5.98". (x) 24.2.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(184) on page 530.

5, RESULTS :

(i) 116 lb./ac. (ii) 13.6 lb./ac. (iii) No effect is significant. (iv) Av. yield of *kapas* in lb./ac.

	P_0	P_1	P_2	P_3	Mean
N_0	108	110	120	117	114
N_1	115	114	116	105	113
N_2	122	120	112	127	120
Mean	115	115	116	116	116

S.E. of N marginal mean = 3.9 lb./ac.
S.E. of P marginal mean = 4.6 lb./ac.
S.E. body of table = 7.9 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 58(181).**

Site :- Soil Cons. Res. Centre, Bellary. **Type :- 'M'.**

Object :—To find out the optimum dose and frequency of application of F.Y.M.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Black cotton soil. (b) N.A. (iii) 19.9.1958. (iv) (a) Harrowing. (b) Drilling. (c) 7 lb./ac. (d) 36" between rows. (e) N.A. (v) As per treatments. (vi) Westerns—1. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 5.11". (x) 31.3.1959.

2. TREATMENTS :

8 treatments of F.Y.M.

	1	2	3	4	5	6	7	8
1958	Nil	Nil	2000	4000	Nil	6000	Nil	Nil
1959	Nil	Nil	2000	Nil	4000	Nil	6000	Nil
1960	Nil	Nil	2000	4000	Nil	Nil	Nil	6000

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 45'×30'. (b) 39'×24'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Boll number and yield of *kapas*. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 222 lb./ac. (ii) 36.3 lb./ac. (iii) Only effect of treatments other than control are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	1, 2, 5, 7,8	3	4	6
Av. yield	220	231	201	246

S.E./mean (Treatments 3, 4, 6) = 18.2 lb./ac.
S.E. of control mean (Treatments 1, 2, 5, 7 and 8) = 5.7 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 59(61).**

Site :- Soil Cons. Res. Centre, Bellary. **Type :- 'M'.**

Object :—To find out the dose and frequency of application of F.Y.M. for Cotton crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton. (c) As per treatments. (ii) (a) Black cotton soil. (b) N.A. (iii) 23.9.1959. (iv) (a) Harrowing. (b) Drilling. (c) 7 lb./ac. (d) 36". (e) N.A. (v) As per treatments. (vi) Westerns—1. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 3.54". (x) 26.2.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(181) on page 531.

5. RESULTS :

(i) 103 lb./ac. (ii) 33.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	1, 2 and 8	3	4	5	6	7
Av. yield	93.7	101.8	125.3	93.4	105.4	114.5

S.E./mean = 16 7 lb./ac.
S.E. of control mean = 6.8 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 59(129).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the effect of N and P on the yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar.* (c) 5 C.L./ac. of F.Y.M. (ii) (a) Light red to medium black soil. (b) Refer soil analysis, Dharwar. (iii) 21.8.1959. (iv) (a) Ploughing. (b) Drilled. (c) N.A. (d) 2′×1′. (e) 1. (v) 5 C.L./ac. of F.Y.M. (vi) N.A. (vii) Unirrigated. (viii) N.A. (ix) 24.48″. (x) 6, 20.3.1960 and 4.4.1960.

2. TREATMENTS :

2 doses of manure : D_0=0 and D_1=20 lb./ac. of N+15 lb./ac. of P_2O_5.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) 30′×24′. (b) 22′×20′. (v) 4′×2′. (vi) Yes.

4. GENERAL :

(i) Healthy. (ii) Attack of Jassids. (iii) Cotton yield. (iv) (a) and (b) N.A. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 496 lb./ac. (ii) 38.9 lb./ac. (iii) Treatment difference is significant. (iv) Av. yield of cotton *kapas* in lb./ac.

Treatment	D_0	D_1
Av. yield	472	519

S.E./mean = 11.2 lb./ac.

Crop :- Cotton *(Kharif).* **Ref :- Ms. 59(29).**

Site :- College Farm, Dharwar. **Type :- 'M'.**

Object :—To study the effect of the selected combinations of N, P and K on Cotton.

1. BASAL CONDITIONS :

(i) (a) Cotton—Chilly—Groundnut. (b) Groundnut. (c) 3 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 2nd week of June. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 7 lb./ac. (d) 2′ between rows. (e) N.A. (v) Nil. (vi) *Jayadhar.* (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 49.3″. (x) 1, 3 and 7.3.1960.

2. TREATMENTS :

10 manurial treatments : M_0=Control, M_1=20 lb./ac. of N, M_2=M_1+20 lb./ac. of P_2O_5, M_3=M_2+20 lb./ac. of K_2O, M_4=40 lb./ac. of N+40 lb./ac. of P_2O_5, M_5=M_4+40 lb./ac. of K_2O, M_6=60 lb./ac. of N+60 lb./ac. of P_2O_5, M_7=M_6+60 lb./ac. of P_2O_5, M_8=80 lb./ac. of N+80 lb./ac. of P_2O_5 and M_9=M_8+80 lb./ac. of K_2O.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 30′×24′. (b) 26′×20′. (v) 2′×2′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of *kapas.* (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 586 lb./ac. (ii) 113.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8	M_9
Av. yield	607	495	471	690	529	610	661	570	644	576

S.E./mean = 56.7 lb./ac.

Crop :- Cotton. **Ref :- Ms. 59(14).**

Site :- College Farm, Dharwar. **Type :- 'M'.**

Object :—To study the effect of the selected combinations of N, P and K on Cotton.

1. BASAL CONDITIONS :

(i) (a) Chillies—Groundnut—Cotton. (b) Chillies. (c) 3 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 2nd week of June, 1959. (iv) (a) Ploughing. (b) Drilling. (c) 7 lb./ac. (d) 2′×1′. (e) N.A. (v) 20 lb./ac. of N+10 lb./ac. of P_2O_5 as A/S and Super respectively. (vi) *Jayadhar.* (vii) Unirrigated. (viii) Interculturing. (ix) 49.3″. (x) 25.11.1959 to 6.12.1959.

2. TREATMENTS :

Same as in expt. no. 59(29) on page 533.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 36′×24′. (b) 30′×18′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Boll Count and yield of *kapas*. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 564 lb./ac. (ii) 109.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8	M_9
Av. yield	585	477	454	664	510	587	637	549	619	555

S.E./mean = 54.6 lb./ac.

———

Crop :- Cotton *(Kharif).* **Ref :- Ms. 59(30).**

Site :- College Farm, Dharwar. **Type :- 'M'.**

Object :—To study the effect of G.M. on standing crop of Cotton.

1. BASAL CONDITIONS :

(i) (a) Chilly—Cotton. (b) Chilly. (c) 3 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) Aug., 1959. (iv) (a) Ploughing and 3 harrowings. (b) Dibbling. (c) 8 lb./ac. (d) 2′ between rows. (e) N.A. (v) 20 lb./ac. of N+15 lb./ac. of P_2O_5. (vi) Jayadhar. (vii) Unirrigated. (viii) 2 interculturings and weeding. (ix) 49.3″. (x) 8, 20 and 24.3.1960.

2. TREATMENTS :

6 green manurial treatments : M_0=Control, M_1=Sannhemp, M_2=*Dhaincha* (1 line), M_3=*Dhaincha* (2 lines), M_4=*Sesbania* (1 line) and M_5=*Sesbania* (2 lines).

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 30′×24′. (b) 26′×20′. (v) 2′×2′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Semi hopper observed—control measures taken. (iii) *Kapas* yield. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 565 lb./ac. (ii) 88.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	541	550	546	602	602	549

S.E./mean = 36.2 lb./ac.

———

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 57(128).**

Site :- College Farm, Dharwar. **Type :- 'M'.**

Object :—To study the effect of foliar spray of fertilizers on yield and quality of Jayadhar Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 20 lb./ac. of N+30 lb./ac. of P_2O_5. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 1st week of August, 1957. (iv) (a) 3 ploughings and 3 harrowings. (b) Dibbled. (c) 10 lb./ac. (d) 2′ between rows. (e) N.A. (v) Nil. (vi) Jayadhar. (vii) Unirrigated. (viii) Interculturing and hand weeding. (ix) 51.5″. (x) March 1958.

2. TREATMENTS :

All combinations of (1) and (2)+a control.

(1) 3 manurial treatments : M_1=Urea, M_2=Urea+Super and M_3=Urea+Super+Potash.

(2) 2 levels of manurial treatments : L_1=20 and L_2=40 lb./ac. separately for Urea, Super and Potash.

Sprayings of 20 lb./ac. of manurial treatments after at an interval of 15 days. First spraying just before flowering.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) 33′×33′. (b) 24′×25′. (v) 4.5′×4′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Boll count and yield of *kapas*. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 766 lb./ac. (ii) 80.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of *kapas* in lb./ac.

Control = 758

	M_1	M_2	M_3	Mean
L_1	808	746	711	755
L_2	791	751	796	779
Mean	799	749	754	767

S.E. of L marginal mean = 23.2 lb./ac.
S.E. of M marginal mean = 28.4 lb./ac.
S.E. of body of table or control mean = 40.2 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 58(117).**

Site :- College Farm, Dharwar. **Type :- 'M'.**

Object :—To study the effect of foliar spray of fertiligers on the yield and quality of Jayadhar Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 4 C.L./ac. of F.Y.M. (iii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) First week of August, 1958. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 10 lb./ac. (d) 24″ between rows. (e) N.A. (v) Nil. (vi) *Jayadhar*. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 17.5″. (x) March, 1959.

2. TREATMENTS :

Same as in expt. no. 57 (128) above.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 7. (b) No. (iii) 4. (iv) (a) 33′×33′. (b) 29′×29′. (v) 2′×2′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Boll count and yied of *kapas*. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 432 lb./ac. (ii) 57.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of *kapas* in lb./ac.

Control = 414 lb./ac.

	M_1	M_2	M_3	Mean
L_1	436	381	489	435
L_2	423	437	445	435
Mean	429	409	467	435

S.E. of L marginal mean = 16.5 lb./ac.
S.E. of M marginal mean = 20.2 lb./ac.
S.E. of body of table or control mean = 28.6 lb./ac.

Crop :- Cotton. **Ref :- Ms. 54(110).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the residual effect of N, P and F.Y.M. applied to kharif Jowar on Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) *Jowar*. (c) As per treatment. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 10.8.1954. (iv) (a) 4 Ploughings and 4 harrowings. (b) Dibbling. (c) 5 lb./ac. (d) 2′×1′. (e) N.A. (v) Nil. (vi) *Jayadhar*. (vii) Unirrigated. (viii) 3 interculturings and 1 hand weeding. (ix) 25.56″. (x) 5.3.1955. to 29.3.1955.

2. TREATMENTS :

All combinations of (1), (2) and (3) :

(1) 3 levels of N as A/S : N_1=40, N_2=60 and N_3=80 lb./ac.

(2) 2 levels of P_2O_5 : P_1=20 and P_2=40 lb./ac. as Super.

(3) 2 levels of F.Y.M. : F_1=5 and F_2=10 C.L./ac.

Manures were applied to the preceding *Jowar* crop.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) 48′×18′. (b) 36′×12′. (v) 6′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) No. (iii) Height measurements and yield of *kapas*. (iv) (a) 1949—contd. (b) and (c) No. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 717 lb./ac. (ii) 65.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

	N_1	N_2	N_3	Mean	F_1	F_2
P_1	702	703	751	719	720	717
P_2	679	751	719	716	715	718
Mean	690	727	735	717	718	717
F_1	714	717	721			
F_2	666	737	749			

S.E. of N marginal mean = 16.3 lb./ac.
S.E. of P or F marginal mean = 13.3 lb./ac.
S.E. of body of N×P or N×F table = 23.0 lb./ac.
S.E. of body of F×P table = 18.8 lb./ac.

Crop :- Cotton. **Ref :- Ms. 55(123).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the residual effect of N, P and F.Y.M. applied to kharif Jowar on Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) *Jowar*. (c) As per treatments. (ii) Medium black soil. (b) Refer soil analysis, Dharwar. (ii) 12.8.1955. (iv) (a) Ploughing and 3 harrowings. (b) Dibbling. (c) 5 lb./ac. (d) 2′×1′. (e) N.A. (v) Nil. (vi) *Jayadhar* (medium). (vii) Unirrigated. (viii) 3 interculturings and 1 weeding. (ix) 30.20″. (x) 16.3.1956 and 5.4.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54 (110) on page 536.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of kapas. (iv) (a) 1953—contd. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 783 lb./ac. (ii) 64.0 lb./ac. (iii) Only main effect of N and the interactions, N×P and N×P×F are significant. (iv) Av. yield of *kapas* in lb./ac.

	N_1	N_2	N_3	Mean	F_1	F_2
P_1	743	765	814	774	753	795
P_2	754	843	776	791	799	783
Mean	749	804	795	783	776	789
F_1	733	786	809			
F_2	765	822	781			

S.E. of N marginal mean = 16.0 lb./ac.
S.E. of P or F marginal mean = 13.0 lb./ac.
S.E. of body of N×P or N×F table = 22.6 lb./ac.
S.E. of body of F×P table = 18.5 lb./ac.

Crop :- Cotton. **Ref :- Ms. 54(121).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the effect of Super in combination with N on yield.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) *Jowar*. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 10.8.1954. (iv) (a) 3 harrowings and tractor ploughing. (b) Dibbling. (c) 5 lb./ac. (d) 2′×1′. (e) N.A. (v) F.Y.M. broadcasted at 5 C.L./ac. on 20.7.1954. (vi) *Jayadhar*. (vii) Unirrigated. (vi.i) 3 interculturings. (ix) 25.44″. (x) 10.3.1955 and 20.3.1955.

2 TREATMENTS :

All combinations of (1) and (2)

(1) 5 levels of N : N_0=No N (2 plots), N_1=30 and N_2=60 lb./ac. as A/S and N_3=30 and N_4=60 lb./ac. as G.N.C.

(2) 3 levels of P_2O_5 : P_0=0, P_1=30 and P_2=60 lb./ac. as Super.

A/S applied on 16.9.1954 and Super drilled on 31.7.1954.

3. DESIGN :

(i) R.B.D. (ii) (a) 18. (b) N.A. (iii) 4. (iv) (a) 48′×20′. (b) 40′×12′. (v) 4′×4′. (vi) Yes

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height, growth and yield of *kapas*. (iv) (a) 1949—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 690 lb./ac. (ii) 132.2 lb./ac. (iii) No effect is significant. (iv) Av. yield of *kapas* in lb./ac.

	N_0	N_1	N_2	N_3	N_4	Mean
P_0	619	529	802	670	793	672
P_1	625	628	691	743	700	669
P_2	705	818	715	715	713	729
Mean	650	658	736	710	735	690

S E. of any P or N_0 marginal mean = 27.0 lb./ac.
S.E. of N marginal mean excluding N_0 = 38.2 lb./ac.
S.E. of body of table excluding N_0 column = 66.1 lb./ac.
S.E. of mean in N_0 column = 46.8 lb./ac.

Crop :- Cotton. **Ref :- Ms. 54(123).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the residual effect of Dical. Phos. and Super on Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar.* (b) *Jowar.* (c) As per treatments. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 10.8.1954. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 5 lb./ac. (d) 2′×1′. (e) N.A. (v) Nil. (vi) *Jayadhar.* (vii) Unirrigated. (viii) 3 interculturings. (ix) 25.44″. (x) 7.3.1955 to 29.3.1955.

2. TREATMENTS :

2 sources of 20 lb./ac. of P_2O_5 : S_1=Dical. phos. and S_2=Super.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) 42′×21′. (b) 30′×9′. (v) 6′×6′. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) Nil. (iii) Height, growth and yield of *kapas.* (iv) (a) 1952—1954. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 705 lb./ac. (ii) 73.4 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	S_1	S_2
Av. yield	695	715

S.E./mean = 21.2 lb./ac.

Crop :- Cotton *(Kharif).* **Ref :- Ms. 56(138).**

Site :- College Farm, Dharwar. **Type :- 'M'.**

Object :—To study the effect of phosphatic fertilizers on Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar.* (b) Chillies. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 25.8.1956. (iv) (a) Harrowing. (b) Dibbling. (c) 8 lb./ac. (d) 2′×1′. (e) 1. (v) N.A. (vi) *Jayadhar.* (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 24″. (x) March, 1957.

2. TREATMENTS :

6 sources of 20 lb./ac. of P_2O_5 : S_0=Control, S_1=Super, S_2=B.M., S_3=Dical. Phos., S_4=Hyper phos. and S_5=Kotka phos.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 42′×30′. (b) 36′×24′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Yield of *kapas*. (iv) (a) 1956—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 673 lb./ac. (ii) 135.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	S_0	S_1	S_2	S_3	S_4	S_5
Av. yield	720	709	569	665	678	699

S.E./mean = 68.0 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 56(145).**

Site :- College Farm, Dharwar. **Type :- 'M'.**

Object :—To study the effect of different nitrogenous fertilizers on Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) *Jowar*. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 29.8.1956. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 8 lb./ac. (d) 2′×9″. (e) 2. (v) Nil. (vi) *Jayadhar*. (vii) Unirrigated. (viii) Thinning and weeding. (ix) 24 5″. (x) March, 1957.

2. TREATMENTS :

6 sources of 40 lb./ac. of N : S_0=Control, S_1=A/S, S_2=Urea, S_3=C/N, S_4=Calcium Cynamide and S_5=A/S/N.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 42′×30′. (b) 36′×24′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Biometric observations and yield of *kapas*. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:

(i) 699 lb./ac. (ii) 122.6 lb./ac. (iii) Treatment diffcrences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	S_0	S_1	S_2	S_3	S_4	S_5
Av. yield	678	784	706	666	567	791

S.E./mean = 61.3 lb./ac.

Crop :- Cotton. *(Kharif)*. **Ref:- Ms. 57(124).**

Site :-College Farm, Dharwar. **Type:- 'M'.**

Object:—To study the effect of N, P and K fertilizers on Cotton.

BASAL CONDITIONS :

(i) (a) Groundnut—Cotton. (b) Groundnut. (c) Nil. (ii) Medium Black soil. (b) Refer soil analysis, Dharwar. (iii) 14.8.1957. (iv) (a) 1 ploughing and 3 harrowings. (b) Dibbling. (c) 10 lb./ac. (d) 2′×1′. (e) 2. (v) Nil. (vi) *Jayadhar* (medium). (vii) Unirrigated. (viii) 2 Interculturings, 1 hand weeding and regular gap filling. (ix) 64.25″, (x) 7,19 and 28.3.1958.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 levels of N : N_0=0, N_1=30 and N_2=60 lb./ac. as A/S.

(2) 3 levels of P_2O_5 : P_0=0, P_1=30 and P_2=60 lb./ac. as Super.

(3) 3 levels of K_2O : K_0=0, K_1=30 and K_2=60 lb./ac. as Pot. Sul.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 2. (iv) (a) 24′×36′. (b) 20′×30′. (v) 2′×3′. (vi) Yes.

4. GENERAL :

(i) Defective germination for higher levels of N, P and K. (ii) Shedding of leaves due to fast eastern winds. (iii) Biometric observations and yield of *Kapas*. (iv) (a) 1957—Contd. (b) No. (c) Nil (v) to (vii) Nil.

5. RESULTS :

(i) 791 lb./ac. (ii) 108.8 lb./ac. (iii) Main effect of N is highly significant. Main effect of P is significant. (iv) Av. yield of *Kapas* in lb./ac.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	650	738	696	695	708	670	699
N_1	750	817	841	803	832	747	829
N_2	805	938	883	875	847	877	901
Mean	735	831	807	791	796	767	810
K_0	741	850	796				
K_1	747	762	793				
K_2	717	880	832				

S.E. of any marginal mean = 25.6 lb./ac.

S.E. of body of any table = 44.4 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :-Ms. 57(150).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the effect of N, P and K fertilizers on growth and yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) *Jowar*. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 12.12.1957. (iv) (a) 3 ploughings and 2 harrowings. (b) Dibbling. (c) 9 lb./ac. (d) 18″ between rows. (e) N.A. (v) Nil. (vi) *Lakshmi*. (vii) Unirrigated. (viii) 3 weedings. (ix) 5.64″. (x) 26.2.1958. to 11.3.1958.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 levels of N : N_0=0, N_1=15 and N_2=30 lb./ac.

(2) 3 levels of P_2O_5 : P_0=0, P_1=25 and P_2=50 lb./ac.

(3) 3 levels of K_2O : K_0=0, K_1=25 and K_2=50 lb./ac.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 4. (iv) (a) 24′×36′. (b) 18′×30′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of *Kapas*. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 585 lb./ac. (ii) 81.5 lb./ac. (iii) Main effect of N and P are highly significant. (iv) Average yield of *kapas* in lb./ac.

	P_0	P_1	P_2	K_0	K_1	K_2	Mean
N_0	507	561	526	531	520	543	531
N_1	549	606	611	608	590	568	589
N_2	572	645	690	636	657	614	636
Mean	543	604	609	592	589	575	585
K_0	539	622	614				
K_1	555	608	604				
K_2	534	582	610				

S.E. of any marginal mean = 13.6 lb./ac.
S.E. of body of any table = 23.5 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 58(102).**

Site :- College Farm, Dharwar. **Type :- 'M'.**

Object :—To study the effect of N, P and K fertliizers on Cotton.

1. BASAL CONDITIONS :

(i) (a) Groundnut—Cotton. (b) Groundnut. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) August, 1958. (iv) (a) 1 ploughing and 3 harrowings. (b) Dibbling. (c) 10 lb./ac. (d) 2′×1′. (e) 2. (v) Nil. (vi) *Jayadhar* (medium). (vii) Unirrigated. (viii) 2 interculturings, 1 hand weeding and regular gap-filling. (ix) 17.5". (x) March, 1959.

2. TREATMENTS :

All combinations of (1), (2) and (3).

(1) 3 levels of N : N_0=0, N_1=15 and N_2=30 lb./ac. of N as A/S.
(2) 3 levels of P_2O_5 : P_0=0, P_1=15 and P_2=30 lb./ac. of P_2O_5 as Super.
(3) 3 levels of K_2O : K_0=0, K_1=15 and K_2=30 lb./ac. of K_2O as Pot. sul.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block, 3 blocks/replication. (b) N.A. (iii) 2. (iv) (a) 24′×36′. (b) 18′×30′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Biometric observations and yield of *kapas*. (iv) 1957—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 486 lb./ac. (ii) 70.2 lb./ac. (iii) No effect is significant. (iv) Av. yield of *kapas* in lb./ac.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	432	507	478	472	460	483	475
N_1	500	470	521	497	469	512	510
N_2	478	492	496	489	460	510	496
Mean	470	490	498	486	463	502	494
K_0	444	467	477				
K_1	495	500	509				
K_2	471	501	509				

S.E. any marginal mean = 16.6 lb./ac.
S.E. of body of any table = 28.6 lb./ac.

Crop :- Cotton. **Ref :- Ms. 58(139).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the effect of N and P fertilizers on the yield and growth of Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) *Jowar*. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 26.7.1958. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 9 lb./ac. (d) 8" between rows. (e) N.A. (v) Nil. (vi) *Lakshmi*. (vii) Unirrigated. (viii) 3 weedings, (ix) 9.87". (x) 10.2.1959 to 13.3.1959.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 4 levels of N : N_0=0, N_1=20. N_2=40 and N_3=60 lb./ac.

(2) 4 levels of P_2O_5 : P_0=0, P_1=25, P_2=50 and P_3=75 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 16. (b) N.A. (iii) 4. (iv) (a) 46'×36'. (b) 40'×30'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Normal (ii) Nil. (iii) Yield of *kapas*. (iv) (a) N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 689 lb./ac. (ii) 107.6 lb./ac. (iii) Only the main effect of N is highly significant. (iv) Av. yield of *kapas* in lb./ac.

	P_0	P_1	P_2	P_3	Mean
N_0	615	520	562	536	558
N_1	631	766	636	659	673
N_2	766	729	756	870	780
N_3	755	726	819	673	743
Mean	692	685	693	685	689

S.E. of any marginal mean = 26.9 lb./ac.
S.E. of body of table = 53.8 lb./ac.

Crop :- Cotton. **Ref :- Ms. 55(110).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To study the effect of sources of N, levels of N and P on Cotton.

1. BASAL CONDITIONS:

(i) (a) Cotton—*Jowar*. (b) *Jowar*. (c) Nil. (ii) (a) Black clayey. (b) N.A. (iii) 11.9.1955. (iv) (a) 2 ploughings and 4 to 5 harrowings. (b) to (e) N.A. (v) Nil. (vi) *Laxmi* (medium). (vii) Irrigated. (viii) Gap-filling, 3 to 4 interculturings and 2 to 3 weedings. (ix) 31.85". (x) 30.3 1956 to 15.4.1956.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 sources of N : S_1=A/S, S_2=A/N and S_3=Urea.

(2) 3 levels of N : N_0=0, N_1=20 and N_2=40 lb./ac.

(3) 3 leve's of P_2O_5 : P_0=0, P_1=10 and P_2=20 lb./ac. as Super.

3. DESIGN :

(i) Fact in R.B D. (ii) (a) 27. (b) N.A. (iii) 3. (iv) (a) and (b) 35'×13'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of *kapas*. (iv) (a) 1955 –1957. (b) Yes. (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 622 lb./ac. (ii) 117.8 lb./ac. (iii) Main effects of N and P are highly significant. (iv) Av. yield of *kapas* in lb./ac.

	N_0	N_1	N_2	P_0	P_1	P_2	Mean
S_1	475	714	739	635	698	595	643
S_2	584	582	739	673	627	606	635
S_3	475	651	627	635	585	544	588
Mean	512	652	702	648	637	582	622
P_0	547	693	704				
P_1	593	627	690				
P_2	395	639	713				

S.E. of any marginal mean = 22.7 lb./ac.
S.E. of body of any table = 39.3 lb./ac.

Crop :- Cotton. **Ref :- Ms. 56(28).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To study the effect of sources of N, levels of N and P on Cotton.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*—Cotton. (b) *Rabi—Jawar.* (c) As per treatments. (ii) (a) Black clayey. (b) N.A. (iii) 8.9.1956. (iv) (a) Ploughing and harrowing. (b) to (e) N.A. (v) Nil. (vi) *Laxmi* (medium). (vii) Irrigated. (viii) Gap-filling, weeding and interculturing. (ix) 32.48". (x) 1.3.1957 to 15.4.1957.

2. TREATMENTS :

Same as in expt. no. 55(110) on page 542.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 27. (b) N.A. (iii) 3. (iv) (a) and (b) 35'×13'. (v) No. (vi) Yes.

4. GENERAL :

(i) Stunted growth. (ii) Black arm disease due to heavy rains. (iii) Yield of *kapas*. (iv) (a) 1955—contd. (b) and (c) Yes. (v) to (vii) Nil.

5. RESULTS :

(i) 216 lb./ac. (ii) 81.9 lb./ac. (iii) Only interaction S×P is significant. (iv) Av. yield of *kapas* in lb /ac.

	N_0	N_1	N_2	Mean	P_0	P_1	P_2
S_1	192	231	187	203	236	223	151
S_2	187	256	242	228	229	225	231
S_3	195	233	222	217	167	237	245
Mean	191	240	217	216	211	228	209
P_0	181	248	204				
P_1	215	290	180				
P_2	178	183	266				

S.E. of any marginal mean = 15.6 lb./ac.
S.E. of body of any table = 27.3 lb./ac.

Crop :- Cotton. **Ref :- Ms. 57(24).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To study the effect of sources of N, levels of N and P on Cotton.

1. BASAL CONDITIONS :

(i) (a) *Rabi Jowar*—Cotton. (b) *Rabi Jowar.* (c) As per treatments. (ii) (a) Black clayey. (b) N.A. (iii) 21.8.1957. (iv) (a) 2 ploughings, 4 to 5 harrowings. (b) to (e) N.A. (v) As per treatments. (vi) *Laxmi* (medium). (vii) Irrigated. (viii) Gap-filling, weeding and interculturing. (ix) 7.11". (x) 27.11.1958 to 25.3.1958.

2. TREATMENTS :

Same as in expt. no. 55(110) on page 542.

3. DESIGN :

(i) Fact. in R.B D. (ii) (a) 27. (b) N.A. (iii) 3. (iv) (a) and (b) 35'×13'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of *kapas*. (iv) (a) 1955—1957. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 534 lb./ac. (ii) 113.4 lb./ac. (iii) Only main effect of N is highly significant. (iv) Av. yield of *kapas* in lb./ac.

	N_0	N_1	N_2	Mean	P_0	P_1	P_2
S_1	390	548	740	559	551	642	484
S_2	344	501	673	506	526	482	510
S_3	338	588	686	537	586	542	482
Mean	357	545	700	534	554	555	492
P_0	370	542	750				
P_1	376	568	722				
P_2	325	526	626				

S.E. of any marginal mean = 21.8 lb./ac.
S.E. of body of any table = 37.8 lb./ac.

Crop :- Cotton. **Ref :- Ms. 55(130).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To study the effect of sources, levels and time and application of N on Cotton.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*—Cotton. (b) *Jowar.* (c) Nil. (ii) (a) Black cotton soil. (b) NA. (iii) 1st and 2nd week of Sept. 1955. (iv) (a) Disc ploughing and harrowing. (b) Dibbling. (c) 15 lb./ac. (d) 2' between rows. (e) 1. (v) 5 C.L./ac. of F.Y.M. 1 month before sowing+30 lb./ac. of P_2O_5 as Super at Sowing. (vi) *Laxmi* (medium). (vii) Irrigated. (viii) 2 hand weedings. (ix) 31.85". (x) 15th Jan. to end of March 1956.

2. TREATMENTS :

All combinations of (1), (2) and (3)+control (4 plots).

(1) 7 times of application of N : T_1=Full dose at planting, T_2=Full dose 45 days after planting, T_3=Full dose 90 days after planting, T_4=½ at planting+½ at 45 days after planting, T_5=½ at 45 days after planting+½ at 90 days after planting, T_6=½ at planting+½ at 90 days after planting and T_7=⅓ at planting+⅓ at 45 days after planting+⅓ at 90 days after planting.

(2) 2 sources of N : S_1=A/S and S_2=A/N.
(3) 2 levels of N : N_1=30 and N_2=60 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 32. (b) N.A. (iii) 3. (iv) (a) 32'×18'. (b) 30'×14'. (v) 1'×2'. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Attack of *Aphis Gossypii, Empoasca Devanstems and Erias sp.*—controlled by spraying Giegy 1250. (iii) Height, no. of bolls and yield of *kapas*. (iv) (a) 1955—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 921 lb./ac. (ii) 182.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of *kapas* in lb./ac.

Control = 885 lb./ac.

	T_1	T_2	T_3	T_4	T_5	T_6	T_7	S_1	S_2	Mean
N_1	937	944	864	827	900	1021	921	941	892	916
N_2	949	948	995	1050	989	1004	1040	969	1024	996
Mean	943	946	930	938	945	1012	980	955	958	956
S_1	840	944	938	924	972	1045	1022			
S_2	1046	949	922	954	916	980	939			

S.E. of control mean or T marginal mean = 52.6 lb./ac.
S.E. of N or S marginal mean = 28.1 lb./ac.
S.E. of body of N×S table = 39.8 lb./ac.
S.E. of body of N×T or S×T table = 74.4 lb./ac.

Crop :- Cotton. **Ref :- Ms. 56(53).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To study the effect of sources, levels and time and application of N on Cotton.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*—Cotton. (b) *Jowar*. (c) No manure. (ii) (a) Black cotton soil. (b) N.A. (i i) 1st and 2nd week of Sept. 1956. (iv) (a) Disc tractor ploughing and harrowing. (b) Dibbling. (c) 15 lb./ac. (d) 2' between rows and 1' between plants. (e) N.A. (v) 5 C.L./ac. of F.Y.M. 1 month before sowing+ 30 lb./ac. of P_2O_5 as Super at sowing. (vi) *Laxmi* (medium). (vii) Irrigated. (viii) 2 hand weedings. (ix) 32.48". (x) 2nd week of Jan. to 3rd week of Feb. 1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(130) on page 544.

4. GENERAL :

(i) Stunted growth. (ii) Attack of *Aphis Gossypii, Empoasca Devanstems and Erias sp*—. partially controlled by spraying Endrine 19.5% emultion. (iii) Yield of *kapas*. (iv) (a) 1955—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 154 lb./ac. (ii) 49.4 lb./ac. (iii) Main effect T and 'control *vs.* others' are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Control = 136 lb./ac.

	T_1	T_2	T_3	T_4	T_5	T_6	T_7	S_1	S_2	Mean
N_1	216	168	139	197	135	207	168	186	166	176
N_2	204	162	122	199	137	205	147	166	170	168
Mean	210	165	131	198	136	206	158	176	168	172
S_1	210	175	134	209	149	200	153			
S_2	211	155	127	187	124	212	163			

S.E. of T marginal mean or control mean = 14.3 lb./ac.
S.E. of N or S marginal mean = 7.6 lb./ac.
S.E. of body of N×S table = 10.8 lb./ac.
S.E. of body of N×T or S×T table = 20.2 lb./ac.

Crop :- Cotton. **Ref :- Ms. 57(3).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object:—To study the effect of sources, levels and time and application of N on Cotton.

1. BASAL CONDITIONS:

(i) (a) Cotton—*Jowar*—Cotton. (b) *Rabi Jowar.* (c) Nil. (ii) (a) Black cotton soil. (b) N.A. (iii) 1st and 2nd week of Sept. 1957. (iv) (a) Disc ploughing and harrowing. (b) Dibbling. (c) 15 lb./ac. (d) 2′×1′. (e) N.A. (v) F.Y.M. at 5 C.L./ac. broadcasted one month before sowing, Super to give 30 lb./ac. of P_2O_5 applied by hand in a line at sowing. (vi) *Laxmi* cotton (medium). (vii) Irrigated. (viii) 2 hand weedings. (ix) 20.75″. (x) 2nd week of January to March 1958.

2. TREATMENTS and 3. DESIGN:

Same as in expt. no. 55(130) on page 544.

4. GENERAL:

(i) Normal. (ii) Attack of *Aphis., Gossypii., Empoasca, Davanstem and Erias sp*—partially controlled by spraying Endrine 19.5% emulsion. (iii) Yield of *kapas*. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:

(i) 398 lb./ac. (ii) 117.8 lb./ac. (iii) Only main effect of T is significant. (iv) Av. yield of *kapas* in lb./ac.

Control = 359 lb./ac.

	T_1	T_2	T_3	T_4	T_5	T_6	T_7	S_1	S_2	Mean
N_1	525	396	402	564	427	433	381	429	465	447
N_2	538	460	364	439	395	403	380	450	401	426
Mean	532	428	383	502	411	418	381	440	433	437
S_1	554	447	371	528	399	397	381			
S_2	509	409	395	475	423	439	380			

S.E. of T marginal mean or control mean = 33.9 lb./ac.
S.E. of N or S marginal mean = 18.2 lb./ac.
S.E. of body of N×S table = 25.7 lb./ac.
S.E. of body of N×T or S×T table = 48.1 lb./ac.

Crop :- Cotton. **Ref :- Ms. 54(157).**

Site :- Agri. Res. Stn., Gadag. **Type :- 'M'.**

Object :—To study the response of Laxmi Cotton to direct and indirect manuring with F.Y.M.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) *Jowar*. (c) N.A. (ii) (a) Sandy. (b) Refer soil anylysis, Gadag. (iii) 19.9.1954. (iv) (a) 1 ploughing and 3 harrowings, (b) Dibbling. (c) 6 to 10 lb./ac. (d) 1½′ between rows. (e) 1. (v) Nil. (vi) *Laxmi* (early). (vii) Unirrigated. (viii) Hand weeding and interculturing. (ix) 27.69″. (x) 27.2.1955 to 29.3.1955.

2. TREATMENTS :

2 manurial treatments : M_0=0 and M_1=5 C.L./ac. of F.Y.M.
Manure applied at sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) 18′×30′. (b) 12′×24′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Poor. (ii) Marked infection of black arm and red-leaf blight. The Jassids and Thrips were prevalent. (iii) Biometric observations and yield of *kapas*. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. conducted under the *Laxmi* cotton improvement scheme, Godag.

5. RESULTS :

(i) 151 lb./ac. (ii) 50.3 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1
Av. yield	152	150

S.E/mean = 14.5 lb./ac.

Crop :- Cotton. **Ref :- Ms. 55(197).**

Site :- Agri. Res. Stn., Gadag. **Type :- 'M'.**

Object :—To study the effect of N, P and K fertilizers on Cotton.

1. BASAL CONDITIONS

(i) (a) *Jowar*—Cotton. (b) *Jowar*. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Gadag. (iii) 21.9.1955. (iv) (a) 2 ploughings and 3 harrowings. (b) Dibbling. (c) 9 lb./ac. (d) 18″ between rows. (e) N.A. (v) Nil. (vi) *Laxmi* Cotton. (vii) Unirrigated. (viii) 3 weedings. (ix) 7.60″. (x) 5, 22.3.1956 and 6.4.1956.

2. TREATMENTS :

All combinations of (1), (2) and (3) :
(1) 2 levels of N : N_0=0 and N_1=30 lb./ac.
(2) 2 levels of P_2O_5 : P_0=0 and P_1=60 lb./ac.
(3) 2 levels of K_2O : K_0=0 and K_1=30 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 6. (iv) (a) 42′×32′. (b) 36′×26′. (v) 3′×3′. (vi) Yes.

GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of *kapas*. (iv) (a) 1955—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 599 lb./ac. (ii) 85.5 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

	P_0	P_1	Mean	K_0	K_1
N_0	501	549	525	534	516
N_1	673	673	673	664	681
Mean	587	611	599	599	599
K_0	587	612			
K_1	587	610			

S.E. of any marginal mean = 24.6 lb./ac.
S.E. of body of any table = 34.9 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 56(157).**

Site :- Agri. Res. Sin., Gadag. **Type :- 'M'.**

Object :—To study the effect of application of N to Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) *Jowar*. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Gadag. (iii) 2.9.1956. (iv) (a) 2 ploughings and 3 harrowings (b) Dibbling. (c) 9 lb./ac. (d) 18″ between rows. (e) N.A. (v) Nil. (vi) *Laxmi*. (vii) Unirrigated. (viii) 3 weedings. (ix) 20.61″. (x) 5, 15 and 25.3.1957 and 4.4.57.

2. TREATMENTS :

5 levels of N as A/S : N_0=0, N_1=20, N_2=40, N_3=60 and N_4=80 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 20′×26′. (b) 14′×20′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) N.A. (iii) Yield of *kapas*. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 64 lb./ac. (ii) 24.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	N_0	N_1	N_2	N_3	N_4
Av. yield	35	48	76	82	81

S.E./mean = 12.2 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 57(157).**

Site :- Agri. Res. Stn., Gadag. **Type :- 'M'.**

Object :—To study the effect of application of N to Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) *Jowar*. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Gadag. (iii) 31.8.1957. (iv) (a) 2 ploughings and 3 harrowlings. (b) Dibbling. (c) 9 lb./ac. (d) 18″ between rows. (e) —. (v) Nil. (vi) *Laxmi*. (vi) Unirrigated. (viii) 3 weedings. (ix) 7.81″. (x) 7.2.1958 to 24.3. 1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56 (157) above.

5. RESULTS :

(i) 296 lb./ac. (ii) 63.8 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	N_0	N_1	N_2	N_3	N_4
Av. yield	142	256	357	358	365

S.E./mean = 31.9 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 58(137).**

Site :- Agri. Res. Stn., Gadag. **Type :- 'M'.**

Object :—To study the effect of application of N, P and K fertilizers on Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Gadag. (iii) 22.9.1958. (iv) (a) 2 ploughings and 3 harrowings. (b) Dibbling. (c) 9 lb./ac. (d) 18" between rows. (e) N.A. (v) Nil. (vi) *Laxmi*. (vii) Unirrigated. (viii) 3 weedings. (ix) 26.01". (x) 25.2.1959 to 4.4.1959.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 levels of N as A/S : N_0=0, N_1=20 and N_2=40 lb./ac.

(2) 3 levels of P_2O_5 as Super : P_0=0, P_1=150 and P_2=300 lb./ac.

(3) 3 levels of K_2O as Pot. Sul. : K_0=0, K_1=100 and K_2=200 lb./ac.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 4. (iv) (a) 34'×30'. (b) 30'×26'. (v) 2'×2'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of *kapas*. (iv) (a) N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 531 lb./ac. (ii) 60.6 lb./ac. (iii) Main effects of N and P are highly significant. (iv) Av. yield of *kapas* in lb./ac.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	466	486	532	494	494	475	513
N_1	499	549	601	550	551	546	551
N_2	522	534	589	548	579	538	529
Mean	496	523	574	531	542	520	531
K_0	524	529	571				
K_1	482	518	560				
K_2	480	522	591				

S.E. of any marginal mean = 10.1 lb./ac.
S.E. of body of any table = 17.5 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 58(141).**

Site :- Agri. Res. Stn., Gadag. **Type :- 'M'.**

Object :—To study the residual effect of N, P and K fertilizers applied during the previous season on Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Gadag. (iii) 25.9.1958. (iv) (a) 3 ploughings and 3 harrowings. (b) Dibbling. (c) 9 lb./ac. (d) 18" between rows. (e)—. (v) Nil. (vi) MA—5. (vii) Unirrigated. (viii) 3 weedings. (ix) 7.30". (x) 4.11.1959 to 16.4.1959.

2. TREATMENTS :

Same as in expt. no. 58(137) on page 549.
Manures were applied to preceding *Jowar* crop.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 2. (iv) (a) 32'×18'. (b) 26'×12'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of *kapas*. (iv) (a) N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 152 lb./ac. (ii) 50.6 lb./ac. (iii) No effect is significant. (iv) Av. yield of *kapas* in lb./ac.

	P_0	P_1	P_2	K_0	K_1	K_2	Mean
N_0	110	156	140	104	163	139	135
N_1	157	186	175	171	178	169	173
N_2	136	135	172	141	189	115	148
Mean	134	159	162	137	176	141	152
K_0	95	167	153				
K_1	168	187	174				
K_2	140	123	160				

S.E. of any marginal mean = 11.9 lb./ac.
S.E. of body of any table = 20.6 lb./ac.

Crop :- Cotton *(Khairf)*. **Ref :- Ms. 58(140).**
Site :- Agri. Res. Stn., Gadag. **Type :- 'M'.**

Object :—To study the residual effect of N, P and K fertilizers applied during the previous season on Laxmi Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) Nil (ii) (a) Medium black soil. (b) Refer soil analysis, Gadag. (iii) 25.9.1958. (iv) (a) 3 ploughings and 3 harrowings. (b) Dibbling. (c) 9 lb./ac. (d) 18" between rows. (e) N.A. (v) Nil. (vi) *Laxmi*. (vii) Unirrigated. (viii) 3 weedings. (ix) 7.30". (x) 4.3.1959 to 16.4.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(141) on page 549.

5. RESULTS :

(i) 231 lb./ac. (ii) 44.2 lb./ac. (iii) Main effect of P and interaction P×K are highly significant. Main effects of N and K and interaction N×K are significant. (iv) Av. yield of *kapas* in lb./ac.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	188	225	215	209	148	255	225
N_1	189	276	285	250	235	245	270
N_2	187	247	264	233	236	256	207
Mean	188	249	255	231	206	252	234
K_0	126	272	222				
K_1	208	264	284				
K_2	231	212	258				

S.E. of any marginal mean = 10.4 lb./ac.
S.E. of body of any table = 18.0 lb./ac.

Crop :- Cotton. **Ref :- Ms. 54(15).**

Site :- Agri. Res. Stn., Hagari. **Type :- 'M'.**

Object :—To study the effect of application of G.N.C. and A/S in combination with a basal dressing of F.Y.M.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jola.* (c) As per treatments. (ii) (a) Deep black soil. (b) Refer soil analysis, Hagari. (iii) 9.10.1954. (iv) (a) 2 to 3 harrowings. (b) Line sowing. (c) 10 lb./ac. (d) 3′ between rows. (e) N.A. (v) 5000 lb./ac. of F.Y.M. one month before sowing. (vi) Western—1 improved (medium). (vii) Unirrigated. (viii) Hoeing and weeding. (ix) 4.28″. (x) Two pickings on 1 and 12.4.1955.

2. TREATMENTS :

5 manurial treatments : M_0=Control, M_1=F.Y.M. at 5600 lb./ac., M_2=M_1+30 lb./ac. of N as G.N.C., M_3=M_1+30 lb./ac. of N as A/S and M_4=M_1+15 lb./ac. of N as A/S+15 lb./ac. of N as G.N.C.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. *(iv)* (a) 40′×18′. (b) 36⅓′×12′. (v) 1′10″×3′. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) No pests and diseases. (iii) Biometric observations and yield of *kapas*. (iv) (a) 1953—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 288 lb./ac. (ii) 39.0 lb./ac. (iii) Tre atment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4
Av. yield	269	271	292	314	296

S.E./mean = 15.9 lb./ac.

Crop :- Cotton. **Ref :- Ms. 55(67).**

Site :- Agri. Res. Stn., Hagari. **Type :- 'M'.**

Object :—To study the effect of application of G.N.C. and A/S in combination with a basal dressing of F.Y.M.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jola*. (b) *Jola*. (c) As per treatments. (ii) (a) Black cotton soil. (b) Refer soil analysis, Hagari. (iii) 31.8.1955. (iv) (a) 2 blade harrowings. (b) Drill sowing. (c) 10 lb./ac. (d) 3′ between rows. (e) N.A. (v) Nil. (vi) Westerns—1 (medium). (vii) Unirrigated. (viii) Weeding with *hattikunti* and sickles and mulching. (ix) 12.96″. (x) 14.2.1956 ; 26.2.1956 ; 9.3.1956 and 20.3.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(15) on page 551.

5. RESULTS :

(i) 337 lb./ac. (ii) 500 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4
Av. yield	347	358	332	315	332

S.E./mean = 20.4 lb./ac.

Crop :- Cotton. **Ref :- Ms. 56(2).**

Site :- Agri. Res. Stn., Hagari. **Type :- 'M'.**

Object :—To study the effect of application of G.N.C. and A/S in combination with a basal dressing of F.Y.M.

1. BASAL CONDITIONS :

(i) (a) *Jola*—Cotton. (b) M—47-3 *Jola*. (c) As per treatments. (ii) (a) Black soil. (b) Refer soil analysis, Hagari. (iii) 4.9.1956. (iv) (a) 2 blade harrowings. (b) Drilling. (c) 10 lb./ac. (d) 3′ between rows. (e) N.A. (v) 2½ tons/ac. of F.Y.M. (vi) Western—1 (medium). (vii) Unirrigated. (viii) Hand weeding and *hattikunti* worked twice. (ix) 23.49″. (x) 16.3.1957 and 11.4.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(15) on page 551.

5. RESULTS :

(i) 518 lb./ac. (ii) 71.4 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4
Av. yield	333	471	589	600	600

S.E./mean = 29.2 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 57(35).**

Site :- Agri. Res. Stn., Hagari. **Type:- 'M'.**

Object :—To study the effect of application of G.N.C. and A/S in combination with a basal dressing of F.Y.M.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jola*—Cotton. (b) *Jola*. (c) As per treatments. (ii) (a) Black soil. (b) Refer soil analysis, Hagari. (iii) 13.9.1957. (iv) (a) 2 blade harrowings. (b) Dibbling 9″ apart. (c) 10 lb./ac. (d) 3′ between rows. (e) 2. (v) 2½ tons/ac. of F.Y.M. brodcasted one month before sowing. (vi) Westerns—1 (medium). (vii) Unirrigated. (viii) Line weeding and thinning. (ix) 4.87″. (x) 30.1.1958, 13.2.1958 and 7.3.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54 (15) on page 551.

5. RESULTS :

(i) 473 lb./ac. (ii) 37.4 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4
Av. yield	362	480	486	524	514

S.E./mean = 15.3 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 58(128).**

Site :- Agri. Res. Stn., Hagari. **Type :- 'M'.**

Object :—To study the effect of application of G.N.C. and A/S in combination with a basal dressing of F.Y.M.

1. BASAL CONDITION :

(i) (a) Cotton—*Sorghum*. (b) *Sorghum*. (c) As per treatments. (ii) (a) Black soil. (b) Refer soil analysis, Hagari. (iii) 22.9.1958. (iv) (a) 3 harrowings. (b) Dibbling. (c) 10 lb./ac. (d) 36″×9″. (e) 1. (v) F.Y.M. at 5600 lb./ac. one month before sowing. (vi) Herbaceum (medium). (vii) Unirrigated. (viii) Line weeding and 3 interculturings. (ix) 4.21″. (x) 9.2.1959 and 1.3.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54 (15) on page 551.

5. RESULTS :

(i) 92 lb./ac. (ii) 18.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4
Av. yield	95	96	78	93	99

S.E./mean = 7.7 lb./ac.

Crop :- Cotton. **Ref :- Ms. 54(17).**

Site :- Agri. Res. Stn., Hagari. **Type:- 'M'.**

Object :—To determine the optimum level of manuring with G.N.C. for the dry land cotton.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jola*—Cotton. (b) Jowar. (c) As per treatments. (ii) (a) Deep black. (b) Refer soil analysis, Hagari. (iii) 7.10.1954. (iv) (a) 3 harrowings. (b) Drill sowing. (c) 10 lb./ac. (d) 3′ between rows. (e) 1. (v) Nil. (vi) Westerns—improved (medium). (vii) Unirrigated. (viii) Weeding and hoeing. (ix) 4.74″. (x) 5.4.1955 and 19.4.1955.

2. TREATMENNS :

T_0=No manure, T_1 to T_{15} are as under :

	Once in 4 years		Once in 2 years			Once every ye ar		
Amount of N in lb./ac.	30	20	30	20	10	30	20	10
F.Y.M.	T_1	T_2	T_5	T_6	—	T_{10}	T_{11}	T_{12}
G.N.C.	T_3	T_4	T_7	T_8	T_9	T_{13}	T_{14}	T_{15}

G.N.C. and F.Y.M. applied through *akkadi* behind the seed drill before sowing in lines.

3. DESIGN :

(i) R.B.D. (ii) (a) 16. (b) N.A. (iii) 4. (iv) (a) 80′×18′. (b) 74′×12′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Biometric observations and yield of cotton. (iv) (a) 1948—contd. (b) Yes. (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 224 lb./ac. (ii) 41.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7
Av. yield	226	208	179	220	206	257	262	243
Treatment	T_8	T_9	T_{10}	T_{11}	T_{12}	T_{13}	T_{14}	T_{15}
Av. yield	243	208	308	303	290	257	263	235

S.E./mean = 20.9 lb./ac.

Crop :- Cotton. **Ref :- Ms. 55(66).**

Site :- Agri. Res. Stn., Hagari. **Type :- 'M'.**

Object :—To determine the optimum level of manuring with G.N.C. for the dry land Cotton.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jola*—Cotton. (b) *Jola.* (c) As per treatments. (ii) (a) Black cotton soil. (b) Refer soil analysis, Hagari. (iii) 30.8.1955. (iv) (a) 2 blade harrowings and interculturing with *hattikunti.* (b) Drilling. (c) 10 lb./ac. (d) 3′ between rows. (e) 1. (v) Nil. (vi) Westerns—1 (medium). (vii) Unirrigated. (viii) Weeding and mulching. (ix) 12.96″. (x) 11, 26.2.1956, 10 and 21.3.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(17) on page 553.

5. RESULTS :

(i) 422 lb./ac. (ii) 33.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7
Av. yield	382	425	314 .	431	396	407	375	435
Treatment	T_8	T_9	T_{10}	T_{11}	T_{12}	T_{13}	T_{14}	T_{15}
Av. yield	450	391	477	444	446	418	518	442

S.E./mean = 33.0 lb./ac.

Crop :- Cotton. **Ref :- Ms. 56(4).**

Site :- Agri. Res. Stn., Hagari. **Type :- 'M'.**

Object :—To determine the optimum level of manuring with G.N.C. for the dry land Cotton.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jola*—Cotton. (b) *Jola.* (c) As per treatments. (ii) (a) Black soil. (b) Refer soil analysis, Hagari. (iii) 5.9.1956. (iv) (a) Working *guntaka* and *danties*. (b) Drill sowing. (c) 10 lb./ac. (d) 3′ between rows. (e) N.A. (v) Nil. (vi) Western Cotton (medium). (vii) Unirrigated. (viii) Weeding. (ix) 23.62″. (x) 6, 7, 25.4.1957 and 10.5.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(17) on page 553.

5. RESULTS :

(i) 328 lb./ac. (ii) 87.2 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7
Av. yield	228	313	263	360	329	357	224	376
Treatment	T_8	T_9	T_{10}	T_{11}	T_{12}	T_{13}	T_{14}	T_{15}
Av. yield	326	261	389	352	270	442	402	349

S.E./mean = 43.6 lb./ac.

Crop :- Cotton. **Ref :- Ms. 57(33).**

Site :- Agri. Res. Stn., Hagari. **Type :- 'M'.**

Object :—To determine the optimum level of manuring with G.N.C. for the dry land Cotton.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jola*—Cotton. (b) *Jola*. (c) As per treatments. (ii) (a) Black cotton soil. (b) Refer soil analysis, Hagari. (iii) 13.9.1957. (iv) (a) 3 blade harrowings. (b) Drilling. (c) 10 lb./ac. (d) 3′ between rows. (e) 1. (v) Nil. (vi) Western Cotton (medium). (vii) Unirrigated. (viii) Line weeding and interculturing. (ix) 4.87″. (x) 1st picking 15.2.1958, 2nd 10.3.1958 and 3rd 29.3.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(17) on page 553.

5. RESULTS :

(i) 706 lb./ac. (ii) 56.2 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7
Av. yield	645	755	690	714	664	684	672	796
Treatment	T_8	T_9	T_{10}	T_{11}	T_{12}	T_{13}	T_{14}	T_{15}
Av. yield	777	709	725	728	739	620	677	706

S.E./mean = 28.1 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 58(129).**

Site :- Agri. Res. Stn., Hagari. **Type :- 'M'.**

Object :—To determine the optimum level of manuring with G.N.C. for the dry land Cotton.

1. BASAL CONDITIONS :

(i) (a) *Sorghum*—Cotton—*Sorghum*. (b) *Sorghum*. (c) Nil. (ii) (a) Black soil. (b) Refer soil analysis, Hagari. (iii) 23.9.1958. (iv) (a) 3 harrowings. (b) Drilling. (c) 8 lb./ac. (d) 3′×9″. (e) 1. (v) Nil. (vi) Herbacium (medium). (vii) Unirrigated. (viii) Line weeding and interculturing with blade harrows. (ix) 4.21″. (x) 5 and 23.2.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(17) on page 553.

5. RESULTS :

(i) 150 lb./ac. (ii) 23.8 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7
Av. yield	112	146	136	121	113	167	185	137
Treatment	T_8	T_9	T_{10}	T_{11}	T_{12}	T_{13}	T_{14}	T_{15}
Av. yield	147	122	179	197	168	158	163	147

S.E./mean = 11.9 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 59(187).**

Site :- Agri. Res. Stn., Hagari. **Type :- 'M'.**

Object :—To determine the optimum level of manuring with G.N.C. for the dry land Cotton.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*—Cotton. (b) *Jowar*. (c) As per treatments. (ii) (a) Black cotton soil. (b) Refer soil analysis, Hagari. (iii) 23.9.1959. (iv) (a) 3 blade harrowings. (b) Drilling. (c) 10 lb./ac. (d) N.A. (e) 1. (v) Nil. (vi) H—I (Cotton.) (vii) Unirrigated. (viii) 3 weedings and thinning. (ix) 7.36". (x) 25.2.1960 to 15.3.1960.

2. TREATMENTS and 3. DESIGN :

Same as in expt no. 54(17) on page 553.

4. GENERAL :

(i) Very poor (ii) Attack of boll worms in the fruiting stage—dusted with Gammexane. (iii) yield of *kapas* (iv) (a) 1948—contd. (b) Yes. (c) No. (v) (a) and (b) Nil. (vi) Unfavourable seasonal conditions Prevailed. (vii) Nil.

5. RESULTS :

(i) 168 lb./ac. (ii) 28.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7
Av. yield.	181	167	173	178	164	157	166	173

Treatment	T_8	T_9	T_{10}	T_{11}	T_{12}	T_{13}	T_{14}	T_{15}
Av. yield.	146	165	165	165	178	176	175	162

S.E. mean = 14.3 lb./ac.

———

Crop :- Cotton. **Ref :- Ms. 55(24).**

Site :- Agri. Res. Stn., Hiriyur. **Type :- 'M'.**

Object :—To find the N, P and K requirements of Cotton.

1. BASAL CONDITIONS :

(i) (a) No. (b) *Ragi*—Fallow. (c) 5 tons/ac. of Compost. (ii) (a) Gravel mixed with Clayey loam. (b) Refer soil anaiysis, Hiriyur. (iii) 1.6.1955. (iv) (a) 3 ploughings and levelling. (b) and (c) N.A. (d) 2 × 10". (e) N.A. (v) 4 tons./ac. of F.Y.M. incorporated into the soil before Sowing. (vi) Giza-12 (late). (vii) Irrigated. (viii) 4 intercultural operations with blade harrow and 3 to 4 weedings. (ix) 22.86". (x) 17.10 1955; 28.10.1955; 31.11.1955; 2.12.1955; and 28.1.1956.

2. TREATMENTS :

All Combinations of (1), (2) and (3)

(1) 2 levels of N as A/S : N_0=0 and N_1=50 lb./ac.
(2) 2 levels of P_2O_5 as Super : P_0=0 and P_1=100 lb./ac.
(3) 2 levels of K_2O as Pot. Sul.: K_0=0 and K_1=50 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 24'×34'. (v) N.A. (vi) Yes.

4. GENERAL ;

(i) Satisfactory. (ii) Stem-borer, boll worm, Jassids and thirp, Black arm. redleaf disease—Spraying with Folidal and Gammexane dusting. (iii) Biometric observations and yield of *kapas*. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 431 lb /ac. (ii) 133.0 lb./ac. (iii) Only the main effect of P is significant. (iv) Av. yield of *kapas* in lb./ac.

	P_0	P_1	K_0	K_1	Mean
N_0	382	449	461	371	416
N_1	375	517	403	488	446
Mean	379	483	432	430	431
K_0	406	458			
K_1	351	508			

S.E. of any marginal mean = 33.3 lb./ac.
S.E. of body of any table = 47.0 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 58(32).**

Site :- Agri. Res. Stn., Hiriyur. **Type :- 'M'.**

Object :—To find the N, P and K requirements of Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jola*. (c) N.A. (ii) (a) Black cotton soil. (b) Refer soil analysis, Hiriyur. (iii) 24.9.1958. (iv) (a) Passing blade harrow twice. (b) Dibbling. (c) 6 lb./ac. (d) 2′×9″. (e) N.A. (v) Nil. (vi) Sel—69 Cotton. (vii) Irrigated. (viii) Nil. (ix) 3.53″. (x) 19.3.1959 and 6.4.1959.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 2 levels of N as A/S: N_0=0 and N_1=20 lb./ac.
(2) 2 levels of P_2O_5 as Super: P_0=0 and P_1=50 lb./ac.
(3) 2 levels of K_2O as Pot. Sul: K_0=0 and K_1=50 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 6. (iv) (a) 30′×36′3″. (b) 26′×34′ 5″. (v) 2′×13″, (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Biometric observations and yield of *kapas*. (iv) (a) N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 177 lb./ac. (ii) 257.0 lb./ac. (iii) No effect is significant. (iv) Av. yield of *kapas* in lbs./ac.

	P_0	P_1	K_0	K_1	Mean
N_0	167	189	170	186	178
N_1	161	191	178	174	176
Mean	164	190	174	180	177
K_0	152	196			
K_1	176	184			

S.E. of any marginal mean = 52.6 lb./ac.
S.E. of body of any table = 105.3 lb./ac.

Crop :- Cotton. *(Kharif).* **Ref :- Ms. 58(33).**

Site :- Agri. Res. Stn., Hiriyur. **Type :- 'M'.**

Object :—To find the N, P and K requirements of Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) N.A. (ii) (a) Red loamy soil. (b) Refer soil analysis, Hiriyur. (iii) 3.5.1958. (iv) (a) 2 ploughings and harrowing. (b) Dibbling. (c) 15 lb./ac. (d) 2'×9". (e) 2. (v) N.A. (vi) CO—419. (vii) Irrigated. (viii) Madras cultivate 6 to 8 times and hand weeding in the rows 3 to 4 times. (ix) 15.00". (x) 28.11.1958 and 5.1.1959.

2. TREATMENTS :

Same as in expt. no. 55(24) on page 556.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 22'×49' 5". (b) 18'×48'. (v) 2'×8.5". (vi) Yes.

4. GENERAL :

(i) Biometric observations and yield of *kapas*. (ii) Spraying of Gammexane and Folidol. (iii) Setting percentage, weight of seed cotton/boll and yield of cotton *kapas*. (iv) (a) 1955—contd. (b) No. (c) Nil. (v) (a) Mandya. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 443 lb./ac. (ii) 90.4 lb./ac. (iii) Only main effect of N is significant. (iv) Av. yield of *kapas* in lb./ac.

	P_0	P_1	K_0	K_1	Mean
N_0	396	408	383	421	402
N_1	486	480	472	494	483
Mean	441	444	427	458	443
K_0	419	436			
K_1	464	451			

S.E. of any marginal mean = 22.6 lb./ac.
S.E. of body of any table = 45.2. lb./ac.

Crop :- Cotton *(Kharif).* **Ref :- Ms. 58(89).**

Site :- Agri. Res. Stn., Hiriyur. **Type :- 'M'.**

Object :—To find the N, P and K requirements of Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) As per treatments. (ii) (a) Loamy soil. (b) Refer soil analysis, Hiriyur. (iii) 8.6.1958. (iv) (a) Ploughing, harrowing and openning furrows. (b) Dibbling by hand. (c) 15 lb./ac. (d) 2'×9". (e) 2. (v) Nil. (vi) CO—419. (vii) Irrigated. (viii) 6 to 8 times Madras cultivation and 3 to 4 times hand weeding in the rows. (ix) 15". (x) 10.12.1958.

2. TREATMENTS :

Main-plot treatments :

All combinations of (1) and (2) :

(1) 4 level of P_2O_5 as Super : P_0=0, P_1=50, P_2=100 and P_3=150 lb./ac.

(2) 4 levels of K_2O as Pot. Sul. : K_0=0, K_1=50, K_2=100 and K_3=150 lb./ac.

Sub-plot treatments :

2 levels of N as A/S : N_0=0 and N_1=50 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 16 main-plots/replication. 2 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) (a) 45½′×18′. (b) 44′×14′. (v) 9″×2′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Mild attack of pests and diseases ; Gammexane was sprayed. (iii) Flowering per plant, boll no. and yield of *kapas*. (iv) (a) N.A. (b) No. (c) Nil. (v) (a) Mandya. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 845 lb./ac. (ii) (a) 232.8 lb./ac. (b) 128.3 lb./ac. (iii) Main effect of N is highly significant. Main effect of P is significant. (iv) Av. yield of *kapas* in lb./ac.

	K_0	K_1	K_2	K_3	N_0	N_1	Mean
P_0	934	816	972	662	663	1029	847
P_1	828	1084	891	1074	786	1152	969
P_2	834	735	877	698	627	945	786
P_3	683	955	667	801	609	945	777
Mean	820	898	852	809	671	1018	845
N_0	658	729	687	613			
N_1	982	1066	1017	1005			

S.E. of difference of two

1. P or K marginal means = 67.2 lb./ac.
2. N marginal means = 26.2 lb./ac.
3. N means at the same level of P or K = 103.9 lb./ac.
4. P or K means at the same level of N = 76.4 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 58(90).**

Site :- Agri. Res. Stn., Hiriyur. **Type :- 'M'.**

Object :—To study the effect of N and K fertilizers on Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) N.A. (ii) (a) Black cotton soil. (b) Refer soil analysis, Hiriyur. (iii) 20.6.1958. (iv) (a) 2 harrowings. (b) Dibbling. (c) 6 to 8 lb./ac. (d) 2′×1′. (e) N.A. (v) Nil. (vi) M.A.—5 (vii) Irrigated. (viii) Weeding. (ix) 14.01″. (x) 12.11.1958 to 2.1. 1959.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 2 levels of N as A/S : N_0=0 and N_1=30 lb./ac.
(2) 2 levels of P_2O_5 as Super : P_0=0 and P_1=100 lb./ac.
(3) 2 levels of K_2O : K_0=0 and K_1=100 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 6. (iv) (a) 41′×20′. (b) 39′×16′. (v) 1′×2′. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Yield of *kapas*. (iv) (a) N.A. (b) No. (c) Nil. (v) (a) Mandya. (b) Nil (vi) and (vii) Nil.

5. RESULTS :

(i) 377 lb./ac. (ii) 101.9 lb./ac. (iii) Only main effect of N is highly significant. (iv) Av. yield of *kapas* in lb./ac.

	P_0	P_1	K_0	K_1	Mean
N_0	317	295	304	308	306
N_1	447	449	470	426	448
Mean	382	372	387	367	377
K_0	378	396			
K_1	386	348			

S.E. of any marginal mean = 20.8 lb./ac.
S.E. of body of any table = 29.5 lb /ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 54(154).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To study the residual effect of N and P with and without F.Y.M. cn Cotton.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*. (b) *Jowar*. (c) As per treatments. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) August, 1954. (iv) (a) 2 harrowings. (b) Drilling. (c) 9 lb./ac. (d) 18" between rows (e) —. (v) Nil. (vi) *Laxmi* (medium). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) N.A. (x) March—April, 1955.

2. TREATMENTS :

All combinations of (1), (2) and (3) :

(1) 4 levels of N as G.N.C. : N_0=0, N_1=10, N_2=20 and N_3=30 lb./ac.
(2) 4 levels of P_2O_5 as Super : P_0=0, P_1=10, P_2=20 and P_3=30 lb./ac.
(3) 2 levels of F.Y.M. : F_0=0 and F_1=5 C.L./ac.

Treatments applied to previous *Jowar* crop.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 32. (b) N.A. (iii) 2. (iv) (a) 19.5'×36'. (b) 16.5'×33'. (v) 1.5'×1.5'. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Rust attack damaged the crop severely—no control measures taken. (iii) Yield of *kapas*. (iv) (a) 1954—contd. (b) and (c) No. (v) to (vii) Nil.

5. RESULS :

(i) 228 lb./ac. (ii) 74.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of *kapas* in lb./ac.

	P_0	P_1	P_2	P_3	Mean	F_0	F_1
N_0	179	230	290	292	248	222	273
N_1	198	209	259	233	225	229	221
N_2	232	191	209	215	212	227	197
N_3	240	226	241	206	228	240	217
Mean	212	214	250	237	228	229	227
F_0	192	207	264	255			
F_1	233	221	236	218			

S.E. of N or P marginal mean = 18.6 lb./ac.
S.E. of F marginal mean = 13.1 lb./ac.
S.E. of body of F×N or F×P table = 26.2 lb./ac.
S E. of body of N×P table = 37.2 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 55(109).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To find the residual effect of N and P with and without F.Y.M. on Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) *Jowar*. (c) As per treatments. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 28.8.1955. (iv) (a) 2 harrowings. (b) Drilling. (c) 9 lb./ac. (d) 18" between rows. (e) —. (v) Nil. (vi) *Laxmi* (medium). (vii) Unirrigated. (viii) 3 interculturings and weeding. (ix) N.A. (x) 9.3 195 to 18.4.1956.

2. TREATMENTS :

Same as in expt. no. 54 (154) on page 560.

3. DESIGN

(i) Fact. in R.B.D. (ii) (a) 32. (b) N.A. (iii) 3. (iv) (a) 36'×36'. (b) 33'×33'. (v) 1.5'×1.5'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of *kapas*. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 323 lb./ac. (ii) 61.3 lb./ac. (iii) None of the effects is significant. (vi) Av. yield of *kapas* in lb./ac.

	P_0	P_1	P_2	P_3	Mean	F_0	F_1
N_0	270	332	311	285	300	297	302
N_1	340	344	304	350	335	310	359
N_2	321	323	327	351	330	318	343
N_3	339	325	320	324	327	329	326
Mean	317	331	316	328	323	313	333
F_0	307	312	321	313			
F_1	327	349	310	342			

S.E. of N or P marginal mean	= 12.5 lb./ac.
S.E. of F marginal mean	= 8.8 lb./ac.
S.E. of body of F×N or F×P table	= 17.7 lb./ac.
S.E. of body of N×P table	= 25.0 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 57(147).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To study the residual effect of N and P with and without F.Y.M. on Cotton.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*. (b) *Jowar*. (c) As per treatments. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 17.9.1957. (iv) (a) 3 harrowings. (b) Drilling. (c) 9 lb./ac. (d) 18" between rows. (e) —. (v) Nil. (vi) *Laxmi*. (vii) Unirrigated. (viii) 4 interculturings. (ix) N.A. (x) 21.2.1958 to 22.3.1958.

2. TREATMENTS :

Same as in expt. no. 54(154) on page 560.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 32. (b) N.A. (iii) 3. (iv) (a) 36'×36'. (b) 33'×33'. (v) 1.5'×1.5'. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Slight attack of Aphids ; spraying of tobacco decoction. (iii) Yield of *kapas*. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. **RESULTS :**

(i) 346 lb./ac. (ii) 74.1 lb./ac. (iii) Main effects of F and P are highly significant. (iv) Av. yield of *kapas* in lb./ac.

	P_0	P_1	P_2	P_3	Mean	F_0	F_1
N_0	250	303	344	369	316	251	382
N_1	336	327	344	400	344	277	411
N_2	307	373	336	397	353	309	398
N_3	353	360	352	423	372	327	417
Mean	311	341	336	397	346	291	402
F_0	266	276	277	345			
F_1	356	405	396	450			

S.E. of N or P marginal mean = 15.1 lb./ac.
S.E. of F marginal mean = 13 1 lb./ac.
S.E. of body of F×N or F×P table = 21.4 lb./ac.
S.E. of body of N×P table = 30.2 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 58(132).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To study the residual effect of N and P with and without F.Y.M. on Cotton.

1. BASAL CONDITIONS :

(l) Cotton—*Jowar*. (b) *Jowar*. (c) As per treatments. (ii) (a) Deep black soil. (b) Refer soil analysis. Kaladgi. (iii) 4.9.1958. (iv) (a) 2 harrowings. (b) Drilling. (c) 9 lb./ac. (d) 18" between rows. (e) —. (v) Nil. (vi) *Laxmi* (medium). (vii) Unirrigated. (viii) 3 interculturings. (ix) 12.18". (x) 10.2.1959, 28.2.1959 ; 17 to 26.3.1959.

2. TREATMENTS :

Same as in expt. no. 54(154) on page 560.

3. DESIGN :

(l) Fact. in R.B.D. (ii) (a) 32. (b) Nil. (iii) 2. (iv) (a) 36′×19½′. (b) 33′×16½′. (v) 1.5′×1.5′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Aphids observed at flowering and fruiting. Tobacco decoction administered. (iii) Yield of *kapas*. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 417 lb./ac. (ii) 95.1 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of *kapas* in lb./ac.

	P_0	P_1	P_2	P_3	Mean	F_0	F_1
N_0	405	370	475	435	421	379	464
N_1	390	480	450	350	417	411	423
N_2	447	482	394	382	426	431	422
N_3	400	447	350	415	403	411	395
Mean	410	445	417	395	417	408	426
F_0	372	417	416	426			
F_1	448	472	418	365			

S.E. of N or P marginal mean	= 23.8 lb./ac.
S.E. of F marginal mean	= 16.8 lb./ac.
S.E. of body of N×F or P×F table	= 33.6 lb./ac.
S.E. of body of N×P table	= 47.6 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 59(113).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To study the residual effect of N and P with and without F.Y.M.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) As per treatments (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 23 8.1959. (iv) (a) Harrowing. (b) Drilling. (c) 8 lb./ac. (d) 18" between rows. (e)—. (v) Nil. (vi) *Laxmi*. (vii) Unirrigated. (viii) 3 interculturings and 1 weeding. (ix) N.A. (x) 14.2.1960 to 5.4.1960.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 2 levels of F.Y.M. : F_0=0 and F_1=5 C.L./ac.

(2) 4 levels of N as A/S : N_0=0, N_1=10, N_2=20 and N_3=30 lb /ac.

(3) 4 levels of P_2O_5 as Super : P_0=0, P_1=10, P_2=20 and P_3=30 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 32. (b) N.A. (iii) 3. (iv) (a) 36'×36'. (b) 33'×33'. (v) 1.5'×1.5'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) No. (iii) Yield of *kapas*. (iv) (a) 1954—1959. (b) No. (c) Nil. (v) (a) and (b) N.A. (v) to (vii) Nil.

5. RESULTS ;

(i) 183 lb./ac. (ii) 38.4 lb./ac. (iii) Only main effect of F is highly significant. (iv) Av. yield of *kapas* in lb./ac.

	P_0	P_1	P_2	P_3	Mean	F_0	F_1
N_0	174	199	177	201	188	180	196
N_1	164	172	153	174	166	160	172
N_2	168	195	209	185	189	176	202
N_3	177	218	174	186	189	171	207
Mean	171	196	178	186	183	172	194
F_0	161	184	169	172			
F_1	180	208	188	200			

S.E. of N or P marginal mean	= 7.8 lb./ac.
S.E. of F marginal mean	= 5.5 lb./ac.
S.E. of body of N×P table	= 15.7 lb./ac.
S.E. of body of F×P or F×N table	= 11.1 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 55(105).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To study the residual effect of stubble mulch on Cotton.

1. BASAL CONDITIONS

(i) (a) Cotton—*Jowar*. (b) *Jowar*. (c) As per treatments. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 26.8.1955. (iv) (a) 2 harrowings. (b) Drilling. (c) 18 lb./ac. (d) 18″ between rows. (e)—. (v) Nil. (vi) *Laxmi*. (vii) Unirrigated. (viii) 2 interculturings and weedings. (ix) N.A. (x) 10.3.1956 to 18.4.1956.

2. TREATMENTS :

3 mulching treatments : M_0=Control, M_1=*Jowar* stubble mulching at 2 tons/ac. (mulch kept up) and M_2=*Jowar* stubble mulching at 2 tons/ac. (mulch removed before sowing).
Insecticide at 15 lb./ac. applied to M_1 and M_2.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 45′×42′. (b) 33′×30′. (v) 6′×6′. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Yield of *kapas*. (iv) (a) 1955—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 436 lb./ac. (ii) 83.4 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2
Av. yield	361	525	421

S.E./mean = 29.5 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 57(153).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To study the residual effect of stubble mulch on Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) *Jowar*. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 15.9.1957. (iv) (a) 3 harrowings. (b) Drilling. (c) 9 lb./ac. (d) 18″ between rows. (e)—. (v) Nil. (vi) *Laxmi* (medium). (vii) Unirrigated. (viii) Interculturing. (ix) N.A. (x) 23.2.1958 to 16.3.1958.

2. TREATMENTS :

Same as in expt. no. 55(105) on page 563.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 45′×32′. (b) 33′×30′. (v) 6′×1′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Yield of *kapas*. (iv) (a) 1955—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 158 lb./ac. (ii) 38.4 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2
Av. yield	131	189	155

S.E./mean = 13.6 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 58(146).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'M'.**

Object :—To study the residual effect of stubble mulch on Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) *Jowar*. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 4.9.1958. (iv) (a) 2 harrowings. (b) Drilling. (c) 9 lb./ac. (d) 18" between rows. (e)—. (v) Nil. (vi) *Laxmi*. (vii) Unirrigated. (viii) 3 interculturings. (ix) 12.18". (x) 31.1.1959 to 26.3.1959.

2. TREATMENTS :

Same as in expt. no. 55(105) on page 563.

3. DESIGN:

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 45'×42'. (b) 33'×30'. (v) 6'×6'. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Aphids observed at thinning. Control measures taken N.A. (iii) Yield of *kapas*. (iv) (a) 1955—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 425 lb./ac. (ii) 102.7 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2
Av. yield	341	468	466

S.E./mean = 36.3 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 54(48).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of N, P and K fertilizers on Cotton.

1. BASAL CONDITIONS :

(i) (a) No. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Mandya. (iii) 26.11,1954. (iv) (a) 3 ploughings and levelling. (b) and (c) N.A. (d) 24"×10". (e) N.A. (v) 4 tons/ac. of F.Y.M. (vi) Giza—12 (late). (vii) Irrigated. (viii) 4 intercultural operations and 3 to 4 weedings. (ix) 8.38". (x) 1.5.1955 to 29 6.1955.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 2 levels of N as A/S : N_0=0 and N_1=50 lb./ac.
(2) 2 levels of P_2O_5 as Super : P_0=0 and P_1=100 lb./ac.
(3) 2 levels of K_2O as Pot. Sul. : K_0=0 and K_1=50 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 18'×24.2'. (b) 14'×22.6'. (v) 2'×0.8'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Boll worm, stem-borer Jassids and Thrips. Black arm and red leaf disease. Dusting and spraying with gammexane and Folidol. (iii) No. of plants and yield of *kapas*. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 289 lb /ac. (ii) 95.9 lb./ac. (iii) Main effects of P and K and interaction N×K are significant. (iv) Av. yield of *kapas* in lb./ac.

	P_1	P_2	Mean	K_0	K_1
N_1	239	293	266	273	259
N_2	254	372	313	228	398
Mean	246	333	289	250	328
K_0	206	295			
K_1	286	371			

S.E. of any marginal mean = 24.2 lb./ac.
S.E. of body of any table = 34.2 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 55(90).**
Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of N, P and K fertilizers on Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Ragi*. (c) 4 to 5 tons/ac. of F.Y.M. (ii) (a) Red loamy sandy. (b) Refer soil analysis, Mandya. (iii) 29.11.1955. (iv) (a) 4 to 5 ploughings and levelling. (b) and (c) N.A. (d) 24″×9″. (e) 2. (v) 3 to 4 tons/ac. of F.Y.M. before sowing. (vi) Giza—12 (late). (vii) Irrigated. (viii) 3 to 4 intercultural operations and 3 to 4 weedings. (ix) 12.04″. (x) N.A.

2. TREATMENTS :

Same as in expt. no. 54(48) on page 565.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 14′×59′. (v) One row at both ends and one row on either side. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Angular leaf spot, boll worm, jassids and thrips. Spraying of Folidol and Geigy 1250. (iii) Yield of *kapas*. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 172 lb./ac. (ii) 30.4 lb./ac. (iii) Main effect of P and interactions N×K and N×P×K are significant. (iv) Av. yield of *kapas* in lb./ac.

	P_0	P_1	Mean	K_0	K_1
N_0	171	180	176	159	192
N_1	150	186	168	181	156
Mean	161	183	172	170	174
K_0	156	183			
K_1	165	183			

S.E. of any marginal mean = 7.6 lb./ac.
S.E. of body of any table = 10.7 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 55(63).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of N, P and K fertilizers on Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Ragi*. (c) 4 tons/ac. of F.Y.M. (ii) (a) Sandy loam. (b) Refer soil analysis, Mandya. (iii) 16.11.1955. (iv) (a) 3 to 4 ploughings and levelling. (b) to (e) N.A. (v)3 to 4 ton/ac. of F.Y.M. (vi) Giza—12 (late) (vii) Irrigated. (viii) 3 to 4 intercultural operations and 3 to 4 weedings. (ix) 6.78". (x) 27.4.1956 to 10.9.1956.

2. TREATMENTS :

Main-plot treatments :

All combination of (1) and (2)

(1) 4 levels of P_2O_5 : P_0=0, P_1=50, P_2=100 and P_3=150 lb./ac.

(2) 4 levels of K_2O : K_0=0, K_1=50, K_2=100 and K_3=150 lb./ac.

Sub-plot treatments :

2 levels of N : N_0=0 and N_1=50 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 16 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) (a) and (b) 37.5'×24'. (v 1 row on all sides. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Boll worm, jassids, thrips and stem-borer, aphis and red leaf. Dusting and spraying with B.H.C. and Folidol. (iii) Biometric observations and yield of *kapas*. (iv) (a) 1955 only. (b) No. (c) Nil. (v) (a) Hiriyur. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 353 lb./ac. (ii) (a) 80.3 lb./ac. (b) 55.0 lb./ac. (iii) Main effects of N, P and K are significant. (iv) Av. yield of *kapas* in lb./ac.

	K_0	K_1	K_2	K_3	Mean	N_0	N_1
P_0	234	281	304	301	280	237	287
P_1	368	234	340	391	358	338	379
P_2	318	310	450	432	377	354	400
P_3	396	381	402	401	395	356	434
Mean	329	327	374	381	353	330	375
N_0	294	307	365	354			
N_1	364	346	383	408			

S.E. of difference of two

1. P or K marginal means = 23.2 lb./ac.
2. N marginal means = 11.2 lb./ac.
3. N means at the same level of P or K = 22.5 lb./ac.
4. P or K means at the same level of N = 28.1 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 54(50).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the comparative effect of G.M. and A/S on Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Mandya. (iii) 21.11.1954. (iv) (a) 3 ploughings and levelling. (b) and (c) N.A. (d) 30"×10". (e) 2. (v) 4 tons/ac. of compost. (vi) Giza—12 (late). (vii) Irrigated. (viii) 4 intercultural operations and 3 to 4 weedings. (ix) 4.42". (x) 3.5.1955 to 14.6.1955.

2. TREATMENTS :

3 manurial treatments : M_0=Control, M_1=G.M. at 3500 lb./ac. and M_2=60 lb./ac. of N as A/S.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 29′×25′. (b) 27′4″×20′. (v) 8″×2½′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Boll worm, jassids, stem-borer and Thrips. Black arm and red leaf disease. Spraying and dusting with Geigy 1250 and Folidol. (iii) No. of plants and yield of *kapas*. (iv) (a) 1954 only. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 164 lb./ac. (ii) 47.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2
Av. yield	174	159	160

S.E./mean = 19.3 lb./ac.

Crop :- Cotton. **Ref :- Ms. 55(25).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'M'.**

Object :—To study the effect of trace elements on Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Ragi*. (c) 4 tons/ac. of F.Y.M. (ii) (a) Sandy loam. (b) Refer soil analysis, Mandya. (iii) 3.1.1955. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) 24″×10″. (e) 2. (v) 4 tons/ac. of F.Y.M. before sowing. (vi) Giza—12 (late). (vii) Irrigated. (viii) 3 to 4 intercultural operations and 3 to 4 weedings. (ix) 11.21″. (x) 19.6.1955 ; 12.7.1955 and 22.7.1955.

2. TREATMENTS :

5 trace elements : T_0=Control, T_1=18 lb./ac. of copper as C/S, T_2=20 lb./ac. of Zinc as $ZnSO_4$, T_3=15 lb./ac. of Manganese as $MnSO_4$ and T_4=15 lb./ac. of Borax.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 33′×22′. (b) 31′4″×18′. (v) 10″×2′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Stem-borer, boll worm, thrips and jassids. Black arm and red leaf disease. Geigy 1250 dusted and Folidol sprayed. (iii) No. of plants and yield of *kapas*. (iv) (a) 1955 only. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 157 lb./ac. (ii) 32.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4
Av. yield	152	154	170	155	153

S.E./mean = 13.2 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 54(186).**

Site :- Agri. Res. Stn., Naragund. **Type :- 'M'.**

Object :—To find out the optimum dose of Gypsum with and without F.Y.M. for Cotton and for mending the soil.

1. BASAL CONDITIONS :

(i) (a) and (b) N.A. (c) Nil. (ii) (a) Highly alkaline. (b) Refer soil analysis, Naragund. (iii) 11.2.1954. (iv) (a) 4 harrowings. (b) to (e) N.A. (v) 2½ tons/ac. of F.Y.M. broadcast on 13.7.1954. (vi) *Jayadhar*. (vii) Unirrigated. (viii) 4 interculturings. (ix) N.A. (x) 16.2.1955 to 3.3.1955.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of F.Y.M. : F_0=0 and F_1=10 C.L./ac.

(2) 5 levels of Gypsum : G_0=0, G_1=0.5, G_2=1, G_3=1.5 and G_4=2 tons/ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 24′×42′. (b) 18′×36′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Biometric observations and yield of *kapas*. (iv) (a) 1954—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 279 lb./ac. (ii) 54.8 lb./ac. (iii) Only main effect of G is significant. (iv) Av. yield of *kapas* in lb./ac.

	G_0	G_1	G_2	G_3	G_4	Mean
F_0	241	215	327	266	305	271
F_1	233	302	258	293	350	287
Mean	237	258	293	279	328	279

S.E. of F marginal mean = 12.3 lb./ac.
S.E. of G marginal mean = 19.4 lb./ac.
S.E. of body of table = 27.4 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 55(162).**

Site :- Agri. Res. Stn., Naragund. **Type :- 'M'.**

Object :—To find out the optimum dose of Gypsum with and without F.Y.M. for Cotton and for mending the soil.

1. BASAL CONDITIONS :

(i) (a) and (b) N.A. (c) Nil. (ii) (a) Highly alkaline. (b) Refer soil analysis, Naragund. (iii) 4.10.1955. (iv) (a) 3 harrowings. (b) to (e) N.A. (vi) Nil. (vi) *Jayadhar*. (vii) Unirrigated. (viii) 4 interculturings. (ix) N.A. (x) 24.3 1956.

2. TREATMENTS :

Same as in expt. no. 54(186) on page 568.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 24′×42′. (b) 18′×36′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Biometric observations and yield of *kapas*. (iv) (a) 1954—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 483 lb./ac. (ii) 139.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of *kapas* in lb./ac.

	G_0	G_1	G_2	G_3	G_4	Mean
F_0	452	346	481	455	497	446
F_1	448	561	496	502	596	521
Mean	450	454	488	478	547	483

S.E. of F marginal mean = 31.2 lb./ac.
S.E. of G marginal mean = 49.3 lb./ac.
S.E. of body of table = 69.8 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 56(89).**

Site :- Agri. Res. Stn., Naragund. **Type :- 'M'.**

Object :—To find out the optimum dose of Gypsum with and without F.Y.M. for Cotton and for mending the soil.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) *Jowar*. (c) Nil. (iv) (a) Highly alkaline. (b) Refer soil analysis, Naragund. (iii) 14 9.1956. (iv) (a) 3 harrowings. (b) to (e) N.A, (v) Nil. (vi) *Jayadhar*. (vii) Unirrigated. (viii) 4 interculturings. (ix) N A. (x) 21.3.1957.

2. TREATMENTS :

Same as in expt. no. 54(186) on page 568.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 24′×42′. (b) 18′×36′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Biometric observations and yield of *kapas*. (iv) (a) 1954—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 353 lb./ac. (ii) 122.2 lb./ac. (iii) Only main effect of F is significant. (iv) Av. yield of *kapas* in lb./ac.

	G_0	G_1	G_2	G_3	G_4	Mean
F_0	184	388	330	306	315	305
F_1	339	311	419	524	419	402
Mean	261	350	374	415	367	353

S.E. of F marginal mean = 27.3 lb./ac.
S.E. of G marginal mean = 43.2 lb./ac.
S.E. of body of table = 61.1 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 57(39).**

Site :- Agri. Res. Stn., Naragund. **Type :- 'M'.**

Object :—To find out the optimum dose of Gypsum with and without F.Y.M. for Cotton and for mending the soil.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) *Jowar*. (c) Nil. (ii) (a) Highly alkaline. (b) Refer soil analysis, Naragund. (iii) 8.9.1957. (iv) (a) 4 harrowings. (b) to (e) N.A. (v) Nil. (vi) *Jayadhar*. (vii) Unirrigated. (viii) 4 interculturings. (ix) N.A. (x) 15.2.1958.

2. TREATMENTS :

Same as in expt. no. 54(186) on page 568.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 24′×42′. (b) 18′×36′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Biometric observations and yield of *kapas*. (iv) (a) 1954—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 341 lb./ac. (ii) (a) 94.1 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of *kapas* in lb./ac.

	G_0	G_1	G_2	G_3	G_4	Mean
F_0	309	337	284	388	332	330
F_1	355	341	385	379	307	353
Mean	331	339	334	384	319	341

S.E. of F marginal mean = 21.0 lb./ac.
S.E. of G marginal mean = 33.3 lb./ac.
S.E. of body of table = 47.0 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 58 (13).**

Site :- Agri. Res. Stn., Naragund. **Type :- 'M'.**

Object :—To find out the optimum dose of Gypsum with and without F.Y.M. for Cotton and for mending the soil.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) *Jowar*. (c) Nil. (ii) (a) Highly alkaline. (b) Refer soil analysis, Naragund. (iii) 27.9.1958. (iv) (a) 4 harrowings. (b) to (e) N.A. (v) Nil. (vi) *Jayadhar*. (vii) Unirrigated. (viii) (ix) N.A. (x) 22.3.1959.

2. TREATMENTS :

Same as in expt. no. 54(186) on page 568.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 24′×42′. (b) 18′×36′. (v) 3′×3′. (vi) Yes

4. GENERAL :

(i) Good. (ii) Nil. (iii) Biometric observations and yield of *kapas*. (iv) (a) 1954—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 232 lb./ac. (ii) 64.0 lb./ac. (iii) Main effects of F and G are significant. (iv) Av. yield of *kapas* in lb./ac.

	G_0	G_1	G_2	G_3	G_4	Mean
F_0	175	243	306	174	157	211
F_1	265	266	267	255	211	253
Mean	220	255	286	214	184	232

S.E. of F marginal mean = 14.3 lb./ac.
S.E. of G marginal mean = 22.6 lb./ac.
S.E. of body of table = 32.0 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 58(73).**

Site :- Agri. Res. Stn., Raichur. **Type :- 'M'.**

Object :—To find out the most economical fertilizer for Cotton crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Safflower. (c) 3 C.L./ac. of F.Y.M. (ii) (a) Black cotton soil. (b) N.A. (iii) 27.9.1958. (iv) (a) Ploughings and blade harrowing. (b) Sowing by draw tube. (c) 12 lb./ac. (d) 18" between rows. (e) —. (v) 3 C.L./ac. of F.Y.M. a fortnight before sowing. (vi) *Laxmi* (early). (vii) Unirrigated. (viii) 3 interculturings and 1 weeding (ix) N.A. (x) 2.3.1959 to 17.3.1959.

2. TREATMENTS :

8 manurial treatments : M_0=Control, M_1=150 lb./ac. of complesal applied at sowing, M_2=150 lb./ac. of complesal : ½ at sowing+½ one month after, M_3=150 lb./ac. of A/S at sowing, M_4=150 lb./ac. of A/S : ½ at sowing +½ one month after, M_5=75 lb./ac. of A/S at sowing+100 lb./ac. of C/N after one month M_6=75 lb./ac. of A/S at sowing +75 lb./ac. of Cal. Nitrate after one month and M_7=150 lb./ac. of A/S+180 lb./ac. of Super : ½ at sowing+½ one month after.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) 121'×72'. (iii) 4. (iv) (a) 121'×9'. (b) 117'×6'. (v) 2'×1.5'. (vi) Yes.

4. GENERAL :

(i) Fairly good. (ii) Jassid attack was normal ; spraying with 50% wettable D.D.T. was done. (iii) Yield of *kapas*. (iv) (a) 1951—contd. (a) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

(i) 740 lb./ac. (ii) 62.3 lb./ac. (iii) Treatment differences are highly significant. (iv) As yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7
Av. yield	613	795	791	725	679	818	776	721

S.E./mean = 31.1 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 59(83).**

Site :- Agri. Res. Stn., Raichur. **Type :- 'M'.**

Object :—To find out the most ecconomical fertilizers for Cotton crop.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) *Jowar*. (c) 3 C.L./ac. of compost+20 lb./ac. of N +10 lb./ac. of P_2O_5. (ii) (a) Black cotton soil. (b) N.A. (ii) 24.9.59. (iv) (a) Harrowing. (b) Drilling. (c) 12 lb./ac. (d) 18" between rows. (e) —. (v) 3 C.L./ac. of compost. (vi) *Jayadhar*. (vi) Unirrigated. (viii) 1 weeding and 2 interculturings. (ix) 3.46". (x) 16.2.1960 and 8.3.60.

2. TREATMENTS :

Same as in expt. no. 58 (73) on page 672.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 9'×121'. (b) 6'×117'. (v) 1.5'×2'. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) N.A. (iii) Yield of *kapas*. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 345 lb./ac. (ii) 71.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7
Av. yield	248	326	318	353	365	376	388	388

S.E./mean = 35.7 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 54(35).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the optimum dose of G.M. in garden lands for Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) *Jowar*. (c) As per treatments. (ii) (a) Heavy black clayey. (b) Refer soil analysis, Siruguppa. (iii) 17.8.1954. (iv) (a) to (e) N.A. (v) 40 lb./ac. of P_2O_5 as Super+40 lb./ac. of N as A/S top dressed. (vi) *Laxmi*. (vii) Irrigated. (viii) N.A. (ix) 4.88". (x) 8.2.1955 to 18.3.1955.

2. TREATMENTS :

6 G.M. treatments : M_0=Control, M_1=Growing *dhaincha* and ploughing in *situ*, M_2=2500, M_3=5000, M_4=7500 and M_5=10,000 lb./ac. of G.L.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) 1/33.3 ac. (b) 1/40 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) D.D.T. spraying at 0.1% to control cotton jassids. (iii) Yield of *kapas*. (iv) (a) 1951—contd. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 429 lb./ac. (ii) 85.6 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	203	451	289	455	524	655

S.E./mean = 38.3 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 56(190).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the optimum dose of G.M. in garden lands for Cotton.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M.+40 lb./ac. of N +20 lb./ac. of P_2O_5. (ii) (a) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) 22.8.1956. (iv) (a) 2 ploughings. (b) Dibbling. (c) 8 to 10 lb./ac. (d) 27″×9″. (e) 2. (v) 5 tons/ac. of F.Y.M. and 40 lb./ac. of N. (vi) *Laxmi*. (vii) Irrigated. (viii) Interculture and hand weeding. (ix) N.A. (x) 15.2.1957 to 23.3.1957.

2. TREATMENTS :

Same as in expt. no. 54(35) on page 673.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) 1/33.3 ac. (b) 1/40 ac. (v) 2 rows on either side. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Aphids, jassids and thrips. Wettable Endrine at 100 gallon. Sulphur sprayed at monthly intervals. (iii) Yield of *kapas*. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Heavy rains in December. (vii) Nil.

5. RESULTS :

(i) 83 lb./ac. (ii) 26.3 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	61	126	49	100	95	99

S.E./mean = 11.8 lb./ac.

Crop :- Cotton. **Ref :- Ms. 55(34).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To determine suitable type of leguminous G.M. crop for the black soils of the project and to see their effect, with and without P_2O_5, on the yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) As per treatments. (ii) (a) Heavy black clayey. (b) Refer soil analysis, Siruguppa. (iii) 6.7.1955. (iv) (a) to (e) N.A. (v) 40 lb./ac. of N as A/S. (vi) *Laxmi*. (vii) Irrigated. (viii) 2 weedings, thinning and earthing up. (ix) N.A. (x) 20.3.1956 to 3.4.1956.

2. TREATMENTS :

7 G.M. treatments : M_0=Control, M_1=*Dhaincha*, M_2=Sannhemp, M_3=Cowpea, M_4=*Dhaincha*+30 lb./ac. of P_2O_5, M_5=Sannhemp+30 lb./ac. of P_2O_5 and M_6=Cowpea+30 lb./ac. of P_2O_5.

Level of G.M. applied—N.A.

3. DESIGN :

(i) R B.D. (ii) (a) and (b) 7. (iii) 4. (iv) (a) 1/100 ac. (b) 1/200 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Sprayings with hexidole 0.1% three times to control jassids and aphids. (iii) Yield of *kapas*. (iv) (a) and (b) N.A. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1156 lb./ac. (ii) 116.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6
Av. yield	903	1156	1012	1134	1310	1182	1390

S.E./mean = 58.0 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 55(41).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the relative manurial values of G.M. crops like Daincha, Sannhemp and Cowpea at different doses.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) *Jowar*. (c) As per treatments. (ii) (a) Black clayey. (b) Refer soil analysis, Siruguppa. (iii) 3.9.1955. (iv) (a) N.A. (b) Dibbling. (c) to (e) N.A. (v) 30 lb /ac. of P_2O_5 as Super+ 40 lb./ac. of N as A/S top dressed. (vi) *Laxmi* (medium). (vii) Irrigated. (viii) 2 weedings, thinning and earthing up. (ix) 14.24". (x) 20.3.1956 and 3.4.1956.

2. TREATMENTS :

All combinations of (1) and (2) +One control.

(1) 3 G. M. crops G_1=Cowpea, G_2=*Dhaincha* and G_3=Sannhemp.

(2) 3 levels of organic matter: L_1=2500, L_2=5000 and L_3=7500 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 1/80 ac. (b) 1/200 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Spraying with Hexidole 1% twice, to control jassids and aphids. (iii) Yield of *kapas*. (iv) (a) N.A. (b) Yes. (c) Nil. (v) to (vii). Nil.

5. RESULTS :

(i) 1118 lb./ac. (ii) 118.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of *Kapas* in lb /ac.

Control = 1054

	L_1	L_2	L_3	Mean
G_1	1098	1058	1084	1080
G_2	1094	1010	1214	1106
G_3	1172	1142	1194	1169
Mean	1121	1070	1164	1118

S.E. of any marginal mean = 34.1 lb./ac.
S.E. of body of table or control mean = 59.0 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 55(35).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To determine the relative manurial values of G.L., F.Y.M. and Compost when applied on equal organic matter basis.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) *Jowar*. (c) As per treatments. (ii) (a) Heavy black clayey. (b) Refer soil analysis Siruguppa. (iii) 3.9.1955. (iv) (a) 2 ploughings. (b) Dibbling. (c) to (e) N.A. (v) 40 lb./ac. of N as A/S top dressed. (vi) *Laxmi*. (vii) Irrigated, (viii) 2 weedings, thinning and earthing up. (ix) 14.24". (x) 20.3.1956. and 3.4.1956.

2. TREATMENTS :

All combinations of (1) and (2) +one control.

(1) 3 manures : M_1=*Dhaincha*, M_2=F.Y.M. and M_3=Compost.

(2) 3 levels of organic matter : L_1=2500, L_2=5000 and L_3=7500 lb./ac.

3. DESIGN :

(i) R.B.D. (a) 10. (b) N.A. (iii) 4. (iv) (a) 1/100 ac. (b) 1/200 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) The crop was sprayed with Hexidole 0.1 % twice to control jassids and aphids. (iii) Yield of *kapas*. (iv) (a) N.A. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1066 lb./ac. (ii) 104 0 lb./ac. (iii) Only 'control vs. others' is significant. (iv) Av. yield of *kapas* in lb./ac.

Control = 944 lb./ac.

	L_1	L_2	L_3	Mean
M_1	1012	1090	1112	1071
M_2	1069	1110	1122	1100
M_3	1054	1004	1138	1065
Mean	1045	1068	1124	1079

S.E. of any marginal mean = 30.02 lb./ac.
S.E. of body of table or control mean = 52.0 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 57(94).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find whether application of Paddy straw can stabilize the deficiency of N in Calcereous soils.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) 30.8.1957. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) N.A. (d) 9" between rows. (e) 2. (v) 5 tons/ac. of F.Y.M. (vi) *Laxmi* (medium). (vii) Irrigated. (viii) Hand weeding, passing cultivator in between rows. (ix) 12.65". (x) 19.2.1958. and 17.3.1958.

2. TREATMENTS :

5 manurial treatments : M_0=Control, M_1=2 cwt./ac. of A/S before sowing, M_2=2 tons/ac. of paddy straw 6 weeks before sowing, M_3=2 tons/ac. of paddy straw 8 weeks before sowing and M_4=2 tons/ac. of paddy straw 12 weeks before sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 1/40 ac. (b) 1/50 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Slight attack of aphids, jassids and boll worms. Folidol at 0.03 % sprayed. (iii) Nil. (iv) (a) 1957—only. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 627 lb./ac. (ii) 88.5 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4
Av. yield	599	732	508	679	617

S.E. /mean = 36.1 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 58(83).**

Site :- Agri. Res. Stn., Sirugupppa. **Type :- 'M'.**

Object :—To study the effect of organic and inorganic manures on yield of Cotton

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar.* (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Sirugupppa. (c) Nil. (iii) 26.8 1958. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 5 lb./ac. (d) 24"×12" (e) N.A. (v) 5 tons/ac. of F.Y M. (vi) *Laxmi* (medium). (vii) Irrigated. (viii) Hand weeding and working cultivator. (ix) 9.67". (x) 12.2.1959 and 18.3.1959.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 sources of N : S_1=A/S, S_2=C.M. and S_3=G.L.

(2) 3 levels of N : N_0=0, N_1=20 and N_2=40 lb./ac.

Time and method of application N A.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) and (b) 1/50 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) No severe damage was caused but aphids, jassids, boll worms and thrip were noticed. Folidol 0.03% sprayed. (iii) Yield of *kapas*. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 256 lb./ac. (ii) 84.5 lb,ac. (iii) Only main effect of N is significant. (iv) Av. yield of *kapas* in lb./ac.

	S_1	S_2	S_3	Mean
N_0	—	—	—	202
N_1	268	238	288	265
N_2	340	266	295	300
Mean	304	252	291	—

S.E. of S marginal mean = 29.9 lb./ac.
S E. of N marginal mean = 24.4 lb./ac.
S.E. of body of table = 42.3 lb./ac.[4]

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 57(97).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out N and P requirement of Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar.* (c) 5 tons/ac. of F.Y.M.+20 lb./ac. of N as A/S+40 lb./ac. of P_2O_5 as Super. (ii) (a) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) 27.8.1957. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 5 lb /ac. (d) 24"×12". (e) N.A. (v) 5 tons/ac. of F.Y.M. broadcast. (vi) *Laxmi.* (vii) Irrigated. (viii) Hand weeding and passing *danthies* between the rows. (ix) 13.51". (x) 26.2.1958, 10.3.1958 and 14.4.1958.

2. TREATMENTS :

All combinations of (1) and (2)+control (4 Plots) :

(1) 4 levels of N as A/S : N_0=0. N_1=20, N_2=40 and N_3=60 lb./ac.

(2) 4 levels of P_2O_5 as Super : P_0=0, P_1=20, P_2+40 and P_3=60 lb./ac.

Time and method of application—N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 20. (b) N.A. (iii) 2. (iv) 1/50 ac. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Attack of jassids, aphids and boll-worms noticed. Folidol 0.03% was sprayed. (iii) Yield of *kapas*. (iv) (a) 1957—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 349 lb./ac. (ii) 85.0 lb./ac. (iii) Main effect of N alone is significant. (iv) Av. yied of *kapas* in lb./ac.

	N_0	N_1	N_2	N_3	Mean
P_0	279	431	300	350	309
P_1	253	440	406	422	380
P_2	285	331	418	478	378
P_3	387	281	337	462	367
Mean	289	371	365	428	349

S.E. of any marginal mean (other than N_0 or P_0) = 30.0 lb./ac.
S.E. of body of table (other than N_0P_0 mean) = 60.1 lb./ac.
S.E. of N_0P_0 mean = 30.0 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 58(77).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out N, P and K requirement of Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sannhemp for G.M. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) 2.9.1958. (iv) (a) Ploughing and harrowing. (b) Dibbling, (c) N.A., (d) 9" between plants. (e) 2. (v) 5 tons/ac. of F.Y.M. broadcast. (vi) *Laxmi* (medium). (vii) Irrigated. (viii) Hand weeding and working cultivator. (ix) 8.40". (x) 17.2.1959 and 7.3.1959.

2. TREATMENTS :

3 manurial treatments : M_1=40 lb./ac. of N, M_2=40 lb./ac. of N+20 lb./ac. of P_2O_5 and M_3=40 lb./ac. of N+20 lb./ac. of P_2O_5+20 lb./ac. of K_2O.

N applied as A/S, P_2O_5 as Super and K_2O as Mur. Pot.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 10. (iv) (a) and (b) 1/50 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Jassids. aphids and boll-worms. Folidol at 0.03% was sprayed, (iii) Yield of *kapas*. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 454 lb./ac. (ii) 111.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	410	475	478

S.E./mean = 35.3 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 57(MAE)**

Site :- M.A.E. Farm, Gangavati. **Type :- 'M'.**

Object :—Type II—To study the effect of N, P, K and F.Y.M. on Cotton.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*—Groundnut. (b) Groundnut. (c) N.A. (ii) (a) Deep black soil. (b) N.A. (iii) 3rd week of Aug., 1957. (iv) (a) Slightly levelled during last summer, 4 harrowings. (b) N.A. (c) 15 lb./ac. (d) 2′×1′. (e) N.A. (v) Nil. (vi) N.A. (vii) Irrigated. (viii) and (ix) N.A. (x) From 1st Jan., 1958.

2. TREATMENTS :

All combinations of (1), (2), (3) and (4)

(1) 3 levels of N as A/S : N_0=0, N_1=30 and N_2=60 lb./ac.
(2) 3 levels of P_2O_5 as Super : P_0=0, P_1=30 and P_2=60 lb./ac.
(3) 3 levels of K_2O as Pot. Sul. : K_0=0, K_1=30 and K_2=60 lb./ac.
(4) 2 levels of F.Y.M. : F_0=0 and F_1=5000 lb./ac.

3. DESIGN :

(i) 3^3×2 fact. confd. (ii) (a) 9 plots/block ; 6 blocks/replications. (b) N.A. (iii) 1. (iv) (a) N.A. (b) 49′×18′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) Nil. (iii) *Kapas* yield. (iv) (a) 1957—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 431 lb./ac. (ii) 141.1 lb./ac. (iii) Main effect of N and interaction F×N are highly significant. (iv) Av. yield of *kapas* in lb./ac.

	N_0	N_1	N_2	Mean	K_0	K_1	K_2	F_0	F_1
P_0	339	394	542	425	352	405	518	605	244
P_1	333	509	530	457	348	613	410	647	268
P_2	351	302	581	411	420	420	394	596	227
Mean	341	402	551	431	373	479	441	616	246
F_0	451	575	822	616	494	715	639		
F_1	231	228	280	246	252	244	243		
K_0	258	327	535						
K_1	402	475	561						
K_2	364	403	557						

S.E. of N, P or K marginal mean = 33.3 lb./ac.
S.E. of F marginal mean = 27.2 lb./ac.
S.E. of body of N×P, N×K or P×K table = 57.6 lb./ac.
S.E. of body of N×F, P×F or K×F table = 47.0 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 58(MAE).**

Site :- M.A.E. Farm, Gangavati. **Type :- 'M'.**

Object :—Type II—To study the effect of N, P, K and F.Y.M. on Cotton.

1. BASAL CONDITIONS :

(i) Cotton—*Jowar*—Groundnut. (b) Groundnut. (c) N.A. (ii) (a) Deep black soil. (b) N.A. (iii) Last week of Aug. 1958. (iv) (a) 2 ploughings and 2 to 4 hoeings. (b) N.A. (c) 15 lb./ac. (d) 2′×1′. (e) N.A. (v) Nil. (vi) *Laxmi*. (vii) Irrigated. (viii) 1 weeding and 2 harrowings. (ix) N.A. (x) 1st and 2nd week of Marah 1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(MAE) type II on page 579.

4. GENERAL :

(i) N.A. (ii) Thrips and jassids attack—control measures N.A. (iii) *Kapas* yield. (iv) (a) 1957—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 461 lb./ac. (ii) 83.9 lb./ac. (iii) Main effects of N and P are highly significant. (iv) Av. yield of *kapas* in lb./ac.

	N_0	N_1	N_2	Mean	K_0	K_1	K_2	F_0	F_1
P_0	347	411	393	384	400	364	388	302	466
P_1	394	522	532	483	494	436	519	419	547
P_2	380	579	591	517	540	499	512	488	545
Mean	374	504	505	461	478	433	473	403	519
F_0	309	448	452	403	427	384	399		
F_1	439	560	558	519	529	482	546		
K_0	404	513	516						
K_1	355	465	478						
K_2	363	534	521						

S.E. of N, P or K marginal mean = 19.77 lb./ac.
S.E. of F marginal mean = 16.14 lb./ac.
S.E. of body of N×P, N×K or P×K table = 34.25 lb./ac.
S.E. of body of N×F, P×F or K×F table = 27.96 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 59. (MAE).**

Site :- M.A.E. Farm, Gangavati. **Type :- 'M'.**

Object :—Type II—To study the effect of N, P, K and F.Y.M. on Cotton.

1. BASAL CONDITIONS :

(i) (a) Cotton – *Jowar*—Groundnut. (b) Groundnut. (c) N.A. (ii) (a) Deep black soil. (b) N.A. (iii) 31.8.1959. (iv) (a) N.A. (b) Dibbling on ridges. (c) 15 lb./ac. (d) 2′ × 1′. (e) N.A. (v) Nil. (vi) *Laxmi*. (vii) Irrigated. (viii) 3 weedings and 3 hoeings. (ix) N.A. (x) 4.2.1959 and 6.3.1960.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(MAE) type II on page 579.

4. GENERAL :

(i) Good. (ii) Crop attacked by thrips and jassids. Spraying of folidol. (iii) *Kapas* yield. (iv) (a) 1957—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 962 lb./ac. (ii) 148.2 lb./ac. (iii) Main effect of N highly significant and main effect of P is significant. (iv) Av. yield of *kapas* in lb./ac.

	N_0	N_1	N_2	Mean	K_0	K_1	K_2	F_0	F_1
P_0	765	971	915	884	900	817	935	911	857
P_1	807	1113	1038	986	953	1010	995	954	1018
P_2	910	1006	1131	1016	940	1033	1074	938	1094
Mean	827	1030	1028	962	931	953	1001	934	990
F_0	802	1024	977	934	888	925	989		
F_1	853	1036	1080	990	974	981	1014		
K_0	721	1015	1057						
K_1	831	1070	959						
K_2	928	1006	1069						

S.E. of marginal mean of N, P or K = 34.9 lb./ac.
S.E. of marginal mean of F = 28.5 lb./ac.
S.E. of body of N×P, N×K or P×K table = 60.5 lb./ac.
S.E. of body of N×F, P×F or K×F table = 49.4 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 57(MAE).**

Site :- M.A.E. Farm, Gangavati. **Type :- 'M'.**

Object :—Type V—To study the effect of different times of applications of N on Cotton.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Deep black soil. (b) N.A. (iii) 3rd week of Aug. 1957. (iv) (a) Slightly levelled during last summer and 3 harrowings. (b) N.A. (c) 15 lb./ac. (d) 2′×1′. (e) N.A. (v) 5000 lb./ac. of F.Y.M. (vi) *Laxmi*. (vii) Irrigated. (viii) and (ix) N.A. (x) From 1st Jan., 1958.

2. TREATMENTS :

All combinations of (1) and (2)+one control.

(1) 2 sources of 50 lb./ac. of N : S_1=Urea and S_2=A/S.

(2) 6 times of application of N : T_1=Full at sowing, T_2=Full at first interculture, T_3=Full at flowering, T_4=½ at sowing+½ at flowering, T_5=⅓ at sowing+⅓ at first interculture+⅓ at flowering and T_6=½ at flowering+½ one month after.

3. DESIGN :

(i) R.B.D. (ii) (a) 13. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 33′×14′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) Nil. (iii) *Kapas* yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 469 lb./ac. (ii) 140.7 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of *kapas* in lb./ac.

Control = 403 lb./ac.

	T_1	T_2	T_3	T_4	T_5	T_6	Mean
S_1	337	378	510	485	485	578	462
S_2	535	510	370	592	370	543	487
Mean	436	444	440	538	428	560	474

S.E. of T marginal mean = 57.4 lb./ac.
S E. of S marginal mean = 33.2 lb./ac.
S.E. of body of table or control mean = 81.2 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 58(MAE).**

Site :- M.A.E. Farm, Gangavati. **Type :- 'M'.**

Object :—Type V—To study the effect of different times of applications of N on Cotton.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Deep black soil. (b) N.A. (iii) Last week of Aug., 1958. (iv) (a) 2 ploughings and 2 to 4 hoeings. (b) N.A. (c) 15 lb./ac. (d) 2′×1′. (e) N.A. (v) 5000 lb./ac. of F.Y.M. (vi) *Laxmi.* (vii) Irrigated. (viii) 1 weeding and 2 harrowings. (ix) N.A. (x) 1st and 2nd week of March, 1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(MAE) type V on page 581.

4. GENERAL :

(i) N.A. (ii) Thrips and jassids attack. Control measures taken N.A. (iii) *Kapas* yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 601 lb./ac. (ii) 97.1 lb./ac. (iii) "Control *vs.* others" effect alone is highly significant. (iv) Av. yield of *kapas* in lb./ac.

Control = 397 lb./ac.

	T_1	T_2	T_3	T_4	T_5	T_6	Mean
S_1	666	696	646	668	633	490	633
S_2	646	644	568	638	610	517	604
Mean	656	670	607	653	621	504	618

S.E. of T marginal mean = 39.6 lb./ac.
S.E. of S marginal mean = 22.9 lb./ac.
S.E. of body of table or control mean = 56.1 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 59(MAE).**

Site :- M.A.E. Farm, Gangavati. **Type :- 'M'.**

Object :—Type V—To study the effect of different times of applications of N on Cotton.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*—Gram. (b) Gram. (c) 20 lb./ac. of N as A/S. (ii) (a) Deep black soil. (b) N.A. (iii) 27.8.1959. (iv) (a) 1 ploughing and 4 harrowings. (b) Dibbling on ridges. (c) 15 lb./ac. (d) 2′×1′. (e) N.A. (v) 5000 lb./ac. of F.Y.M.+20 lb./ac. of P_2O_5. (vi) *Laxmi.* (vii) Irrigated. (viii) 1 weeding and 3 hoeings. (ix) N.A. (x) 27.1.1960 to 1.3.1960.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(MAE) type V on page 581.

4. GENERAL :

(i) Satisfactory. (ii) N.A. (iii) *Kapas* yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1406 lb./ac. (ii) 237.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of *ksapa* in lb./ac.

Control = 1218 lb./ac.

	T_1	T_2	T_3	T_4	T_5	T_6	Mean
S_1	1440	1284	1226	1448	1473	1465	1389
S_2	1440	1407	1325	1267	1851	1432	1454
Mean	1440	1346	1275	1358	1662	1448	1422

S.E. of T marginal mean = 96.8 lb./ac.
S.E. of S marginal mean = 55.9 ib./ac.
S.E. of body of table or control mean = 136.8 lb./ac.

Crop :- Cotton. **Ref :- Ms. 58(SFT).**

Centre :- Bellary (c.f.). **Type :- 'M'.**

Object :—Type A—To study the response of Cotton to levels of N, P and K, applied individually and in combinations.

1. BASAL CONDITIONS :

(i) (a) to (c) N A. (ii) Red and black soils. (iii) Nil. (iv) to (x) N A.

2. TREATMENTS :

0 =Control (no manure).
n =40 lb./ac. of N as A/S.
p =20 lb./ac. of P_2O_5 as Super.
np =40 lb./ac. of N as A/S+20 lb./ac. of P_2O_5 as Super.
k =20 lb./ac. of K_2O as Mur. Pot.
nk =40 lb./ac. of N as A/S+20 lb./ac. of K_2O as Mur. Pot.
pk =20 lb./ac. of P_2O_5 as Super+20 lb./ac. of K_2O as Mur. Pot.
npk =40 lb./ac. of N as A/S+20 lb./ac. of P_2O_5 as Super+20 lb./ac. of K_2O as Mur. Pot.

3. DESIGN :

(i) and (ii) The district has been divided into four agriculturally homogeneous zones and one field assistant posted in each zone. The field assistant conducts the trials in one Revenue circle or thana in the zone and the circle/thana is changed once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year, 8 on *kharif* cereal, 8 on *rabi* cereal, 8 on cash crops, 4 on an oilseed crop and 3 on a leguminous crop. Half the number of trials conducted are of type A and the other half of type B on crops other than the legumes. The three trials on legumes are of type C. Residual effects of phosphate application are studied on type C trials in two out of the four zones in each district every year. The experiments are laid out in randomly located fields in randomly selected villages in each of the 4 zones at the rate of one experiment per village. (iii) (a) 1/40 ac. (b) 1/80 ac. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Cotton yield. (iv) (a) 1958—contd. (b) No. (c) N.A. (v) As per design. (vi) and (vii) Nil.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	66	25	41	6.6	−25	0	−8	−33	1.6

Control mean = 99 lb./ac. and no. of trials = 4.

Crop :- Cotton. **Ref :- Ms. 59(SFT).**

Centre :- Bellary (c.f.). **Type :- 'M'.**

Object :—Type A—To study the response of Cotton to levels of N, P and K, applied individually and in combinations.

1. BASAL CONDITIONS to 4. GENERAL :

Same as in expt. no. 58(SFT) type A on page 583 conducted at Bellary.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. respone in lb./ac.	25	16	8	4.1	16	0	—16	16	18.9

Control mean = 214 lb./ac. and no. of trials = 7.

Crop :- Cotton. **Ref :- Ms. 59(SFT).**

Centre :- Bellary (c.f.). **Type :- 'M'.**

Object :—Type B—To investigate the relative efficiency of different nitrogenus fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red and black soils. (iii) Nil. (iv) to (x) N.A.

2. TREATMENTS :

0 =Control (no manure).
n_1 =40 lb./ac. of N as A/S.
n_2 =80 lb./ac. of N as A/S.
n_1' =40 lb./ac. of N as Urea.
n_2' =80 lb./ac. of N as Urea.
n_1''' =40 lb./ac. of N as C/A/N.
n_2''' =80 lb./ac. of N as C/A/N.

3. DESIGN and 4. GENERAL:

Same as in expt. no. 58(SFT) type A on page 583 conducted at Bellary.

5. RESULTS :

Treatment	0	n_1	n_2	n_1'	n_2'	n_1'''	n_2'''
Av. yield	230	280	272	272	313	321	280

G.M. = 281 lb./ac. ; S.E. = 27.9 lb./ac. and no. of trials = 7.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 54(128).**

Centre :- Dharwar (c.f.). **Type :- 'M'.**

Object :—To find out the average response of Cotton to a particular manurial supplement in a given tract.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Kharif Jowar.* (c) N.A. (ii) Black soil. (iii) Nil. (iv) *Joyadhar.* (v) (a) to (c) N A. (d) 18" to 24" between rows. (e) N.A. (vi) 1.8.1954. (vii) Unirrigated. (viii) N.A. (ix) 14.64". (x) 15.2.1955 to 30.3.1955.

2. TREATMENTS :

6 manurial treatments : M_0=control, M_1=20 lb./ac. of N, M_2=40 lb./ac. of N, M_3=M_1 +20 lb./ac. of P_2O_5, M_4=M_3+20 lb./ac. of P_2O_5 and M_5=M_4+40 lb./ac. of K_2O.

N applied as A/S, P_2O_5 as Super and K_2O as Pot. Sul.

3. DESIGN:

(i) and (ii) 2 villages were selected at random from among all villages (growing cotton) in the taluka. In each village 2 survey numbers were selected at random from among the cotton growing survey numbers. (iii) (a) 52′×42′. (b) 36′×30′. (iv) Yes.

4. GENERAL :

(i) Not Satisfactory. (ii) Nil. (iii) N.A. (iv) (a) 1954—N.A. (b) N.A. (v) N.A. (vi) Scanty rain. (viii) The analysis of one village was not included since the shape and size of plot was not mentioned properly and the yields reported were not reliable.

5. RESULTS :

(l) 188 lb./ac. (ii) 17.2 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	178	191	194	179	170	196

S.E./mean = 12.0 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 54(129).**

Centre :- Hubli (c.f.). **Type :- 'M'.**

Object :—To find out the average response of Cotton to a particular manurial supplement in a given tract.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Jowar* in 3 yields and *Jayadhar* cotton in one field. (c) 10 C.L./ac. of F.Y.M. was given to *Jayadhar* Cotton. (iii) In three fields, medium black soil, and in one field deep black soil. (iii) Nil. (iv) *Jayadhar*. (v) (a) to (c) N.A. (d) 18″ to 20″ between rows. (e) N.A. (vi) 9, 11, 12 and 18.9.1954. (vii) Unirrigated. (viii) N.A. (ix) 12.80″. (x) 20.2.1955 to 31.3.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54 (128) on page 584.

5. RESULTS :

(i) 702 lb./ac. (ii) 8.4 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	819	703	735	623	691	641

S.E./mean = 4.20 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 54(130).**

Centre :- Navalgund (c.f.). **Type :- 'M'.**

Object :—To find out the average response of Cotton to a particular manurial supplement in a given tract.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Kharif Jowar*. (b) N.A. (ii) Deep black soil. (iii) Nil. (iv) *Jayadhar*. (v) (a) to (c) N.A. (d) 18″ between rows. (e) N.A. (vi) 8 to 22.9.1954. (vii) Unirrigated. (viii) N.A. (ix) 9.93″. (x) 18.2.1955 to 1.4.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54 (128) on page 584.

4. GENERAL :

(i) Fair except in one field. (ii) Only one field was affected by *hariyali*. (iii) N.A. (iv) (a) 1954—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

402 lb./ac. (ii) 88.8 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* n lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	375	403	451	371	400	435

S.E./mean = 31.6 lb./ac.

Crop :- Cotton *(Kharif).* **Ref :- Ms. 54(131)**

Centre :- Ranebennur (c.f.). **Type :- 'M'.**

Object :—To study the average response of Cotton to a particular manurial supplement in a given tract.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Jowar.* (c) In 3 fields 5 C.L./ac. of F.Y.M. and in 1 field 6 C.L./ac. of F.Y.M. were applied. (ii) Deep black soil.. (iii) Nil. (iv) *Laxmi.* (v) (a) to (c) N.A. (d) 24" between rows. (e) N.A. (vi) 18 and 20.8.1954. (vii) Unirrigated. (viii) N.A. (ix) 8.39". (x) 15.2.1955 to 10.3.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54 (128) on page 584.

4. GENERAL :

(i) to (iii) N.A. (iv) (a) to (c) 1954—N.A. (b) and (c) Nil. (v) to (vii) N.A.

5. RESULTS :

(i) 201 lb./ac. (ii) 44.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	186	179	168	158	224	288

S.E/mean = 22.2 lb./ac.

Crop :- Cotton *(Kharif).* **Ref :- Ms. 54(132).**

Centre :- Haveri (c.f.). **Type :- 'M'.**

Object :—To study the average response of Cotton to a particular manurial supplement in a given tract.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Kharif Jowar.* (c) In 3 fields 6 C.L./ac. of F.Y.M. and in 1 field 5 C.L./ac. of F.Y.M. were applied. (ii) In 3 fields black soil and in 1 field medium black soil. (iii) Nil. (iv) *Jayadhar.* (v) (a) to (c) N.A, (d) 20" between rows. (e) —. (vi) 20 to 30.8.1954. (vii) Unirrigated. (viii) N.A. (ix) 11.15". (x) Last 3 weeks of Feb. 1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(128) on page 584.

4. GENERAL :

(i) to (iii) N.A. (iv) (a) 1954—N.A. (b) No. (c) Nil. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 323 lb./ac. (ii) 55.7 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	375	261	334	330	206	340

S.E./mean = 27.9 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 54(133).**

Centre :- Gadag (c.f.). **Type :- 'M'.**

Object :—To study the average response of Cotton to a particular manurial supplement in a given tract.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Jowar*. (c) N.A. (ii) Black soil in 10 fields and loam soil in 2 fields. (iii) Nil. (iv) *Laxmi*. (v) (a) to (c) N.A. (d) 20" to 24" between rows. (e) N.A. (vi) 14 to 22.9.1954. (vii) Unirrigated. (viii) N.A. (ix) 13.00". (x) 14.2.1955 to 27.3.1955.

2. TREATMENTS :

Same as in expt. no. 54(128) on page 584.

3. DESIGN :

(i) and (ii) 6 villages were selected at random from among all the (cotton growing) villages in the taluka. In each selected villages 2 survey numbers were selected at random from among all the cotton growing survey numbers. (iii) (a) 52'×42'. (b) 36'×30'. (iv) Yes.

4. GENERAL :

(i) Below normal. (ii) In one village red-leaf and attack of aphids were found. (iii) N.A. (iv) (a) 1954—N.A. (b) and (c) Nil. (v) N.A. (vi) Rainfall not satisfactory. (vii) Nil.

5. RESULTS :

(i) 250 lb./ac. (ii) 40.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	242	223	255	233	262	284

S.E./mean = 11.6 lb./ac.

———

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 54(134).**

Centre :- Ron (c.f.). **Type :- 'M'.**

Object :—To study the average response of Cotton to a particular manurial supplement in a given tract.

1. BASAL CONDITIONS :

(i) (a) and (b) *Jowar*. (c) F.Y.M. (ii) In 9 fields black soil and in 3 fields deep black soil. (iii) Nil. (iv) *Laxmi*. (iv) (a) to (c) N.A. (d) 20" to 22" between rows. (e).— (vi) 11.9.1954 to 6.10.1954. (vii) Unirrigated. (viii) N A. (ix) 8.19". (x) 4.2.1955 to 18.3.1955.

2. TREATMENTS :

Same as in expt. no. 54(128) on page 584.

3. DESIGN :

(i) and (ii) 6 villages were selected at random from among all the villages (growing cotton) in the taluka. In each selected village two survey numbers were selected at random from among all the survey numbers growing cotton. (iv) (a) 52'×42'. (b) 36'×30'. (iv) Yes.

4. GENERAL :

(i) Not good except in one village. (ii) The crop was affected by red-leaf except one village. (iii) Yield of *kapas*. (iv) (a) 1954—N.A. (b) and (c) Nil. (v) N.A. (vi) Scanty rains. (vii) The experiments in three fields were vitiated and hence excluded from analysis.

5. RESULTS :

(i) 139 lb./ac. (ii) 39.3 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	141	189	140	167	163	167

S.E./mean = 13.1 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 54(135).**

Centre :- Mudergi (c.f.). **Type :- 'M'.**

Object :—To study the average response of Cotton to a particular manurial supplement in a given tract.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Kharif Jowar.* (c) F.Y.M. (ii) Black soil. (iii) Nil. (iv) *Laxmi.* (v) (a) to (c) N.A. (d) 20″ betwecn rows. (e) —. (vi) 15 to 18.9.1954. (vii) Unirrigated. (viii) N.A. (ix) 8.38″. (x) 13.2.1955 to 9.3.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(128) on page 584.

4. GENERAL :

(i) N.A. (ii) Crop affected by red-leaf disease and Aphid. (iii) N.A. (iv) (a) 1954—N.A. (b) and (c) N.A. (v) N.A. (vi) In sufficient rainfall and unfavourable weather. (vii) Nil.

5. RESULTS :

(i) 81 lb./ac. (ii) 15.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	75	76	61	100	85	88

S.E./mean = 7.9 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 54(136).**

Centre :- Siggagon (c.f.). **Type :- 'M'.**

Object :—To study the average response of Cotton to a particular manurial supplement in a given tract.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Jowar.* (c) 5 C.L./ac. of F.Y.M. (ii) Black soil. (iii) Nil. (iv) Local, *Jayadhar* and *Laxmi.* (v) (a) to (c) N.A. (d) Rows 18″ apart. (e) N.A. (vi) 20.8.1954 to 2.9.1954. (vii) Unirrigated. (viii) N A. (ix) 10 24″. (x) 14.2.1955 to 30.3.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(128) on page 584.

4. GENERAL :

(i) and (ii) N.A. (iii) Yield of *kapas.* (iv) (a) 1954—N.A. (b) and (c) N.A. (v) and (vi) N.A. (vii) The experiment in one field was not included in the analysis since different varieties were used in different plots.

5. RESULTS :

(i) 397 lb./ac. (ii) 83.1 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	308	352	447	336	506	434

S.E./mean = 48.0 lb./ac.

Crop :- Cotton *(Kharif).* **Ref :- Ms. 54(137).**

Centre :- Shirahathi. (c.f.). **Type :- 'M'.**

Object :—To study the average response of Cotton to a particular manurial suppliment in a given tract.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Kharif Jowar.* (c) 5 C.L./ac. of F.Y.M. (ii) Black soil. (iii) Nil. (iv) *Laxmi* and *Jayadhar.* (v) (a) to (c) N.A. (d) 18" to 20" between rows. (e) N.A. (vi) 31.8.1954 to 4.9.1954. (vii) Unirrigated. (viii) N A. (ix) N.A. (x) 6.2.1955 to 15.3.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(128) on page 584.

4. GENERAL :

(i) Not good. (ii) Affected by wilt disease. (iii) N.A. (iv) (a) 1954—N.A. (b) and (c) N.A. (v) N.A. (vi) Rainfall not satisfactory and weather not favourable. (vii) Nil.

5. RESULTS :

(i) 81 lb./ac. (ii) 12.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	86	89	82	73	78	76

S.E./mean = 6.0 lb./ac.

Crop :- Cotton *(Kharif).* **Ref :- Ms. 54(138).**

Centre :- Kundgol (c.f.). **Type :- 'M'.**

Object :—To study the average response of Cotton to a particular manurial supplement in a given tract.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Kharif Jowar.* (c) F.Y.M. (ii) In 4 fields deep black soil and in 2 fields black soil. (iii) Nil. (iv) *Joyadhar* and *Laxmi.* (v) (a) to (c) N.A. (d) 20" to 26" between rows. (e) N.A. (vi) 4 to 9.9.54. (vii) Unirrigated. (viii) N.A. (ix) N.A. (x) 25.2.195 to 4.3.1955.

2. TREATMENTS :

Same as in expt. no. 54(128) on page 584.

3. DESIGN :

(i) and (ii) 3 villages were selected at random from among all the cotton growing villages in the taluka. In each of the selected village 2 survey numbers were selected at random from the list of cotton growing survey numbers. (ii) (a) 52'X42'. (b) 36'X30'. (iv) Yes.

4. GENERAL

(i) Growth and boll formation not satisfactory due to hard and dry winds. (ii) Nil. (iii) N.A. (iv) (a) 1954—N.A. (b) and (c) N.A. (v) to (vii) Nil.

5. RESULTS :

(i) 344 lb./ac (ii) 82.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av.yield	310	347	312	312	393	387

S.E./mean. = 33.4 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 55(76).**

Centre :- Dharwar (c.f.). **Type :- 'M'.**

Object :—To find out the average response of Cotton to particular manurial supplement in a given tract.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Jowar*. (c) 4 C.L./ac. of F.Y.M. (ii) Medium black soil. (iii) Nil. (iv) *Jayadhar*. (v) (a) to (c) N.A. (d) 20″×9″. (e) N.A. (vi) 28.8.1955. (vii) Unirrigated. (viii) N.A. (ix) 9.31″. (x) 15.3.1956 to 13.4.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(128) on page 584.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) N.A. (iv) (a) 1954—contd. (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 507 lb./ac. (ii) 30.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	186	204	223	214	303	260

S.E./mean = 21.4 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 55(77).**

Centre :- Hubli (c.f.). **Type :- 'M'.**

Object :—To find out the average response of Cotton to a particular manurial supplement in a given tract.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) N.A. (iii) F.Y.M. at 6 C.L./ac. was given to one field, 5 C.L./ac. to another field and 10 C.L./ac. to the remaining. (iv) N.A. (v) (a) to (c) N.A. (d) 18″ between rows. (e) N.A. (vi) 20 to 27.9.1955. (vii) Unirrigated. (viii) N.A. (ix) 16.93″. (x) 8.4.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(128) on page 584.

4. GENERAL :

(i) N.A. (ii) Nil. (iii) Yield of *kapas*. (iv) (a) 1954—contd. (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 507 lb./ac. (ii) 50.1 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	316	388	456	505	733	645

S.E /mean = 25.1 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 55(78).**

Centre :- Navalgund (c.f.). **Type :- 'M'.**

Object :—To find out the average response of Cotton to a particular manurial supplement in a given tract.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Rabi jowar* in 7 fields and *kharif Jowar* in one field. (c) Nil. (ii) Black to deep black soil. (iii) 125 lb. of F.Y.M. to one field only. (iv) *Jayadhar*. (v) (a) N.A. (b) Drilling. (c) N.A. (d) 18" to 20" between rows 2" to 6" between plants. (e) N.A. (vi) 26.8.1955 to 21.9.1955. (vii) Unirrigated. (viii) N.A. (ix) 25.21". (x) 13.3.1956 to 14.4.1956.

2. TREATMENTS :

Same as in expt. no. 54(128) on page 584.

3. DESIGN :

(i) and (ii) 2 fields were selected at random in each of the 4 villages selected at random from amongst all the cotton growing villages in the taluka. (iii) (a) 52'×42'. (b) 36'×30'. (iv) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Height, boll number and yield of *kapas*. (iv) (a) 1954—contd. (b) and (c) N.A. (v) and (vi) N.A. (vii) Nil.

5. RESULTS :

(i) 428 lb./ac. (ii) 70.1 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	264	463	490	424	464	464

S.E./mean = 24.8 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 55(79).**

Centre :- Ranibenny (c.f.). **Type :- 'M'.**

Object :—To find out the average response of Cotton to a particular manurial supplement in a given tract.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) Reddish black soil. (iii) 5 C.L./ac. of F.Y.M. in July, 1955. (iv) *Laxmi*. (v) (a) to (c) N.A. (d) 24" between rows. (e) N.A. (vi) 6 to 16.8.1955. (vii) Unirrigated. (viii) N.A. (ix) 13.21". (x) 29.11.1955 to 21.3.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(128) on page 584.

4. GENERAL :

(i) and (ii) N.A. (iii) Yield of *kapas*. (iv) (a) 1954—contd. (b) and (c) N.A. (v) and (vi) N.A. (vii) Yield of one field was not included for analysis.

5. RESULTS :

(i) 265 lb./ac. (ii) 39.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	214	244	260	284	323	269

S.E./mean = 28.0 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 55(80).**

Centre :- Haveri (c.f.). **Type :- 'M'.**

Object :—To find out the average response of Cotton to a particular manurial supplement in a given tract.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M. in 3 fields and 6 C.L./ac. of F.Y.M. were given to 1 field. (ii) Loamy and medium black soil. (iii) Nil. (iv) *Jayadhar* and *Laxmi*. (v) (a) to (c) N.A. (d) 18″×5″. (e) N.A. (vi) 5.8.1955 to 7.9.1955. (vii) Unirrigated. (viii) N.A. (ix) 18.06″. (x) 25.11.1955 to 8.3.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(128) on page 584.

4. GENERAL :

(i) and (ii) N.A. (iii) Yield of *kapas*. (iv) (a) 1954—contd. (b) and (c) Nil. (v) and (vi) N.A. (vii) Nil.

5. RESULTS :

(i) 991 lb. ac. (ii) 182.7 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	812	964	1063	794	1126	1185

S.E./mean = 91.4 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 55(81).**

Centre :- Gadag (c.f.). **Type :- 'M'.**

Object :—To find out the average response of Cotton to a particular manurial supplement in a given tract.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar* and cotton. (c) 10 and 11 C.L./ac. of F.Y.M. for 2 fields. (ii) Black and medium black soil. (iii) Nil. (iv) *Laxmi*. (v) (a) to (c) N.A. (d) 18″ to 21″ between rows. (e) N.A. (vi) 7.9.1955 to 4.10.1955. (vii) Unirrigated. (viii) N.A. (ix) 13.05″. (x) 2.3.1956 to 15.4.1956.

2. TREATMENTS :

Same as in expt. no. 54(128) on page 584.

3. DESIGN :

(i) and (ii) 2 villages were located at random in each of the 6 villages selected at random from amongst all the cotton growing villages in the taluka. (iii) (a) 52′×42′. (b) 36′×30′. (vi) Yes.

4. GENERAL :

(i) and (ii) N.A. (iii) Yield of *kapas*. (iv) (a) 1954—contd. (b) and (c) N.A. (v) and (vi) N.A. (vii) The experiment in one village was vitiated.

5. RESULTS :

(i) 361 lb./ac. (ii) 87.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	357	327	354	391	352	386

S.E./mean = 26.2 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 55(82).**

Centre :- Ron (c.f.). **Type :- 'M'.**

Object :—To find out the average response of Cotton to a particular manurial supplement in a given tract.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Rabi Jowar*. (c) Nil. (ii) Deep black and black soil. (iii) Nil. (iv) *Jayadhar* and *Laxmi*. (v) (a) to (c) N.A. (d) 19" to 21" between rows. (e) N.A. (vi) 2.9.1955 to 8.10.1955. (vii) Unirrigated. (viii) N.A. (ix) 13.19". (x) 2.3.1956 to 22.4.1956.

2. TREATMENTS :

Same as in expt. no. 54(128) on page 584.

3. DESIGN :

(i) and (ii) 2 fields were located at random in each of the 6 villages selected at random from amongst all the cotton growing villages in the taluka. (iii) (a) 52'×42'. (b) 36'×30'. (iv) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height and yield of *kapas*. (iv) (a) 1954—contd. (b) and (c) N.A. (v) and (vi) N.A. (vii) Unfavourable winds.

5. RESULTS :

(i) 335 lb./ac. (ii) 75.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	259	352	345	371	342	342

S.E./mean = 21.7 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 55(83).**

Centre :- Mudergi (c.f.). **Type :- 'M'.**

Object :—To find out the average respon.e of Cotton to a particular manurial supplement in a given tract.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Wheat, Cotton and *Jowar* in different fields. (c) Nil. (ii) Black soil. (iii) Nil. (iv) *Laxmi*. (v) (a) to (c) N.A. (d) 18" between rows. (e) N.A. (vi) 13 to 24.9.1955. (vii) Unirrigated. (viii) N.A. (ix) 13.62". (x) 5.3.1956 to 9.4.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(128) on page 584.

4. GENERAL :

(i) and (ii) N.A. (iii) Yield of *kapas*. (iv) (a) 1954—contd. (b) and (c) N.A. (v) to (vii) Nil.

5. RESULTS :

(i) 150 lb./ac. (ii) 37.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	123	161	112	190	136	179

S.E./mean = 18.7 lb./ac.

Crop. Cotton :- *(Kharif)* **Ref :- Ms. 55(84).**

Centre :- Nargund (c.f.). **Type:- 'M'.**

Object :—To find out the average response of Cotton to a particular manurial supplement in a given tract.

1. BASAL CONDITINS :

(i) (a) and (b) *Jowar* and Wheat in different fields. (c) Nil. (ii) Black soil. (iii) Nil. (iv) *Laxmi* and *Jayadhar*. (v) (a) N.A. (b) Drilling. (c) N.A. (d) 18" between rows. (e) N.A. (vi) 30.8.1955 to 5.10.1955 (vii) Unirrigated. (viii) N.A. (ix) 28.73". (x) 12.3.1956 to 8.4.1956.

2. TREATMENTS and 3. DESIGN :

Same as in ex pt. no. 54(128) on page 584.

4. GENERAL :

(i) Good. (ii) Red-leaf blight disease observed in 3 fields. (iii) Av. height, av. number of bolls/plant and yield of *Kapas*. (iv) (a) 1954—contd. (b) and (c) N.A. (v) to (vii) Nil.

5. RESULTS :

(i) 94 lb./ac. (ii) 39.0 lb./ac. (iii) Treatment diffirences are not significant. (iv) Av. yield of *Kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	75	86	96	113	81	115

S.E./mean = 19.5 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 55(85).**

Centre :- Siggagon (c.f.). **Type :- 'M'.**

Object :—To find out the average response of Cotton to a particular manurial supplement in a given tract.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Jowar*. (c) 3 to 4 C.L./ac. of F.Y.M. (ii) Black soil. (iii) Nil. (iv) *Jayadhar*. (v) (a) to (c) N.A. (d) 18″ between rows. (e) N.A. (vi) 27 and 30.8.1955. (vii) Unirrigated. (viii) N.A. (ix) 19.93″. (x) 21.3.1956 to 28.4.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(128) on page 584.

4. GENERAL :

(i) N.A. (ii) Nil. (iii) Height and yield of *kapas*. (iv) (a) 1954—contd. (b) and (c) N.A. (v) and (vi) N.A. (vii) The experiment in one field was taken as vitiated due to some theft.

5. RESULTS :

(i) 392 lb./ac. (ii) 67.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	336	406	358	431	407	417

S.E./mean = 38.8 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 55(86).**

Centre :- Shirahathi (c.f.). **Type :- 'M'.**

Object : —To find out the average response of Cotton to a particular manurial supplement in a given tract.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Kharif Jowar* and Wheat. (c) 2 C.L./ac. of F.Y.M. (ii) Black to medium black soil. (iii) Nil. (iv) *Jayadhar* and *Laxmi*. (v) (a) to (c) N.A. (d) 20″ between rows. (e) N.A. (vi) 26.8.1955 to 8.9.1955. (vii) Unirrigated. (viii) N.A. (ix) 23.85″. (x) 10.3.1956 to 17.4.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(128) on page 584.

4. GENERAL :

(i) N.A. (ii) Nil. (iii) Av. height and yield of *kapas*. (iv) (a) 1954—contd. (b) and (c) N.A. (v) and (vi) N.A. (vii) Yield in 1 field was not included for analysis.

5. RESULTS :

(i) 50 lb./ac. (ii) 13.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5
Av. yield	39	55	57	53	44	48

S.E./mean = 8.00 lb./ac.

Crop :- Cotton. **Ref :- Ms. 54(160).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'C'.**

Object :—To find out the best suitable spacing for sowing of Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Mixed crop of *Jowar* and *tur*. (c) 300 lb./ac. of G.N.C. (ii) (a) Deep clay soil. (b) N.A. (iii) 6.9.1954. (iv) (a) 1 ploughing and 2 harrowings. (b) By draw tubes. (c) 15 lb./ac. (d) As per treatments. (e) N.A. (v) Paddy fertilizer mixture at 200 lb./ac. broadcasted before sowing. (vi) *Laxmi* (medium). (vii) Unirrigated. (viii) 1 weeding, hoeing and thinning. (ix) 15.93". (x) 21.1.1955.

2. TREATMENTS :

2 row spacings : S_1=24" and S_2=30".

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 4. (iv) (a) 60'×30'. (b) 54'×20'. (v) 3'×5'. (vi) N.A.

4. GENERAL :

(i) Poor. (ii) Red-leaf blight and heavy jassid attack. Gammexane dusted against jassids. (iii) Yield of *kapas*. (iv) (a) 1952—1954. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 54 lb./ac. (ii) 9 8 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	S_1	S_2
Av. yield	63	45

S.E./mean = 4.9 lb./ac.

Crop :- Cotton ***(Kharif)*.** **Ref :- Ms. 58(194).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To find the best method of sowing and the optimum seed rate for Cotton.

1. BASAL CONDITIONS :

(i) (a) Jowar—Cotton. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M.+40 lb./ac. of N+20 lb./ac. of P_2O_5. (ii) (a) Black cotton soil. (b) N A. (iii) 3.9.1958. (iv) (a) Ploughing and harrowing. (b) and (c) As per treatments. (d) 2'×1'. (e) N.A. (v) 200 lb./ac. of A/S+112 lb./ac. of Super. (vi) *Laxmi*. (vii) Irrigated. (viii) Hoeing and hand weeding. (ix) 16.53". (x) January and February 1959.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 5 methods of planting : M_1=Dibbling in flat beds, M_2=M_1+Ridging after 45 days, M_3=Drilling in flat beds, M_4=M_3+Ridging after 45 days and M_5=Dibbling directly on ridges.

(2) 4 seed rates : S_1=8, S_2=12. S_3=16 and S_4=20 lb./ac.

DESIGN :

(i) Fact. in R.B.D. (ii) (a) 20. (b) N.A. (iii) 2. (iv) (a) and (b) 78'×14'. (v) Nil. (vi) Yes.

4. **GENERAL :**

(i) Satisfactory. (ii) Attack of aphids, jassids and thrips—control measures N.A. (iii) Plant height and boll numbers and yield of *kapas*. (iv) (a) 1958—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. **RESULTS :**

(i) 317 lb./ac. (ii) 117.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of cotton in lb./ac.

	M_1	M_2	M_3	M_4	M_5	Mean
S_1	239	266	183	239	428	271
S_2	386	263	316	397	448	362
S_3	318	344	451	187	283	317
S_4	339	328	350	238	335	318
Mean	321	300	325	265	374	317

S.E. of M marginal mean = 41.4 lb./ac.
S.E. of S marginal mean = 37.0 lb./ac.
S.E. of body of table = 82.7 lb./ac.

Crop :- Cotton. **Ref :- Ms. 59(92).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'M'.**

Object :—To find out the best method of sowing and the optimum seed rate for Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M.+40 lb./ac. of N+20 lb./ac. of P_2O_5. (ii) (a) Black cotton soil. (b) N.A. (iii) 30.8.1959. (iv) (a) Ploughing and harrowing. (b) and (c) As per treatments. (d) 2'×1'. (e) N.A. (v) 20 lb./ac. of N as A/S+112 lb./ac. of Super. (vi) *Laxmi*. (vii) Irrigated. (viii) Hoeing and hand weeding. (ix) 20.06". (x) January and February 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(194) on page 595.

5. RESULTS :

(i) 789 lb./ac. (ii) 123.5 lb./ac. (iii) Only M effect is highly significant. (iv) Av. yield of cotton in lb./ac.

	M_1	M_2	M_3	M_4	M_5	Mean
S_1	818	737	676	570	992	759
S_2	859	780	646	649	1142	815
S_3	850	916	628	689	990	815
S_4	768	762	743	698	866	767
Mean	824	799	673	652	998	789

S.E. of M marginal mean = 43.7 lb./ac.
S E. of S marginal mean = 39.1 lb./ac.
S.E. of body of table = 87.3 lb./ac.

Crop :- Cotton (*Kharif*). **Ref :- Ms. 58(55).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'C'.**

Object :—To find out the optimum spacing and date of sowing for Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M.+40 lb./ac. of A/S+20 lb./ac. of P_2O_5 as Super. (ii) (a) Black cotton soil. (b) N.A. (iii) As per treatments. (iv) (a) Ploughing and cross ploughing. (b) Dibbling by hand. (c) N.A. (d) As per treatments. (e) 2. (v) 40 lb./ac. of N as A/S and 30 lb./ac. of P_2O_5 as Super applied 3 days before sowing. (vi) *Laxmi*. (vii) Irrrigated. (viii) 2 hand weedings and 1 hoeing. (ix) 7.11". (x) 1st week of Feb. and 2nd week of March, 1959.

2. TREATMENTS :

Main-plot treatments :

4 row spacings : S_1=42", S_2=36", S_3=30" and S_4=24".

Sub-plot treatments :

4 dates of sowing : D_1=1st Aug., D_2=15th Aug.. D_3=30th Aug. and D_4=15th Sept., 1958.

Sub-sub-plot treatments :

3 plant spacings : L_1=9", L_2=12" and L_3=15".

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/replication ; 4 sub-plots/main-plot and 3 sub-sub-plots/sub-plot. (b) N.A. (iii) 2. (iv) (a) and (b) 28'×18'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. In replication I heavy leaf shedding and poor growth. (ii) Attack by jassids, aphids etc. Endrine sprayed. (iii) Biometric observations and yield of *kapas*. (iv) (a) 1956—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 252 lb /ac. (ii) (a) 367.0 lb./ac. (b) 160.8 lb./ac. (c) 84.4 lb./ac. (iii) Only effect of D is significant. (iv) Av. yield of *kapas* in lb./ac.

	D_1	D_2	D_3	D_4	Mean	L_1	L_2	L_3
S_1	266	334	306	222	282	317	296	232
S_2	319	282	258	199	265	276	257	261
S_3	103	350	161	177	198	177	197	219
S_4	218	390	285	163	264	297	276	219
Mean	227	339	253	190	252	267	257	233
L_1	233	337	293	205				
L_2	232	330	270	194				
L_3	215	350	195	171				

S.E. of difference of two

1. S marginal means = 105.9 lb./ac.
2. D marginal means = 46.4 lb./ac.
3. L marginal means = 21.1 lb./ac.
4. D means at the same level of S = 92.8 lb./ac.
5. S means at the same level of D = 133.0 lb./ac.
6. L means at the same level of S = 42.2 lb./ac.
7. S means at the same level of L = 111.4 lb./ac.
8. L means at the same level of D = 42 2 lb./ac.
9. D means at the same level of L = 57.8 lb./ac.

Crop :- Cotton. **Ref :- Ms. 59(99).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'C'.**

Object :—To find out the optimum date of sowing and spacing for Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M.+40 lb./ac. of N+20 lb./ac. of P_2O_5. (ii) (a) Black cotton soil. (b) N.A. (iii) As per treatments. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 12 lb./ac. (d) As per treatments. (e) 2. (v) 40 lb./ac. of N+20 lb./ac. of P_2O_5+½ ton/ac. of F.Y.M. (vi) *Laxmi*. (vii) Irrigated. (viii) Hoeing and hand weeding. (ix) 22.06". (x) 20th January to end of February, 1960.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 58(55) on page 597.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plant, boll count and *kapas* yield. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 335 lb./ac. (ii) (a) 202.4 lb./ac. (b) 156.0 lb./ac. (c) 101.0 lb./ac. (iii) Only D effect is highly significant. (iv) Av. yield of *kapas* in lb./ac.

	D_1	D_2	D_3	D_4	Mean	L_1	L_2	L_3
S_1	291	526	354	202	343	299	379	351
S_2	242	458	318	139	289	304	286	278
S_3	311	553	420	165	362	378	370	339
S_4	410	445	374	145	344	344	367	320
Mean	314	496	366	163	335	331	351	322
L_1	298	492	381	154				
L_2	319	523	382	179				
L_3	323	472	336	156				

S.E. of difference of two

1. S marginal means = 58.4 lb./ac.
2. D marginal means = 45.0 lb./ac.
3. L marginal means = 25.2 lb./ac.
4. D means at the same level of S = 90.1 lb./ac.
5. S means at the same level of D = 168.9 lb./ac.
6. L means at the same level of S = 50.5 lb./ac.
7. S means at the same level of L = 142.9 lb./ac.
8. L means at the same level of D = 50.5 lb./ac.
9. D means at the same level of L = 122.1 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 55(187).**

Site :- College Farm, Dharwar. **Type :- 'C'.**

Object: —To find out the suitable sowing date for Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) *Jowar*. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) As per treatments. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 6 lb./ac. (d) 2′×1′. (e) 2. (v) Nil. (vi) *Laxmi*. (vii) Unirrigated. (viii) Weeding and mulching. (ix) 20″. (x) 5½ months after sowing.

2. TREATMENTS:

5 dates of sowing : S_1=8th Aug., S_2=24th Aug., S_3=9th Sept., S_4=25th Sept. and S_5=10th Oct., 1955.

3. DESIGN :

(i) L. Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 30′×24′. (b) 26′×20′. (v) 2′×2′. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) *Kapas* yield. (iv) (a) 1955—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 212 lb./ac. (ii) 54.5 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	S_1	S_2	S_3	S_4	S_5
Av. yield	400	283	215	111	52

S.E./mean = 24.4 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 59(31).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'C'.**

Object :—To find the suitable time of sowing for Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) As per treatments. (iv) (a) 2 ploughings and 3 harrowings. (b) Dibbling. (c) 8 lb./ac. (d) 27" between lines. (e) N.A. (v) Nil. (vi) *Laxmi*. (vii) Unirrigated. (viii) 3 weedings. (ix) 41.67". (x) 29.1.1960, 13, 28.2.1960, 15 and 15, 31.3.1960.

2. TREATMENTS :

3 dates of sowing : D_1=30.7.1959, D_2=15.8.1959 and D_3=25.8.1959.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 5. (iv) (a) 15'×30'. (b) 10'×24'. (v) 2½'×3'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) No. of bolls and *kapas* yield. (iv) (a) N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 596 lb./ac. (ii) 78.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	D_1	D_2	D_3
Av. yield	619	560	608

S.E./mean = 35.2 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 59(32).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'C'.**

Object :—To find the suitable time of sowing for Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) As per treatments. (iv) (a) 2 ploughings and 3 harrowings. (b) Dibbling. (c) 8 lb./ac. (d) 27" between lines. (e) N.A. (v) Nil. (vi) *Jayadhar*. (vii) Unirrigated. (viii) 3 weedings. (ix) 41.67". (x) 29.1.1960, 13, 28.2.1960 and 15, 31.3.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59(31) above

5. RESULTS :

(i) 622 lb./ac. (ii) 94.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	D_1	D_2	D_3
Av. yield	581	612	673

S.E./mean = 42.2 lb./ac.

Crop :- Cotton. **Ref :- Ms. 54(156).**

Site :- Agri. Res. Stn., Gadag. **Type :- 'C'.**

Object :—To study the effect of different spacings and seed rates on the yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) *Jowar*. (c) Nil. (ii) (a) Sandy soil. (b) Refer soil analysis, Gadag. (iii) 18.9.1954. (iv) (a) 1 ploughings and 3 harrowings. (b) Dibbling. (c) and (d) As per treatments. (e) 1. (v) 5 C.L./ac. of F.Y.M. applied before sowing. (vi) *Laxmi* (early). (vii) Unirrigated. (viii) 5 interculturings and 2 weedings. (ix) 8.09". (x) 25th Feb. to end of March 1955.

2. TREATMENTS :

Main-plot treatments :

3 row spacings : S_1=1½', S_2=2' and S_3=2½'.

Sub-plot treatments :

3 seed rates : R_1=6, R_2=8 and R_3=10 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 24'×33' for S_1 : 24'×34' for S_2 and 24'×35' for S_3. (b) 20'×30'. (v) One row on either side. (vi) Yes.

4. GENERAL :

(i) Germination quite satisfactory. During Feb. and March heavy opening of immature bolls is found. (ii) Attack of jassids and thrips in early stages—control measures N.A. (iii) Height, boll number and cotton yield. (iv) (a) 1953—1954. (b) No. (c) N.A. (v) (a) and (b) N.A. (vi) Scanty rainfall. (vii) Nil.

5. RESULTS :

(i) 281 lb./ac. (ii) (a) 76.6 lb./ac. (b) 46.3 lb./ac. (iii) None of the effects is significant (iv) Av. yield of cotton in lb./ac.

	S_1	S_2	S_3	Mean
R_1	278	270	309	286
R_2	273	271	280	275
R_3	251	291	304	282
Mean	267	277	298	281

S.E. of difference of two

1. S marginal means = 25.5 lb./ac.
2. R marginal means = 15.4 lb./ac.
3. R means at the same level of S = 26.7 lb./ac.
4. S means at the same level of R = 33.6 lb./ac.

Crop :- Cotton. **Ref :- Ms. 54(158).**

Site :- Agri. Res. Stn , Gadag. **Type :- 'C'.**

Object :—To study the effect of pruning on the yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) *Jowar*. (c) N.A. (ii) (a) Sandy soil. (b) Refer soil analysis, Gadag. (iii) 18.9.1954. (iv) (a) Ploughing and 3 harrowings. (b) Dibbling. (c) 6 to 10 lb./ac. (d) Spacing 2'. (e) 1. (v) Nil. (vi) *Laxmi* (early). (vii) Unirrigaed. (viii) Hand weeding and interculturings. (ix) 27.69" (x) 23.2.1955 to 28.3.1955.

2. TREATMENTS

2 levels of pruning T_1=pruned and T_2=Unpruned.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) 24'×8'. (b) 20'×4'. (v) 2'×2'. (vi) Yes.

4. GENERAL :

(i) Below normal. (ii) Marked infection of blackarm disease. Attack of jassids and thrips. No control measures taken. (iii) Cotton yield, ginning percentage, mean halo length, blackarm and red-leaf blight grades. (iv) 1953—1954. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 242 lb./ac. (ii) 57.3 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	T_1	T_2
Av. yield	232	252

S.E./mean = 16.5 lb./ac.

Crop :- Cotton. **Ref :- Ms. 54(54).**

Site :- Agri. Res. Stn., Hiriyur. **Type :- 'C'.**

Object :—To compare ridge sowing with flat sowing.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) 4 tons/ac. of F.Y.M. (ii) (a) Gravely and clayey loam. (b) N.A. (iii) 15.10.1954. (iv) (a) 2 ploughings and 1 cross ploughing, passing cultivator, levelling, passing line marker, and opening furrows. (b) As per treatments. (c) N.A. (d) 2′×10″. (e) 2. (v) 4 tons/ac. of compost. (vi) *Giza*—12, (late). (vii) Irrigated. (viii) 4 intercultural operations with blade. (ix) 17.13″. (x) 14.5.1956, 6.6.1955, 22.7.1955 and 16.8.1955.

2. TREATMENTS :

3 methods of sowing : M_0=local method, M_1=Ridge sowing (2′ apart, 1′ high) and M_2=Flat sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 33′×22′. (b) 31½′×18′. (v) 10″×2′. (iv) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Stem-borer, boll worm, jassids and thrips. Black arm and red-leaf disease. Dusting and spraying with Geigy 1250 and Folidol. (iii) No. of plants and Cotton yield. (iv) (a) to (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 166 lb./ac. (ii) 15.5 lb./ac. (ii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	M_0	M_1	M_2
Av. yield	170	182	145

S.E./mean = 6.3 lb./ac.

Crop :- Cotton. **Ref :- Ms. 54(55).**

Site :- Agri. Res. Stn., Hiriyur. **Type :- 'C'.**

Object .—To study the effect of different dates of sowing and spacings on the yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) 4 tons/ac. of F.Y.M. (ii) (a) Gravely and clayey loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 ploughings, 1 cross ploughing, passing cultivator and line marker and opening furrows. (b) and (c) N.A. (d) As per treatments. (e) 2. (v) 4 tons/ac. of F.Y.M. (vi) *Giza*—12 (late). (vii) Irrigated. (viii) 4 intercultural operations with blade harrow and 3 to 4 weedings. (ix) 17.13″. (x) 14.5.1955, 6.6.1955, 22.7.1955 and 15.8.1955.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 2 dates of sowing : D_1=23.11.1954 and D_2=23.12.1954.

(2) 2 row spacings : S_1=2′, and S_2=2½′

(3) 2 plant spacings : L_1=9″ and L_2=15″.

3. DESIGN :

(i) 2^3 confd. (ii) (a) 4 plots/block; 2 blocks/replication. (b) N.A. (iii) 4. (iv) (a) 43½′×10′. (b) S_1L_1=42′×6′, S_1L_2=41′×6′, S_2L_1=42′×5′ and S_2L_2=41′×5′. (v) 1 row on both sides. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Stem borer, boll worm, jassids, thrips, Black arm and red-leaf disease spraying and dusting with Geigy 1240 and Folidol. (iii) Cotton yield. (iv) (a) to (b) No. (v) to (vii) Nil.

5. RESULTS :

(i) 288 lb./ac. (ii) 27.7 lb./ac. (iii) D and L effects are highly significant. (iv) Av. yield of *kapas* in lb./ac.

	S_1	S_2	Mean	L_1	L_2
D_1	325	307	316	334	297
D_2	272	251	261	276	246
Mean	298	279	288	305	272
L_1	320	290			
L_2	276	267			

S.E. of any marginal mean = 6.9 lb./ac.
S E. of body of any table = 9.8 lb./ac.

Crop : Cotton. **Ref :- Ms. 55(91).**

Site :- Agri. Res. Stn., Hiriyur. **Type :- 'C'.**

Object :—To study the effect of different dates of sowing and spacing on the yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sannhemp. (c) Nil. (ii) (a) Red loamy. (b) N.A. (iii) As per treatments. (iv) (a) 3 to 4 ploughings, 1 cross ploughing, passing cultivator, levelling the plot, passing line marker and opening furrows by plough. (b) and (c) N.A. (d) As per treatments. (e) 2. (v) 3 to 4 tons/ac. of F.Y.M. applied before sowing. (vi) *Giza*—12 (late). (vii) Irrigated. (viii) 3 to 4 intercultural operations and 3 to 4 weedings. (ix) 17.85″. (x) N.A.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 2 dates of sowing : D_1=24.11.1955 and D_2=26.12 1955.

(2) 2 row spacings : S_1=2′ and S_2=2′ 6″.

(3) 2 plants spacings : L_1=9″ and L_2=15″.

3. DESIGN :

(i) 2^3 confd. (ii) (a) 4 plots/block, 2 blocks/replication. (b) N.A. (iii) 4. (iv) (a) 20′×54½′. (b) 16′×53′. (v) 2′×9″. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Blackarm, angular leaf-spot, boll worm, jassids and thrips. Folidol and Geigy sprayed. (iii) Cotton yield. (iv) (a) 1953—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 311 lb./ac. (ii) 81.7 lb./ac. (iii) Only D effect is highly significant. (iv) Av. yield of cotton in lb./ac.

	S_1	S_2	Mean	L_1	L_2
D_1	343	392	368	375	360
D_2	241	265	253	293	214
Mean	292	329	311	334	287
L_1	309	358			
L_2	275	299			

S.E. of any marginal mean = 20.4 lb./ac.
S.E. of any body of table = 28.9 lb./ac.

Crop :- Cotton. **Ref :- Ms. 55(23).**

Site :- Agri. Res. Stn., Hiriyur. **Type :- 'C'.**

Object :—To find the optimum date of sowing for Cotton crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Gravely and clayey loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 ploughings, 1 cross ploughing, passing cultivator, levelling the plot, passing line marker and opening furrows by plough. (b) and (c) N.A. (d) Between rows 2′ and between plants 9″. (e) 2. (v) 4 tons/ac. of F.Y.M. applied before sowing. (vi) *Giza*—12 (late). (vii) Irrigated. (viii) 4 intercultural operations with blade harrow and 3 to 4 weedings. (ix) 16.67″. (x) 23.3.1956, 27.4.1956, 11.5.1959, 23.7.1956 and 20.8.1956.

2. TREATMENTS :

4 dates of sowing : D_1=11.10.1955, D_2=26.10.1955, D_3=1.11.1955 and D_4=18.11.1955.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 14′×59′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Attack of stem borer, bollworm, jassids and thrips. Black arm, red-leaf disease. Gammexane dusted and folidol sprayed. (iii) Yield of cotton. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 477 lb./ac. (ii) 123.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	D_1	D_2	D_3	D_4
Av. yield	444	527	523	412

S.E./mean = 50.5 lb./ac.

Crop :- Cotton. **Ref :- Ms. 54(152).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'C'.**

Object : To find the residual effect of harrowing and interculturing treatments on the yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) *Jowar*. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) August, 1954. (iv) (a) 2 harrowings, (b) By *moghan* or bamboo pole arrangement behind the drill. (c) 9 lb./ac. d) Between rows 18″. (e) N.A. (v) Nil. (vi) *Laxmi* (medium). (vii) Unirrigated. (viii) Weeding. (ix) 22.77″. (x) March—April, 1955.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 4 levels of interculturings : $I_1=1$, $I_2=2$, $I_3=3$ and $I_4=4$.

(2) 3 levels of harrowings : $H_1=2$, $H_2=3$ and $H_3=4$.

Treatments were applied to previous crop of *Jowar*.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) 36′×36′. (b) 33′×33′. (v) 1½′×1½′. (vi) Yes.

4. GENERAL :

(i) Poor. (ii) Severe attack of aphids—no control measures taken. (iii) Cotton yield. (iv) (a) 1952–1955. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 141 lb./ac. (ii) 35.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of *kapas* in lb./ac.

	I_1	I_2	I_3	I_4	Mean
H_1	136	162	136	125	140
H_2	115	144	159	134	138
H_3	151	147	156	129	146
Mean	134	151	150	129	141

S.E. of I marginal mean = 10.2 lb./ac.
S.E. of H marginal mean = 8.9 lb./ac.
S.E. of body of table = 17.7 lb /ac.

Crop :- Cotton. **Ref :- Ms. 55(107).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'C'.**

Object :—To find the residual effect of harrowing and interculturing treatments on the yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) *Jowar*. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 28.8.1955. (iv) (a) 2 harrowings. (b) By *moghan* or bamboo pole arrangement behind the drill. (c) 8 lb./ac. (d) Between two coulters 18″. (e) N.A. (v) Nil. (vi) *Laxmi* (medium). (vii) Unirrigated. (viii) Weedings. (ix) 26.37″. (x) 9, 18 and 28.3.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(152) on page 603.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Cotton yield. (iv) (a) 1952 to 1958. (b) As per treatments. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 259 lb./ac. (ii) 63.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of *kapas* in lb./ac.

	I_1	I_2	I_3	I_4	Mean
H_1	322	256	266	226	267
H_2	229	260	209	259	239
H_3	253	256	295	276	270
Mean	268	257	257	254	259

S.E. of H marginal mean = 15.89 lb./ac.
S.E. of I marginal mean = 18.32 lb./ac.
S.E. of body of table = 31.78 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 57(149).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'C'.**

Object :—To find the residual effect of harrowing and interculturing treatments on the yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) *Jowar*. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 15.9.1957. (iv) (a) 3 harrowings. (b) Drilling. (c) 9 lb./ac. (d) 18″ between rows. (e) N.A. (v) Nil. (vi) *Laxmi* (medium). (vii) Unirrigated. (viii) 4 interculturings. (ix) 21.98″. (x) 22.2.1958 and 7, 16.3.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(152) on page 603.

4. GENERAL :

(i) Good. (ii) Slight attack of aphids—Tobacco decoction used. (iii) Cotton yield. (iv) (a) 1954—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 243 lb./ac. (ii) 60.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of *kapas* in lb./ac.

	I_1	I_2	I_3	I_4	Mean
H_1	245	229	202	268	236
H_2	238	224	254	243	240
H_3	256	286	267	209	255
Mean	246	246	241	240	243

S.E. of H marginal mean = 15.2 lb./ac.
S.E. of I marginal mean = 17.6 lb./ac.
S.E. of body of table = 30.4 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 58(131).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'C'.**

Object :— To find the residual effect of harrowing and interculturing treatments on the yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) *Jowar*. (c) No. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 4.9.1958. (iv) (a) 3 harrowings. (b) Drilling. (c) 9 lb./ac. (d) 18″ between rows. (e) N.A. (v) Nil. (vi) *Laxmi*. (vii) Unirrigated. (viii) 3 interculturings. (ix) 12.18″ (x) 10, 19, 28.2.1959 and 7, 16, 26.3.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(152) on page 603.

4. GENERAL :

(i) Germination and growth good. (ii) Aphids observed during flowering and fruiting—tobacco decoction sprayed. (iii) Cotton yield. (iv) (a) 1954—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 392 lb./ac. (ii) 106.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of cotton in lb./ac.

	I_1	I_2	I_3	I_4	Mean
H_1	404	341	373	354	368
H_2	365	473	343	350	383
H_3	356	445	505	401	427
Mean	375	420	407	368	393

S.E. of I marginal mean = 30.7 lb./ac.
S.E. of H marginal mean = 26.6 lb./ac.
S.E. of body of table = 53.2 lb./ac.

Crop :- Cotton. **Ref :- Ms. 55(89).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'C'.**

Object :—To study the effect of different dates of sowing on the yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Ragi.* (c) 5 tons/ac. of F.Y.M. (ii) (a) Red loam. (b) Refer soil analysis, Mandya. (iii) As per treatments. (iv) (a) 3 to 4 ploughings and 1 cross ploughing, passing cultivator, levelling the plot, passing line marker and opening furrows by plough. (b) and (c) N.A. (d) 2′×9″. (e) 2. (v) 3 to 4 tons/ac. of F.Y.M. applied before sowing. (vi) *Giza*—12 (late) (vii) Irrigated. (viii) 3 to 4 intercultural operations and 3 to 4 weedings. (ix) 20.28″. (x) N.A.

2. TREATMENTS :

4 dates of sowing : D_1=3.10.1955, D_2=18.10.1955, D_3=3.11.1955 and D_4=18.11.1955.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 14′×59′. (v) 1 row on all sides. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Blackarm, angular leaf-spot, stem-borer, boll worm, jassids and thrips—Folidol and Geigy 1250 sprayed. (iii) Cotton yield. (iv) (a) 1955—N.A. (b) Yes. (c) Nil. (v) (a) Hiriyur (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 227 lb./ac. (ii) 48.4 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of cotton in lb./ac.

Treatment	D_1	D_2	D_3	D_4
Av. yield	182	204	293	227

S.E. mean = 19.8 lb./ac.

Crop :- Cotton *(Rabi).* **Ref :- Ms. 58(10).**

Site :- Agri. Res. Stn., Naragund. **Type :- 'C'.**

Object :—To study the effect of different dates of sowing on the yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton. (c) Nil. (ii) (a) Highly alkaline. (b) Refer soil analysis, Naragund. (iii) As per treatments. (iv) (a) 2 harrowings. (b) to (e) N.A. (v) 2½ tons/ac. of F.Y.M. (vi) *Jayadhar* and *Laxmi.* (vii) Unirrigated. (viii) 16 interculturings. (ix) 25.79″. (x) 8.2.1959. and 7.3.1959.

2. TREATMENTS :

4 dates of sowinng: D_1=Last week of July, D_2=2nd week of August, D_3=Last week of August and D_4=2nd week of September 1958.

Both the varieties were sown in equal areas in each treatment.

3. DESIGN :

(i) L. Sq. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 30′×46′. (b) 10′×41′ (v) 10′×2½′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Attack of red-leaf and black arm in case of *Laxmi*. (iii) Plant and boll count, cotton yield. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) (a) Kaladgi. (b) Nil. (vi) Nil. (vii) Yield figures are based on the average of the the two varieties.

5. RESULTS :

(i) 111 lb./ac. (ii) 65.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of Cotton in lb./ac.

Treatment	D_1	D_2	D_3	D_4
Av. yield	102	93	142	105

S.E. mean = 32.9 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 59(170).**

Site :- Agri. Res. Stn., Naragund. **Type :- 'C'.**

Object :—To find the suitable time of sowing for Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton. (c) 2½ tons/ac. of F.Y.M. (ii) (a) Alkaline soil. (b) Refer soil analysis, Naragund. (iii) As per treatments. (iv) (a) Ploughing. (b) Drilling. (c) 10 lb./ac. (d) 30″ between lines. (e) N.A. (v) Nil. (vi) *Laxmi* (medium). (vii) Unirrigated. (viii) 5 interculturings and hoeings. (ix) 20.45″ (annual 1959—60). (x) 21.1.1960 to 13.3.1960.

2. TREATMENTS :

Same as in expt. no. 53(10) on page 606.

Due to lack of moisture D_3 and D_4 were sown on 3.10.1959.

3. DESIGN :

(i) L. Sq. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 30′×46′. (b) 10′×41′. (v) 10′×2½′. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Plant count and boll counts and cotton yield. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) (a) N.A. (b) Nil. (vi) Scanty rains. (vii) Nil.

5. RESULTS :

(i)48 lb./ac. (ii) 17.4 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of Cotton in lb./ac.

Treatment	D_1	D_2	D_3+D_4
Av. yield	40	13	70

S.E./mean = 8.7 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 59(171).**

Site :- Agri. Res. Stn., Naragund. **Type :- 'C'.**

Object :—To find the suitable time of sowing for Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton. (c) 2½ tons/ac. of F.Y.M. (ii) (a) Alkaline soil. (b) Refer soil analysis, Naragund. (iii) As per treatments. (iv) (a) Ploughing. (b) Drilling. (c) 10 lb./ac. (d) 30″ between lines. (e) N.A. (v) Nil. (vi) *Jayadhar* (medium). (vii) Unirrigated. (viii) Interculturing and hoeing. (ix) 20.45″ (annual). (x) 21.1.1960 to 13.3.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59(170) on page 607.

5. RESULTS :

(i) 141 lb./ac. (ii) 29.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of cotton in lb./ac.

Treatment	D_1	D_2	D_3+D_4
Av. yield	99	100	182

S.E./mean = 14.9 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 56(189).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'C'.**

Object :—To find out the optimum time of application of A/S to Cotton crop.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M.+40 lb./ac. of N and 20 lb./ac. of P_2O_5. (ii) (a) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) 28.8.1956. (iv) (a) 2 ploughings and harrowing. (b) Dibbling. (c) 8 to 10 lb./ac. (d) 27″×9″. (e) 2. (v) 5 tons/ac. of F.Y.M. (vi) *Laxmi*. (vii) Irrigated. (viii) Interculturing and hand weeding. (ix) 26.53″. (x) 20.2.1957.

2. TREATMENTS :

3 times of application of 40 lb./ac. of N as A/S : T_1=At sowing, T_2=½ at sowing+½ after 40 days of sowing and T_3=Full after 40 days of sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 1/50 ac. (b) 1/66.67 ac. (v) 2 rows on either side. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Attack of jassids, aphids and thrips—Endrine at 10 c.c./gallon sprayed. (iii) Cotton yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Heavy rains in December affected the growth. (vii) Nil.

5. RESULTS :

(i) 459 lb./ac. (ii) 53.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of cotton in lb./ac.

Treatment	T_1	T_2	T_3
Av. yield	464	447	466

S.E./mean = 19.11b./ac.

Crop :- Cotton. **Ref :- Ms. 54(144),**

Site :- Agri. Res. Stn., Bagalkot. **Type :- 'CV'.**

Object :—To find out the optimum seed rate and spacing for Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Bagalkot. (iii) 9.10.1954. (iv) (a) 2 wooden ploughings and harrowing. (b) Dibbling. (c) and (d) As per treatments. (e) 2. (v) Nil. (vi) *Jayadhar* and *Laxmi* (medium). (vii) Unirrigated. (viii) 2 weedings and 4 interculturings. (ix) 2.85". (x) 27.3.1955 to 14.4.1955.

2. TREATMENTS :

Main-plot treatments :

2 varieties : V_1=*Jayadhar* and V_2=*Laxmi*.

Sub-plot treatments:

4 row spacings : S_1=15", S_2=18", S_3=21" and S_4=24".

Sub-Sub-plot treatments :

3 seed rates : R_1=6, R_2=8 and R_3=10 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 4 sub-plots/main-plot ; 3 sub-sub-plots/sub-plot. (b) N.A. (iii) 4. (iv) (a) 17.6'×36' for S_1 and S_2 ; 18'×36' for S_3 and S_4. (b) 15'×30' for S_1 and S_2 ; 14'×32' for S_3 and S_4. (v) 1.3'×3' for S_1 and S_2 ; 2'×2' for S_3 and S_4. (vi) Yes.

4. GENERAL :

(i) Poor. (ii) Attack of black arm and jassids. Control measures—N.A. (iii) No. of bolls/plant, plant height and cotton yield. (iv) (a) 1953—1954. (b) Yes. (c) Nil. (v) and (vi) Nil. (vii) Expt. conducted under Kunta cotton improvement scheme.

5. RESULTS :

(i) 93 lb./ac. (ii) (a) 43.0 lb./ac. (b) 35.2 lb./ac. (c) 25.4 lb./ac. (iii) Only the main effect of V is highly significant. (iv) Av. yield of *kapas* in lb./ac.

	S_1	S_2	S_3	S_4	R_1	R_2	R_3	Mean
V_1	130	109	133	111	119	116	127	121
V_2	71	63	63	66	60	67	71	66
Mean	100	86	98	89	90	91	99	93
R_1	96	81	95	88				
R_2	90	92	95	88				
R_3	116	85	104	91				

S.E. of difference of two

1. V marginal means	= 8.9 lb./ac.	6. R means at the same level of S	= 12.7 lb./ac.
2. S marginal means	= 10.2 lb./ac.	7. S means at the same level of R	= 16.5 lb./ac.
3. R marginal means	= 6.3 lb./ac.	8. R means at the same level of V	= 9.0 lb./ac.
4. S means at the same level of V	= 14.4 lb./ac.	9. V means at the same level of R	= 11.4 lb./ac.
5. V means at the same level of S	= 15.2 lb./ac.		

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 58(138).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'CV'.**

Object :—To find out the optimum date of sowing for Cotton

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer. soil analysis, Dharwar. (iii) As per treatments. (iv) (a) 2 ploughings and 2 harrowings. (b) Dibbling (c) 9 lb./ac. (d) 18" between rows. (e) N.A. (v) Nil. (vi) As per treatments. (vii) Unirrigated. (viii). 3 weedings. (ix) 34.09". (x) 8, 18, 29.3.1959.

2. TREATMENTS :

All combinations of (1) and (2) :

(1) 3 dates of sowing : D_1=26th July, D_2=15th Aug. and D_3=25th Aug. 1958.

(2) 2 varieties : V_1=*Laxmi* and V_2=*Jayadhar*.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 10′×28′. (v) 2 rows. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Cotton yield. (iv) (a) 1952—N.A. (b) No. (c) Nil. (v) (a) Gadag. (b) Nil. (vi) and (vii) N.A.

5. RESULTS :

(i) 523 lb./ac. (ii) 121.5 lb./ac. (iii) Both the main effects and interaction are highly significant. (iv) Av. yield of cotton in lb./ac.

	D_1	D_2	D_3	Mean
V_1	671	511	190	457
V_2	525	656	587	589
Mean	598	583	388	523

S.E. of D marginal mean = 38.4 lb./ac.
S.E. of V marginal mean = 31.4 lb./ac.
S.E. of body of table = 54.3 lb./ac.

Crop :- Cotton. **Ref :- Ms. 59(91).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'CV'.**

Object :—To find out the optimum date of sowing and spacing for promising varieties of Cotton.

1. BASAL CONDITIONS :

(i)(a) N.A. (b) Wheat. (c) 40 lb./ac. of N+20 lb./ac. of P_2O_5. (ii) Black cotton soil. (b) N.A. (iii) As per treatments. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 12 lb./ac. (d) As per treatments. (e) N.A. (v) 200 lb./ac. of A/S+112 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) 2 hand weedings. (ix) 20.06″. (x) December to February, 1960.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 4 varieties ; V_1=DC. 417, V_2=DC. 418, V_3=DC. 407 and V_4=DC. 286.

(2) 3 dates of sowing : D_1=11.7.1959, D_2=27.7.1959, and D_3=11.8.1959.

(3) 2 plant spacings (for rows 3½′ apart) : S_1=12″ and S_2=18″.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 24. (b) N.A. (iii) 2. (iv) (a) and (b) 22′×10½′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Attack of aphids, jassids and boll worms. (iii) Plant height, no. of bolls and cotton yield. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) to (vii) N.A.

5. RESULTS :

(i) 728 lb./ac. (il) 120.6 lb./ac. (iii) V effect and V×S interaction are highly significant and S effect is significant. (iv) Av. yield of cotton in lb./ac.

	D_1	D_2	D_3	Mean	S_1	S_2
V_1	890	818	831	846	834	858
V_2	934	757	931	874	906	842
V_3	813	577	483	624	583	666
V_4	469	840	392	567	642	491
Mean	776	748	659	728	741	714
S_1	779	782	663			
S_2	773	714	656			

S.E. of D marginal mean = 30.2 lb./ac.
S.E. of V marginal mean = 34.8 lb./ac.
S.E. of S marginal mean = 24.6 lb./ac.
S.E. of body of V×D table = 60.3 lb./ac.
S.E. of body of S×V table = 49.2 lb./ac.
S.E. of body of D×S table = 42.6 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 59(114).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'CV'.**

Object :—To study the effect of date of sowing, spacing and seed rate on different varieties of Cotton.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Jowar* (c) 5 C.L./ac. of F.Y.M. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) As per treatments. (iv) (a) Harrowing. (b) Dibbling. (c) and (d) As per treatments. (e) N.A. (v) Nil. (vi) As per treatments. (vii) Unirrigated. (viii) 4 interculturings and 3 weedings. (ix) 24.74". (x) 16.2.1960 to 6 and 23.3.1960.

2. TREATMENTS :

Main-plot treatments :

All combinations of (1), (2) and (3)

(1) 3 dates of sowing : D_1=15th Aug., D_2=31st Aug. and D_3=15th Sept. 1959,
(2) 3 seed rates : R_1=6, R_2=9 and R_3=12 lb./ac.
(3) 2 spacings : S_1=18" and S_2=24".

Sub-plot treatments :

2 varieties : V_1=*Jayadhar* and V_2=*Laxmi*

3. DESIGN :

(i) Split-plot. (ii) (a) 18 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 2. (iv) (a) 24'×24' (b) 21'×21'. (v) 1½'×1½'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Attack of red-leaf blight—affected leaves were removed. (iii) Cotton yield. (iv) (a) 1959—1961. (b) Yes. (c) Nil. (v) to (vii) N.A.

5. RESULTS :

(i) 319 lb./ac. (ii) (a) 100.7 lb./ac. (b) 68.3 lb./ac. (iii) Only the main effect of V is highly significant. (iv) Av. yield of *kapas* in lb./ac.

	R_1	R_2	R_3	S_1	S_2	V_1	V_2	Mean
D_1	284	281	284	293	273	275	291	283
D_2	313	334	295	314	313	340	287	314
D_3	336	392	348	371	346	394	324	359
Mean	311	336	309	326	311	336	301	319
V_1	357	358	294	341	331			
V_2	265	314	323	311	291			
S_1	299	341	338					
S_2	323	331	279					

S.E. of difference of two

1. D or R marginal means = 29.1 lb./ac.
2. S marginal means = 23.7 lb./ac.
3. V marginal means = 16.1 lb./ac.
4. V means at the same level of D or R = 27.9 lb./ac.
5. V means at the same level of S = 22.8 lb./ac.
6. D or R means at the same level of V = 35.1 lb./ac.
7. S means at the same level of V = 28.7 lb./ac.

S.E. of body of D×R table = 35.6 lb./ac.

S.E. of body of D×S or R×S table = 29.1 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 54(183).**

Site :- Agri. Res. Stn., Naragund. **Type :- 'CV'.**

Object :—To study the effect of date of sowing, spacing and seed rate on different varieties of Cotton.

1. BASAL CONDITIONS :

(i) (a)Nil. (b) *Jowar*. (c) 2½ tons/ac. of F.Y.M. (ii) (a) Highly alkaline soil. (b) Refer soil analysis, Naragund. (iii) 14.9.1954 and 17.9.1954. (iv) (a) Wooden ploughing and 3 harrowings. (b) N.A. (c) and (d) As per treatments. (e) N.A. (v) 2½ tons/ac. of F.Y.M. broadcasted on 2.9.1954. (vi) As per treatments. (vii) Unirrigated. (viii) 3 interculturings. (ix) 27.87". (x) 20.2.1955 to 1.4. 1955.

2. TREATMENTS :

Main-plot treatments :

All combinations of (1) and (2)

(1) 2 spacings between rows : S_1=24" and S_2=30".

(2) 2 varieties : V_1=*Laxmi* and V_2=*Jayadhar*.

Sub-plot treatments :

3 seed rates : R_1=8, R_2=10 and R_3=12 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 39.3'×38' for S_1 and 39.3'×40' for S_2. (b) 36.3'×30'. (v) 6 lines kept as border rows. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Attack of thrips and jassids—control measure taken N.A. (iii) Plant and boll count and cotton yield. (iv) (a) 1951—1957. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 284 lb./ac. (ii) (a) 108.1 lb./ac. (b) 106.1 lb./ac. (iii) Only the main effect of V is significant. (i) Av. yield of *kapas* in lb./ac.

	R_1	R_2	R_3	S_1	S_2	Mean
V_1	240	253	215	251	220	236
V_2	329	323	346	307	359	333
Mean	285	288	281	279	290	285
S_1	285	280	273			
S_2	284	296	288			

S.E. of difference of two

1. V or S marginal means = 25.5 lb./ac.
2. R marginal means = 30.6 lb./ac.
3. R means at the same level of S or V = 43.3 lb./ac.
4. V or S means at the same level of R = 43.6 lb./ac.

S E. of body of V×S table = 36.0 lb./ac.

Crop :- Cotton (*Rabi*) **Ref :- Ms. 55(156).**

Site :- Agri. Res. Stn., Naragund. **Type :- 'CV'.**

Object :—To study the effect of date of sowing, spacing and seed rate on different varieties of Cotton.

1. BASAL CONDITIONS :

(a) (i) Nil. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Highly alkaline soil. (b) Refer soil analysis, Naragund. (iii) 5.10.1955. (iv) (a) 1 ploughing by wooden plough and 3 harrowings. (b) N.A. (c) and (d) As per treatments (e) N.A. (v) 2½ tons/ac. of F.Y.M. broadcasted on 30.8.1955. (vi) As per treatments. (vii) Unirrigated. (viii) 4 interculturings. (ix) 31.14". (x) 14.3.1956.

2. TREATMANTS to 4. GENERAL :

Same as in expt. no. 54 (183) on page 612.

5. RESULTS :

(i) 220 lb./ac. (ii) (a) 102.2 lb./ac. (b) 75.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of *kapas* in lb./ac.

	R_1	R_2	R_3	S_1	S_2	Mean
V_1	228	212	205	188	242	215
V_2	241	194	237	219	229	224
Mean	235	203	221	204	236	220
S_1	217	183	211			
S_2	252	223	242			

S.E. of difference of two

1. V or S marginal means = 24.1 lb./ac.
2. R marginal means = 21.8 lb./ac.
3. R means at the same level of V or S = 30.8 lb./ac.
3. V or S means at the same level of R = 34.1 lb./ac.

S.E. of body of V×S table = 24.1 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 56(91).**

Site :- Agri. Res. Stn., Naragund. **Type :- 'CV'.**

Object :—To study the effect of date of sowing, spacing and seed rate on different varieties of Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 2½ tons/ac. of F.Y.M. (ii) (a) Highly alkaline soil. (b) Refer soil analysis, Naragund. (iii) 11.9.1956. (iv) (a) 3 harrowings and ploughing by wooden plough. (b) N.A. (c) and (d) As per treatments. (e) N.A. (v) 2½ tons/ac. of F.Y.M. broadcasted on 26.8.1956. (vi) As per treatments. (vii) Unirrigated. (viii) 4 interculturings. (ix) 32.99". (x) 26.2.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(183) on page 612.

4. GENERAL :

(i) Good. (ii) Slight attack of red-leaf blight to *Laxmi* variety. (iii) Plant count, boll count and cotton yield. (iv) (a) 1951—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 252 lb./ac. (ii) (a) 83.1 lb./ac. (b) 53.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of *kapas* in lb./ac.

	R_1	R_2	R_3	S_1	S_2	Mean
V_1	196	226	201	196	219	208
V_2	284	287	323	294	301	298
Mean	240	257	262	245	260	253
S_1	212	250	274			
S_2	268	263	250			

S.E. of difference of two

1. V or S marginal means = 12.6 lb./ac.
2. R marginal means = 24.0 lb./ac.
3. R means at the same level of V or S = 33.9 lb./ac.
4. V or S means at the same level of R = 30.3 lb./ac.

S.E. of body of V×S table = 12.6 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 57(42).**

Site :- Agri. Res. Stn., Naragund. **Type :- 'CV'.**

Object :—To study the effect of date of sowing, spacing and seed rate on different varieties of Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) F.Y.M. at 2½ tons/ac. (ii) (a) Highly alkaline soil. (b) Refer soil analysis, Naragund. (iii) 5.9.1957. (iv) (a) 3 harrowings and 1 wooden ploughing. (b) N.A. (c) and (d) As per treatments. (e) N.A. (v) 2½ tons/ac. of F.Y.M. broadcasted on 26.8.1957. (vi) As per treatments. (vii) Unirrigated. (viii) 4 interculturings. (ix) 26.88". (x) 5.2.1958 (*Laxmi*) and 18.2.1958 (*Jayadhar*).

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(183) on page 612.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Plant count, boll count and cotton yield. (iv) (a) 1951—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 279 lb./ac. (ii) (a) 63.9 lb./ac. (b) 59.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of *kapas* in lb./ac.

	R_1	R_2	R_3	S_1	S_2	Mean
V_1	276	288	317	298	289	294
V_2	256	285	253	250	279	265
Mean	266	287	285	274	284	279
S_1	254	269	299			
S_2	278	304	270			

S.E. of difference of two

1. V or S marginal means = 15.1 lb./ac.
2. R marginal means = 17.1 lb./ac.
3. R means at the same level of V or S = 24.2 lb./ac.
4. V or S means at the same level of R = 24.9 lb./ac.

S.E. of body of V×S table = 15.1 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 54(214).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'CM'.**

Object :—To study the effect of spacing under different manurial conditions on the yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) N.A. (c)—. (ii) (a) Medium *kirl.* (b) N.A. (iii) 12.7.1954. (iv) (a) Ploughing. (b) Dibbling. (c) 10 lb./ac. (d) As per treatments. (e) 2 to 3. (v) 5 C.L./ac. of F.Y M. (vi) CO—4 and B—40. (vii) Irrigated. (viii) Nil. (ix) 12.65". (x) 26.11.1954 to 23.4.1955.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 row spacings : S_1=2' and S_2=3'.

(2) 4 levels of N : N_0=0, N_1=30, N_2=60 and N_3=90 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 30'×24'. (b) 24'×18'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Attack of jassids and blight. (iii) Height and no. of branches/plant, flowering count, and cotton yield. (iv) (a) and (b) No. (c) Nil. (v) to (vii) N.A.

5. RESULTS :

(i) 1551 lb./ac. (ii) 424.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of cotton in lb./ac.

	N_0	N_1	N_2	N_3	Mean
S_1	1361	1744	1460	1669	1559
S_2	1100	1509	1726	1839	1544
Mean	1231	1627	1593	1754	1551

S.E. of N marginal mean = 150.0 lb./ac.
S.E. of S marginal mean = 106.1 lb./ac.
S.E. of body of table = 212.1 lb /ac.

Crop :- Cotton. **Ref :- Ms. 58(149).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'CM'.**

Object :—To study the effect of potash and phosphate on Cotton under different conditions of planting.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Gram. (c) Nil. (ii) (a) *Masari*. (b) N.A. (iii) 24, 25.5.1958. (iv) (a) Ploughing. (b) Dibbling. (c) 10 lb./ac. (d) 3′×1′. (e) As per treatments. (v) 60 lb./ac. of N. (vi) CO—4 and B—40. (vii) Irrigated. (viii) Nil. (ix) 13.89″. (x) 27.10.1958 to 29.3.1959.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 2 numbers of plants/hill : T_1=1 and T_2=2.

(2) 2 levels of P_2O_5 : P_0=0 and P_1=30 lb./ac.

(3) 2 levels of K_2O as Mur. Pot. : K_0=0 and K_1=30 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 30′×15′. (b) 24′×9′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Mild attack of jassids and aphids in early stages. B.H.C. and sulphur dusted and sprayed. (iii) Germination count, plant height and cotton yield. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nii.

5. RESULTS :

(i) 1345 lb./ac. (ii) 173.8 lb./ac. (iii) Only T×K interaction is significant. (iv) Av. yield of cotton in lb./ac.

	T_1	T_2	Mean	K_0	K_1
P_0	1399	1242	1321	1303	1338
P_1	1375	1364	1369	1347	1392
Mean	1387	1303	1345	1325	1365
K_0	1440	1209			
K_1	1333	1397			

S.E. of any marginal mean = 43.5 lb./ac.
S.E. of body of any table = 61.5 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 54(179).**

Site :- College Farm, Dharwar. **Type :- 'CM'.**

Object :—To study the suitable spacing in combination with manurial doses for Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) *Nandyal Jowar*. (c) Nil. (ii) (a) Medium black soil (b) Refer soil analysis, Dharwar. (iii) 17.8.1954. (iv) (a) Ploughing and harrowing. (b) and (c) N.A. (d) As per treatments. (e) N.A. (v) Nil. (vi) *Jayadhar* (late). (vii) Unirrigated. (viii) Trimming and weeding. (ix) 29″. (x) 17.8.1954.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 row spacings : S_1=2′ and S_2=3′.

(2) 2 levels of N : N_1=20 and N_2=60 lb./ac.

3. DESIGN :

(i) Fact. in R B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 36′×36′. (b) 24′×24′. (v) 6′×6′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Germination count, height, spread, no. of branches per plant, and cotton yield. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 740 lb./ac. (ii) 335.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of cotton in lb./ac.

	S_1	S_2	Mean
N_1	748	1088	918
N_2	580	543	562
Mean	664	816	740

S.E. of any marginal mean = 118.6 lb./ac.
S.E. of body of table = 117.8 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 56(144).**

Site :- College Farm, Dharwar. **Type :- 'CM'.**

Object :—To study the suitable spacing in combination with manurial doses for Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) *Jowar*. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 24 to 26.8.1956. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 8 lb./ac. (d) As per treatments. (e) 2. (v) Nil. (vi) *Jayadhar* (late). (vii) Unirrigated. (viii) Thinning and weeding. (ix) 24.5". (x) March 1957.

2. TREATMENTS :

All combinations of (1) and (2)+one extra treatment.

(1) 2 levels of N as A/S : N_1=20 and N_2=40 lb./ac.

(2) 2 spacings between and within rows : S_1=2'×1' and S_2=3'×1'.

Extra treatment : T=S_1 alone.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 30'×30'. (b) 24'×24'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Germination count, weight, spread, no. of branches/plant and cotton yield. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 430 lb./ac. (ii) 73.7 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of cotton in lb./ac.

T = 427 lb./ac.

	S_1	S_2	Mean
N_1	451	467	459
N_2	422	378	400
Mean	437	423	430

S.E. of any marginal mean = 21.3 lb./ac.
S.E. of body of table = 30.1 lb./ac.

Crop :- Cotton *(Kharif).* **Ref :- Ms. 56(156).**

Site :- Agri. Res. Stn , Dharwar. **Type :- 'CM'.**

Object :—To study the effect of date of sowing and application of manure on the growth and yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar.* (b) *Jowar.* (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) As per treatments. (iv) (a) 2 ploughings and harrowings. (b) Dibbling. (c) 10 lb./ac. (d) 2′×1′. (e) 2. (v) Nil. (vi) *Laxmi.* (vii) Unirrigated. (viii) 3 weedings. (ix) 32.20″. (x) 11, 21, 30.3.1957 and 9.4,1957.

2. TREATMENTS :

4 dates of sowing : D_1=26.7.1956, D_2=26.7.1956 with 20 lb./ac. of N as A/S, D_3=15.8.1956 and D_4= 25.8.1956.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 38′×20′. (b) 30′×12′. (v) 4′×4′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Plant count, boll count, and cotton yield. (iv) (a) 1956—N.A. (b) No. (c) Nil. (v) (a) and (b) Gadag. (vi) and (vii) Nil.

5. RESULTS .

(i) 295 lb./ac. (ii) 65.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of cotton in lb./ac.

Treatment	D_1	D_2	D_3	D_4
Av. yield	347	413	252	167

S.E./mean = 26.5 lb./ac.

———

Crop :- Cotton *(Kharif).* **Ref :- Ms. 57(144).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'CM'.**

Object : - To study the effect of date of sowing and application of manure on the growth and yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar.* (b) *Jowar.* (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) As per treatments. (iv) (a) 2 ploughings and 2 harrowings. (b) Dibbling. (c) 10 lb /ac. (d) 2′×1′. (e) 2. (v) Nil. (vi) *Laxmi.* (vii) Unirrigated. (viii) 3 weedings. (ix) N.A. (x) 22.2.1958, 3, 12, 22 and 30.3.1958.

2. TREATMENTS :

4 dates of sowing : D_1=2nd Aug., D_2=2nd Aug. with 20 lb./ac. of N as A/S, D_3=15th Aug. and D_4=25th Aug. 1957.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 20′×32′. (b) 12′×26′. (v) 4′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Plant count, boll count, and cotton yield. (iv) (a) 1956—N.A. (b) No. (c) Nil. (v) (a) and (b) Gadag. (vi) and (vii) Nil.

5. RESULTS :

(i) 339 lb./ac. (ii) 41.1 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of cotton in lb./ac.

Treatment	D_1	D_2	D_3	D_4
Av. yield	372	464	287	233

S.E /mean = 20.6 lb./ac.

———

Crop :- Cotton *(Kharif).* **Ref :- Ms. 55(195).**

Site :- Agri. Res. Stn., Gadag. **Type :- 'CM'.**

Object :—To study the effect of date of sowing and application of manure on the growth and yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar.* (b) *Jowar.* (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Gadag. (iii) As per treatments. (iv) (a) 2 ploughings and 3 harrowings. (b) Dibbling. (c) 9 lb./ac. (d) 18" between rows. (e) N.A. (v) Nil. (vi) *Laxmi.* (vii) Unirrigated. (viii) 3 weedings and interculturings. (ix) 30.47" (x) 5, 21.3.1956.

2. TREATMENTS :

Main-plot treatments :

3 dates of sowing : D_1=26.8.1955., D_2=20.9.1955. and D_3=3.10.1955.

Sub-plot treatments :

3 levels of N as A/S : N_0=0, N_1=20 and N_2=40 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 30'×20'. (b) 26'×16' (v) 2'×2'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Cotton yield. (iv) (a) 1955—N.A. (b) No. (c) Nil. (v) (a) and (b) Dharwar. (vi) and (vii) N.A.

5. RESULTS :

(i) 420 lb./ac. (ii) (a) 158.0 lb./ac. (b) 72.6 lb./ac. (iii) D and N effects are highly significant. (iv) Av. yield of cotton in lb./ac.

	N_0	N_1	N_2	Mean
D_1	443	638	683	588
D_2	373	449	466	429
D_3	199	272	262	244
Mean	338	453	470	420

S.E. of difference of two

1. D marginal means = 64.5 lb./ac.
2. N marginal means = 29.6 lb./ac.
3. N means at the same level of D = 51.3 lb./ac.
4. D means at the same level of N = 77.0 lb./ac.

Crop :- Cotton *(Kharif).* **Ref :- Ms. 56(154).**

Site :- Agri. Res. Stn., Gadag. **Type :- 'CM'.**

Object :—To study the effect of date of sowing and application of manure on the growth and yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar.* (b) *Jowar.* (c) Nil. (ii) (a) Medium b'acks soil (b) Refer soil analysis, Gadag. (ii) As per treatments. (iv) (a) 2 ploughings and 2 harrowings. (b) Dibbling. (c) 9 lb./ac. (d) 18" between rows. (e) N.A. (v) Nil. (vi) *Laxmi.* (vii) Unirrigated. (viii) 3 weedings. (ix) 36.06". (x) 10.19, 28.3.1957 and 10.4.1957.

2. TREATMENTS :

4 dates of sowing : D_1=29.8.1956, D_2=29.8.1956 with 20 lb./ac. of N as A/S, D_3=11.9.1956 and D_4=25.9.1956.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 28′×32′. (b) 24′×30′. (v) 2′×1′. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Cotton yield. (iv) (a) 1952—contd. (b) No. (c) Nil. (v) (a) and (b) Dharwar. (vi) Bad boll opening due to moisture stress and higher temperature. (vii) N.A.

5. RESULTS :

(i) 387 lb./ac. (ii) 265.5 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of cotton in lb./ac.

Treatment	D_1	D_2	D_3	D_4
Av. yield	286	981	214	68

S.E./mean = 108.4 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 58(136).**

Site :- Agri. Res. Stn., Gadag. **Type :- 'CM'.**

Object :—To study the effect of date of sowing and application of manure on the growth and yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) *Jowar*. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Gadag. (iii) As per treatments. (iv) (a) 2 ploughings and 3 harrowings. (b) Dibbling. (c) 9 lb./ac. (d) 18″ between row. (e) N.A. (v) Nil. (vi) *Laxmi*. (vii) Unirrigated. (viii) Interculturing and weeding thrice. (ix) 26.01″. (x) 20.2.1959 and 4, 10, 30.3.1959.

2. TREATMENTS :

Main-plot treatments :

3 dates of sowing : D_1=26.8.1958, D_2=8.9.1958 and D_3=23.9.1958.

Sub-plot treatments :

2 levels of N as A/S : N_0=0 and N_1=20 lb./ac.

3. DESIGN :

(i) Split-plot. (il) (a) 3 main-plots/replication, 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 32′×48′. (b) 28′×44′. (v) 2′×2′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Cotton yield. (iv) (a) 1952—contd. (b) No. (c) Nil. (v) (a) and (b) Dharwar. (vi) and (vii) Nil.

5. RESULTS :

(i) 465 lb./ac. (ii) (a) 147.5 lb./ac. (b) 57.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of cotton in lb./ac.

	D_1	D_2	D_3	Mean
N_0	497	451	399	449
N_1	454	505	480	480
Mean	476	478	440	465

S.E. of the difference of two

1. D marginal means = 60.2 lb./ac.
2. N marginal means = 28.7 lb./ac.
3. N means at the same level of D = 49.7 lb..ac.
4. D means at the same level of N = 69.7 lb./ac.

Crop :- Cotton *(Kharif).* **Ref :- Ms. 59(28).**

Site :- Agri. Res. Stn., Gadag. **Type :- 'CM'.**

Object :—To study the effect of date of sowing and application of manures on the growth and yield of Cotton.

1. **BASAL CONDITIONS :**

(i) (a) *Jowar*—Cotton—*Jowar*. (b) *Jowar*. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Gadag. (iii) As per treatments. (iv) (a) 2 ploughings and 2 harrowings. (b) Dibbling. (c) 8 lb./ac. (d) 2' between lines. (e) N.A. (v) Nil. (vi) *Laxmi*. (vii) Unirrigated. (viii) 3 interculturings and weedings. (ix) 16.9". (x) 23.1.1960, 7,21.2.1960, 7.3.1960.

2. TREATMENTS :

Main-plot treatments :

3 dates of sowing : D_1=21.9.1959, D_2=1.10.1959, and D_3=11.10.1959.

Sub-plot treatments :

2 levels of N as A/S : N_0=0, N_1=20 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 30'×34'. (b) 26'×30' (v) 2'×2'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Cotton yield. (iv) (a) 1952—N A. (b) No. (c) Nil. (v) to (vii) N.A.

5. RESULTS :

(i) 239 lb./ac. (ii) (a) 112.5 lb./ac. (b) 26.7 lb /ac. (iii) Only D effect is significant. (iv) Av. yield of cotton in lb./ac.

	D_1	D_2	D_3	Mean
N_0	267	321	144	244
N_1	233	330	135	233
Mean	250	326	140	239

S.E. of difference of two

1. D marginal means = 56.2 lb./ac.
2. N marginal means = 10.9 lb./ac.
3. N means at the same level of D = 18.9 lb./ac.
4. D means at the same level of N = 57.9 lb./ac.

Crop :- Cotton. **Ref :- Ms. 54(53).**

Site :- Agri. Res. Stn., Hiriyur. **Type :- 'CM'.**

Object :—To study the effect of date of sowing and application of manure on the growth and yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil (b) *Ragi*. (c) 4 tons/ac. F.Y.M. (ii) (a) Gravel mixed with clayey loam. (b) Refer soil analysis, Hiriyur. (iii) As per treatments. (iv) (a) 2 ploughings, 1 cross ploughing, passing cultivators and levelling and line marking and opening furrows. (b) and (c) N.A. (d) 2'×10". (e) 2. (v) 4 tons/ac. of F.Y.M. (vi) *Giza*—12 (late). (vii) Irrigated. (viii) 4 intercultural operations with blade harrow and 3 to 4 weedings. (ix) 17.13". (x) 14.5.1955 ; 6.6.1955 and 22.7.1955 ; 16.8.1955.

2. TREATMENTS :

Main-plot treatments :

2 dates of sowing : D_1=17.10.1954, and D_2=17.11.1954.

Sub-plot treatments :

2 levels of N : N_0=0, and N_1=60 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 5. (iv) (a) 33′×22′, (b) 3½′×18′. (v) 10″×2′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Attack of stem borer, boll worms, jassids and thirps. Black arm and red-leaf diseases noticed. Dusting and spraying with Geigy 1250 and Folidol. (iii) No. of plants and yield of cotton. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 207 lb./ac. (ii) (a) 12.1 lb./ac. (b) 14.5 lb./ac. (iii) Only N effect is significant. (iv) Av. yield of *kapas* in lb./ac.

	N_0	N_1	Mean
D_1	218	206	212
D_2	213	193	203
Mean	216	200	208

S E. of difference of two

1. D marginal means = 5.4 lb./ac.
2. N marginal means = 6.5 lb./ac.
3. N means at the same level of D = 9.2 lb./ac.
4. D means at the same level of N = 8.4 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 54(212).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'CMV'.**

Object :—To study the effect of date of sowing and application of manures on the growth and yield of different varieties of Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) As per treatments. (iv) (a) 2 ploughings and 3 harrowings. (b) Dibbling. (c) 10 lb./ac. (d) 2′×1′. (e) 2. (v) Nil. (vi) As per treatments. (vii) Unirrigated. (viii) Weeding (ix) 25.60″. (x) 28.2.1955 and 17, 28.3.1955.

2. TREATMENTS :

Main-plot treatments :

All combinations of (1) and (2)

(1) 3 dates of sowing : D_1=17.7 1954, D_2=9.8.1954. and D_3=20.8.1954.

(2) 4 levels of N as A/S : N_0=0, N_1=20, N_2=40 and N_3=60 lb./ac.

Sub-plot treatments :

2 varieties : V_1=*Laxmi*, V_2=*Jayadhar*.

3. DESIGN :

(i) Split-plot. (ii) (a) 12 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 32′×22′. (b) 24′×14′ (v) 4′×4′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Plant count, boll count, and *kapas* yield. (iv) (a) 1954—N.A. (b) No. (c) Nil. (v) (a) and (b) Gadag. (vi) and (vii) Nil.

5. RESULTS :

(i) 492 lb./ac. (ii) (a) 79.3 lb./ac. (b) 91.9 lb./ac. (iii) Main effects of D and N and interaction D×V are highly significant. (iv) Av. yield of *kapas* in lb./ac.

	N_0	N_1	N_2	N_3	D_1	D_2	D_3	Mean
V_1	409	467	504	578	602	467	400	490
V_2	459	507	498	517	486	529	470	495
Mean	434	487	501	548	544	498	435	492
D_1	502	510	539	625				
D_2	425	494	534	541				
D_3	374	457	430	477				

S.E. of difference of two

1. D marginal means = 19.8 lb./ac.
2. N marginal means = 22.9 lb./ac.
3. V marginal means = 18.8 lb./ac.
4. V means at the same level of D = 32.5 lb./ac.
5. V means at the same level of N = 37.5 lb./ac.
6. D means at the same level of V = 24.8 lb./ac.
7. N means at the same level of V = 28.6 lb./ac.

S.E. of body of N×D table = 28.0 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 55(196).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'CMV'.**

Object :—To study the effect of date of sowing and application of manures on the growth and yield of different varieties of Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) As per treatments. (iv) (a) 2 ploughings and harrowings. (b) Dibbling. (c) 10 lb./ac. (d) 2′×1′. (e) 2. (v) Nil. (vi) As per treatments. (vii) Unirrigated. (viii Weeding and interculturing. (ix) 30.47". (x) 5, 12, 19, 26.3.1956 and 7, 9.4.1956.

2. TREATMENTS :

Main-plot treatments :

All combinations of (1) and (2)

(1) 4 dates of sowing : D_1=1.7.1955, D_2=22.7.1955, D_3=12.8.1955 and D_4=27.8.1955.

(2) 3 levels of N on A/S : N_0=0, N_1=20 and N_2=40 lb./ac.

Sub-plot treatments :

2 varieties : V_1=*Laxmi* and V_2=*Jayadhar*.

3. DESIGN :

(i) Split-plot. (ii) (a) 12 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 16′×56′. (b) 8′×48′. (v) 4′×4′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) N.A. (iii) Plant count, boll count and *kapas* yield. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) (a) and (b) Gadag. (vi) Nil. (vii) N.A.

5. RESULTS :

(i) 317 lb./ac. (ii) (a) 69.0 lb./ac. (b) 65.5 lb./ac. (iii) Effects D, V and interaction D×V are highly significant and effects N and interaction N×V are significant. (iv) Av. yield of *kapas* in lb./ac.

	D_1	D_2	D_3	D_4	N_0	N_1	N_2	Mean
V_1	486	500	378	157	373	336	432	381
V_2	256	309	264	187	254	261	245	254
Mean	371	405	321	172	317	299	344	317
N_0	342	419	304	201				
N_1	342	347	306	169				
N_2	428	448	353	145				

S.E. of difference of two

1. D marginal means = 19.9 lb./ac.
2. N marginal means = 17.3 lb./ac.
3. V marginal means = 13.4 lb./ac.
4. V means at the same level of D = 28.2 lb./ac.
5. V means at the same level of N = 24.4 lb./ac.
6. D means at the same level of V = 27.5 lb./ac.
7. N means at the same level of V = 23.8 lb./ac.

S E. of body of D×N table = 24.4 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 54(213).**

Site :- Agri. Res. Stn., Gadag. **Type :- 'CMV'.**

Object :—To study the effect of date of sowing and manurial doses on two varieties of Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) *Jowar*. (c) N.A. (ii) (a) Medium black soil. (b) Refer soil analysis, Gadag. (iii) As per treatments. (iv) (a) 2 ploughings and 3 harrowings. (b) Dibbling. (c) 9 lb./ac. (d) 18" between rows. (e) N.A. (v) Nil. (vi) As per treatments. (vii) Unirrigated. (viii) 3 weedings and 1 interculturing. (ix) 22.6". (x) 6.2.1955.

2. TREATMENTS :

Main-plot treatments :

All combinations of (1) and (2)

(1) 4 levels of N as A/S : N_0=0, N_1=20, N_2=40 and N_3=60 lb./ac.

(2) 3 dates of sowing : D_1=31.8.1954, D_2=14.9.1954, and D_3=28.9.1954.

Sub-plot treatments :

2 varieties of cotton : V_1=*Laxmi* and V_2=*Jayadhar*.

3. DESIGN :

(i) Split-plot. (ii) (a) 12 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 29'×24'. (b) 25'×20'. (v) 2'×2'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Cotton yield (iv) (a) N.A. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 326 lb./ac. (ii) (a) 67.0 lb./ac. (b) 57.6 lb.ac. (iii) D and V effects are highly significant and V×D interaction is significant. (iv) Av. yield of cotton in lb./ac.

	N_0	N_1	N_2	N_3	Mean	V_1	V_2
D_1	354	385	402	390	383	202	564
D_2	333	374	388	394	372	168	577
D_3	202	237	200	248	222	59	384
Mean	296	332	330	344	326	143	508
V_1	131	145	155	141			
V_2	462	520	505	547			

S.E. of difference of two

1. D marginal means	= 16.8 lb./ac.	5. V means at the same level of D	= 23.5 lb./ac.
2. N marginal means	= 19.3 lb./ac.	6. D means at the same level of V	= 22.1 lb./ac.
3. V marginal means	= 11.8 lb./ac.	7. N means at the same level of V	= 25.5 lb./ac.
4. V means at the same level of D	= 20.4 lb./ac.	S.E. of body of D×N table	= 23.7 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 57(140).**

Site :- Agri. Res. Stn., Gadag. **Type :- 'CMV'.**

Object :—To study the effect of date of sowing and manurial doses on two varieties of Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—*Jowar*. (b) *Jowar*. (c) Nil. (ii) (a) Medium black cotton soil. (b) Refer soil anaylysis, Gadag. (iii) As per treatments. (iv) (a) 2 ploughings and 3 harrowrings. (b) Dibbling. (c) 9 lb /ac. (d) 18" between rows. (e) N.A. (v) Nil. (vi) As per treatments. (vii) Unirrigated. (viii) 3 interculturings and weeding. (ix) 27.44". (x) 1, 17, 27.2.1958 and 13, 25.3.1958.

2. TREATMENTS :

Main-plot treatments :

4 dates of sowing : D_1=22.8.1957, D_2=22.8.1957, with 20 lb./ac. of N as A/S D_3=5.9.1957 and D_4= 20.9.1957.

Sub-plot treatments :

2 varieties of cotton : V_1=*Laxmi* and V_2=*Jayadhar*.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) (a) 30'×12'. (b) 26'×8'. (v) 2'×2'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Cotton yield. (iv) (a) 1952—contd. (b) No. (c) Nil. (v) (a) and (b) Dharwar. (vi) Nil. (vii) N.A.

5. RESULTS :

(i) 523 lb./ac. (ii) (a) 160.7 lb./ac. (b) 49.8 lb./ac. (iii) Only V effect is highly significant. (iv) Av. yield of *kapas* in lb./ac.

	D_1	D_2	D_3	D_4	Mean
V_1	517	530	476	378	475
V_2	581	592	621	488	571
Mean	549	561	549	433	523

S.E. of difference two

1. D marginal means	= 92.8 lb./ac.
2. V marginal means	= 20.3 lb./ac.
3. V means at the same level of D	= 40.6 lb./ac.
4. D means at the same level of V	= 97.2 lb./ac.

Crop :- Cotton. **Ref :- Ms. 54(36).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'I'.**

Object :—To find out the frequency of irrigation to Cotton crop under project conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jola.* (c) 5 tons/ac. of F.Y.M.+40 lb./ac. of N as A/S. (ii) (a) Heavy black clay. (b) Refer soil analysis, Siruguppa. (iii) 26.8.1954. (iv) (a) 2 ploughings. (b) Dibbling. (c) and (d) N.A. (e) 1. (v) G.M. at 8600 lb./ac. of G.L. ploughed in situ on 19.6.1954. (vi) *Laxmi.* (vii) As per treatments. (viii) Cultivator worked when the crop was 1½ months old. Twice earthing up by ridger. 2 weedings and 2 thinnings. (ix) 7.45". (x) 7.3.1955 to 4.4.1955.

2. TREATMENTS :

4 intervals of irrigation: T_1=10, T_2=15, T_3=20 and T_4=25 days.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 3/100 ac. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Attack of Jassids—D.D.T. sprayed. (iii) Cotton yield. (iv) (a) 1954—1956. (b) and (c) No. (v) (a) N.A. (b) Nil. (vi) Nil. (vii) 40 lb./ac. of N as A/S applied as top dressing on 8.10.1954.

5. RESULTS :

(i) 776 lb./ac. (ii) 122 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of cotton in lb./ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	728	753	807	818

S.E./mean = 49.8 lb./ac.

Crop :- Cotton. **Ref :- Ms. 55(36).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'I'.**

Object :—To find out the frequency of irrigation to Cotton crop under project conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sannhemp. (c) 40 lb./ac. of P_2O_5 as Super. (ii) (a) Black heavy clayey. (b) Refer soil analysis. Siruguppa. (iii) 5.9.1955. (iv) (a) 2 ploughings. (b) Dibbling. (c) and (d) N.A. (e) 1. (v) G.M. with sannhemp. (vi) *Laxmi.* (vii) As per treatments. (viii) Cultivator worked, 1 earthing up with ridger, 3 weedings and 1 thinning. (ix) 14.24". (x) 21.3.1956 to 5.5.1956.

2. TREATMENTS :

4 intervals of irrigation : T_1=10, T_2=15, T_3=20 and T_4=25 days.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 1/40 ac. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Attack of jassids, aphids, and boll worms—Hexidole sprayed thrice. (iii) Cotton yield. (iv) (a) 1954—1956. (b) No (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) 40 lb./ac. of N as A/S applied as top dressing after 1½ months of sowing.

5. RESULTS :

(i) 942 lb./ac. (ii) 142.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of cotton in lb./ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	970	929	951	920

S.E./mean = 58 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 56(114).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'I'.**

Object :—To find out the frequency of irrigation to Cotton crop under project conditions.

1. BASAL CONDITIONS :

(l) (a) Nil. (b) *Sannhemp*. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) 20.8.1956. (iv) (a) Ploughing and harrowing. (b) Dibbled. (c) 10 lb./ac. (d) 24″×6″. (e) N.A. (v) G.M. with sannhemp+40 lb./ac. of N as A/S. (vi) *Laxmi*. (vii) Irrigated. (viii) Weeding and interculturing. (ix) 25.74″. (x) 19.2.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(36) on page 626.

4. GENERAL :

(i) Normal. (ii) Attack of thrips, jassids and boll worms—0.2% Folidol sprayed. (iii) Nil. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) to (vii) N.A.

5. RESULTS :

(i) 394 lb./ac. (ii) 124.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of cotton in lb./ac.

Treatment	T_1	T_2	T_3	T_4
Av. yield	468	382	378	349

S.E./mean = 50.8 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 59(24).**

Site :- Agri. Res. Stn., Arbhavi. **Type :- 'IM'.**

Object :—To study the water and manurial requirements of Cotton under irrigated conditions.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Jowar* and *Tur*. (c) 30 lb./ac. of N as A/S and G.N.C. in the ratio of 1 : 2. (ii) (a) Sandy loam. (b) N.A. (iii) 18 6.1959. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 7 lb./ac. (d) 3′×3′. (e) 2. (v) 5 C.L./ac. of F.Y.M. (vi) 170—CO_2. (vii) Irrigated. (viii) Weeding and interculturing. (ix) 16.44″. (x) 22.3.1960 and 3.4.1960.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of watering ; I_1=2 ac. inches and I_2=3 ac. inches.

(2) 4 doses of manures : M_0=0, M_1=30 lb./ac. of N ratio in 1 : 2 as A/S and G.N.C. M_2=30 lb./ac. of N as A/S+10 lb./ac. of P_2O_5 as Super+10 lb./ac. of K_2O as Pot. Sul. M_3=2 M_1 and M_4=2 M_2.

Full doses of K_2O and P_2O_5+half the dose of N were applied after 3 weeks of sowing and the other half of N was applied after 8 weeks of sowing.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 30′×24′. (b) 24′×18′. (v) 3′ alround. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height and no. of branches, flowers and buds/plant and cotton yield. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2391 lb./ac. (ii) 273.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of cotton in lb./ac.

	M_0	M_1	M_2	M_3	M_4	Mean
I_1	2232	2573	2403	2380	2601	2438
I_2	2152	2477	2362	2330	2401	2344
Mean	2192	2525	2382	2355	2501	2391

S.E. of I marginal mean = 61.1 lb./ac.
S.E. of M marginal mean = 96.6 lb./ac.
S.E. of body of table = 136.6 lb./ac.

Crop :- Cotton. **Ref :- Ms. 55(111).**

Site :- Tungabhadra Agri. Res. Stn., Dhadesagur. **Type :- 'IM'.**

Object :—To find out irrigational and manurial requirements of Cotton.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*. (b) *Jowar*. (c) Nil. (ii) (a) Black clayey soil. (b) N.A. (iii) 17.9.1955. (iv) (a) 2 ploughings and 4 to 5 harrowings. (b) to (e) N.A. (v) 40 lb./ac. of Super. (vi) *Laxmi*. (vii) As per treatments. (viii) Gap-filling, 3 to 4 interculturings and 2 to 3 weedings. (ix) 31.84". (x) 9.3.1956 to 9.4.1956.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 5 levels of irrigation : I_0=0, I_1=3, I_2=6, I_3=9 and I_4=12.
(2) 4 levels of N as A/S : N_0=0, N_1=30, N_2=60 and N_3=90 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 20. (b) N.A. (iii) 3. (iv) (a) and (b) 26'×26'. (v) No. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Cotton yield. (iv) (a) 1955—1957. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 989 lb./ac. (ii) 195.8 lb./ac. (iii) N and I effects are highly significant. (iv) Av. yield of cotton in lb./ac.

	I_0	I_1	I_2	I_3	I_4	Mean
N_0	569	1038	915	830	957	862
N_1	1033	844	1053	1007	932	974
N_2	763	919	974	1209	1152	1003
N_3	734	1165	1114	1318	1259	1118
Mean	774	991	1014	1091	1075	989

S.E. of marginal mean of N = 50.5 lb./ac.
S.E. of marginal mean of I = 56.5 lb./ac.
S.E. of body of the table = 113.0 lb./ac.

Crop :- Cotton. **Ref :- Ms. 56(29)**

Site :- Tungabhadra Agri. Res. Stn., Dhadesagur. **Type :- 'IM'.**

Object :—To find out irrigational and manurial requirements of Cotton.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar.* (b) *Jowar.* (c) N.A. (ii) (a) Black clayey. (b) N.A. (iii) 18.9.1956. (iv) (a) Ploughings and harrowings. (b) to (e) N.A. (v) 40 lb./ac. of P_2O_5 as Super. (vi) *Laxmi* (medium) (vii) As per treatments. (viii) Gap-filling, weeding and interculturing. (ix) 32.48". (x) 6.3.1957 to 6 4 1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(111) on page 628.

4. GENERAL :

(i) Growth poor due to heavy rain. (ii) Attack of black arm disease. No control measures taken. (iii) Cotton yield. (iv) (a) 1955—1957. (b) Yes. (c)Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 213 lb./ac. (ii) 68.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of cotton in lb./ac.

	I_0	I_1	I_2	I_3	I_4	Mean
N_0	219	150	206	244	204	205
N_1	195	178	211	162	153	180
N_2	236	183	313	193	242	233
N_3	112	252	311	303	195	235
Mean	190	191	261	225	199	213

S.E. of marginal mean of N = 17.9 lb./ac.
S.E. of marginal mean of I = 19.8 lb./ac.
S.E. of body of table = 39.5 lb./ac.

Crop :- Cotton. **Ref :- Ms. 57(13).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'IM'.**

Object :—To find out irrigational and manurial requirements of Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) *Jowar.* (c) N.A. (ii) (a) Black clayey. (b) N.A. (iii) 27.8.1957. (iv) (a) 2 ploughings and 4 to 5 Harrowings. (b) to (e) N.A. (v) 40 lb./ac. of P_2O_5 as Super. (vi) *Laxmi* (medium). (vii) As per treatments. (viii) Gap-filling, weeding and interculturing. (ix) 23.81". (x) 28.1.1958 to 24.3.1958.

2. TREATMENTS to 4. GENRAL.

Same as in expt. no. 55(111) on page 628.

5. RESULTS :

(i) 846 lb./ac. (ii) 124.3 lb./ac. (iii) Only N effect is significant. (iv) Av. yield of cotton in lb./ac.

	I_0	I_1	I_2	I_3	I_4	Mean
N_0	629	689	569	630	670	637
N_1	858	881	835	959	798	866
N_2	713	809	771	975	885	831
N_3	1062	1020	1096	1036	1028	1048
Mean	815	850	818	900	845	846

S.E. of marginal mean of N = 32.1 lb./ac.
S.E. of marginal mean of I = 35.9 lb./ac.
S.E. of the body of table = 71.7 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 58(64).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'IM'.**

Object :—To find out irrigational and manurial requirements of Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) *Jowar*. (c) 40 lb./ac. of N+20 lb./ac. of P_2O_5. (ii) (a) Medium to deep black soil. (b) N.A. (iii) 22, 23.8.1958. (iv) (a) Cross ploughing. (b) Dibbling. (c) N.A. (d) 2′×1′. (e) 2 to 3. (v) Nil. (vi) *Laxmi* (medium). (vii) As per treatments. (viii) Hoeing and hand weeding. (ix) 10.31″. (x) 15.1.1959, 6.2.1959 and 9.3.1959.

2. TREATMENTS :

Main-plot treatments :

4 levels of irrigation : I_0=0, I_1=3, I_2=6 and I_3=9 irrigations.

Sub-plot treatments :

All combinations of (1) and (2)

(1) 5 levels of N : N_0=0, N_1=20, N_2=40, N_3=60 and N_4=80 lb./ac.
(2) 5 levels of P_2O_5 : P_0=0, P_1=10, P_2=20, P_3=30 and P_4=40 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/replication ; 25 sub-plots/main-plot. (b) N.A. (iii) 2. (iv) (a) N.A. (b) 20′×19½′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Severe attack of aphids. Endrine sprayed twice. (iii) Nil. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) and (vi) Nil. (vii) Mean acre yield figures for N×P table are N.A.

5. RESULTS :

(i) 552 lb./ac (ii) (a) 186.5 lb./ac. (b) 215.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of cotton in lb./ac.

	N_0	N_1	N_2	N_3	N_4	Mean	P_0	P_1	P_2	P_3	P_4
I_0	346	443	486	476	527	456	449	434	431	489	475
I_1	351	558	626	523	551	522	462	507	490	640	509
I_2	414	548	476	675	602	543	482	527	544	529	632
I_3	519	610	696	804	816	689	605	763	713	600	764
Mean	408	540	571	620	624	552	500	558	545	564	595

S.E. of difference of two
1. I marginal means = 37.3 lb./ac.
2. N or P marginal means = 48.2 lb./ac.
3. N or P means at the same level of I = 96.3 lb./ac.
4. I means at the same level of N or P = 93.8 lb./ac.

Crop :- Cotton. **Ref :- Ms. 59(96).**

Site :- Agri. Res. Stn., Dhadesagur. **Type :- 'IM'.**

Object :—To find out irrigational and manurial requirements of Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M.+40 lb./ac. of N+20 lb./ac. of P_2O_5. (ii) (a) Medium black soil. (b) N.A. (iii) 21.8.1959. (iv) (a) Ploughing. (b) Dibbling. (c) N.A. (d) 2′×1′. (e) 2 to 3. (v) Nil (vi) *Laxmi*. (vii) As per treatments. (viii) Hoeing and hand weedings. (ix) 13.12″. (x) 7, 20.1.1960 and 6.2.1960.

2. TREATMENTS :

Same as in expt. no. 58(64) on page 630.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/replication ; 25 sub-plots/main-plot. (b) N.A. (iii) 2. (iv) (a) and (b) 26′×15′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Severe attack of aphids—Endrex sprayed. (iii) Height of plant, boll counts and cotton yield. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1041 lb./ac. (ii) (a) 822.6 lb./ac. (b) 168.8 lb./ac. (iii) Only N effect and interaction I×N are highly significant. (iv) Av. yield of cotton in lb./ac.

	I_0	I_1	I_2	I_3	Mean	P_0	P_1	P_2	P_3	P_4
N_0	647	932	953	855	847	838	787	878	856	876
N_1	644	1037	1051	1142	969	949	954	1051	910	979
N_2	647	1057	1251	1344	1075	1019	1011	1078	1071	1194
N_3	634	1121	1386	1453	1148	1223	1129	1110	1128	1152
N_4	635	1082	1337	1610	1166	1166	1126	1102	1138	1298
Mean	641	1046	1196	1281	1041	1039	1001	1044	1021	1100
P_0	604	1027	1203	1324						
P_1	655	1016	1152	1182						
P_2	636	1016	1189	1332						
P_3	679	1009	1245	1149						
P_4	634	1161	1189	1415						

S.E. of difference of two

1.	I marginal means	= 164.5 lb./ac.
2.	N or P marginal means	= 37.7 lb./ac.
3.	N or P means at the same level of I	= 75.4 lb./ac.
4.	I means at the same level of N or P	= 177.9 lb./ac.
	S.E. of body of N×P table	= 59.7 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 58(198).**

Site :- Agri. Res. Stn., Gangavathi. **Type :- 'IC'.**

Object :—To find out the optimum time of sowing and the interval of irrigation required for Cotton.

1. BASAL CONDIONS :

(i) (a) *Jowar*—Cotton. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M.+40 lb./ac. of N+20 lb./ac, of P_2O_5. (ii) (a) Light black soil. (b) N.A. (iii) As per treatments. (iv) (a) 1 ploughing and 3 harrowings. (b) Dibbling. (c) 8 lb./ac. (d) 2′×1′. (e) 1. (v) 10 C.L./ac. of F.Y.M.+20 lb./ac. of N+20 lb./ac. of P_2O_5 before dibbling seeds. (vi) *Laxmi* (medium). (vii) Irrigated. (viii) 3 weedings and 1 hoeing. (ix) 13.8″. (x) Feb., and March, 1959.

2. TREATMENTS :

Main-plot treatments :

10 dates of sowing : D_1=1st week of Aug., 1958, D_2=2nd week of Aug., 1958, D_3=3rd week of Aug., 1958, D_4=4th week of Aug., 1958, D_5=1st week of Sept., 1958, D_6=2nd week of Sept., 1958, D_7=3rd week of Sept., 1958, D_8=4th week of Sept., 1958, D_9=1st week of Oct., 1958 and D_{10}=2nd week of Oct., 1958.

Sub-plot treatments :

5 levels of irrigations : I_0=0, I_1=2, I_2=4, I_3=6 and I_4=8 irrigations.

3. DESIGN :

(i) Split-plot. (ii) (a) 10 main-plots/block ; 5 sub-plots/main-plot. (b) N.A. (iii) 2. (iv) (a) 28′×24′. (b) 24′×22′. (v) 2′×1′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Sprayed twice against aphids and jassids. (iii) Cotton yield. (iv) (a) 1958–1959 to 1960–1961. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) N.A. (vii) 20 lb./ac. of N top dressed after 45 days of sowing.

5. RESULTS :

(i) 589 lb./ac. (ii) (a) 595.7 lb./ac. (b) 185.5 lb./ac. (iii) Only D effect is significant. (iv) Av. yield of cotton in lb./ac.

	D_1	D_2	D_3	D_4	D_5	D_6	D_7	D_8	D_9	D_{10}	Mean
I_0	438	771	1140	1013	399	479	351	75	562	186	541
I_1	608	681	980	1665	487	451	392	93	265	306	593
I_2	763	657	959	1116	430	443	443	82	314	402	561
I_3	724	1078	1016	1588	536	438	384	168	299	399	663
I_4	673	706	724	1176	408	451	410	518	302	516	588
Mean	641	779	964	1312	452	452	396	187	348	362	589

S.E. of difference of two

1. D marginal means = 266.4 lb./ac.
2. I marginal means = 58.7 lb./ac.
3. I means at the same level of D = 185.5 lb./ac.
4. D means at the same level of I = 313.8 lb./ac.

Crop :- Cotton. **Ref :- Ms. 59(132).**

Site :- Agri. Res. Stn., Gangavathi. **Type :- 'IC'.**

Object :—To find out the optimum time of sowing and the intervals of irrigations required for Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M.+40 lb./ac. of N+20 lb./ac. of P_2O_5. (ii) (a) Light black soil. (b) N.A. (iii) As per treatments. (iv) (a) 1 ploughing and 3 harrowings. (b) Dibbling. (c) 8 lb./ac. (d) 2′×1′. (e) 1. (v) 10 C.L./ac. of F.Y.M.+20 lb./ac. of N+20 lb./ac. of P_2O_5 before dibbling seeds. (vi) *Laxmi* (medium). (vii) Irrigated. (viii) 2 weedings and 2 hoeings. (ix) 23.21″. (x) Feb. and March, 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(198) on page 631.

5. RESULTS :

(i) 654 lb./ac. (ii) (a) 292.0 lb./ac. (b) 154.2 lb./ac. (iii) D effect is highly significant and I effect is significant. (iv) Av. yield of cotton in lb./ac.

	D_1	D_2	D_3	D_4	D_5	D_6	D_7	D_8	D_9	D_{10}	Mean
I_0	840	802	639	796	534	758	590	461	286	276	598
I_1	799	712	825	962	838	802	655	549	309	299	675
I_2	931	796	838	776	608	791	564	549	222	245	632
I_3	678	631	997	936	639	699	681	436	291	224	621
I_4	1085	856	1016	1026	691	883	784	554	271	286	745
Mean	867	759	863	899	662	786	655	510	276	266	654

S.E. of difference of two

1. D marginal means = 130.6 lb./ac.
2. I marginal means = 48.8 lb./ac.
3. I means at the same level of D = 154.1 lb./ac.
4. D means at the same level of I = 189.9 lb./ac.

Crop :- Cotton. **Ref :- Ms. 5[illegible]).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'ICM'.**

Object :—To determine the water requirements of Cotton under different conditions of manuring and spacing.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Gram. (c) Nil. (ii) (a) Medium *kirl.* (b) N.A. (iii) 3.7. 1955. (iv) (a) Ploughing. (b) Dibbling. (c) 10 lb./ac. (d) As per treatments (e) 2 to 3. (v) 5 C.L./ac. of F.Y.M. (vi) CO—4, B 40. (vii) As per treatments. (viii) Nil, (ix) 20.64". (x) 7.11.1955.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 2 water levels : M=More and L=Less.

(2) 2 row spacings : S_1=2' and S_2=3'.

(3) 2 levels of N as A/S and G.N.C. in 1 : 2 ratio : N_1=60 and N_2=120 lb./ac.

N applied after 3 weeks of sowing.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 21'×42' (b) 1/70 ac.. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Slight attack of jassids and aphids in early stages. B.H.C. and sulphur sprayed. (iii) Germination, plant height, and cotton yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) N.A.

5. RESULTS :

(i) 1374 lb./ac. (ii) 137.1 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of cotton in lb./ac.

	L	M	Mean	S_1	S_2
N_1	1280	1394	1337	1374	1300
N_2	1403	1418	1411	1411	1410
Mean	1342	1406	1374	1393	1355
S_1	1370	1415			
S_2	1313	1397			

S.E. of any marginal mean = 34.3 lb./ac.

S.E. of body of any table = 48.4 lb./ac.

Crop :- Cotton. **Ref :- Ms. 57(162).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'ICM'.**

Object :—To determine the water requirement of Cotton under different conditions of manuring and planting.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Gram. (c) Nil. (ii) (a) Medium *kirl*. (b) N.A. (iii) 19.6.1957. (iv) (a) Ploughing. (b) Dibbling. (c) 10 lb./ac. (d) As per treatments. (e) N.A. (v) 5 C.L./ac. of F.Y.M.+20 lb./ac. of P_2O_5 at the time of top dressing of N_2 fertilizer. (vi) CO—4, B—40. (vii) Irrigated. (viii) Nil. (ix) 20.74". (x) 13.11.1957 to 31.3.1958.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 2 levels of water : M=More water and L=Less water.
(2) 2 levels of N : N_1=60 and N_2=120 lb./ac.
(3) 2 row and plant spacings : S_1=3'×2' and S_2=3'×3'.

N applied as A/S and G.N C. in equal doses after 3 and 8 weeks of sowing.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 20'×30'. (b) 24'×18'. (v) 3'×6'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Moisture studies, germination of plants, plant height and cotton yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1503 lb./ac. (ii) 171.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of cotton in lb./ac.

	M	L	Mean	S_1	S_2
N_1	1444	1489	1467	1469	1465
N_2	1528	1547	1538	1575	1501
Mean	1487	1518	1503	1522	1483
S_1	1512	1531			
S_2	1461	1505			

S.E. of any marginal mean = 42.8 lb./ac.
S.E. of body of any table = 60.5 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 56(159).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'ICM'.**

Object :—To determine the water requirements of Cotton under different conditions of manuring and spacing.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Gram. (c) Nil. (ii) (a) Medium *kirl*. (b) N.A. (iii) 26.6.1956. (iv) (a) Ploughing. (b) Dibbling. (c) 10 lb./ac. (d) As per treatments. (e) 2 to 3. (v) 5 C.L./ac. of F.Y.M. (vi) CO—4, B—40. (vii) As per treatments. (viii) Nil. (ix) 27.15". (x) 4.12.1956 to 13.4.1957.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 2 water levels : M=More and L=Less.
(2) 2 levels of N : N_1=60 and N_2=120 lb./ac.
(3) 2 spacings : S_1=3'×2' and S_2=3'×3'.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 45′×20′. (b) 39′×14′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Height, no. of branches per plant, flowering count and cotton yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1569 lb./ac. (ii) 155.9 lb./ac. (iii) N effect is highly significant while S effect is significant. (iv) Av. yield of cotton in lb./ac.

	M	L	Mean	S_1	S_2
N_1	1480	1390	1435	1460	1410
N_2	1709	1694	1702	1814	1589
Mean	1595	1542	1569	1637	1500
S_1	1687	1587			
S_2	1502	1497			

S.E. of any marginal mean = 39.0 lb./ac.
S.E. of body of any table = 55.1 lb./ac.

Crop :- Cotton. **Ref:- Ms. 58(155).**

Site :- Govt. Agri. Farm, Arbhavi. **Type :- 'ICM'.**

Object :—To determine the water requirements of Cotton under different conditions of manuring and spacing.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Gram. (c) Nil. (ii) (a) *Masari.* (b) N.A. (iii) 24 and 25.5.1958. (iv) (a) Ploughing. (b) Dibbling. (c) 10 lb./ac. (d) As per treatments. (e) N.A. (v) 5 C.L./ac. of F.Y.M. (vi) CO—4, B—40. (vii) As per treatments. (viii) Nil. (ix) 13.90″. (x) 30.10.1958 to 9.3.1959.

2. TREATMENTS :

Same as in expt. no. 56(159) on page 634.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 30′×30′. (b) 24′×18′. (v) 3′×6′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Germination, plant height and cotton yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1642 lb./ac. (ii) 173.2 lb./ac. (iii) Only N effect is significant. (iv) Av. yield of cotton in lb /ac.

	M	L	Mean	S_1	S_2
N_1	1629	1473	1551	1537	1565
N_2	1699	1765	1732	1713	1751
Mean	1664	1619	1642	1625	1658
S_1	1679	1571			
S_2	1649	1667			

S.E. of any marginal mean = 43.3 lb./ac.
S.E. of body of any table = 61.2 lb./ac.

Crop :- Cotton. **Ref :- Ms. 59(118).**

Site :- Soil Conservation Res. Centre, Bellary. **Type :- 'D'.**

Object :—To study the effect of pre-soaking of seed on the yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cowpeas. (c) Nil. (ii) (a) Black cotton soil. (b) N.A. (iii) 5.10.1959. (iv) (a) Harrowing. (b) Drilling. (c) 7 lb./ac. (d) 36" between rows. (e) N.A. (v) Nil. (vi) W_1. (vii) Nil. (viii) Weeding and interculturing. (ix) 1.29". (x) 12.3.1960.

2. TREATMENTS :

2 types of seed : T_0=Ordinary and T_1=Presoaked for 24 hours.

3. DESIGN:

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 6. (iv) (a) 16'×14'. (b) 12'×10'. (v) 2'×2'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Cotton yield. (iv) (a) 1959—1960. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 330 lb./ac. (ii) 26.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of cotton in lb./ac.

Treatment	T_0	T_1
Av. yield	236.6	222.6

S.E./mean = 11.0 lb./ac.

Crop :- Cotton. **Ref :- Ms. 54(155).**

Site :- Agri. Res. Stn., Gadag. **Type :- 'D'.**

Object :—To see the effect of seed soaking and plastering treatments on the yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) *Jowar*. (c) Nil. (ii) (a) Sandy. (b) Refer soil analysis, Gadag. (iii) 19.9.1954. (iv) (a) 1 ploughing and 3 harrowings. (b) Dibbling. (c) 6 to 10 lb./ac. (d) 2' between and within rows. (e) 1. (v) 5 C.L./ac. of F.Y.M. applied before sowing. (vi) *Laxmi* (early). (vii) Unirrigated. (viii) 5 interculturings and 2 weedings. (ix) 8.09". (x) 25th Feb., to end of March 1955.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 types of soaking in water : S_1=Only dippling and S_2=Soaking over night.

(2) 2 plasterings in early morning with : T_1=Cowdung and T_2=Cowdung and A/S at 2 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 26'×10'. (b) 22'×6'. (v) 2'×2'. (vi) Yes.

4. GENERAL :

(i) Germination satisfactory. Complete absence of winds, rise in temperature and fall in humidity caused heavy opening of immature bolls. Yield below normal. (ii) Attack of jassids and thrips in early stages of crop. (iii) Height, node number, position of fruiting branch and cotton yield. (iv) (a) 1953—1954. (b) and (c) No. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted under Dharwar American Cotton Improvement scheme.

RESULTS:

(i) 317 lb./ac. (ii) 56.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield. of cotton in lb./ac.

	S_1	S_2	Mean
T_1	365	283	324
T_2	318	302	310
Mean	342	292	317

S.E. of any marginal mean = 20.0 lb./ac.
S.E. of body of table = 28.3 lb./ac.

Crop :- Cotton. **Ref :- Ms. 54(49).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'D'.**

Object :—To study the effect of spraying potassium sulphate and potassium chloride on the yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Mandya. (iii) 21.11.1954. (iv) (a) 2 ploughings and 1 cross ploughing, passing cultivator and levelling and lines marked with plough furrows. (b) and (c) N.A. (d) 2′ between rows and 10″ between plants. (e) 2. (v) 4 tons/ac. of F.Y.M. (vi) *Giza*—12, (late). (vii) Irrigated. (viii) 4 intercultural operations and 3 to 4 weedings. (ix) 7.87″. (x) 3.5.1955 ; 10.5.1955 ; 29.5.1955 and 14.6.1955.

2. TREATMENTS :

3 treatments of sprayings : T_0=Control, T_1=Pot. Sul. 2% and T_2=Pot. chloride 3%
T_2 applied after 2 and 4 months of sowing.

3. DESIGN:

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 22′×33′. (b) 18′×31′4″. (v) 24″×10″. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Bollworm, stemborer, jassids, thrips. Blackarm and redleaf disease. Dusting and spraying with Gammexane and folidol. (iii) No. of plants and yield of cotton. (iv) (a) to (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) N.A.

5. RESULTS :

(i) 168 lb./ac. (ii) 34.5 lb./ac. (iii) Treatments difference are not significant. (iv) Av. yield of cotton in lb./ac.

Treatment	T_0	T_1	T_2
Av. yield.	155.37	181.13	168.25

S.E./mean = 14.1 lb./ac.

Crop :- Cotton. **Ref :- Ms. 55(26).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'D'.**

Object :—To study the effect of spraying with hormones, on the yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Mandya. (iii) 3.1.1955. (iv) (a) 2 ploughings, 1 cross ploughing, passing cultivator, levelling, line marking and opening furrows. (b) and (c) N.A. (d) Between rows 2′ and between plants 10″. (e) 2. (v) 4 tons/ac. of F.Y.M. before sowing. (vi) *Giza* 12 (late). (vii) Irrigated. (viii) 3 to 4 intercultural operations with blade harrow and 3 to 4 weedings. (ix) 8.71″. (x) 19.6.1955 ; 12.7.1955 and 22.7.1955.

2. TREATMENTS :

All combinations of (1) and (2)+control.

(1) 2 doses of hormones : D_1=25 and D_2=50 ppm.

(2) 2 hormones : H_1=Alphanapthalene acetic acid and H_2=Indole acetic acid.

Hormones sprayed during square formation and at flowering.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 16′×27′3″. (b) 12′×25.5′. (v) 24″×10½″. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Stem-borer, boll worm, thrips and jassids. Black arm and red-leaf disease. Dusting and spraying with Geigy 1250 and Folidol. (iii) No. of plants and yield of cotton. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 130 lb./ac. (ii) 35.1 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of cotton in lb./ac.

Control = 114 lb./ac.

	H_1	H_2	Mean
D_1	132	142	137
D_2	123	138	130
Mean	128	140	134

S.E. of any marginal mean = 10.1 lb./ac.
S.E. of body of table or control mean = 14.3 lb./ac.

Crop :- Cotton. **Ref :- Ms. 55(88).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'D'.**

Object :—To study the effect of spraying with hormones on the yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red sandy loamy. (b) Refer soil analysis, Mandya. (iii) 26.11.1955. (iv) (a) 3 to 4 ploughings, 1 cross ploughing, passing c ultivator, levelling the plot, passing line marker and opening furrows by plough. (b) and (c) N.A. (d) Between rows 2′ and between plant 9″. (e) 2. (v) 3 to 4 tons/ac. of F.Y.M. applied before sowing. (vi) *Giza*—12 (late). (vii) Irrigated. (viii) 3 to 4 intercultural operations and weedings. (ix) 12.04″. (x) N.A.

2. TREATMENTS :

All combinations of (1), (2) and (3)+control.

(1) 2 doses of hormones : D_1=25, and D_2=50 ppm.

(2) 2 hormones : H_1=Alphanapthalene acetic acid and H_2=Indole acetic acid.

(3) 2 times of application of hormones : T_1=At 4th leaf stage and T_2=At flowering.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 10′×29′.5″. (v) One row on both sides and one row at either end. (vi) Yes.

4. GENERAL :

(i) Satisfactary. (ii) Attack of black arm, angular leaf-spot, stem-borer, boll worm, jassids and thrips. Spraying with Folidol and Geigy 1250. (iii) Cotton yield. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 151 lb./ac. (ii) 62.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of cotton in lb./ac.

Control = 166 lb./ac.

	H_1	H_2	Mean	T_1	T_2
D_1	184	132	158	168	147
D_2	149	138	143	135	152
Mean	166	135	150	151	149
T_1	163	140			
T_2	169	130			

S.E. of any marginal mean = 13.9 lb./ac.
S.E. of body of table = 19.7 lb./ac.
S.E. of control mean = 27.8 lb./ac.

Crop :- Cotton *(Kharif)*. **Ref :- Ms. 56(124).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'D'.**

Object :—To find the efficacy of different insecticides against Cotton pests.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Sannhemp*. (c) Nil. (ii) (a) Black cotton soil. (b) Refer soil analysis, Siruguppa. (iii) 20.8.1956. (iv) (a) Ploughing and harrowing. (b) N.A. (c) 10 lb./ac. (d) Between rows 24" and between plants 6" to 7". (e) N.A. (v) 5 tons/ac. of F.Y.M. and 40 lb./ac. of N. (vi) *Laxmi* cotton. (vii) Irrigated. (viii) Working cultivator and hand weeding. (ix) 25.74". (x) 14.3.1957.

2. TREATMENTS :

5 insecticidal treatments : T_0=Control, T_1=Basudin, T_2=Endrin, T_3=Folidol and T_4=B.H.C. 5% dust —20 lb./ac.

3. DESIGN :

(i) L. Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) and (b) 20'×21½'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) N.A. (iii) Cotton yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 708 lb./ac. (ii) 294.4 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of cotton in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4
Av. yield	433	720	911	1001	475

S.E./mean = 131.7 lb./ac.

Crop :- Cotton *(Rabi)*. **Ref :- Ms. 57(211).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'D'.**

Object :—To find the efficacy of different insecticides against Cotton pests.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar* (b) *Jowar*. (c) 5 tons/ac. of F.Y.M.+40 lb./ac. of N+20 lb./ac. of P_2O_5. (ii) (a) Black soil. (b) Refer soil analysis, Siruguppa. (iii) 30.8.1957. (iv) (a) Ploughing. (b) Dibbling. (c) 8 lb./ac. (d) 27" between lines. (e) N.A. (v) 5 tons/ac. of F.Y.M.+40 lb./ac. of N. (vi) *Laxmi*. (vii) Irrigated. (viii) Hand weeding. (ix) 17.71". (x) 5.2.1958.

2. TREATMENTS :

Same as in expt. no. 56(124) on page 639.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 1/66.6 ac.. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Attack of aphids, jassids—insecticides were used as per treatments at an interval of one month. (iii) Insect counts of aphids, jassids on the top two leaves and count of boll worms and cotton yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) N.A.

5. RESULTS:

(i) 883 lb./ac. (ii) 99.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of cotton in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4
Av. yield	752	832	870	1030	930

S.E./mean = 44.7 lb./ac.

Crop :- Cotton. **Ref :- Ms. 58(76).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'D'.**

Object :—To find the efficacy of different insecticides against Cotton pests.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton. (b) *Jowar*. (c) N.A. (ii) (a) Black cotton soil. (b) Refer soil analysis, Siruguppa. (iii) 5.9.1958. (iv) (a) Working country and victory ploughs blade harrows and ridger. (b) Dibbling. (c) N.A. (d) 9" between plants. (e) 2. (v) 5 tons/ac. of F.Y.M.+40 lb./ac. of N+20 lb./ac. of P_2O_5. (vi) *Laxmi*. (vii) Irrigated. (viii) Working cultivator and hand weeding. (ix) 8.30". (x) 3.3.1959 and 25.3.1959.

2. TREATMENTS :

Same as in expt. no. 56(124) on page 639.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) and (b) 1/66.6 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Incidence of aphids, thrips, jassids and bollworms moderate—no control measures taken. (iii) Cotton yield. (iv) (a) 1954—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 819 lb./ac. (ii) 137.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of cotton in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4
Av. yield	778	909	807	768	831

S.E./mean = 61.4 lb./ac.

Crop :- Tobacco *(Kharif)*. **Ref :- Ms. 57(172).**

Site :- Agri. Res. Stn., Nipani. **Type :- 'M'.**

Object :—To study the effect of deep placement of fertilizers on Bidi Tobacco.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Tobacco. (c) N.A. (ii) (a) Medium light soil. (b) Refer soil analysis, Nipani. (iii) Last week of July/1st week of Aug. to 1st week of September, 1957. (iv) (a) Ploughing and harrowing. (b) Transplanting. (c) 1 oz /ac. (d) $3\frac{1}{2}' \times 3\frac{1}{2}'$. (e) 1. (v) 5 C.L./ac. of F.Y.M. (vi) S—20. (vii) Unirrigated. (viii) Interculturing and removal of lower leaves. (ix) 28.33". (x) Last week of January and 1st week of Feb., 1958.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 manures : M_1=40 lb./ac. of N $\frac{1}{2}$ as cake and $\frac{1}{2}$ as A/S and M_2=40 lb./ac. of N+100 lb./ac. of P_2O_5+60 lb./ac. of K_2O.

(2) 3 methods of application of manures : T_1=Normal method, T_2=Deep placement and $T_3=\frac{1}{4}$ usual method+$\frac{1}{4}$ deep placement 6" to 9" depth 8" away from plants at 4 spots.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) $59\frac{1}{2}' \times 14'$. (b) $52\frac{1}{2}' \times 7'$. (v) $3\frac{1}{2}' \times 3\frac{1}{2}'$. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Length and breadth of leaves and tobacco yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 953 lb./ac. (ii) 111.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of tobacco leaf in lb./ac.

	T_1	T_2	T_3	Mean
M_1	898	977	943	939
M_2	901	916	1084	967
Mean	900	946	1014	953

S.E of M marginal mean = 32.2 lb./ac.
S.E. of T marginal mean = 39.5 lb./ac.
S.E. of body of table = 55.8 lb./ac.

Crop :- Tobacco *(Kharif)*. **Ref :- Ms. 58(162).**

Site :- Agri. Res. Stn., Nipani. **Type :- 'M'.**

Object :—To study the effect of deep placement of fertilizers on the yield of Bidi Tobacco.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Tobacco. (c) 40 lb./ac. of N. (ii) (e) Medium light soil. (b) Refer soil analysis, Nipani. (iii) Last week of July/1st week of Aug. to Sept., 1958. (iv) (a) Ploughing and harrowing. (b) Transplanting. (c) 1 oz./ac. (d) $3\frac{1}{2}' \times 3\frac{1}{2}'$. (e) 1. (v) Nil. (vi) S—20. (vii) Unirrigated. (viii) Interculturing and desuckering. (ix) 28.77". (x) Last week of Jan. to 1st week of Feb., 1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(172) on page 640.

5. RESULTS :

(i) 401 lb./ac. (ii) 95.4 lb./ac. (iii) Only T effect is significant. (iv) Av. yield of tobacco leaf in lb./ac.

	T_1	T_2	T_3	Mean
M_1	331	491	451	424
M_2	325	427	379	377
Mean	328	459	415	401

S.E. of M marginal means = 27.5 lb./ac.
S.E. of T marginal means = 33.7 lb./ac.
S.E. of body of table = 47.7 lb./ac.

Crop :- Tobacco *(Kharif)*. **Ref :- Ms. 59(16).**

Site :- Agri. Res. Stn., Nipani. **Type :- 'M'.**

Object :—To study the effect of deep placement of fertilizers on the yield of Bidi Tobacco.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Tobacco. (c) 40 lb./ac. of N. (ii) (a) Medium black soil. (b) Refer soil analysis, Nipani. (iii) 1st week of Aug. 1959. (iv) (a) Ploughing and harrowing. (b) Transplanting. (c) 1 oz./ac. (d) $3\frac{1}{2} \times 3\frac{1}{2}$. (e) 1. (v) 5 C.L./ac. of F.Y.M. (vi) S—20. (vii) Unirrigated. (viii) Interculturing and removal of lowar leaves. (ix) 49.88". (x) Last week of Jan., 1960.

2. TREATMENTS to 4 GENERAL:

Same as in expt. no. 57(172) on page 640.

5. RESULTS :

(i) 726 lb./ac. (ii) 123.3 lb./ac. (iii) None of the effects is significant (iv) Av. yield of tobacco leaf in lb./ac.

	T_1	T_2	T_3	Mean
M_1	626	711	789	709
M_2	675	789	767	744
Mean	651	750	778	726

S.E. of M marginal mean = 35.6 lb./ac.
S.E. of T marginal mean = 43.6 lb./ac.
S.E. of body of table. = 61.6 lb./ac.

Crop :- Tobacco *(Kharif)*. **Ref :- Ms. 58(158).**

Site :- Agri. Res. Stn., Nipani. **Type :- 'M'.**

Object :—To see if the fertilizer has an effcct on the production of seed of Bidi Tobacco.

1. BASAL CONDITIONS :

(i) (a) Tobacco–Tobacco. (b) Tobacco (c) N.A. (ii) (a) Medium light soil. (b) Refer soil analysis, Nipani. (iii) 12.7.1958/16.8.1958. (iv) (a) Ploughing and harrowing. (b) Planting. (c) 1 oz./ac. (d) $3\frac{1}{2}' \times 3\frac{1}{2}'$. (e) 1. (v) 5 C.L./ac. of F.Y.M. (vi) S—20. (vii) Unirrigated. (viii) Interculturing, and removal of lower leaves. (ix) 28.77". 27.1.1959.

2. TREATMENTS :

5 doses of N : $N_0=0$, $N_1=40$, $N_2=60$, $N_3=80$ and $N_4=80$ lb./ac.
Source of N for N_1 to N_3 is A/S and for N_4 is $\frac{1}{2}$ cake+$\frac{1}{2}$ A/S.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 3. (lv) (a) 14'×49'. (b) 7'×42'. (v) $3\frac{1}{2}' \times 3\frac{1}{2}'$. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Length and breadth of leaves and yield of seed. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 165 lb./ac. (ii) 32.0 lb./ac. (iii) Treatments are not significantly different. (iv) Av. yield of tobacco leaf in lb./ac.

Treatment	N_0	N_1	N_2	N_3	N_4
Av. yield	156	191	159	154	166

S.E./mean = 18.5 lb./ac.

Crop :- Tobacco *(Kharif).* **Ref :- Ms. 59(5).**

Site :- Agri. Res. Stn., Nipani. **Type :- 'M'.**

Object :—To see if the fertilizer has any effect on the production of seed of Bidi Tobacco.

1. BASAL CONDITIONS :

(i) (a) Tobacco—Tobacco. (b) Tobacco (c) N.A. (ii) (a) Medium light soil. (b) Refer soil analysis, Nipani. (iii) 18.7.1959/19.8.1958. (iv) (a) Ploughing and harrowing. (b) Planting. (c) 1 oz./ac. (d) 3½'×3½'. (e) 1. (v) Nil. (vi) S—20. (vii) Unirrigated. (viii) Interculturing, and removal of lower leaves. (ix) 46.74". (x) 8.2.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(158) on page 642 except that no. of replications is 4.

5. RESULTS :

(i) 241 lb./ac. (ii) 39.2 lb./ac. (iii) Treatments are not significantly different. (iv) Av. yield of tobacco seed in lb./ac.

Treatment	N_0	N_1	N_2	N_3	N_4
Av. yield	205	259	252	254	236

S.E./mean = 19.6 lb./ac.

Crop :- Tobacco *(Kharif).* **Ref :- Ms. 57(173).**

Site :- Agri. Res. Stn., Nipani. **Type :- 'M'.**

Object :—To see if the fertilizer has any effect on the production of seed of Bidi, Tobacco.

1. BASAL CONDITIONS :

(i) (a) Tobacco—Tobacco. (b) Tobacco. (c) N.A. (ii) (a) Medium light soil. (b) Refer soil analysis, Nipani. (iii) 6.7.1957/14.8.1957. (iv) (a) Ploughing and harrowing. (b) Planting. (c) 1 oz./ac. (d) 3½'×3½'. (e) 1. (v) 3 C.L./ac. of F.Y.M. (vi) S—20. (vii) Unirrigated. (viii) Interculturing and removal of lower leaves and desuckering. (ix) 28.33". (x) 22.1.1958.

2. TREATMENTS :

A=20 lb./ac. of N as cake+20 lb./ac. of N as A/S, B=A+120 lb./ac. of P_2O_5 and C=Control.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 52½'×14'. (b) 45½'×7'. (v) 3½'×3½'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Length and breadth of leaves, and yield of seeds. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 811 lb./ac. (ii) 85.3 lb./ac. (iii) Treatments are significantly different. (iv) Av. yield of tobacco seed in lb./ac.

Treatment	A	B	C
Av. yield	878	831	725

S.E./mean = 34.8 lb./ac.

Crop :- Tobacco *(Kharif).* **Ref :- Ms. 58(160).**

Site :- Agri. Res. Stn., Nipani. **Type :- 'M'.**

Object :—To study the effect of potash fertilizers on spangling, and other qualities and yield of Bidi Tobacco.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Tobacco. (c) N.A. (ii) (a) Medium light soil. (b) Refer soil analysis, Nipani. (iii) 12.7.1958/ 24.8.1958. (iv) (a) Ploughing and harrowing. (b) Transplanting. (c) 1 oz./ac. (d) 3½′×3½′ (e) One (v) 5 C.L./ac. of F.Y.M. (vi) S—20. (vii) Unirrigated. (viii) Interculturing and removal of lower leaves. (ix) 28.77″. (x) 21.1.1959.

2. TREATMENTS :

A=Control, B=40 lb./ac. of N and C=B+120 lb./ac. of K_2O.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 52½′×14′. (b) 45½′×7′. (v) 3½′×3½′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Length and breadth of leaves, spangle rating and yield of dry leaves. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) Treatments increased for the experiment in 1959.

5. RESULTS :

(i) 520 lb./ac. (ii) 30.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tobacco leaf in lb./ac.

Treatment	A	B	C
Av. yield	515	541	503

S.E./mean = 10.7 lb.ac.

Crop :- Tobacco *(Kharif).* **Ref :- Ms. 59(15).**

Site :- Agri. Res. Stn., Nipani. **Type :- 'M'.**

Object :—To study the effect of potash fertilizers on the yield of Bidi Tobacco.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Tobacco. (c) N.A. (ii) (a) Medium light soil. (b) Refer soil analysis, Nipani. (iii) 13.7.1959 and 18.8.1959. (iv) (a) Ploughing and harrowing. (b) Transplanting. (c) 1 oz./ac. (d) 3½′×3½′. (e) 1. (v) 5 C.L./ac. of F.Y.M. (vi) S-20. (vii) Unirrigated. (viii) Interculturing and removal of lower leaves. (ix) 49.88″. (x) 21.1.1960.

2. TREATMENTS :

T_0=Control (no manure), T_1=40 lb./ac. of N half as A/S and half as G.N.C., $T_2=T_1+20$ lb./ac. of K_2O, $T_3=T_1+40$ lb./ac. of K_2O and $T_4=T_1+120$ lb./ac. of K_2O.
K_2O applied as Pot. Sul. and all manures applied 3 weeks after transplanting.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 52½′×14′. (b) 45½′×7′. (v) 3½′×3½′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Length and breadth of leaves. Spangle rating and yield of dry leaves of tobacco. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 550 lb./ac. (ii) 71.9 lb./ac. (iii) Treatments are not significantly different. (iv) Av. yield of tobacco leaf in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4
Av. yield	481	589	597	522	563

S.E./mean = 36.0 lb./ac.

Crop :- Tobacco *(Kharif)*. **Ref :- Ms. 58(93).**

Site :- Agri. Res. Stn., Nipani. **Type :- 'M'.**

Object :—To evolve a basic dose of F.Y.M. and rate of application of fertilizers for Bidi Tobacco.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Tobacco. (c) 40 lb./ac. of N : ½ as G.N C. and ½ as A/S and 60 lb./ac. of K_2O. (ii) (a) Medium deep soil. (b) Refer soil analysis, Nipani. (iii) 17.8.1958. (iv) (a) Ploughing and harrowing. (b) Planting. (c) N.A. (d) 3½′×3½′. (e) 1. (v) Nil. (vi) S—20. (vii) Unirrigated. (viii) 5 interculturings and 6 to 7 hand stirrings. (ix) 45.5″. (x) 11.2.1959.

2. TREATMENTS :

Main-plot treatments :

2 levels of F.Y.M. : F_1=5 and F_2=10 C.L./ac. of F.Y.M.

Sub-plot treatments :

All combinations of (1) and (2)

(1) 2 levels of K_2O : K_0=0 and K_1=60 lb./ac.

(2) 3 sources of 40 lb./ac. of N : S_1=Cake, S_2=A/S and S_3=A/S+Cake :

Sub-Sub-plot-treatments :

2 times of application : T_1=Applied at 3 weeks after planting and T_2=½ applied at 3 weeks after planting+½ applied at 8 weeks after planting.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication ; 6 sub-plots/main-plot ; 2 sub-sub-plots/sub-plot. (b) N.A. (iii) 3 (iv) (a) and (b) 38½′×7′. (v) One row around the sub-sub-plot. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Slight aphid attack. Folidol sprayed. (iii) Yield of tobacco leaf. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 515 lb./ac. (ii) (a) 209.6 lb./ac. (b) 91.6 lb./ac. (c) 224.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of tobacco leaf in lb./ac.

	S_1	S_2	S_3	K_0	K_1	T_1	T_2	Mean
F_1	481	419	470	489	424	462	451	457
F_2	589	553	576	564	581	567	577	572
Mean	535	486	523	527	503	515	514	515
T_1	552	471	522	527	503			
T_2	518	500	525	526	502			
K_0	552	514	513					
K_1	517	457	533					

S.E. of difference of two

1. F marginal means	= 49.4 lb./ac.	9. F means at the same level of T	= 72.3 lb./ac.
2. S marginal means	= 26.4 lb./ac.	10. T means at the same level of F	= 74.7 lb./ac.
3. K marginal means	= 21.6 lb./ac.	11. S means at the same level of T	= 69.9 lb./ac.
4. T marginal means	= 52.8 lb./ac.	12. T means at the same level of S	= 91.4 lb./ac.
5. F means at the same level of S	= 58.1 lb./ac.	13. K means at the same level of T	= 57.0 lb./ac.
6. S means at the same level of F	= 37.4 lb./ac.	14. T means at the same level of K	= 74.7 lb./ac.
7. F means at the same level of K	= 53.9 lb./ac.	S.E. of body of S×K table	= 26.4 lb./ac.
8. K means at the same level of F	= 30.5 lb./ac.		

Crop :- Tobacco *(Khairf).* **Ref :- Ms. 59(20).**

Site :- Agri. Res. Stn., Nipani. **Type :- 'M'.**

Object :—To evolve a basic dose of F.Y.M., time and rate of application of fertilizer for Bidi Tobacco.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Tobacco. (c) N.A. (ii) (a) Medium deep soil. (b) Refer soil analysis, Nipani. (iii) 19.8.1959. (iv) (a) Ploughing and harrowing. (b) Planting. (c) 3555 seedlings/ac. (d) $3\frac{1}{2}' \times 3\frac{1}{2}'$. (e) 1. (v) Nil. (vi) S—20. (vii) Unirrigated. (viii) 5 interculturings and 6 to 7 stirrings. (ix) 49.88". (x) 27.1.1960.

2. TREATMENTS and DESIGN :

Same as in expt. no. 58(93) on page 645.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Length and breadth of leaves. Height and girth of plants. (iv) 1959—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 668 lb./ac. (ii) (a) 105.8 lb./ac. (b) 77.7 lb./ac. (c) 93.7 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of tobacco leaf in lb./ac.

	S_1	S_2	S_3	K_0	K_1	T_1	T_2	Mean
F_1	553	650	594	608	590	611	587	599
F_2	667	769	773	711	761	725	747	736
Mean	610	710	684	660	676	668	667	668
T_1	602	690	713	663	673			
T_2	618	730	654	657	678			
K_0	618	705	657					
K_1	601	715	711					

S.E. of difference of two

1. F marginal means	= 24.9 lb./ac.	8. K means at the same level of F	= 25.9 lb./ac.
2. S marginal means	= 22.4 lb./ac.	9. F means at the same level of T	= 33.3 lb./ac.
3. K marginal means	= 18.3 lb./ac.	10. T means at the same level of K or F	= 31.2 lb./ac.
4. T marginal means	= 22.1 lb./ac.	11. S means at the same level of T	= 35.1 lb./ac.
5. F means at the same level of S	= 30.9 lb./ac.	12. T means at the same level of S	= 38.3 lb./ac.
6. S means at the same level of F	= 31.7 lb./ac.	13. K means at the same level of T	= 28.7 lb./ac.
7. F means at the same level of K	= 36.0 lb./ac.	S.E. of body of S×K table	= 22.4 lb./ac.

Crop :- Tobacco *(Kharif).* **Ref :- Ms. 58(91).**

Site :- Agri. Res. Stn., Nipani. **Type :- 'M'.**

Object :—To find out the best suitable G.M. crop with and without fertilizers for Bidi Tobacco.

1. BASAL CONDITIONS:

(i) (a) Tobacco—Tobacco. (b) Tobacco. (c) 40 lb./ac. of N : ½ as caket+½ as A/S+60 lb./ac. of K_2O. (ii) (a) Medium light soil. (b) Refer soil analysis, Nipani. (iii) 25.8.1958. (iv) (a) Ploughing and harrowing. (b) Planting. (c) N.A. (d) 3½′×3½′. (e) 1. (v) Nil. (vi) S—20. (vii) Unirrigated. (viii) 5 interculturings with 6 to 7 hand stirrings. (ix) 4.55″. (x) 23.1.1959.

2. TREATMENTS :

Main-plot treatments :

4 G.M. crops : G_0=Control (no G.M.), G_1=Udid, G_2=*chavli* and G_3=Sannhemp.

Sub-plot treatments :

2 levels of fertilizers : F_0=No fertilizer and F_1=40 lb./ac. of N+40 lb./ac. of K_2O.

Sub-sub-plot treatments :

4 times of application of G.M. : T_1=From 1st season, T_2=From 2nd. season, T_3=From 3rd season and T_4=From 4th season.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/replication ; 2 sub-plots/main-plot ; 4 sub-sub-plots/sub-plot. (b) N.A. (iii) 2. (iv) (a) 49′×21′. (b) 47′×14′. (v) One guard row alround. (vi) Yes.

4. GENERAL :

(i) Poor. (ii) Nil. (iii) Yield of tobacco leaf. (iv) (a) 1958—N.A. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 312 lb./ac. (ii) (a) 153.8. (b) 73.0 lb./ac. (c) 86.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of tobacco leaf in lb./ac.

	T_1	T_2	T_3	T_4	Mean	F_0	F_1
G_0	292	373	242	406	328	261	395
G_1	351	427	401	397	394	402	386
G_2	271	168	186	185	202	200	205
G_3	329	324	311	326	322	323	322
Mean	311	323	285	328	312	296	327
F_0	303	301	268	314			
F_1	319	345	301	343			

S.E. for the difference of two

1. G marginal means = 54.4 lb /ac.
2. F marginal means = 18.3 lb./ac.
3. T marginal means = 36.6 lb./ac.
4. F means at the same level of G = 36.5 lb./ac.
5. G means at the same level of F = 60.2 lb./ac.
6. T means at the same level of G = 61.2 lb./ac.
7. G means at the same level of T = 75.9 lb./ac.
8. T means at the same level of F = 43.2 lb./ac.
9. F means at the same level of T = 41.7 lb./ac.

Crop :- Tobacco *(Kharif).* **Ref :- Ms. 59(18).**

Site :- Agri. Res. Stn., Nipani. **Type :- 'M'.**

Object :—To find out the best suitable G.M. crop with and without fertilizer for Bidi Tobacco.

1. BASAL CONDITIONS :

(i) (a) Tobacco—Tobacco. (b) Tobacco. (c) 40 lb./ac. of N : ½ as cake and ½ as A/S+60 lb./ac. of K_2O. (ii) (a) Medium light soil. (b) Refer soil analysis, Nipani. (iii) 17.8.1959. (iv) (a) Ploughing and harrowing. (b) Planting. (c) 3555 seedlings/ac. (d) 3½′×3½′. (e) 1. (v) Nil. (vi) S—20. (vii) Unirrigated. (viii) Interculturing and hand stirrings. (ix) 19.88″. (x) 17 to 28.1.1960.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 58 (91) on page 647.

4. GENERAL :

(i) Normal. (ii) Slight attack of aphids but controlled by spraying Folidol. (iii) Length and breadth of leaves. Height and girth of plants and spangle rating. (i) (a) 1958—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 564 lb./ac. (ii) (a) 78.9 lb./ac. (b) 76.1 lb./ac.(c) 42.4 lb./ac. (iii) T effect is highly significant, F effect is significant while other effects are not significant. (iv) Av. yield of tobacco leaf in lb./ac.

	G_0	G_1	G_2	G_3	F_0	F_1	Mean
T_1	513	799	587	655	531	747	639
T_2	578	658	565	609	519	687	603
T_3	531	580	463	477	440	586	513
T_4	508	585	443	466	419	583	501
Mean	533	656	515	552	477	651	564
F_0	452	573	444	439			
F_1	614	739	586	665			

S.E. of difference of two

1. G marginal means	=	27.9 lb./ac.	6. F means at the same level of G	=	38.1 lb./ac.
2. F marginal means	=	19.0 lb./ac.	7. G means at the same level of F	=	27.4 lb./ac.
3. T marginal means	=	15.0 lb./ac.	8. T means at the same level of G	=	30.0 lb./ac.
4. T means at the same level of F	=	21.2 lb./ac.	9. G means at the same level of T	=	27.0 lb./ac.
5. F means at the same level of T	=	26.4 lb./ac.			

Crop :- Tobacco *(Kharif)*. **Ref :- Ms. 57(170).**

Site :- Agri. Res. Stn., Nipani. **Type :- 'M'.**

Object :—To study the effect of manure on the yield of seeds of Bidi Tobacco.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Tobacco. (c) N.A. (ii) (a) Medium light soil. (b) Refer soil analysis, Nipani. (iii) 10.9.1957. (iv) (a) Ploughing and harrowing. (b) Planting. (c) 1 oz./ac. (d) 3½′×3½′. (e) 1. (v) Nil. (vi) S—20. (vii) Unirrigated. (viii) Gap-filling, khurpening and interculturing. (ix) 28.33″. (x) 3.3.1958.

2. TREATMENTS :

All combinations of (1) and (2)+a control (no manure).

(1) 2 levels of N : N_1=20 and N_2=40 lb./ac,

(2) 2 sources of N : S_1=A/S and S_2=Cake+A/S in 1 : 1 ratio.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 14′×49′. (b) 7′×42′. (v) 3½′×3½′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Weight of seeds. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 226 lb./ac. (ii) 53.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of tobacco seeds in lb./ac.

Control = 226 lb./ac.

	S_1	S_2	Mean
N_1	200	193	197
N_2	253	257	255
Mean	227	225	226

S.E. of any marginal mean = 18.8 lb./ac.
S.E. of body of table = 26.6 lb./ac.

Crop :- Tobacco. **Ref :- Ms. 57(169).**

Site :- Agri. Res. Stn., Nipani. **Type :- 'M'.**

Object :—To study the effect of application of oils to suppress the suckers of Bidi Tobacco.

1. BASAL CONDITIONS :

(i) (a) Tobacco—Tobacco. (b) Tobacco. (c) N.A. (ii) (a) Medium light soil. (b) Refer soil analysis, Nipani. (iii) 6 7.1957/14.8.1957. (iv) (a) 3 harrowings. (b) Planting. (c) 1 oz /ac. (d) $3\frac{1}{2}' \times 3\frac{1}{2}'$. (e) '. (v) 5 C.L./ac. of F.Y.M. (vi) S—20. (vii) Unirrigated. (viii) Gap-filling, khurpening, interculturing, removal of lower leaves and desuckering. (ix) 28.33". (x) 25.1.1958.

2. TREATMENTS :

Application of 7 oils or mixtures to top suckers : T_0=Control (no oil applied), T_1=Coconut oil, T_2=Groundnut oil, T_3=Safflower oil, T_4=Coconut +Castor oil, T_5=Groundnut oil+Castor oil, T_6= Safflower+Caster oil.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) and (b) $52\frac{1}{2}' \times 7'$. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Caterpillars and cutworms were observed in transplanting and establishing stages—5% Andrex powder applied. (ii) Weight of top suckers. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Nil.(vii) Though the top suckers were suppressed to some extent by applying coconut oil, the bottom suckers grew profusely and this defeated the aim of the experiment to minimise the cost of desuckering.

4. RESULTS :

(i) 267 lb./ac. (ii) 134.8 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tobacco leaf in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6
Av. yield	671	69	225	148	74	337	348

S.E./mean = 67.4 lb./ac.

Crop :- Tobacco. **Ref :- Ms. 59(SFT).**

Centre :- Mandya (c.f.). **Type :- 'M'.**

Object :—Type A—To study the response of Tobacco to levels of N, P and K, applied individually and in combinations.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red soil. (iii) Nil. (iv) and (v) N.A. (vi) July-August 1959. (vii) to (ix) N.A. (x) January-February 1960.

2. TREATMENTS :

0 =Control (no manure).
n =40 lb./ac. of N as A/S.
p =20 lb./ac. of P_2O_5 as Super.
np =40 lb./ac. of N as A/S+20 lb./ac. of P_2O_5 as Super.
k =20 lb./ac. of K_2O as Mur. Pot.
nk =40 lb./ac. of N as A/S+20 lb./ac. K_2O as Mur. Pot.
pk =20 lb./ac. of P_2O_5 as Super+20 lb./ac. of K_2O as Mur. Pot.
npk=40 lb./ac. of N as A/S+20 lb./ac. of P_2O_5 as Super+20 lb./ac. of K_2O as Mur. Pot.

3. DESIGN :

(i) and (ii) The district has been divided into four agriculturally homogeneous zones and one field assistant posted in each zone. The field assistant conducts the trials in one Revenue circle or thana in the zone and the circle/thana is changed once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year, 8 on *kharif* cereal, 8 on *rabi* cereal, 8 on cash crops, 4 on an oilseed crop and 3 a leguminous crop. Half the number of trials conducted are of type A and the other half of type B on crops other than the legumes. The three trials on legumes are of type C. Residual effects of phosphate application are studied on type C trials in two out of the four zones in each district every year. The experiments are laid out in randomly located fields in randomly selected villages in each of the 4 zones at the rate of one experiment per village. (iii) (a) 1/40 ac. (b) 1/80 ac. (iv) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Tobacco leaf yield. (iv) (a) 1959—contd. (b) No. (c) Nil. (v) As per design (vi) and (vii) Nil.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	263	173	313	79.0	173	—247	181	41	42.8

Control yield = 2460 lb./ac. and no. of trials = 2.

Crop :- Tobacco. **Ref :- Ms. 59(SFT).**

Centre :- Mandya (c.f.). **Type :- 'M'.**

Object :—Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red soil. (iii) Nil. (iv) and (v) N.A. (vi) July-August—1959. (vii) to (ix) N.A. (x) January—February 1960.

2. TREATMENTS :

0 =Control (no manure).
n_1' =40 lb./ac. of N as Urea.
n_2' =80 lb./ac. of N as Urea.
n_1'' =40 lb./ac. of N as A/S/N.
n_2'' =80 lb./ac. of N as A/S/N.
n_1'''=40 lb./ac. of N as C/A/N.
n_2'''=80 lb./ac. of N as C/A/N.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 59(SFT) type A on page 649 conducted at Mandya.

5. RESULTS :

Treatment	0	n_1'	n_2'	n_1''	n_2''	n_1'''	n_2'''
Av. yield in lb./ac.	4559	3917	4279	4723	4361	4583	5283

G.M. = 4529 lb./ac. ; S.E. = 200.7 lb./ac. and no. of trials = 2.

Crop :- Tobacco *(Kharif)*. **Ref :- Ms. 57(171).**

Site :- Agri. Res. Stn., Nipani. **Type :- 'C'.**

Object :—To study the effect of piercing at nipping on the quality and yield of Bidi Tobacco.

1. BASAL CONDITIONS :

(i) (a) Tobacco—Tobacco. (b) Tobacco. (c) N.A. (ii) (a) Medium light soil. (b) Refer soil analysis, Nipani. (iii) 28.8.1957. (iv) (a) Ploughing and harrowing. (b) Planting. (c) 1 oz./ac. (d) $3\frac{1}{2}' \times 3\frac{1}{2}'$. (e) One. (v) 5 C.L./ac. of F.Y.M. (vi) S—20. (vii) Unirrigated. (viii) Gap-filling, khurpening, interculturing, removal of lower leaves and desuckering. (ix) 28.33'. (x) 8.2.1958.

2. TREATMENTS :

T_1=Piercing and T_2=No piercing.

3. DESIGN :

(i) R B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) and (b) $35' \times 7'$. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Length and breadth of leaves. Height and girth of plants and spangle rating. (iv) (a) 1957—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 150 lb./ac. (ii) 16.5 lb./ac. (iii) The treatment difference is not significant. (iv) Av. yield of tobacco leaf in lb./ac.

Treatment	T_1	T_2
Av. yield	148	152

S.E./mean = 4.8 lb./ac.

Crop :- Tobacco *(Kharif)*. **Ref :- Ms. 58(161).**

Site :- Agri. Res. Stn., Nipani. **Type :- 'C'.**

Object :—To study the effect of piercing at nipping on the quality and yield of Bidi Tobacco.

1. BASAL CONDITIONS :

(i) (a) Tobacco—Tobacco. (b) Tobacco. (c) N.A. (ii) (a) Medium light soil. (b) Refer soil analysis, Nipani. (iii) 28.8.1958. (iv) (a) Ploughing and harrowing. (b) Planting. (c) 1 oz./ac. (d) $3\frac{1}{2}' \times 3\frac{1}{2}'$. (e) 1. (v) 5 C.L./ac. of F.Y.M. (vi) S—20. (vii) Unirrigated. (viii) Gap-filling, khurpening, interculturing, removal of lower leaves and desuckering. (ix) 28.77". (x) 12.2.1959.

2. TREATMENTS to 4. GENERAL :
Same as in expt. no. 57(171) above.

5. RESULTS :

(i) 450 lb./ac. (ii) 83.9 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of tobacco leaf in lb./ac.

Treatment	T_1	T_2
Av. yield	451	449

S.E./mean = 24.2 lb./ac.

Crop :- Tobacco *(Kharif)*. **Ref :- Ms. 58(159).**

Site :- Agri. Res. Stn., Nipani. **Type :- 'C'.**

Object :—To study the effect of shade grown and open grown seedlings on yield and quality of Bidi Tobacco.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Tobacco. (c) N.A. (ii) (a) Medium light soil. (b) Refer soil analysis, Nipani. (iii) 30.7.1958/30.8.1958. (iv) (a) Planting and harrowing. (b) Transplanting. (c) 1 oz./ac. (d) 4′×4′. (e) 1. (v) Nil. (vi) S—20. (vii) Unirrigated. (viii) Interculturing and desuckering. (ix) 28.77″. (x) 22.1.1959.

2. TREATMENTS :

Seedlings kept under : C_1=Shade and C_2=Open.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) 56′×8′. (b) 48′×8′. (v) One row. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Length and breadth of leaves and yield of tobacco. (iv) (a) N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 422 lb /ac. (ii) 41.8 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of tobacco leaf in lb./ac.

Treatment	C_1	C_2
Av. yield	426	416

S.E./mean = 12.1 lb /ac.

Crop :- Tobacco. **Ref :- Ms. 54(224).**

Site :- Agri. Res. Stn., Nipani. **Type :- 'C'.**

Object :—To study the effect of different transplanting dates on Cigarette Tobacco.

1. BASAL CONDITIONS :

(i) (a) Tobacco—Tobacco with G.M. of Sannhemp. (b) Tobacco. (c) N.A. (ii) (a) Medium light soil. (b) Refer soil analysis, Nipani. (iii) As per treatments. (iv) (a) Ploughing and harrowing. (b) Planting. (c) 1 oz./ac. (d) 2½′×2′. (e) N.A. (v) 5 C.L./ac. of F.Y.M. (vi) Harrison special. (vii) Unirrigated. (viii) Gap-filling, khurpening, interculturing, removal of lower leaves and desuckering. (ix) Nil. (x) Last week of July to 1st week of Feb., 1955.

2. TREATMENTS :

8 transplanting dates : D_1=27.8.1954, D_2=3.9.1954, D_3=10.9.1954, D_4=17.9.1954, D_5=24.9.1954, D_6=1.10.1954, D_7=8.10.1954 and D_8=15.10.1954.

Seeds sown one month prior to the planting dates in each case.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 36′×15′. (b) 32′×10′. (v) 2′×2½′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Cutworm and caterpillar damaged the crop to some extent. (iii) Length and breadth of leaves. Height and girth of plants and spangle rating. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 4574 lb./ac. (ii) 774.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of green tobacco leaf in lb./ac.

Treatment	D_1	D_2	D_3	D_4	D_5	D_6	D_7	D_8
Av. yield	4160	4229	4946	5157	5627	4269	3910	4294

S.E./mean = 387.3 lb./ac.

Crop :- Tobacco. **Ref :- Ms. 54(223).**

Site :- Agri. Res. Stn., Nipani. **Type :- 'CV'.**

Object :—To study the relative merits of improved farm method and farmers method of growing Bidi Tobacco.

1. BASAL CONDITIONS :

(i) (a) Tobacco after tobacco with G.M. of sannhemp. (b) Bidi tobacco. (c) N.A. (ii) (a) Medium light soil. (b) Refer soil analysis, Nipani. (iii) 10.7.1954. (iv) (a) 3 harrowings. (b) Planting. (c) 1 oz./ac. (d) As per treatments. (e) 1. (v) 5 C.L./ac. of F.Y.M. (vi) As per treatments. (vii) Unirrigated. (viii) Gap filling, khurpening, interculturing. Removal of lower leaves and desuckerings. (ix) N.A. (x) 1st week of Feb., 1955.

2. TREATMENTS :

T_1=Farm method : A=Improved strain—S—20, B=Early planting 12.8.1954, C=Spacing 42″×30″ and D=Nipping at 10 leaves.

T_2=Farmers method : A=Local variety, B=Late planting, 6.9.1954, C=Spacing 42″×42″ and D=Nipping at 12 leaves.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 11. (iv) (a) 24.5′×59.5′. (b) 1/47.45 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Fairly satisfactory. (ii) Cutworm and caterpillar damaged the crop to some extent. (iii) Lergth and breadth of leaves. Height and girth of plants and spangle rating. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Due to excessive rains the seedlings were damaged and hence transplanting was delayed. (vii) Nil.

5. RESULTS :

(i) 761 lb./ac. (ii) 48.8 lb./ac. (iii) Treatment effect is highly significant. (iv) Av. yield of tobacco (dry leaf) in lb./ac.

Treatment	T_1	T_2
Av. yield	826	697

S.E./mean = 14.7 lb./ac.

Crop :- Tobacco *(Kharif).* **Ref :- Ms. 55(208).**

Site :- Agri. Res. Stn., Nipani. **Type 'CM'.**

Object :—To evolve a suitable planting date, fertilizer dose and nipping for Bidi Tobacco.

1. BASAL CONDITIONS :

(i) (a) Tobacco after Tobacco. (b) Tobacco. (c) N.A. (ii) (a) Slighly alkaline soil. (b) Refer soil analysis, Nipani. (iii) As per treatments. (iv) (a) Ploughing, harrowing and green manuring. (b) Transplanting. (c) 3555 seedlings/ac. (d) 3½′×3½′. (e) One. (v) 5 C L./ac. of F.Y.M.+green manuring of sannhemp (vii) S—20. (vii) Unirrigated. (ix) Interculturing and removal of lower leaves. (ix) N.A. (x) Last week of January to first week of Feb. 1956.

2. TREATMENTS :

Main-plot treatments :

4 dates of planting : D_1=Ist week of August, D_2=3rd week of August, D_3=Ist week of September (No G.M.) and D_4=Ist week of September (with G.M.).

Sub-plot treatments :

All combinatives of (1) and (2)

(1) 2 levels of K_2O : K_0=0 and K_1=60 lb./ac.

(2) 3 levels of N : N_1=20, N_2=40 and N_3=60 lb./ac.

Sub-sub plot treatments :

Nipping of leaves : T_1=10, T_2=12 and T_3=14 leaves.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/replication; 6 sub-plots/main-plot and 3 sub-sub plots/sub-plot. (b) N.A. (iii) 3. (iv) (a) 14′×56′. (b) 7′×49′. (v) 3½′×3½′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height and girth of plant, length and breadth of leaves. (iv) (a) 1955—1959. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 691 lb./ac. (ii) (a) 334.1 lb./ac. (b) 142.6 lb./ac. (c) 67.8 lb./ac. (iii) Effect of D is significant and interaction N×K and effect of T are highly significant. Others are not significant. (iv) Av. yield of tobacco leaf in lb./ac.

	N_1	N_2	N_3	K_0	K_1	T_1	T_2	T_3	Mean
D_1	463	571	586	519	560	496	574	550	540
D_2	612	718	722	681	688	678	692	682	684
D_3	733	784	857	774	808	718	816	840	791
D_4	689	775	782	733	764	712	761	772	749
Mean	624	712	737	677	705	651	711	711	691
T_1	597	658	697	654	648				
T_2	614	748	771	691	731				
T_3	661	731	743	686	737				
K_0	611	702	717						
K_1	637	722	756						

S.E. of difference of two

1. D marginal means = 64.3 lb./ac.
2. N marginal means = 23.8 lb./ac.
3. K marginal means = 19.4 lb./ac.
4. T marginal means = 11.3 lb./ac.
5. N means at the same level of D = 47.5 lb /ac.
6. D means at the same level of N = 75.1 lb./ac.
7. K means at the same level of D = 38.8 lb./ac.
8. D means at the same level of K = 69.9 lb./ac.
9. T means at the same level of D = 22.6 lb./ac.
10. D means at the same level of T = 66.9 lb./ac.
11. T means at the same level of N = 19.6 lb./ac.
12. N means at the same level of T = 28.6 lb./ac.
13. T means at the same level of K = 16.0 lb./ac.
14. K means at the same level of T = 23.4 lb./ac.

S.E. of body of N×K table = 23.8 lb./ac.

Crop :- Tobacco. **Ref :- Ms. 56(168)**

Site :- Agri. Res. Stn., Nipani. **Type :- 'CM'.**

Object :—To evolve a suitable planting date, fertilizer dose and nipping for Bidi Tobacco.

1. BASAL CONDITIONS :

(i) (a) Tobacco after Tobacco with G.M. (b) Tobacco. (c) As per treatments. (ii) (a) Alkaline soil. (b) Refer soil analysis, Nipani. (iii) As per treatments. (iv) (a) Ploughing, harrowing and green manuring. (b) Planting seedlings. (c) 3555 seedlings/ac. (c) 3½′×3½′. (e) 1. (v) 5 C.L./a.c. of F.Y.M. (vi) S—20. (vii) Unirrigated. (viii) Interculturing, desuckering, topping and removal of lower leaves upto 6″. (ix) 13 11″. (x) Last week of Jan. and first week of Feb. 1957.

2. TREATMENT to 4. GENERAL.

Same as in expt no. 55 (208) on page 653.

5. RESULTS :

(i) 771 lb./ac. (ii) (a) 241.5 lb./ac. (b) 133.0 lb./ac. (c) 84.0 lb./ac. (iii) Effect of T and interaction N×K are highly significant. All other effects are not significant. (iv) Av. yield of tobacco leaf in lb./ac.

	N_1	N_2	N_3	K_0	K_1	T_1	T_2	T_3	Mean
D_1	632	782	841	754	750	713	752	791	752
D_2	684	753	794	772	715	716	731	785	744
D_3	709	787	836	793	762	731	776	825	777
D_4	744	803	892	813	813	764	801	874	813
Mean	692	781	841	783	760	731	765	819	771
T_1	662	740	790	743	719				
T_2	702	760	832	788	742				
T_4	713	843	900	818	819				
K_0	723	779	847						
K_1	662	783	834						

S.E. of difference of two

1. D marginal means = 46.5 lb./ac.
2. N marginal means = 22.2 lb./ac.
3. K marginal means = 18.1 lb./ac.
4. T marginal means = 14.0 lb./ac.
5. D means at the same level of N = 58 9 lb./ac.
6. N means at the same level of D = 44.3 lb./ac.
7. D means at the same level of K = 53.1 lb./ac.
8. K means at the same level of D = 36.2 lb./ac.
9. D means at the same level of T = 44.7 lb./ac.
10. T means at the same level of D = 44.3 lb./ac.
11. N means at the same level of T = 29.7 lb./ac.
12. T means at the same level of N = 24 2 lb./ac.
13. K means at the same level of T = 24.3 tb /ac.
14. T means at the same level of K = 19 8 lb./ac.

S.E. of body of N×K table = 22.2 lb./ac.

Crop :- Tobacco *(Kharif)*. **Ref :- Ms. 57(175).**

Site :- Agri. Res. Stn , Nipani. **Type :- 'CM'.**

Object :—To evolve a suitable planting date, fertilizer dose and nipping for Bidi Tobacco.

1. BASAL CONDITIONS :

(i) (a) Tobacco—Tobacco. (b) Tobacco. (c) As per treatments. (ii) (a) Slightly alkaline soil. (b) Refer soil analysis, Nipani. (iii) As per treatments. (iv) (a) Ploughing, harrowing and green manuring. (b) Planting seedlings. (c) 3555 seedlings/ac. (d) 3½′×3½′. (e) 1. (v) 5 C.L./ac. of F.Y.M.+green manuring of sannhemp. (vi) S—20. (vii) Unirrigated. (viii) Intercultur ng, hand stirring, weekiv desuckering topping the central bud at 12 leaves and removal of lower leaves upto 6″. (ix) 19.46″. (x) Last week of Jan., 1958 and first week of Feb., 1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(208) on page 653.

4. GENERAL :

(i) Satisfactory. (ii) Slight attack of insects. (iii) Length and breadth of leaves, height and girth of plant and spangle rating. (iv) (a) 1955—1959. (b) Yes. (c) Nil. (v) (a) and (b) Not known. (vi) and (vii) Nil.

5. RESULTS.:

(i) 928 lb./ac. (ii) (a) 219.7 lb./ac. (b) 131.9 lb./ac. (c) 89.0 lb./ac. (iii) Effect of T and interaction N×K are highly significant. Effect of D and interaction N×K×T are significant. Other effects are not significant. (iv) Av. yield of tobacco leaf in lb./ac.

	N_1	N_2	N_3	K_0	K_1	T_1	T_2	T_3	Mean
D_1	847	1007	1087	973	988	912	1002	1027	980
D_2	777	943	1012	914	907	834	915	974	911
D_3	759	835	857	808	826	760	845	847	817
D_4	966	1015	1029	961	1046	955	1009	1045	1003
Mean	838	950	996	914	942	868	943	973	928
T_1	785	896	923	850	886				
T_2	840	966	1023	930	956				
T_3	888	989	1042	963	983				
K_0	836	910	997						
K_1	840	990	995						

S.E. of difference of two

1. D marginal means = 42.3 lb./ac.
2. N marginal means = 22.0 lb./ac.
3. K marginal means = 17.9 lb./ac.
4. T marginal means = 14.8 lb./ac.
5. D means at the same level of N = 55.5 lb./ac.
6. N means at the same level of D = 44.0 lb./ac.
7. D means at the same level of K = 49.3 lb./ac.
8. K means at the same level of D = 35.9 lb./ac.
9. D means at the same level of T = 48.7 lb./ac.
10. T means at the same level of D = 29.7 lb./ac.
11. N means at the same level of T = 30.4 lb./ac.
12. T means at the same level of N = 74.5 lb./ac.
13. K means at the same level of T = 24.8 lb./ac.
14. T means at the same level of K = 21.0 lb./ac.

S.E. of body of N×K table = 22.0 lb./ac.

Crop :- Tobacco. **Ref :- Ms. 58(92).**

Site :- Agri. Res. Stn., Nipani. **Type :- 'CM'.**

Object :—To evolve a suitable planting date, fertilizer dose and nipping for Bidi Tobbaco.

1. BASAL CONDITIONS :

(i) (a) Tobacco—Tobacco. (b) Tobacco. (c) As per treatments. (ii) (a) Medium light soil. (b) Refer soil analysis, Nipani. (iii) As per treatments. (iv) (a) Ploughing and harrowing. (b) Planting. (c) N.A. (d) 3½′×3½′. (e) 1. (v) Nil. (vi) S—20. (vii) Unirrigated. (viii) Interculturing and hand stirring. (ix) 4.55″. (x) N.A.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(208) on page 653.

4. GENERAL :

(i) Satisfactory. (ii) and (iii) Nil. (iv) (a) 1958—1959. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 634 lb./ac. (ii) (a) 443.6 lb./ac. (b) 157.0 lb./ac. (c) 51.4 lb./ac. (iii) T effect is highly significant. Interaction D×N×K×T is significant. Other effect are not significant. (iv) Av. yield of tobacco leaf in lb./ac.

	N_1	N_2	N_3	K_0	K_1	T_1	T_2	T_3	Mean
D_1	691	727	787	707	762	685	749	771	735
D_2	455	481	546	504	484	465	521	496	494
D_3	617	605	633	638	599	609	613	633	618
D_3	725	684	652	684	690	636	696	730	687
Mean	622	624	655	633	634	599	645	657	634
T_1	596	592	609	606	591				
T_2	635	618	681	648	641				
T_3	635	663	674	645	670				
K_0	647	594	660						
K_1	597	655	650						

S.E. of difference of two

1. D marginal means = 85.4 lb./ac.
2. N marginal means = 26.2 lb./ac.
3. K marginal means = 21.4 lb./ac.
4. T marginal means = 8.6 lb./ac.
5. N means at the same level of D = 52.4 lb./ac.
6. D means at the same level of N = 95.4 lb./ac.
7. K means at the same level of D = 42.7 lb./ac.
8. D means at the same level of K = 90.5 lb./ac.
9. T means at the same level of D = 17.1 lb./ac.
10. D means at the same level of T = 86.5 lb./ac.
11. T means at the same level of N = 14.8 lb./ac.
12. N means at the same level of T = 28.8 lb./ac.
13. T means at the same level of K = 12.1 lb./ac.
14. K means at the same level of T = 23.5 lb./ac.

S.E. of body of N×K table = 26.2 lb./ac.

Crop :- Tobacco. **Ref :- Ms. 59(27).**

Site :- Agri. Res. Stn., Nipani. **Type :- 'CM'.**

Object :—To evolve a suitable planting date, fertilizer dose and nipping for Bidi Tobacco.

1. BASAL CONDITIONS :

(i) (a) Tobacco—Tobacco. (b) Tobacco. (c) As per treatments. (ii) (a) Slightly alkaline soil. (b) Refer soil analysis, Nipani. (iii) As per treatments. (iv) (a) Ploughing and harrowing. (b) Transplanting. (c) 3555 seedlings/ac. (d) 3½′×3½′. (e) 1. (v) 5 C.L./ac. F.Y.M.+G.M. of Sannhemp. (vi) S—20. (vii) Unirrigated. (viii) Interculturing, weekly desuckering and removal of lower leaves. (ix) 19.35″. (x) Last week of Jan. to first week of Feb.

2. TREATMENTS and 3. DESIGN :

Same as in ext. no. 55 (208) on page 653.

4, GENERAL :

(i) Fair. (ii) Slight attack of aphids and controlled by Folidol. (iii) Length and breadth of leaves, height and girth of plant. (iv) (a) 1955—1959. (b) Yes, except in 1956—1957. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 690 lb./ac. (ii) (a) 279.3 lb./ac. (b) 105.7 lb./ac. (c) 84.0 lb./ac. (iii) Effect of T and interaction N×K are highly significant. Other effects are not significant. (iv) Av. yield of tobacco leaf in lb./ac.

	N_1	N_2	N_3	K_0	K_1	T_1	T_2	T_3	Mean
D_1	531	671	731	641	648	609	643	681	644
D_2	547	697	801	668	695	644	686	715	681
D_3	577	644	679	613	653	616	614	670	633
D_4	731	798	880	813	790	734	787	887	804
Mean	596	703	773	684	696	650	683	638	690
T_1	556	660	736	656	645				
T_2	574	706	769	677	688				
T_3	660	741	813	721	755				
K_0	587	690	776						
K_1	606	715	769						

S.E. of difference of two

1. D marginal means = 53.7 lb./ac.
2. N marginal means = 17.6 lb./ac.
3. K marginal means = 14.4 lb./ac.
4. T marginal means = 14.0 lb./ac.
5. N means at the same level of D = 35.2 lb./ac.
6. D means at the same level of N = 61.0 lb./ac.
7. K means at the same level of D = 28.8 lb./ac.
8. D means at the same level of K = 57.5 lb./ac.
9. T means at the same level of D = 28.0 lb /ac.
10. D means at the same level of T = 58.1 lb./ac.
11. T means at the same level of N = 24.2 lb./ac.
12. N means at the same level of T = 26.5 lb./ac.
13. T means at the same level of K = 19.8 lb./ac.
14. K means at the same level of T = 21.7 lb./ac.

S.E. of body of N×K table = 17.6 lb./ac.

Crop :- Tobacco. **Ref : Ms. 54(225).**

Site :- Agri. Res. Stn., Nipani. **Type : 'CM'.**

Object :—To study the effect of fertilizer and topping on the yield of Cigarette Tobacco.

1. BASAL CONDITIONS :

(i) (a) Tobacco and G.M. of Sannhemp. (b) Tobacco. (c) N.A. (ii) (a) Medium light soil. (b) Refer soil analysis, Nipani. (iii) 27.8.1954/13.9.1954. (iv) (a) Ploughing and harrowing: (b) Planting. (c) 1 oz./ac. (d) 2½′×2′. (e) N.A. (v) 5 C.L./ac. of F.Y.M. (v) Harrison special. (vii) Unirrigated. (viii) Gap-filling, khurpening and desuckering. (ix) N.A. (x) Last week of Jan. 1955.

2. TREATMENTS :

main-plot treatments :

4 doses of N as : N_0=0, N_1=10, N_2=20 and N_3=30 lb./ac.

Sub-plot treatment :

2 cultural practices : C_0=No topping and C_1=Topping.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/replication. 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) Main-plot 25′×52′, sub-plot 25′×26′. (b) Sub-plot 20′×24′. (v) 1 row on one side and 1′ on the other side. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Length and breadth of leaves. Height and girth of plants and spangle rating. (iv) (a) and (b) No. (b) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 4311 lb./ac. (ii) (a) 334.1 lb./ac. (b) 260.8 lb./ac. (iii) Only N effect is significant. (iv) Av. yield of tobacco leaf in lb./ac.

	N_0	N_1	N_2	N_3	Mean
C_0	4242	4045	4497	4295	4270
C_1	4122	4278	4734	4272	4351
Mean	4182	4166	4615	4283	4311

S.E. of difference of two

1. N marginal means = 136.4 lb./ac.
2. C marginal means = 75.2 lb./ac.
3. C means at the same level of N = 150.6 lb./ac.
4. N means at the same level of C = 173.0 lb./ac.

Crop :- Tobacco. **Ref :- Ms. 56(166).**

Site :- Agri. Res. Stn., Nipani. **Type :- 'CM'.**

Object :—To sudy the effect of planting dates, manuring and topping on Cigarette Tobacco.

1. BASAL CONDITIONS :

(i) (a) Tobacco after tobacco with G.M. of sannhemp. (b) Tobacco. (c) N.A. (ii) (a) Medium light soil. (b) Refer soil analysis, Nipani. (iii) As per treatments. (iv) (a) Ploughing and harrowing. (b) Planting. (c) 1 oz./ac. (d) $2\frac{1}{2}' \times 2'$. (e) N.A. (v) 5 C.L./ac. of F.Y.M. (vi) Harrison special. (vii) Unirrigated. (viii) Gap-filling, khurpening and interculturing. Removal of lower leaves and desuckering. (ix) N.A. (x) 12.2.1957.

2. TREATMENTS :

Main-plot treatments :

3 sowing dates : D_1=1st week of Aug., D_2=2nd week of Aug. and D_3=1st week of Sept. 1956.

Sub-plot treatments :

6 manurial treatments : M_0=0; M_1=10 lb./ac. of N, M_2=20 lb./ac. of N, M_3=60 lb./ac. of K_2O, M_4= M_1+M_3 and $M_5=M_2+M_3$.

Sub-sub-plot treatments :

2 cultural practices : C_1=Topping and C_2=No topping.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication, 6 sub-plots/main-plot and 2 sub-sub-plots/sub-plot. (b) N.A. (iii) 3. (iv) Main-plot $132' \times 60'$, sub-plot $44' \times 30'$ and sub-sub-plot $22' \times 30'$. (b) Nil. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Length and breadth of leaves. Height and girth of plant and spangle rating. (iv) (a) and (b) No. (c) Nil. (v) (a) aud (b) Not known. (vi) Nil. (vii) As there was some defect in the layout the results were not statistically analysed. Only yield of leaves is given.

5. RESULTS :

(i) 2528 lb./ac. (ii) and (iii) N.A. (iv) Av. yield of tobacco leaves in lb./ac.

	M_0	M_1	M_2	M_3	M_4	M_5	Mean	C_1	C_2
D_1	2138	1673	2048	2138	1482	1752	1872	1870	1874
D_2	1652	1940	2408	1881	2240	2355	2079	2074	2084
D_3	3197	3148	3958	3424	3528	4547	3634	3750	3517
Mean	2329	2254	2805	2481	2417	2885	2528	2565	2492
C_1	2339	2166	2955	2498	2427	3002			
C_2	2319	2341	2654	2464	2406	2767			

S.E.'s = N.A.

Crop :- Tobacco *(Kharif).* **Ref :- Ms. 57(174).**

Site :- Agri. Res. Stn., Nipani. **Type :- 'CM'.**

Object :—To study the effect of earthing,fertilizers and the time of their application on the Bidi Tobocco.

1. BASAL CONDITIONS :

(i) (a) Tobacco and G.M. of sannhemp. (b) Tobacco. (c) N.A. (ii) (a) Medium light soil. (b) Refer soil analysis, Nipani. (iii) 28.8.1957. (iv) (a) Ploughing and harrowing. (b) Planting. (c) 1 oz./ac. (d) $3\frac{1}{2}' \times 3\frac{1}{2}'$. (e)—. (v) 5 C.L./ac. of F.Y.M. (vi) S—20. (vii) Unirrigated. (viii) Gap-filling, khurpening, interculturing, removing of lower leaves and desuckering. (ix) 28.33". (x) Last week of January, 1958.

2. TREATMENTS :

Main-plot treatments :

2 cultural practices : C_0=No earthing and C_1=Earthing.

Sub-plot treatments :

All combinations of (1) and (2)

(1) 3 sources of 40 lb./ac. of N : S_1=Cake, S_2=A/S and $S_3=\frac{1}{2}$ cake+$\frac{1}{2}$ A/S.

(2) 2 doses of K_2O : K_0=0 and K_1=60 lb./ac.

Sub-sub-plot treatments :

2 times of application : T_1=Entire 3 weeks after planting and $T_2=\frac{1}{2}$ at 3 weeks+$\frac{1}{2}$ at 8 weeks after planting.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication ; 6 sub-plots/main-plot and 2 sub-sub-plots/sub-plot. (b) N.A. (iii) 3. (iv) (a) Main-plot : 84'×84', Sub-plot : 84'×14' and Sub-sub-plot : 42'×14' (b) N.A. (v) 1 row alround. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Cutworms appeared and frequent gap-filling was resorted to as a precautionary measure. Aldrin powder was used. Aphids were controlled by folidol. Length and breadth of leaves Height and girth of plants and spangle rating. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii)—

5. RESULTS :

(i) 608 lb./ac. (ii) (a) 101.5 lb./ac. (b) 65.3 lb./ac. (c) 42.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of tobacco leaf in lb./ac.

	S_1	S_1	S_3	K_0	K_1	T_1	T_2	Mean
C_0	644	632	638	621	656	643	634	638
C_1	544	574	614	586	568	572	582	577
Mean	594	603	626	604	612	607	608	608
T_1	608	584	629	611	603			
T_2	579	622	624	596	621			
K_0	601	592	618					
K_1	587	614	634					

S.E. of difference of two

1. C marginal means = 23.9 lb./ac.
2. S marginal means = 18.9 lb./ac.
3. K marginal means = 15.4 lb./ac.
4. T marginal means = 10.0 lb./ac.
5. S means at the same level of C = 26.7 lb./ac.
6. C means at the same level of S = 32.4 lb./ac.
7. K means at the same level of C = 21.8 lb./ac.
8. C means at the same level of K = 28.5 lb./ac.
9. T means at the same level of C = 14.2 lb./ac.
10. C means at the same level of T = 25.9 lb./ac.
11. T means at the same level of S = 17.4 lb./ac.
12. S means at the same level of T = 22.5 lb./ac.
13. T means at the same level of K = 14.2 lb./ac.
14. K means at the same level of T = 18.4 lb./ac.

S.E. of body of table S×K = 26.7 lb /ac.

———

Crop :- Tobacco *(Kharif)*. **Ref :- Ms. 59(19).**

Site :- Agri. Res. Stn., Nipani. **Type :- 'D'.**

Object :—To find the best chemical and dose of concentration for the control of aphids on Bidi Tobacco.

1. BASAL CONDITIONS :

(i) (a) Tobacco after tobacco with G.M. (b) Tobacco. (c) N.A. (ii) (a) Medium light soil. (b) Refer soil analysis, Nipani. (iii) 13.7.1959. (iv) (a) Ploughing and harrowing. (b) Transplanting. (c) 1 oz./ac. (d) $3\frac{1}{2}' \times 3\frac{1}{2}'$. (e) 1. (v) 5 C.L./ac. of F.Y.M. (vi) S—20. (vii) Unirrigated. (viii) Interculturing and removal of lower leaves. (ix) 49.88". (x) 18.1.1960.

2. TREATMENTS :

T_1=Parncer 50 E.C. 1/9 oz. in 5 gallons, T_2=Folidol 1/6 oz. in 4 gallons, T_3=Basudin 20 E.C./oz. in 5 gallons, T_4=Basudin 20 E.C./1 oz. in 4 gallons, T_5=Folidol 1/8 oz. in 4 gallons and T_6=Parmer 50 E.C. 1/6 oz. in 4 gallons.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 2. (iv) (a) and (b) $77\frac{1}{2}' \times 10\frac{1}{2}'$. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) One leaf from one heavily infected plant from each treatment is selected for observation. On the dorsal (back side) portion of the same leaf a wire ring is prepared and the no. of dead and living insects within the wire ring is noted. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 89.03 %. (ii) 12.63 %. (iii) Treatment differences are not significant. (iv) Mean % of dead hearts.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6
Av. yield	90.75	92.32	84.98	92.00	79.27	94.88

S.E./mean = 8.93%.

Crop :- Tobacco. **Ref :- Ms. 59(17).**

Site :- Agri. Res. Stn., Nipani. **Type :- 'D'.**

Object :—To study the effect of B.H.C. and Aldrex against cutworms aud caterpillars affecting Bidi. Tobacco.

1: BASAL CONDITIONS :

(i) (a) Tobacco with G.M. (b) Tobacco. (c) N A. (ii) (a) Medium deep soil (b) Refer soil analysis, Nipani. (iii) 8.7.1959./23.8.1959. (iv) (a) Ploughing and harrowing. (b) Transplanting. (c) 3555 seedlings/ ac. (d) $3\frac{1}{2}' \times 3\frac{1}{2}'$. (e) 1. (v) 5 C.L./ac. of F.Y.M. (vi) S—20. (vii) Unirrigated. (viii) Interculturing and stirring. (ix) 49.88". (x) 27.1.1960.

2. TREATMENTS :

1. Aldrex 30% (liquid)—One oz. in 5 gallons of water.
2. Aldrex 40% (powder)—One tola in 2 gallons of water.
3. Aldrex dust 5%—20 lb./ac.
4. B.H C. 50% (wetable)—1 oz./20 plants.
5. B.H.C. 10% dust—1 oz./ 20 plants
6. Hepptachlor 3% dust—15 lb./ac.
7. Jupptachlor 20% E.C. (liquid)—One oz in 4 gallons of water.
8. No application but hand collection.
9. No application and no hand collection

Insecticides were applied after the transplanting on the plants and around the plants.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 3. (iv) (a) 35'×7'. (b) 28'×7'. (v) 1 row either side. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) As per treatments. (iii) No. of insects/plot. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 905 insects./ac. (ii) 453 insects./ac. (iii) Treatment differences are not significant. (iv) Av. no. of insects/ac.

Treatment	1	2	3	4	5	6	7	8	9
Av. no.	1333	815	593	148	1185	1111	741	963	1259

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 55(225).**

Site :- Agri. Res. Stn., Annigiri. **Type :- 'M'.**

Object :—To find the optimum combination of N, P and K for Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Saflower. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Deep black soil. (b) Refer soil analysis, Annigiri. (iii) 25.7.1955. (iv) (a) Harrowing. (b) Dibbling. (c) 60 lb./ac. (d) 12″×6″. (e) N.A. (v) Nil. (vi) Spanish improved (early). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 17.57″. (x) 14 and 15.11.1955.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 levels of N as A/S : N_0=0, N_1=10 and N_2=20 lb./ac.
(2) 3 levels of P_2O_5 as Super : P_0=0, P_1=50 and P_2=100 lb./ac.
(3) 3 levels of K_2O as Mur. Pot. : K_0=0, K_1=100 and K_2=200 lb./ac.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block, 3 blocks/replication. (b) N.A. (iii) 2. (iv) (a) 21′×36′. (b) 15′×30′. (v) 3′ on all sides. (vi) Yes.

4. GENERAL :

(i) The crop growth was much affected by the lack of moisture during the period of growth. (ii) Tikka disease was observed—No control measures were taken. (iii) Weight of pods. (iv) (a) 1955—957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1178 lb./ac. (ii) 97.8 lb./ac. (iii) The main effect of P alone is highly significant. (iv) Av. yield of pod in lb./ac.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	1089	1202	1161	1151	1186	1170	1097
N_1	1129	1250	1210	1196	1202	1178	1210
N_2	1073	1210	1275	1186	1178	1154	1226
Mean	1097	1221	1215	1178	1189	1167	1178
K_0	1129	1218	1218				
K_1	1073	1170	1258				
K_2	1089	1275	1170				

S.E. of any marginal mean = 23.1 lb./ac.
S.E. of body of any table = 39.9 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 56(210).**

Site :- Agri. Res. Stn., Annigiri. **Type :- 'M'.**

Object :—To find the optimum combination of N, P and K for Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Deep black soil. (b) Refer soil analysis, Bijapur. (iii) 28.6.1956. (iv) (a) Harrowing. (b) Dibbling. (c) 60 lb./ac. (d) 12″×6″. (e) N.A. (v) Nil. (vi) Spanish improved (early). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 19.11″. (x) 20.10.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(225) on page 662.

4. GENERAL:

(i) Fair. (ii) Nil. (iii) Weight of pods. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) As the lay out was faulty the experiment is analysed as an unconfonded factorial design.

5. RESULTS :

(i) 1980 lb./ac. (ii) 146.2 lb./ac. (iii) The main effect of N, the interactions N×P×K and P×K are highly significant while the main effect of P is significant. Other effects are not significant. (iv) Av. yield of pods in lb./ac.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	1891	1964	1780	1878	1880	1928	1827
N_1	2013	2050	2014	2026	2018	2068	1992
N_2	2031	2123	1949	2034	2034	2025	2043
Mean	1978	2046	1914	1979	1977	2007	1954
K_0	2015	1911	2006				
K_1	2007	2061	1953				
K_2	1913	2166	1783				

S.E. of any marginal mean = 34.5 lb./ac.
S.E. of body of any table = 59.7 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 57(235).**

Site :- Agri. Res. Stn., Annigiri. **Type :- 'M'.**

Object :—To find the optimum combination of N, P and K for Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Deep black soil. (b) Refer soil analysis, Annigiri. (iii) N.A. (iv) (a) Harrowing. (b) Dibbling. (c) 60 lb./ac. (d) 12″×6″. (e) N.A. (v) Nil. (vi) Spanish improved (early). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 18.68″. (x) N.A.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(225) on page 662.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Weight of pods. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2319 lb./ac. (ii) 135.5 lb./ac. (iii) Main effect of P is highly significant. Main effect of K, and interactions P×K and N×P×K (unconfounded effect) are significant. (iv) Av. yield of pod in lb./ac.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	2170	2345	2353	2289	2353	2248	2267
N_1	2307	2248	2400	2318	2450	2277	2228
N_2	2168	2355	2525	2349	2406	2367	2275
Mean	2215	2316	2426	2319	2403	2297	2257
K_0	2311	2369	2529				
K_1	2295	2252	2345				
K_2	2039	2327	2404				

S.E. of any marginal mean = 31.9 lb./ac.
S.E. of body of any table = 55.3 lb./ac.

Crop :- Groundnut. **Ref :- Ms. 54(168).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'M'.**

Object :—To find out the effect of trace elements on yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar.* (c) 4 C.L./ac. of F.Y.M. (ii) (a) Light soil. (b) N.A. (iii) 3.7.1954. (iv) (a) One ploughing and 2 harrowings. (b) Drilling. (c) 80 lb./ac. (d) Rows 12" apart. (e) 1. (v) 4 C.L./ac. of F.Y.M. broadcasted at the time of preparatory tillage. (vi) Spanish improved (early). (vii) Unirrigated. (viii) Two interculturings and one weeding. (iz) 16.85". (x) 6.10.1954.

2. TREATMENTS :

4 trace element treatments : T_0=Control (No trace element), T_1=4 lb./ac. of Boron, T_2=3 lb./ac. of Boron +6 lb./ac. of Manganese and T_3=6 lb./ac. of Manganese.
Trace elements broadcasted at the time of sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 2. (iv) (a) 100'×13.5'. (b) 96'×10.5'. (v) 2'×1.5'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Pod yield. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 698 lb./ac. (ii) 63.2 lb./ac. (iii) The treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	T_0	T_1	T_2	T_3
Av. yield	687	756	661	689

S.E./mean = 44.7 lb./ac.

Crop :- Groundnut *(Kharif).* **Ref :- Ms. 56(141).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'M'.**

Object :—To find the best combination of N, P and K for Groundnut crop.

1. BASAL CONDITIONS :

(i) (a) *Jowar* – Groundnut. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) N.A. (iii) 3.7.1956. (iv) (a) Ploughing, harrowing and spreading of manure. (b) Drilling. (c) 80 to 100 lb./ac. (d) 12″ between rows. (e) 1. (v) 4 C L./ac. of F.Y.M. (vi) Spanish improved (early). (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 21.5″. (x) 20.10.1956.

2. TREATMENTS :

Same as in expt. no. 55(225) on page 662.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) 189′×108′. (iii) 2. (iv) (a) 21′×36′. (b) 15′×30′. (v) 3′ on all sides. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of wet pods. (iv) (a) 1956–1959. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1106 lb./ac. (ii) 70.9 lb./ac. (iii) Interaction P×K is significant, while all the other effects are highly significant. (iv) Av. yield of wet pod in lb./ac.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	935	1133	1080	1049	974	1066	1108
N_1	1085	10⁻6	1205	1122	1035	1124	1207
N_2	1059	1090	1293	1147	1168	1027	1246
Mean	1026	1100	1193	1106	1059	1072	1187
K_0	901	1125	1150				
K_1	1022	1046	1149				
K_2	1156	1128	1278				

S.E. of any marginal mean = 16.7 lb./ac.

S.E. of body of any table = 28.9 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 57(127).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'M'.**

Object :—To find out the best combination of N, P and K for Groundnut crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 3 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) N.A. (iii) 18, 19.6.1957. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 80 lb./ac. (d) 12″ between rows. (e) 1. (v) 5 C.L./ac. of F.Y.M. (vi) Spanish improved (early). (vii) Unirrigated. (viii) Interculturing. (ix) 15″. (x) 10.10.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(141) on page 664.

5. RESULTS :

(i) 624 lb./ac. (ii) 124.7 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of wet pod in lb./ac.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	581	516	704	600	523	673	605
N_1	626	561	588	592	500	599	616
N_2	633	731	676	680	683	703	654
Mean	613	603	656	624	588	658	625
K_0	609	605	551				
K_1	633	582	759				
K_2	598	621	657				

S.E. of any marginal mean = 29.4 lb./ac.

S.E. of body of any table = 50.9 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 58(94).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'M'.**

Object :—To find out the optimum combination of N, P and K for Groundnut crop.

1. BASAL CONDITIONS :

(i) (a) Nil (b) Gram. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Red soil. (b) N.A. (iii) 26.6.1958. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 80 lb./ac. (d) 12″×6″ to 8″. (e) N.A. (v) 5 C.L./ac. of F.Y.M. (vi) Spanish improved (early). (vii) Unirrigated. (viii) 2 interculturings and 1 weeding. (ix) Nil. (x) 25.9.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(141) on page 664.

4. GENERAL :

(i) Normal. (ii) There was an attack of *tikka* on the crop. (iii) Height and spread of plants no. of well set sterile pods and yield of pods. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 503 lb./ac. (ii) 107.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of pod in lb./ac.

	N_0	N_1	N_2	Mean	K_0	K_1	K_2
P_0	479	504	468	484	459	514	478
P_1	513	504	532	516	512	481	556
P_2	503	482	539	508	490	500	534
Mean	498	497	513	503	487	498	523
K_0	481	483	497				
K_1	510	488	496				
K_2	504	518	546				

S.E. of any marginal mean = 25.3 lb./ac.

S.E. of body of any table = 43.8 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 59(39).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'M'.**

Object :—To find out the optimum combination of N, P and K for Groundnut crop.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Groundnut. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) N.A. (iii) 15.7.1959. (iv) (a) Ploughing, spreading manure and harrowing. (b) Drilling. (c) 80 to 100 lb./ac. (d) 12" between rows. (e) 1. (v) 4 C.L./ac. of F.Y.M. (vi) Spanish improved (early). (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 26.5". (x) 27.10.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(141) on page 664.

5. RESULTS :

(i) 502 lb./ac. (ii) 103 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	479	513	503	498	481	510	503
N_1	503	503	482	496	482	488	518
N_2	468	532	539	513	497	496	546
Mean	483	516	508	502	487	498	522
K_0	459	512	490				
K_1	514	480	500				
K_2	476	556	534				

S.E. of any marginal mean = 24.3 lb./ac.

S.E. of body of any table = 42.0 lb./ac.

Crop :- Groundnut. **Ref :- Ms. 57(180).**

Site :- Soil Cons. Res. Centre, Bellary. **Type :- 'M'.**

Object :—To study the effect of trace elements on Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) Black cotton soil. (b) N.A. (iii) 15.7.1957. (iv) (a) 2 harrowings. (b) Drilling. (c) 60 lb./ac. (d) 12" between rows. (e) N.A. (v) Nil. (vi) TMV—2 (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 13.7". (x) 27.11.1957.

2. TREATMENTS :

9 trace element treatments : T_0=Control (no trace element), T_1=224 lb./ac. of Mg as $MgSO_4$. T_2=100 lb./ac. of Fe as $FeSO_4$, T_3=80 lb./ac. of Mn as $MnSO_4$, T_4=20 lb./ac. of Zn as $ZnSO_4$, T_5=20 lb./ac. of Cu as $CuSO_4$, T_6=10 lb./ac. of Borax, T_7=20 lb./ac. of M_0 as Am. molybdate and T_8=40 lb./ac. of K_2O as K_2SO_4.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 20'×22'. (b) 16'×16'. (v) 2'×3'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of pods. (iv) (a) 1957—1958. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 397 lb./ac. (ii) (a) 63.3 lb./ac. (b) Nil. (iii) Treatment differences are significant. (iv) Av. yield of pod in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8
Av. yield	348	375	417	457	308	406	468	393	404

S.E./mean = 31.7 lb./ac.

Crop :- Groundnut. **Ref :- Ms. 58(172).**

Site :- Soil Cons. Res. Centre, Bellary. **Type :- 'M'.**

Object :—To study the effect of trace elements on Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) As per treatments. (ii) (a) Black cotton soil. (b) N.A. (iii) 9.7.1958. (iv) (a) 2 harrowings. (b) Drilling. (c) 60 lb./ac. (d) 12" between rows. (e) N.A. (v) Nil. (vi) TMV—2. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 15·1". (x) 27.11.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57 (180) on page 667.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Yield of pods. (iv) (a) 1957—1958. (b) Yes. (c) Nil. (v) and (vi) Nil. (vii) Reasons for low yield N.A.

5, RESULTS :

(i) 60 lb./ac. (ii) (a) 14.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8
Av. yield	56	55	61	56	61	66	51	63	66

S.E./mean = 6.98 lb.ac.

Crop :- Groundnut *(Kharif).* **Ref :- Ms. 58(183).**

Site :- Soil Cons. Res. Centre, Bellary. **Type :- 'M'.**

Object :—To find out the effect of foliar spray of trace elements on Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Black cotton soil. (b) N.A. (iii) 9.7.1958. (iv) (a) 2 light harrowings. (b) Drilling. (c) 60 lb./ac. (d) 12" between rows. (e) —. (v) 32 lb./ac. of A/S+64 lb./ac. of Super. (vi) TMV—2. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 13.5". (x) 4.11.1958.

2. TREATMENTS :

1. Control (no spray).
2. Standard (i.e. application of all elements Mg, Fe, Mn, Zn, Cu, B and Mo).
3. Standard except Mg.
4. Standard except Fe.
5. Standard except Mn.
6. Standard except Zn
7. Standard except Cu
8. Standard except B.
9. Standard except Mo.

Trace element treatments given as spray. Quantities N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 22'×10'. (b) 20'×8'. (v) 1 'on all sides. (vi) Yes.

4. GENERAL ;

(i) Not satisfactory. (ii) Nil. (iii) Yield of pods. (iv) (a) and (b) No. (c) Nil. (v) and (vi) Nil. (vii) Reasons for low yield N.A.

5. RESULTS :

(i) 16 lb./ac. (ii) 7.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	1	2	3	4	5	6	7	8	9
Av. yield	13	17	15	17	11	15	19	19	19

S.E./mean = 3.8 lb./ac.

Crop :- Groundnut. **Ref :- Ms. 57(190).**

Site :- Soil Cons. Res. Centre, Bellary. **Type :- 'M'.**

Object :—To find out the effect of minor elements on Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Black cotton soil. (b) N.A. (iii) 15.7.1957. (iv) (a) 2 light harrowings. (b) Drilling. (c) 60 lb./ac. (d) 12" between rows. (e) —. (vi) 20 lb./ac. of N+40 lb./ac. of P_2O_5 (sources N.A.). (vi) TMV—2. (vii) Unirrigated. (viii) Interculturing. (ix) 14.6". (x) 25.11.1957.

2. TREATMENTS :

9 minor element treatments : T_0=Control (no treatment), T_1=224 lb./ac. of Mg as $MgSO_4$, T_2=100 lb./ac. of Fe as $FeSO_4$, T_3=80 lb./ac. of Mn as $MnSO_4$, T_4=20 lb./ac. of Zn as $ZnSO_4$, T_5=20 lb./ac. of Cu as $CuSO_4$, T_6= 10 lb./ac of Borax, T_7=20 ozs./ac. of Mo as Ammo. molybdate and T_8=40 lb./ac. of K_2O as Pot. Sul.

3. DESIGN :

(i) R.B D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 23'×23'. (b) 21'×21'. (v) 1' alround. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Yield of pods. (iv) (a) 1957—1958 (residual). (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1546 lb./ac. (ii) 256.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8
Av. yield	1482	1469	1445	1729	1864	1642	1494	1333	1457

S.E./mean = 128.3 lb./ac.

Crop :- Groundnut *(Khairf)*. **Ref :- Ms. 58(180).**

Site :- Soil Cons. Res. Centre. **Type :- 'M'.**

Object :—To find out the residual effect of minor elements on Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 20 lb./ac. of N+40 lb./ac. of P_2O_5+Minor elements as per treatments. (ii) (a) Black cotton soil. (b) N.A. (iii) 9.7 1958. (iv) 2 light harrowings. (b) Drilling. (c) 60 lb./ac. (d) 12". (e) N.A. (v) 32 lb./ac. of A/S+64 lb./ac. of Super. (vi) TMV—2. (viii) Unirrigated. (viii) Inter-cultivation. (ix) 15.0". (x) 4.11.1958.

2. TREATMENTS :

Same as in expt. no. 57(190) above.
Treatments were given to the preceding groundnut crop only.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 23′×23′. (b) 21′×21′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield data. (iv) (a) 1957 to 1958. In 1958 residual effect studied. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 176 lb /ac. (ii) 43.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8
Av. yield	170	188	188	170	151	226	170	170	151

S.E./mean = 21.6 lb./ac.

Crop :- Groundnut *(Kharif).* **Ref :- Ms. 56(173).**

Site :- Soil Cons. Res. Centre, Bellary. **Type :- 'M'.**

Object :—To find out the effect of different levels of N and P on Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Black cotton soil. (b) N.A. (iii) 29.6.1956. (iv) (a) Harrowing. (b) Drilling. (c) 60 lb./ac. (d) 12″ between rows. (e) —. (v) 90 lb./ac. of Super+72 lb./ac. of A/S. (vi) TMV—2. (viii) Interculturing. (ix) 17.6″. (x) 16.11.1956.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of N : N_0=0 and N_1=20 lb./ac.

(2) 3 levels of P_2O_5 : P_0=0, P_1=20 and P_2=40 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 69′×22′. (b) 56′×18′. (v) 6½′×2′ left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of pods. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 513 lb./ac. (ii) 68.4 lb./ac. (iii) The main effect of N alone is significant. (iv) Av. yield of pod in lb./ac.

	P_0	P_1	P_2	Mean
N_0	412	458	561	477
N_1	543	555	550	549
Mean	477	506	556	513

S.E. of N marginal mean = 19.7 lb./ac.
S.E. of P marginal mean = 24.2 lb./ac.
S.E. of body of the table = 34.2 lb./ac.

Crop :- Groundnut. **Ref :- Ms. 57(181).**

Site :- Soil Conservation Res. Centre, Bellary. **Type :- 'M'.**

Object :—To find out the effect of different levels of N and P on Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut (c) N.A. (ii) (a) Black cotton soil. (b) N.A. (iii) 16.7.1957. (iv) (a) 2 harrowings. (b) Drilling. (c) 60 lb./ac. (d) 12" between rows. (e) —. (v) Nil. (vi) TMV—2. (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 13.7". (x) 24, 25.11.1957.

2. TREATMENTS :

All combinations of (1) and (2)
(1) 3 levels of N : N_0=0, N_1=20 and N_2=40 lb./ac.
(2) 4 levels of P_2O_5 : P_0=0, P_1=20, P_2=40 and P_3=100 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 3. (iv) (a) 126'×7'. (b) 124'×5'. (v) 1' around. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of pods. (iv) (a) 1957 to 1958. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 269 lb./ac. (ii) 36.5 lb./ac. (iii) Main effect of N alone is highly significant. (iv) Av. yield of pod in lb./ac.

	P_0	P_1	P_2	P_3	Mean
N_0	198	216	222	252	222
N_1	275	267	283	307	283
N_2	304	295	290	316	301
Mean	259	259	265	292	269

S.E. of N marginal mean = 10.5 lb./ac.
S.E. of P marginal mean = 12.2 lb./ac.
S.E. of body of the table = 21.1 lb./ac.

———

Crop :- Groundnut. **Ref :- Ms. 58(173).**

Site :- Soil Cons. Res. Centre. Bellary. **Type :- 'M'.**

Object :—To find out the effect of different levels of N and P on Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) As per treatments. (ii) (a) Black cotton soil. (b) N.A. (iii) 9.7.1958. (iv) (a) Harrowing. (b) Drilling. (c) 60 lb./ac. (d) 12" between rows. (e) —. (v) Nil. (vi) TMV—2. (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 15.1". (x) 1.11.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57 (181) on page 670.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Yield of pods. (iv) (a) 1957 and 1958. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 23.3 lb./ac. (ii) 8.4 lb./ac. (iii) Main effect of N alone is significant. (iv) Av. yield of pod in lb./ac.

	P_0	P_1	P_2	P_3	Mean
N_0	13.6	15.0	16.7	22.5	17.0
N_1	18.2	22.8	36.3	28.8	26.5
N_2	30.0	34.6	17.9	22.8	26.3
Mean	20.6	24.1	23.6	24.7	23.3

S.E. of N marginal mean = 2.4 lb./ac.
S.E. of P marginal mean = 2.8 lb./ac.
S.E. of body of the table = 4.8 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 58(87).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To find out the effect of different methods of application of A/S on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Safflower. (c) Nil. (ii) (a) Black soil. (b) Refer soil analysis, Bijapur. (iii) 10.7.1958. (iv) (a) N.A. (b) Dibbling. (c) 100 lb./ac. (d) 12" between rows. (e) N.A. (v) 5 C.L./ac. of F.Y.M. before sowing. (vi) Spanish improved (early). (vii) Unirrigated. (viii) 4 interculturings and 1 weeding. (ix) 7.82". (x) 27.11.1958.

2. TREATMENTS :

3 times of application of 124 lb./ac. of A/S : T_0=Control (No A/S), T_1=Half the dose at sowing and half one month later and T_2=Full dose at sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 12. (iv) (a) 8'×30'. (b) 6'×24'. (v) 1'×3' left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of pods. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 724 lb./ac. (ii) 133.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

Treatment	T_0	T_1	T_2
Av. yield	570	791	811

S.E./mean = 38.7 lb./ac.

Crop :- Groundnut. **Ref :- Ms. 59(215).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To study the effect of different methods of application of A/S on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) N.A. (ii) (a) Loamy soil. (b) N.A. (iii) 26.7.1959. (iv) (a) Ploughing. (b) Drilling. (c) 100 lb./ac. (d) 15" between rows. (e)—. (v) N.A. (vi) Spanish improved (early). (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 11.07". (x) 6.12.1959.

2. TREATMENTS :

Same as in expt. no. 58(87) above.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 12. (iv) (a) N.A. (b) 1/302 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Slightly attacked by aphids. (iii) Yield of pods. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 637 lb./ac. (ii) 75.6 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

Treatment	T_0	T_1	T_2
Av. yield	559	674	677

S.E./mean = 21.8 lb./ac.

Crop :- Groundnut. **Ref :- Ms. 54(167).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To study the effect of trace elements on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 10.8.1954. (iv) (a) Ploughing once in three years. (b) Drilling with seed drill. (c) 80 lb./ac. (d) 18" between rows. (e)—. (v) 5 C.L./ac. of F.Y.M. once in 3 years. (vi) Spanish improved (early). (vii) Unirrigated. (viii) Interculturing. (ix) 8.70". (x) 27.11.1954.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of Boron : B_0=0 and B_1=4 lb./ac.
(2) 2 levels of Mn : M_0=0 and M_1=6 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 2. (iv) (a) 39'×39'. (b) 35'×33'. (v) 3' allround. (vi) Yes.

4. GENERAL :

(i) Crop was effected by inadequate rainfall. (ii) *Tikka* disease was noticed—No control measures were taken. (iii) Yield of pod. (iv) (a) 1952—1955. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 319 lb./ac. (ii) 31.4 lb./ac. (iii) No effect is significant. (iii) Av. yield of pod in lb./ac.

	B_0	B_1	Mean
M_0	379	296	337
M_1	313	291	302
Mean	346	293	319

S.E. of any marginal mean = 15.7 lb./ac.
S.E. of body of table = 22.2 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 55(215).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To study the effect of trace elements on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 10.8.1955. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 100 lb./ac. (d) 12" between rows. (e)—. (v) 5 C.L./ac. of F.Y.M. once in three years. (vi) Spanish improved (early). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 8.97". (x) 28.11.1955.

2. TREATMENTS :

Same as in expt. no. 54(167) above.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 40′×18′. (b) 36′×16′. (v) 2′×1′. (vi) Yes.

4. GENERAL :

(i) Stunted due to late sowing. (ii) Incidence of *tikka* disease in late stages—No control measures taken. (iii) Yield of pods. (iv) (a) 1952—1955. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 333 lb./ac. (ii) 15.8 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

	B_0	B_1	Mean
M_0	340	323	332
M_1	331	338	334
Mean	335	331	333

S.E. of any marginal mean = 5.6 lb./ac.
S.E. of body of table = 7.9 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 55(152).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To find out the effect of different doses of N, P and K on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 19, 22.8.1955. (iv) (a) 2 to 3 harrowings. (b) Drill sowing. (c) 100 lb./ac. (d) Between rows 15″. (e)—. (v) Nil. (vi) Spanish improved (early). (vii) Unirrigated. (viii) 1 interculturing. (ix) N.A. (x) 29.11.1955.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 levels of N as A/S : N_0=0, N_1=10 and N_2=20 lb./ac.

(2) 3 levels of P_2O_5 as Super : P_0=0, P_1=50 and P_2=100 lb./ac.

(3) 3 levels of K_2O as Pot. Sul. : K_0=0, K_1=100 and K_2=200 lb./ac.

3. DESIGN :

(i) 3^3 cofnd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 2. (iv) (a) 20′×35′. (b) 15′×30′. (v) 2½′ alround. (vi) Yes.

4. GENERAL :

(i) Good. (ii) *Tikka* appeared at a later stage of the crop—No control measures taken. (iii) Yield of pods. (iv) (a) 1955 to 1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 296 lb./ac. (ii) 29.0 lb./ac. (iii) The main effect of N and N×P interaction are highly significant. Other effects are not significant. (iv) Av. yield of pod in lb./ac.

	N_0	N_1	N_2	Mean	K_0	K_1	K_2
P_0	231	293	374	299	287	293	319
P_1	272	299	321	297	285	306	301
P_2	264	296	314	291	291	290	294
Mean	266	296	336	296	288	296	304
K_0	255	287	322				
K_1	261	286	341				
K_2	251	316	346				

S.E. of any marginal mean = 6.8 lb./ac.
S.E. of body of any table = 11.8 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 56(133).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To find out the effect of different doses of N, P and K on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Groundnut. (b) *Jowar*. (c) Nil. (ii) (a) Alkaline soil. (b) Refer soil analysis, Bijapur. (iii) 24.7.1956. (iv) (a) Ploughing. (b) Drilling. (c) 100 lb./ac. (d) Between rows 15". (e) N.A. (v) Nil. (vi) Spanish improved (early). (vii)) Unirrigated. (viii) One weeding. (ix) 21.2". (x) 5.12.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(152) on page 674.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Yield of pods. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 384 lb./ac. (ii) 56.8 lb./ac. (iii) Interaction N×P×K (unconfounded) effect alone is significant. (iv) Av. yield of pod in lb./ac.

	N_0	N_1	N_2	Mean
P_0	386	361	358	368
P_1	392	361	397	383
P_2	374	392	439	402
Mean	384	371	398	384
K_0	389	357	360	
K_1	383	372	431	
K_2	380	385	403	

	K_0	K_1	K_2
	328	374	402
	388	403	359
	390	407	407
	369	395	389

S.E. of any marginal mean = 13.4 lb./ac.
S.E. of body of any table = 23.2 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 57(112).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To find out the effect of different doses of N, P and K on the yield of Groundnut,

1. BASAL CONDITIONS :

(i) (a) N A. (b) *Mug*. (c) Nil. (ii) (a) Alkaline soil. (b) Refer soil analysis. Bijapur. (iii) 26.7.1957. (iv) (a) Ploughing. (b) Drilling. (c) 100 lb./ac. (d) 15" between rows. (e) N.A. (v) Nil. (vi) Spanish improved (early). (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 11". (x) 6.12.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(152) on page 674.

4. GENERAL :

(i) Fair. (ii) Slightly attacked by aphids—No control measures taken. (iii) Yield of pods. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 376 lb./ac. (ii) 99.7 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

	N_0	N_1	N_2	Mean	K_0	K_1	K_2
P_0	394	393	353	380	377	407	356
P_1	347	379	367	364	368	384	340
P_2	378	344	427	383	368	379	402
Mean	373	372	382	376	371	390	366
K_0	369	343	401				
K_1	398	388	384				
K_2	352	385	361				

S.E. of any marginal mean = 23.5 lb./ac.
S.E. of body of any table = 40.7 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 58(85).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To find out the effect of different doses of N P and K on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Groundnut. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Alkaline soil. (b) Refer soil analysis, Bijapur. (iii) 10.7.1958. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 100 lb./ac. (d) 15″ × 3″ to 4″. (e) N.A. (v) 5 C.L./ac. of F.Y.M. applied before sowing. (vi) Spanish improved (early). (vii) Unirrigated. (viii) Interculturing and weeding twice. (ix) 20″. (x) 19.11.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(152) on page 674.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Yield of pods. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

(i) 1060 lb./ac. (ii) 169.5 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb /ac.

	N_0	N_1	N_2	Mean	K_0	K_1	K_2
P_0	981	1131	1117	1077	1069	1067	1094
P_1	1098	1030	1048	1059	1082	1056	1039
P_2	1060	1095	979	1045	1020	1014	1099
Mean	1046	1086	1048	1060	1057	1046	1077
K_0	981	1132	1057				
K_1	1084	1007	1045				
K_2	1074	1117	1041				

S.E. of any marginal mean = 40.0 lb./ac.
S.E. of body of any table = 69.2 lb./ac.

Crop :- Groundnut. **Ref :- Ms. 56(26).**

Site :- Agri. Res. Stn., Dhadesugur. **Type :- 'M'.**

Object :—To find out the effect of Ammo. Phos. at different levels of N and P on Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 40 lb./ac. of N as A/S+20 lb./ac. of P_2O_5 as Super. (ii) (a) Black clayey soil. (b) N.A. (iii) 20.6.1956. (iv) (a) Tractor ploughing and harrowing. (b) Sowing by draw tubes. (c) 60 lb./ac. (d) Between rows 12". (e) N.A. (v) Nil. (vi) TMV—2 (medium). (vii) Unirrigated. (viii) Hoeing and weeding. (ix) 20.42". (v) 8.11.1956.

2. TREATMENTS :

All combinations of (1) and (2)+2 extra treatments :

(1) 4 levels of N as A/S and Ammo. Phos. : N_0=0, N_1=20, N_2=40 and N_3=60 lb./ac.

(2) 3 levels of P_2O_5 as Triple Super and Ammo. Phos : P_1=20, P_2=40 and P_3=60 lb./ac.

2 extra treatments are E_0=Control (no manure) and E_1=30 lb./ac. of N.

3. DESIGN :

(i) R.B.D. (ii) (a) 14. (b) N.A. (iii) 2. (iv) (a) and (b) 15'×60'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) No. (iii) Pod yield. (iv) (a) to (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 777 lb./ac. (ii) 94.4 lb./ac. (iii) E_1 *vs* E_2 and N effects are significant. Other effects are not significant. (iv) Av. yield of pod in lb./ac.

E_0 = 614 and E_1 = 826 lb./ac.

	N_0	N_1	N_2	N_3	Mean
P_1	708	679	777	829	748
P_2	581	765	868	817	758
P_3	741	859	806	1016	856
Mean	677	768	817	887	787

S.E. for N marginal mean = 38.5 lb./ac.

S.E. for P marginal mean = 33.4 lb./ac.

S.E. for body of table or any extra treatment mean = 66.7 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 56(82).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object : -To study the residual effect of application of A/S to Jowar on succeeding Groundnut crop.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Groundnut. (b) *Jowar*. (c) As per treatments. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 7.7.1956. (iv) (a) N.A. (b) Drilling. (c) 80 lb./ac. (d) Between rows 12". (e) 1. (v) 5 C.L./ac. of F.Y.M. and 20 lb./ac. of P_2O_5 as Super. (vi) Spanish improved (early). (vii) Unirrigated. (viii) Interculturing and weeding once. (ix) 31.01". (x) 12.10.1956.

2. TREATMENTS :

5 methods of application : M_1=Full dose broadcasted at sowing, M_2=Half as in M_1 and half one month later, M_3=Full dose drilled at sowing, M_4=Half dose drilled at sowing and half one month later and M_5=Full dose broadcasted 15 days prior to sowing.

N applied at 40 lb./ac. to the preceding *Jowar* crop.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 36′×21′. (b) 30′×15′. (v) 3′ all around. (vi) Yes.

4. GENERAL :

(i) Very satisfactory. (ii) No. (iii) The weight of groundnut pods. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2030 lb./ac. (ii) 294.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	M_1	M_2	M_3	M_4	M_5
Av. yield	2115	2013	1970	2091	1960

S.E./mean = 131.6 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 57(67).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object —To study the residual effect of application of A/S to Jowar on succeeding Groundnut crop.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Groundnut. (b) *Jowar*. (c) As per treatments. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 26.6.1957. (iv) (a) Harrowing 4 times and ploughing once. (b) Drilling. (c) 80 lb./ac. (d) Between rows 12″. (e) N.A. (v) Nil. (vi) Spanish improved (early). (vii) Unirrigated. (viii) 3 interculturings and 1 weeding. (ix) 16.5″. (x) 4.10.1957

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(82) on page 677.

5. RESULTS :

(i) 2008 lb./ac. (ii) 222 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb /ac.

Treatment	M_1	M_2	M_3	M_4	M_5
Av. yield	2110	2149	1791	1946	2042

S.E./mean = 99.3 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 58(22).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the residual effect of application of A/S to Jowar on succeeding crop of Groundnut.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Groundnut. (b) *Jowar*. (c) As per treatments. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 25.6.1958. (iv) (a) Ploughing once and harrowing 5 times. (b) Drilling. (c) 80 lb./ac. (d) 12″ between rows. (e) N.A. (v) Nil. (vi) Spanish improved (early). (vii) Unirrigated. (viii) 2 interculturings and one hand weeding were given. (ix) 16.10″. (x) 2.10.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(82) on page 677.

4. GENERAL :

(i) Satisfactory. (ii) There was slight attack of *Tikka* disease—No control measures taken. (iii) Height and spread measurements and yield of pods. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1376 lb./ac. (ii) 190.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	M_1	M_2	M_3	M_4	M_5
Av. yield	1375	1413	1355	1346	1389

S.E./mean = 85.1 lb./ac.

Crop :- Groundnut. **Ref :- Ms. 56(59).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the effect of different micronutrients on Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 14.7.1956. (iv) (a) Ploughing once and harrowing 5 times. (b) Sowing by dibbling. (c) 80 lb./ac. (d) 12″×6″. (e) N.A. (v) Nil. (vi) Spanish improved (early). (vii) Unirrigated. (viii) Interculturing and hand weeding. (ix) 31.37″. (x) 25.10.1956.

2. TREATMENTS :

All combinations of (1), (2), (3), (4) and (5).

(1) 2 levels of Cu as $CuSO_4$: C_0=0 and C_1=20 lb./ac.
(2) 2 levels of Mn as $MnSO_4$: Mn=0 and Mn=20 lb./ac.
(3) 2 levels of Zn as $ZnSO_4$: Z_0=0 and Z_1=20 lb./ac.
(4) 2 levels of Bo as Borax : B_0=0 and B_1=20 lb./ac.
(5) 2 levels of Molybdenum as Sod. molybdate : M_0=0 and M_1=20 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 32. (b) N.A. (iii) 4. (iv) (a) 18′×30′. (b) 12′×24′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Height and spread measurements and yield data. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1526 lb./ac. (ii) 204.6 lb /ac. (iii) Interactions Mn×B and Mn×Zn are highly significant. Other effects are not significant. (iv) Mean and differential responses in lb./ac.

Factor	Mean response	Differential responses									
		C		Mn		Zn		B		Mo	
		—	+	—	+	—	+	—	+	—	+
C	—1	—	—	—7	5	—2	0	7	—9	11	—13
Mn	38	32	44	—	—	—68	144	—61	137	82	—6
Zn	—21	—22	—20	—128	86	—	—	—68	26	8	—50
B	—19	—6	—22	—113	85	—62	34	—	—	—46	18
Mo	32	44	20	75	—11	62	2	46	18	—	—

S.E. of mean response = 36.1 lb./ac.
S.E. of differential response = 51.1 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 57(89).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the effect of different micronutrients on Groundnut.

1. BASAL CONDITIONS :

(i) (a) Groundnut—*Jowar*. (b) *Jowar*. (c) As per treatments. (ii) (a) Medium black soil. (b) N.A. (iii) 1.7.1957. (iv) (a) Harrowing. (b) Sowing by draw tubes. (c) 50 lb./ac. (d) 12" between rows. (e) N.A. (v) 100 lb./ac. of P_2O_5 as Super. (vi) Spanish improved (early). (vii) Unirrigated. (viii) Intercu turing. (ix) 16". (x) 13.10.1957.

2. TREATMENTS :

Same as in expt. no. 56(59) on page 679.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 32. (b) N.A. (iii) 4. (iv) (a) 18'×25'. (b) 12'×19'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

Same as in expt. no. 56(59) on page 679.

5. RESULTS :

(i) 1973 lb./ac. (ii) 182.9 lb./ac. (iii) No effect is significant. (iv) Mean and differential responses in lb./ac.

Factor	Mean response	Differential responses									
		C		Mn		Zn		B		Mo	
		−	+	−	+	−	+	−	+	−	+
C	+25.0	—	—	268	−218	88	−38	17	33	151	−101
Mn	8.5	250	−233	—	—	−103	120	−33	50	−149	+166
Zn	−1216.0	−581	−1851	−2342	−90	—	—	−2701	+269	−1536	−896
B	−738.5	−820	−657	−1148	−329	−2224	+747	—	—	−911	−566
Mo	67.0	+193	−59	−92	+226	34	+100	155	−21	—	—

S.E. of mean response = 32.3 lb./ac.
S.E. of differential response = 45.7 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 58(21).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the effect of different micronutrients on Groundnut.

1. BASAL CONDITIONS :

(i) (a) Groundnut—*Jowar*. (b) *Jowar*. (c) As per treatments. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 28.6.1958/—. (iv) (a) Ploughing once and harrowing 5 times. (b) Dibbling. (c) 80 lb./ac. (d) 12"×6". (e) N.A. (v) Nil. (vi) Spanish improved (early). (vii) Unirrigated. (viii) 2 interculturings and one hand weeding. (ix) 19.6". (x) 11.10.1958.

2. TREATMENTS :

Same as in expt. no. 56(59) on page 679.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 32. (b) N.A. (iii) 4. (iv) (a) 30′×17′. (b) 24′×12′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) There was a slight attack of *tikka* disease—No control measures were taken. (ii) Height and spread measurements and yield of pods. (iv) (a) 1956—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1318 lb./ac. (ii) 138.3 lb./ac. (iii) None of the effects is significant. (iv) Mean and differential responses in lb./ac.

	Mean response	Differential responses									
		C		Mn		Zn		B		Mo	
		—	+	—	+	—	+	—	+	—	+
C	—26 5	—	—	—61	8	—40	—13	—21	—32	—4	—49
Mn	13.5	—21	48	—	—	—8	35	—20	47	50	—23
Zn	—17.5	—31	—4	—39	4	—	—	—26	—9	—9	—26
B	30.0	35	25	—3	63	22	38	—	—	22	38
Mo	—13.0	9	—35	25	—51	—4	—22	—21	—5	—	—

S.E. of mean response = 24.5 lb /ac.
S.E. of differential response = 34.5 lb./ac.

Crop :- Groundnut. **Ref :- Ms. 55(118).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To find out the N, P and K requirements of Groundnut crop.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Groundnut. (b) *Jowar*. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 1.7.1955. (iv) (a) Ploughing and harrowing. (b) Drilled. (c) 80 lb./ac. (d) Rows 12″ apart. (e) N.A. (v) 5 C.L./ac. of F.Y.M. applied by broadcast method about a fortnight before sowing. (vi) Groundnut spanish (early) (vii) Unirrigated. (viii) 2 interculturings and 1 weeding. (ix) 16.62″. (x) 9.10.1955.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 levels of N as A/S : N_0=0, N_1=10 and N_2=20 lb./ac.
(2) 3 levels of P_2O_5 as Super : P_0=0, P_1=50 and P_2=100 lb./ac.
(3) 3 levels of K_2O as Pot. Sul. : K_0=0, K_1=100 and K_2=200 lb./ac.

A/S applied in 2 equal doses, one a week prior to sowing and the other 1½ months after sowing. P_2O_5 and K_2O were applied together 2 days after the application of F.Y.M.

3. DESIGNS :

(i) 3^3 confd. (ii) (a) 9 plots/block; 3 blocks/replication. (b) N.A. (iii) 2. (iv) (a) 36′×18′. (b) 30′×15′. (v) 3′×1½′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of pods, height and spread of plants, and no. of pods per plant. (iv) 1955—957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2280 lb./ac. (ii) 132.4 lb./ac. (iii) Main effect of P alone is highly significant. (iv) Av. yield of pod in lb./ac.

	N_0	N_1	N_2	Mean	K_0	K_1	K_2
P_0	2178	2196	2217	2197	2179	2230	2183
P_1	2109	2351	2259	2240	2247	2247	2225
P_2	2402	2368	2440	2403	2388	2317	2505
Mean	2230	2305	2305	2280	2271	2265	2304
K_0	2212	2316	2285				
K_1	2247	2316	2231				
K_2	2230	2282	2400				

S.E. of any marginal mean = 31.2 lb./ac.
S.E. of body of any table = 54.1 lb./ac.

Crop :- Groundnut. **Ref :- Ms. 56(61).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To find out the N, P and K requirements of Groundnut crop.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Groundnut. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 1st week of July, 1956. (iv) (a) Ploughing and harrowing. (b) Sowing by dibbling. (c) N.A. (d) 12″×6″. (e) 2. (v) Nil. (vi) Spanish improved (early). (vii) Unirrigated. (viii) Interculturing and hand weeding. (ix) 31.37″. (x) 2nd week of Oct., 1956.

2. TREATMENTS :

Same as in expt. no. 55 (118) on page 681.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b)N.A. (iii) 2. (iv) (a) 36′×18′. (b) 30′×12′. (v) 3′ all round. (vi) Yes.

4. GENERAL :

Same as in expt. no. 55 (118) on page 681.

5. RESULTS :

(i) 2051 lb./ac. (ii) 148.8 lb./ac. (iii) Main effect of P alone is significant. (iv) Av. yield of pod in lb./ac.

	N_0	N_1	N_2	Mean	K_0	K_1	K_2
P_0	2067	1921	1946	1978	1916	2001	2017
P_1	1997	2107	2102	2069	2047	2102	2057
P_2	2158	2128	2032	2106	2097	2153	2067
Mean	2074	2052	2027	2051	2020	2086	2047
K_0	1966	2072	2022				
K_1	2183	2012	2062				
K_2	2072	2072	1997				

S.E. of any marginal mean = 35.1 lb./ac.
S E. of body of any table = 60.7 lb./ac.

Crop :- Groundnut *(Kharif).* **Ref :- Ms. 57(98).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To find out the N, P and K requirements of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jawar.* (c) Nil. (ii) (a) Medium black. (b) Refer soil analysis, Dharwar. (iii) 27.6.1957. (iv) (a) Harrowing 4 times. (b) Dibbling. (c) N.A. (d) Between rows 12". (e) 2. (v) 5 C.L./ac. of F.Y.M. (vi) Spanish improved (early). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 15.9". (x) 5.10.1957.

2. TREATMENTS :

Same as in expt. no. 56(61) on page 681.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 2. (iv) (a) 36'×18'. (b) 30'×12'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

Same as in expt. no. 55(118) on page 681.

5. RESULTS :

(i) 2611 lb./ac. (ii) 292.8 lb./ac. (iii) The confounded effect of N×P×K alone is significant. (iv) Av. yield of pod in lb./ac.·

	N_0	N_1	N_2	Mean	K_0	K_1	K_2
P_0	2697	2404	2460	2520	2385	2622	2553
P_1	2516	2616	2722	2618	2637	2536	2681
P_2	2773	2753	2562	2696	2602	2722	2764
Mean	2662	2591	2581	2611	2541	2627	2666
K_0	2602	2476	2546				
K_1	2622	2632	2627				
K_2	2762	2667	2570				

S.E. of any marginal mean = 69.0 lb./ac.
S.E. of body of any table = 119.6 lb./ac.

Crop :- Groundnut *(Kharif).* **Ref :- Ms. 56(85).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the residual effect of N, P and K applied to safflower on succeeding Groundnut crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Safflower—Groundnut. (c) As per treatments. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 10.7.1956. (iv) (a) N.A. (b) Drill sowing. (c) 80 lb./ac. (d) 12" between rows. (e) N.A. (v) Nil. (vi) Spanish improved (early). (vii) Unirrigated. (viii) 1 interculturing. (ix) 31.01". (x) 13.10.1956.

2. TREATMENTS :

All combinations of (1), (2) and (3) + Control (no manure)

(1) 2 levels of N as A/S : N_0=0 and N_1=20 lb./ac.

(2) 2 levels of P_2O_5 as Super : P_0=0 and P_1=20 lb /ac.

(2) 2 levels of K_2O as Pot. Sul. : K_0=0 and K_1=40 lb./ac.

All the treatments excepting control, receive a B.D. of 5 C.L./ac. of F.Y.M.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N A. (iii) 4. (iv) (a) 36′×16′. (b) 24′×12′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of pods. (iv) (a) 1954—N.A. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1392 lb./ac. (ii) 184.6 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

Control = 1342 lb./ac.

	N_0	N_1	Mean	K_0	K_1
P_0	1356	1437	1396	1380	1413
P_1	1332	1465	1398	1408	1389
Mean	1344	1451	1397	1394	1401
K_0	1360	1428			
K_1	1328	1474			

S.E. of any marginal mean = 46.2 lb./ac.
S.E. of body of any table = 65.3 lb./ac.
S.E. of control mean = 92.3 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 57(65).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the residual effect of N, P and K applied to safflower on succeeding Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Safflower. (c) As per treatments. (il) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 27.6.1957. (iv) (a) Harrowing 4 times. (b) Drilling. (c) 80 lb./ac. (d) Between rows 12". (e) N.A. (v) Nil. (vi) Spanish improved (early). (vii) Unirrigated. (viii) The gap-filling was done 13.7.1957. Only one intercul uring. (ix) 15.9". (x) 4.10.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(85) on page 683.

5. RESULTS :

(i) 1709 lb./ac. (ii) 202.1 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

Control = 1560 lb./ac.

	N_0	N_1	Mean	K_0	K_1
P_0	1744	1781	1767	1767	1767
P_1	1768	1607	1687	1687	1687
Mean	1756	1694	1727	1727	1727
K_0	1772	1682			
K_1	1739	1706			

S.E. of any marginal mean = 50.5 lb./ac.
S.E. of body of any table = 71.5 lb./ac.
S.E. of control mean = 101.0 lb./ac.

Crop :- Groundnut. **Ref :- Ms. 54(117).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'**

Object :—To find the effect of trace elements on the Groundnut crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat—Safflower. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 25.6.1954. (iv) (a) 3 harrowings. (b) Drilled. (c) 80 lb./ac. (d) N.A. (e) N.A. (v) F.Y.M. at 5 C.L./ac. (vi) Spanish improved (early). (vii) Unirrigated. (viii) 2 interculturings. (ix) 22.54". (x) 6.10.1954.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of Borax : B_0=0 and B_1=4 lb./ac.

(2) 2 levels of $MnSO_4$: M_0=0 and M_1=6 lb./ac.

B and M applied just before sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 2. (iv) (a) 70'×24'. (b) 60'×18'. (v) 5'×3'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Pod count per plant and yield of pods. (iv) (a) 1952—1955. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2473 lb./ac. (ii) 181.8 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

	M_0	M_1	Mean
B_0	2307	2479	2393
B_1	2619	2489	2554
Mean	2463	2484	2473

S.E. of any marginal mean = 90.9 lb./ac.
S.E. of body of table = 128.6 lb./ac.

Crop :- Groundnut. **Ref :- Ms. 55(119).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the effect of trace elements on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Safflower. (c) 5 C.L /ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 1.7.1955. (iv) (a) Ploughing and harrowing. (b) Drilled. (c) 80 lb./ac. (d) Rows 12" apart. (e) N.A. (v) 5 C.L./ac. of F.Y.M. (vi) Spanish improved (early). (vii) Unirrigated. (viii) 2 inter-culturings and one weeding. (ix) 16.62". (x) 6.10.1955.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of boron : B_0=0 and B_1=4 lb./ac.

(2) 2 levels of manganese : M_0=0 and M_1=6 lb./ac.

Chemicals applied as top dressing.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 2. (iv) (a) 24'×20'. (b) 20'×16'. (v) 2' all round. (vi) Yes.

4. GENERAL :

Same as in expt. no. 54(117) on page 685.

5. RESULTS :

(i) 2085 lb./ac. (ii) 205.6 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

	M_0	M_1	Mean
B_0	2042	2178	2110
B_1	2042	2076	2059
Mean	2042	2127	2085

S.E. of any marginal mean = 102.8 lb./ac.
S.E. of body of the table = 145.5 lb./ac.

Crop :- Groundnut. **Ref :- Ms. 54(108).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To study the effect of application of P to leguminous crops on the succeeding Groundnut crop.

1. BASAL CONDITIONS :

(i) (a) *Jowar* – Groundnut. (b) *Jowar*. (c) Nil. (ii) (a) Medium black. (b) Refer soil analysi , Dharwar. (iii) 23.6.1954. (iv) (a) Harrowing 4 times. (b) Drilled. (c) 80 lb./ac. (d) Rows 12" apart. (e) N.A. (v) Nil. (vi) Spanish improved (early). (vii) Unirrigated. (viii) Two interculturings. (ix) 17.75". (x) 9.10.1954.

2. TREATMENTS :

A=Control.
B= 50 lb./ac. of P_2O_5 as Super.
C=100 lb./ac. of P_2O_5 as Super.
D=150 lb./ac. of P_2O_5 as Super.
E=Cotton crop in previous season.
Treatments A to D applied to previous jowar crop. Residual effect studied this year.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 42'×30'. (b) 30'×18'. (v) 6 feet on all sides. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (iii) There was rat trouble immediately after sowing This was controlled by putting the poisoned baits. (iii) Pod yield. (iv) (a) 1949—1955. (b) No (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) N.A. (ii) 209.7 lb./ac. (iii) Treatments are not significantly different. (iv) Av. yield of pod in lb./ac.

Treatment	A	B	C	D	E
Av. yield	1974	2082	2128	2130	N.A.

S.E./mean = 104.9 lb./ac.

Crop :- Groundunt *(Kharif)*. **Ref:- Ms. 57(122).**

Site :-College Farm, Dharwar. **Type:- 'M'.**

Object :—To study the effect of different levels ef N, P and K on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Groundnut. (b) *Jowar*. (c) Nil. (ii) (a) Block soil. (b) Refer soil analysis, Dharwar. (Collage Farm). (iii) 27.6.1957. (iv) (a) Harrowing, (b) Drilled. (c) 100 lb./ac. (d) 12″×6″. (e) N.A. (v) Nil. (vi) Spanish improved (early). (vii) Unirrigated. (viii) One interculturing and 2 weedings. (ix) 95″. (x) 18.10.1957.

2. TREATMENTS :

All combinations of (1), (2) and (3)+Control (no fertilizer).

(1) 2 levels of N as A/S : N_1=20 and N_2=40 lb./ac.

(2) 2 levels of P_2O_5 as Super : P_0=0 and P_1=20 lb./ac.

(3) 2 levels of K_2O as Pot. Sul. : K_0=0 and K_1=20 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 36′×24′. (b) 30′×18′. (v) 3′ on all sides. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of pods. (iv) (a) 1957—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1283 lb./ac. (ii) 573.1 lb./ac. (iii) No effect is significant. (iv) Av. yield of wet pod in lb./ac.

Control = 928 lb./ac.

	N_1	N_2	Mean	K_0	K_1
P_0	1321	1321	1321	1346	1296
P_1	1311	1356	1333	1311	1356
Mean	1316	1338	1327	1328	1326
K_0	1316	1340			
K_1	1316	1336			

S.E. of any marginal mean = 143.3 lb./ac.
S.E. of body of any table = 202.6 lb./ac.
S.E. of control mean = 286.6 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 57(129).**

Site :- College Farm, Dharwar. **Type :- 'M'.**

Object :—To study the effect of different levels of N, P and K on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Groundnut. (b) *Jowar*. (c) Nil. (ii) (a) Light soil. (b) Refer soil analysis, Dharwar (College farm). (iii) 27.6.1957. (iv) (a) Harrowing. (b) Dibbled. (c) 100 lb./ac. (d) 12″×6″. (e) N.A. (v) Nil. (vi) Spanish improved (early). (vii) Unirrigated. (viii) One interculturing and 2 weedings. (ix) 95″. (x) 18.10.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no 57(122) on page 687.

5. RESULTS :

(i) 1688 lb./ac. (ii) 223.3 lb./ac. (iii) No effect is significant. (iv) Av. yield of wet pod in lb./ac.

Control = 1603 lb./ac.

	N_1	N_2	Mean	K_0	K_1
P_0	1710	1608	1659	1588	1730
P_1	1704	1774	1739	1800	1678
Mean	1707	1691	1699	1694	1704
K_0	1689	1699			
K_1	1725	1683			

S.E. of any marginal mean = 55.8 lb./ac.
S.E. of body of any table = 78.9 lb./ac.
S.E. of control mean = 111.6 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 58(105).**

Site :- College Farm, Dharwar. **Type :-'M'.**

Object :—To study the effect of different levels of N, P and K on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Groundnut. (b) *Jowar*. (c) Nil. (ii) (a) Black soil. (b) Refer soil analysis, Dharwar (College Farm). (iii) 5.7.1958. (iv) (a) Harrowing. (b) Drilled (c) 100 lb./ac. (d) 12″×6″. (e) N.A. (v) Nil. (vi) Spanish improved—erect variety. early (vii) Unirrigated. (viii) One interculturing and 2 weedings. (ix) 51″. (x) 15.11.1958.

2. TREATMENTS to 4. GENERAL.

Same as in expt. no. 57(122) on page 687.

5. RESULTS :

(i) 670 lb./ac. (ii) 262.6 lb./ac. (iii) No effect is significant. (iv) Av. yield of dry pod in lb./ac.

Control = 680 lb./ac.

	N_1	N_2	Mean	K_0	K_1
P_0	566	788	677	690	664
P_1	626	696	661	714	608
Mean	596	742	669	702	636
K_0	644	760			
K_1	548	724			

S.E. of any marginal mean	=	65.6 lb./ac.
S.E. of body of any table	=	92.8 lb./ac.
S.E. of control mean	=	131.3 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 58(121).**

Site :- College Farm, Dharwar. **Type :- 'M'.**

Object :—To study the effect of different levels of N, P and K on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 3 C.L./ac. of F.Y M.+20 lb./ac. of N. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar (College Farm). (iii) 23 to 25.6.1958. (iv) (a) Ploughing. (b) Drilling. (c) 100 lb./ac. (d) 12" between rows. (e) 1. (v) Nil. (vi) Spanish improved (medium). (vii) Unirrigated. (viii) 2 hand weedings and 3 interculturings. (ix) 48". (x) 4th week of Oct., 1958.

2. TREATMENTS :

Same as in expt. no. 57(122) on page 687.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 8. (iv) 36'×24'. (b) 30'×18'. (v) 3' alround. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of pods. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 586 lb./ac. (ii) 217.8 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

Control=581 lb./ac.

	N_1	N_2	Mean	K_0	K_1
P_0	575	635	605	660	550
P_1	550	588	569	540	598
Mean	562	612	587	600	574
K_0	605	595			
K_1	519	629			

S.E. of any marginal mean	=	38.5 lb./ac.
S.E. of body of any table	=	54.5 lb./ac.
S.E. of control mean	=	77.0 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 58(120)**

Site :- College Farm, Dharwar. **Type :- 'M'.**

Object :—To study the effect of different levels of N, P and K on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar (College Farm). (iii) 29.6.1958. (iv) (a) Ploughing. (b) Drilling. (c) 80 lb./ac. (d) 12" between rows. (e) N.A. (v) Nil. (vi) Spanish improved (early). (vii) Unirrigated. (viii) Interculturing thrice and hand weeding once. (ix) 43.5". (x) 4th week of October 1958.

2. TREATMENTS :

10 manurial treatments : $T_0=N_0P_0K_0$, $T_1=N_1P_0K_0$, $T_2=N_1P_1K_0$, $T_3=N_1P_1K_1$, $T_4=N_2P_2K_0$, $T_5=N_2P_2K_2$, $T_6=N_3P_3K_0$. $T_7=N_3P_3K_3$, $T_8=N_4P_4K_0$, and $T_9=N_4P_4K_4$.

Where $N_0=0$, $N_1=20$, $N_2=40$. $N_3=60$ and $N_4=80$ lb./ac. of N.
$P_0=0$, $P_1=15$, $P_2=30$, $P_3=45$ and $P_4=60$ lb./ac. of P_2O_5
and $K_0=0$, $K_1=15$, $K_2=30$, $K_3=45$ and $K_4=60$ lb./ac. of K_2O.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 36′×30′. (b) 30′×24′. (v) 3′ alround. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Yield of pods. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 317 lb./ac. (ii) 87.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9
Av. yield	336	369	271	374	313	263	351	313	293	290

S.E./mean = 43.8 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 58(122).**

Site :- College Farm, Dharwar. **Type :- 'M'.**

Object :—To study the effect of different manures and method of sowing on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Chillies and Cotton. (c) 5 C.L./ac. of F.Y.M.+20 lb./ac. of P_2O_5+20 lb./ac. of K_2O+30 lb./ac of N. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar (College Farm). (iii) 27.6.1958. (iv) (a) Ploughing. (b) As per treatments. (c) 80 lb./ac. (d) 12″ between rows. (e) 1. (v) 4 C.L./ac. of F.Y.M. (vi) Spanish improved (medium). (vii) Unirrigated. (viii) Interculturing. (ix) 43.5″. (x) Last week of Oct., 1958.

2. TREATMENTS :

6 manurial cum-method of sowing treatments : T_0=Control, T_1=40 lb./ac. of P_2O_5 and seed sown by drilling, T_2=40 lb./ac. of P_2O_5 and seed sown by plough sore, T_3=40 lb./ac. of P_2O_5+600 lb./ac. of F.Y.M. and seed sown by drilling, T_4=40 lb./ac. of P_2O_5+600 lb./ac. of F.Y.M. and seed sown by plough sore and T_5=40 lb./ac. of P_2O_5+20 lb./ac. of N and seed sown by drilling.

3. DESIGN :

(i) L. Sq. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 24′×24′. (b) 20′×20′. (v) 2′ alround. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of wet pods. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1304 lb./ac. (ii) 160.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of wet pod in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5
Av. yield	1270	1425	1307	1264	1305	1252

S.E./means = 65.5 lb./ac.

Crop :- Groundnut. **Ref :- Ms. 54(173).**

Site :- College Farm, Dharwar. **Type :- 'M'.**

Object :—To study the effect of different levels of P and F.Y.M. on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton. (c) Nil. (ii) (a) Black soil. (b) Refer soil analysis, Dharwar (College Farm). (iii) 23.6.1954. (iv) (a) Harrowing and hoeing. (b) Sowing by drill. (c) 80 lb./ac. (d) 12" between rows. (e) N.A. (v) Nil. (vi) Spanish improved (early). (vii) Unirrigated. (viii) Thinning, weeding and interculturing. (ix) 29.50". (x) 9, 16.10.1954.

2. TREATMENTS :

Main-plot treatments :
4 levels of F.Y.M. : F_0=0, F_1=2½, F_2=5 and F_3=10 C L./ac.
Sub-plot treatments :
4 levels of P_2O_5 as Super : P_0=0, P_1=20, P_2=30 and P_3=40 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots replication ; 4 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 22½'×32'. (b) 17½'×26'. (v) 2½'×3'. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Yield of pods. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1604 lb./ac. (ii) (a) 476.4 lb./ac. (b) 302.9 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

	P_0	P_1	P_2	P_3	Mean
F_0	1324	1436	1627	1500	1472
F_1	1771	1643	1372	1596	1595
F_2	1627	1516	1611	1707	1615
F_3	1803	1803	1596	1739	1735
Mean	1631	1599	1551	1635	1604

S.E. of difference of two

1. F marginal means = 137.5 lb./ac.
2. P marginal means = 87.4 lb./ac.
3. P means at the same level of F = 174.9 lb./ac.
4. F means at the same level of P = 204.6 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 56(137).**

Site :- College Farm, Dharwar. **Type :- 'M'.**

Object :—To find out the optimum combination of N, P and K for Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar (College Farm). (iii) 18, 19.7.1956. (iv) (a) Harrowing. (b) Dibbling. (c) 5 lb./ac. (d) 12"×6". (e) 2. (v) 3 C.L./ac. of F.Y.M. (vi) Spanish improved (early). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 22". (x) 9.11.1956.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 levels of N : N_0=0, N_1=20 and N_2=40 lb./ac.

(1) 3 levels of P_2O_5 : P_0=0, P_1=20 and P_2=40 lb./ac.

(3) 3 levels of K_2O : K_0=0, K_1=20 and K_2=40 lb./ac.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block; 3 blocks/replication. (b) N.A. (iii) 2. (iv) (a) 21′×36′. (b) 15′×30′. (v) 3′ alround. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of wet pods. (iv) (a) 1955—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2165 lb./ac. (ii) 415.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of wet pod in lb./ac.

	P_0	P_1	P_2	Mean	N_0	N_1	N_2
K_0	2065	2097	2323	2162	2032	2258	2194
K_1	1936	2452	2210	2199	2081	2258	2258
K_2	1919	2323	2161	2134	1968	2242	2194
Mean	1973	2291	2231	2165	2027	2253	2215
N_0	1710	2226	2145				
N_1	1903	2452	2403				
N_2	2307	2194	2145				

S.E. of any marginal mean = 97.9 lb./ac.
S.E. of body of any table = 169.5 lb./ac.

Crop :- Groundnut *(Kharif).* **Ref :- Ms. 59(191).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To find out the optimum dase of N for Groundnut.

1. BASAL CONDITIONS :

(i) (a) Groundnut—*Ragi*. (b) *Ragi*. (c) 2 C L./ac. of F.Y.M.+2 mds./ac. of A/S+3 mds./ac. of Super. (ii) (a) Sandy loam. (b) N.A. (iii) 2.7.1959. (iv) (a) Ploughing. (b) Drilling. (c) 100 lb /ac. (d) 12″×3″ to 4″. (e) N.A. (v) 2 C.L./ac. of F.Y.M.+3 md./ac. of Super. (vi) Hg—8. (early). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 21.63″. (x) 24.10.1959.

2. TREATMENTS :

5 levels of N as A/S : N_0=0, N_1=5, N_2=10, N_3=15 and N_4=20 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) 5. (b) N.A. (iii) 4. (iv) (a) and (b) 1/40 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Yield of pods. (vi) (a) and (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 578 lb./ac. (ii) 82.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pods. in lb./ac.

Treatment	N_0	N_1	N_2	N_3	N_4
Av. yield	595	602	522	595	577

S.E./mean = 41.4 lb./ac.

Crop :- Groundnut *(Kharif).* **Ref :- Ms. 59(188).**

Site :- Agri. Res. Stn., Hebbal. **Type :- 'M'.**

Object :—To find out the optimum dose of P for Groundnut.

1. BASAL CONDITIONS :

(i) (a) Groundnut—*Ragi.* (b) *Ragi.* (c) 2 C.L./ac. of F.Y.M.+2 md./ac. of A/S+3 md./ac. of Super. (ii) (a) Sandy loam. (b) N.A. (iii) 1.7.1959. (iv) (a) Ploughing. (b) Drilling. (c) 100 lb./ac. (d) 12″×3″ to 4″. (e) N.A.. (v) 2 C.L./ac. of F.Y.M.+2 mds./ac. of A/S. (vi) Hg—10 (late). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 21.63″. (x) 26, 29.12.1959.

2. TREATMENTS :

5 levels of P_2O_5 as Super : P_0=0, P_1=10, P_2=20, P_3=30 and P_4=40 lb./ac.

3. DESIGN :

(i) R B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) and (b) 1/40 ac. (v) Nil. (vii) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Weight of pods. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1612 lb./ac. (ii) 165.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	P_0	P_1	P_2	P_3	P_4
Av. yield	1635	1548	1635	1585	1655

S.E./mean = 82.7 lb./ac.

Crop :- Groundnut, *(Kharif).* **Ref :- Ms. 59(75).**

Site :- Govt. Main Farm, Raichur. **Type :- 'M'.**

Object :—To find the out optimum combination of N, P and K for Groundnut.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Groundnut. (b) *Jowar.* (c) 3 C.L./ac. of Compost+20 lb./ac. of N+10 lb./ac. of P_2O_5 (ii) (a) Deep black soil. (b) N.A. (iii) 1.7.1959. (iv) (a) Harrowing. (b) Drilling. (c) N.A. (d) 1′ between lines. (e) N A. (v) 5 C.L./ac. of Compost. (vi) TMV—2 (early). (vii) Unirrigated. (viii) 2 interculturings and 1 weeding. (ix) 21.8″. (x) 20.10.1959.

2. TREATMENTS :

All combinations of (1), (2) and (3).

(1) 3 levels of N : N_0=0, N_1=10, and N_2=20 lb./ac.
(2) 3 levels of P_2O_5 : P_0=0, P_1=10 and P_2=20 lb./ac.
(3) 3 levels of K_2O : K_0=0, K_1=10 and K_2=20 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 27. (b) N.A. (iii) 2. (iv) (a) 12′×50′. (b) 8′×45′. (v) 2′×2½′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Crop was attacked by aphids—Controlled by spraying 56% wetable D.D.T. (iii) Yield. of pods. (iv) 1959—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 358 lb./ac. (ii) 99.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

	N_0	N_1	N_2	Mean	K_0	K_1	K_2
P_0	284	353	371	336	306	339	363
P_1	310	408	411	376	401	375	352
P_2	351	355	383	363	369	360	360
Mean	315	372	388	358	359	358	358
K_0	288	383	406				
K_1	301	375	398				
K_2	356	358	360				

S.E. of any marginal mean = 23.4 lb./ac.
S.E. of body of any table = 40.5 lb /ac.

Crop :- Groundnut. **Ref :- Ms. 55(72).**

Site :- Govt. Main Farm, Raichur. **Type :- 'M'.**

Object :—To study the effect of different levels of N and P on the yield of groundnut under dry conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) 6 C.L./ac. of F.Y.M.+150 lb./ac. of A/S+66⅔ lb./ac. of Super. (ii) (a) Black cotton soil. (b) N.A. (iii) 26.7.1955. (iv) (a) Bakhering 5 times. (b) Sowing by seed drill. (c) 40 lb./ac. (d) 12" between rows. (e) N.A. (v) Nil. (vi) Spanish peanut—5. (vii) Unirrigated. (viii) 1 weeding. (ix) 33.84". (x) 8.11.1955.

2. TREATMENTS :

All combinations of (1) and (2)+ 2 extra treatments.
(1) 4 levels of N as A/S : N_0=0, N_1=20, N_2=40 and N_3=60 lb./ac.
(2) 3 levels of P_2O_5 as Super : P_1=20, P_2=40 and P_3=60 lb./ac.
Extra treatments : T_0=control (NO N or P) and T_1=30 lb./ac. of N as A/S.

3. DESIGN :

(i) R.B.D. (ii) (a) 14. (b) N.A. (iii) 2. (iv) (a) and (b) 53'×33'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of pods. (iv) (a) 1955—1957. (b) No (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 196 lb./ac. (ii) 82 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

T_0=218 and T_1=328 lb./ac.

	N_0	N_1	N_2	N_3	Mean
P_1	138	268	105	155	167
P_2	188	185	208	220	200
P_3	155	168	158	255	184
Mean	160	207	157	210	184

S.E. of N marginal mean = 33.5 lb./ac.
S.E. of P marginal mean = 29.0 lb./ac.
S.E. of body of the table or any extra treatment mean = 58.0 lb./ac.

Crop :- Groundnut. **Ref :- Ms. 56(12).**

Site :- Govt. Main Farm, Raichur. **Type :- 'M'.**

Object :—To study the effect of different levels of N and P on the yield of Groundnut under dry conditions.

1. BASAL CONDITIONS :

(i) (a) No fixed rotation. (b) *Jowar.* (c) 20 lb./ac. of N as A/S+10 lb./ac. of P_2O_5 as Super. (ii) (a) Black cotton soil. (b) N A. (iii) 10.7.1956. (iv) (a) *Bakhering* 3 times. (b) Sowing by seed drill. (c) 60 lb./ac (d) 12" between rows. (e) N.A. (v) 157 lb./ac. of A/S+175 lb./ac. of Ammo. Phos.+24 lb./ac. of Triple Super applied at sowing. (vi) Spanish (medium). (vii) Unirrigated. (viii) 1 weeding and 2 intercultures. (ix) 47.65". (x) 12.1 1.1956.

2. TREATMENTS :

Same as in expt. no. 55 (72) on page 694.

3. DESIGN :

(i) R.B.D. (ii) (a) 14. (b) N.A. (iii) 2. (iv) (a) and (b) 33'×66'. (v) Nil.(vi) Yes.

4. GENERAL :

Same as in expt. no. 55(72) on page 694.

5. RESULTS :

(i) 330 lb./ac. (ii) 41.7 lb./ac. (iii) All effects are highly significant. (iv) Av. yield of pod in lb./ac.

T_0=159 and T_1=316 lb./ac.

	N_0	N_1	N_2	N_3	Mean
P_1	153	373	293	311	283
P_2	214	365	464	427	368
P_3	233	295	417	599	384
Mean	200	344	391	446	345

S.E. of N marginal mean = 17.0 lb./ac.
S.E. of P marginal mean = 14.7 lb./ac.
S.E. of body of table or extra treatment mean = 29.5 lb./ac.

Crop :- Groundnut. **Ref :- Ms. 55(71).**

Site :- Govt. Main Farm, Raichur. **Type :- 'M'.**

Object :—To study the effect of different levels of N and P on the yield of Groundnut under dry conditions

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar.* (c) 5 C.L./ac. of F.Y.M. (ii) (a) *Chalka* soil (sandy loam). (b) N.A. (iii) 22.7.1955. (iv) (a) Tractor ploughing and *bakhering* 4 times. (b) Sowing by seed drill. (c) 40 lb./ac. (d) 12" between rows. (e) N.A. (v) Nil. (vi) Spanish peanut—5. (vii) Unirrigated. (viii) 1 weeding and 2 interculturing. (ix) 33.84". (x) 3.11.1955.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 levels of N as A/S : N_0=0, N_1=15 and N_2=30 lb./ac.

(2) 3 levels of P_2O_5 as Super : P_0=0, P_1=15 and P_2=30 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 9. (b) N.A. (iii) 2. (iv) (a) N.A. (b) 53′×33′. (v) N.A. (vi) Yes.

4. GENERAL :

(i) No lodging. (ii) Nil. (iii) Yield of pods. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 160 lb./ac. (ii) 102.9 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

	P_0	P_1	P_2	Mean
N_0	167	138	264	190
N_1	85	181	114	127
N_2	142	145	207	164
Mean	131	155	195	160

S.E. of any marginal mean = 41.9 lb./ac.
S.E. of body of table = 72 8 lb./ac.

Crop :- Groundnut. **Ref :- Ms. 56(13).**

Site :- Govt. Main Farm, Raichur. **Type :- 'M'.**

Object :—To study the effect of different levels of N and P on the yield of Groundnut under dry conditions.

1. BASAL CONDITIONS :

(i) (a) *Jowar—Tur*—Groundnut. (b) *Tur*. (c) 4 C.L./ac. of F.Y.M.+128 lb./ac. of paddy fertilizer mixture+25 lb./ac. of Ammo. Phos.+60 lb./ac. of G.N.C. (ii) (a) *Chalka* soil (Red sandy loam). (b) N.A. (iii) 6.7.1956. (iv) (a) Tractor ploughing and *bakhering* 2 times. (b) Sowing by seed drill. (c) 40 lb./ac. (d) 12″ between rows. (e) N.A. (v) 5 C.L./ac. of F.Y.M. applied before sowing. (vi) Spanish (medium). (vii) Unirrigated. (viii) 2 intercultures and 1 weeding. (ix) 47.65″. (x) 27 to 29.10.1956.

2. TREATMENTS :

Same as in expt. no. 55(71) on page 695.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 9. (b) N.A. (iii) 2. (iv) (a) and (b) 34′×64′. (v) Nil. (vi) Yes.

4. GENERAL :

Same as in expt. no. 55(71) on page 695.

5. RESULTS :

(i) 301 lb./ac. (ii) 38.2 lb./ac. (iii) Main effects of N and P are highly significant and N×P interaction is significant. (iv) Av. yield of pod in lb./ac.

	P_0	P_1	P_2	Mean
N_0	146	203	266	205
N_1	188	334	393	305
N_2	298	322	561	394
Mean	211	286	407	301

S E. of any marginal mean = 15.6 lb./ac.
S.E. of body of table = 27.1 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 57(108).**

Site :- Govt. Main Farm, Raichur. **Type :- 'M'.**

Object :—To study the effect of different levels of N and P on the yield of Groundnut under dry conditions.

1. BASAL CONDITIONS :

(i) (a) *Tur—Jowar*—Groundnut. (b) *Jowar.* (c) 5 C.L./ac. of F.Y.M. (ii) (a) *Chalka* soil. (b) N.A. (iii) 9.7.1957. (iv) (a) Ploughing and blade harrowing. (b) Sowing by draw tubes. (c) 50 lb./ac. (d) Between rows 1'. (e) N.A. (v) 5 C.L./ac. of F.Y.M. applied 15 days before sowing. (vi) TMV—2 (early). (vii) Unirrigated. (viii) 2 interculturings and 2 hand weedings. (ix) 16.2'. (x) 25.10.1957.

2. TREATMENTS :

Same as in expt. no. 55(71) on page 695.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 9. (b) 261'×81'. (iii) 2. (iv) (a) 29'×81'. (b) 27'×81'. (v) 1 row on either side of the plot. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Aphids attack was normal—No control measures were taken. (iii) Nil. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 201 lb./ac. (ii) 23.0 lb./ac. (iii) Main effects of N and P are highly significant. (iv) Av. yield of pod in lb./ac.

	P_0	P_1	P_2	Mean
N_0	129	152	162	148
N_1	149	229	284	221
N_2	239	169	291	233
Mean	172	183	246	201

S.E. of any marginal mean = 9.4 lb./ac.
S.E. of body of any table = 16.2 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 58(74).**

Site :- Govt. Main Farm, Raichur. **Type :- 'M'.**

Object :—To find out the effect of different levels of N and P on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) 3 C.L./ac. of F.Y.M. (ii) (a) Black cotton soil. (b) N.A. (iii) 11.7.1958. (iv) (a) Blade harrowings. (b) Sowing by draw tubes. (c) 50 lb./ac. (d) Rows 1' apart. (e) N.A. (v) 5 C.L./ac. of F.Y.M. applied a fortnight before sowing. (vi) TMV—2 (early). (vii) Unirrigated. (viii) 1 interculturing and 1 weeding. (ix) 22.1". (x) 4.11.1958.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 4 levels of N as A/S : N_0=0, N_1=15, N_2=30 and N_3=45 lb./ac.

(2) 4 levels of P_2O_5 as Super : P_0=0, P_1=15, P_2=30 and P_3=45 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) 16. (b) 224′×60.5′. (iii) 3. (iv) (a) 60.5′×14′. (b) 60.5′×12′. (v) One row on either side of the plant. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Aphids attack was normal—Sprayi g with 50% wetable D.D.T. (iii) Yield of dry pods. (iv) (a) 1957—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 498 lb./ac. (ii) 100.1 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of dry pod in lb./ac.

	N_0	N_1	N_2	N_3	Mean
P_0	430	515	390	580	479
P_1	440	515	480	500	484
P_2	430	530	670	500	532
P_3	430	530	555	470	496
Mean	432	522	524	512	498

S.E. of any marginal mean = 28.9 lb./ac.
S.E. of body of the table = 57.8 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 58(60).**

Site :- Govt. Main Farm, Raichur. **Type :- 'M'.**

Object :—To find out the effect of different levels of N and P on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 4½ C.L./ac. of F.Y.M.+100 lb./ac. of A/S+55 lb./ac. of Super. (ii) (a) *Chala* (Red sandy) soil. (b) N.A. (iii) 10.7.1958. (iv) (a) Ploughing and harrowing. (b) Sowing by draw tubes. (c) 50 lb./ac. (d) Rows 1′ apart. (e) N.A. (v) 5 C.L./ac. of F.Y.M. applied a fortnight before sowing (vi) TMV—2 (early). (vii) Unirrigated. (viii) 3 interculturings and 1 hand weeding. (ix) 22.1″. (x) 23.10.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(74) on page 697.

5. RESULTS :

(i) 582 lb./ac. (ii) 75.9 lb./ac. (iii) Main effect of P alone is highly significant. (iv) Av. yield of pod in lb./ac.

	N_0	N_1	N_2	N_3	Mean
P_0	595	675	645	555	617
P_1	520	530	510	475	509
P_2	515	550	590	735	597
P_3	530	625	625	640	605
Mean	540	595	592	601	582

S.E. of any marginal mean = 21.9 lb./ac.
S.E. of the body of the table = 43.8 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 54(203).**

Site :- Agri. Res. Stn., Saundatti. **Type :- 'M'.**

Object :—To study the effect of trace-elements on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) Nil. (ii) (a) Medium black soil. (b) N.A. (iii) 20.7.1954. (iv) (a) Harrowing 3 times. (b) Drilling. (c) 100 lb./ac. (d) 12″×3″ to 6″. (e) N.A. (v) Nil. (vi) Spanish peanut (local). (vii) Unirrigated. (viii) 2 interculturings and 1 weeding. (ix) 17.55″. (x) 1.11.1954.

2. TREATMENTS :

T_1=9 trace-elements, T_2=T_1 except B, T_3=T_1 except Mn, T_4=T_1 except Mg, T_5=T except Cu, T_6=T_1 except Zn, T_7=T_1 except CO, T_8=T_1 except Mo, T_9=T_1 except S and T_{10}=T_1 except Fe.
Amounts of the trace-elements B, Mn, Mg, Cu, Zn, CO, Mo, S and Fe are N.A.

3. DESIGN

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 2. (iv) (a) and (b) 20′×6′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of dry pods. (iv) (a) 1954—1955. (b) No. (c) Nil. (v) (a) and (b) N A. (vi) and (vii) Nil.

5. RESULTS :

(i) 491 lb./ac. (ii) 98.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of dry pod in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9	T_{10}
Av. yield	407	419	465	521	601	544	521	523	408	499

S.E./mean = 69.3 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 55(184).**

Site :- Agri. Res. Stn., Saundatti. **Type :- 'M'.**

Object :—To study the residual effect of trace —elements applied to preceding Groundnut crop on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 3 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) N.A. (iii) 16.7.1955. (iv) (a) Harrowing 3 times. (b) Drilling. (c) 100 lb./ac. (d) 12″×3″ to 6″. (e) N.A. (v) Nil. (vi) Spanish peanut (local). (vii) Unirrigated. (viii) 2 interculturings and 1 weeding. (ix) 24.5″. (x) 23.10.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no 54(203) above.

5. RESULTS :

(i) 586 lb./ac. (ii) 54.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of dry pod in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9	T_{10}
Av. yield	544	613	534	590	622	566	657	534	568	635

S.E./mean = 38.5 lb./ac.

Crop :- Groundnut. **Ref :- Ms. 54(204).**

Site :- Agri. Res. Stn., Saundatti. **Type :- 'M'.**

Object :—To study the residual effect of trace elements on Groundnut applied in the previous year in more fertile area.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar.* (c) Nil. (ii) (a) Medium black soil. (b) N.A. (iii) 20.7.1954. (iv) (a) Harrowing 3 times. (b) Drilling. (c) 100 lb./ac. (d) 12″ × 3″ to 6″. (e) N.A. (v) Nil. (vi) Spanish peanut (local). (vii) Unirrigated. (viii) 2 interculturings and 1 weeding. (ix) 17.55″. (x) 1.11.1954.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no 54(203) on page 699.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of dry pods. (iv) (a) 1953—1955. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vi) Nil.

5. RESULTS:

(i) 578 lb./ac. (ii) 108.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of dry pod in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9	T_{10}
Av. yield	555	759	521	544	555	601	555	579	534	579

S.E./mean = 77.0 lb./ac.

———

Crop :- Groundnut *(Kharif).* **Ref :- Ms. 55(179).**

Site :- Agri. Res. Stn., Saundatti. **Type :- 'M'.**

Object :—To study the effect of trace elements on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Medium black soil. (b) N.A. (iii) 16.7.1955. (iv) (a) Harrowing. (b) Drilling. (c) 100 lb./ac. (d) 12″ × 3″ to 6″. (e) N.A. (v) Nil. (vi) Spanish peanut (local). (vii) Unirrigated. (viii) 2 interculturiugs and one weeding. (ix) 15.50″. (x) 17.10.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(203) on page 699.

4. GENERAL :

(i) Germination was normal. *Bhusa* was spoiled on account of excessive rainfall at the time of harvest. (ii) No serious pests and diseases. Dusting of Gammexane. (iii) Yield of dry pods. (iv) (a) 1953—1955. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 557 lb./ac. (ii) 48.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of dry pod in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9	T_{10}
Av. yield	534	475	601	577	555	543	601	544	612	532

S.E./mean = 34.4 lb./ac.

———

Crop :- Groundnut *(Kharif).* **Ref :- Ms. 54(197).**

Site :- Agri. Res. Stn., Saundatti. **Type :- 'M'.**

Object :—To study the effect of different methods of application of P on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) Nil. (ii) (a) Medium black soil. (b) N.A. (iii) 4.7.1954. (iv) (a) Harrowing. (b) Drilling. (c) 100 lb./ac. (d) 12″×3″ to 6″. (e) N.A. (v) Nil. (vi) Spanish peanut. (vii) Unirrigated. (viii) 3 interculturings and 1 weeding. (ix) 12.49″. (x) 30.10 1954.

2. TREATMENTS :

All combinations of (1) and (2) + control (No P_2O_5).

(1) 3 levels of P_2O_5 as Super : P_1=10, P_2=20 and P_3=30 lb./ac.

(2) 3 methods of application of P_2O_5 : M_1=Broadcasting, M_2=Drilling in rows and M_3=Drilling in between rows.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 66.5′×24′. (b) 60.5′×18′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. However Gammexane was dusted. (iii) Plant count, yield of pods and *bhusa*. (iv) (a) 1951—1956. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 581 lb./ac. (ii) 76.0 lb./ac. (iii) 'Control *vs.* others' alone is significant. (iv) Av. yield of pod in lb./ac.

Control = 495 lb./ac.

	M_1	M_2	M_3	Mean
P_1	594	521	565	560
P_2	696	573	599	623
P_3	619	597	551	589
Mean	636	564	572	591

S.E. of any marginal mean = 21.9 lb./ac.
S.E. of body of table or control mean = 38.0 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 55(175).**

Site :- Agri. Res. Stn., Saundatti. **Type :- 'M'.**

Object :—To study the effect of different methods of application of P on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) Nil. (ii) (a) Medium black soil. (b) N.A. (iii) 5.7.1955. (iv) (a) 2 harrowings. (b) Drilling. (c) 100 lb./ac. (d) 12″×3″ to 6″. (e) N.A. (v) Nil. (vi) Spanish peanut (local). (vii) Unirrigated. (viii) Interculturing on 6.21 and 24.8.1955 and weeding on 5.9.1955. (ix) 20.07″. (x) 23.10.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(197) on page 700.

5. RESULTS :

(i) 465 lb./ac. (ii) 57.5 lb./ac. (iii) Main effects of P and M are highly significant. 'Control *vs.* others' is significant. (iv) Av. yield of pod in lb./ac.

Control = 409 lb./ac.

	M_1	M_2	M_3	Mean
P_1	462	519	399	460
P_2	466	448	400	438
P_3	561	533	451	515
Mean	496	500	417	471

S.E. of any marginal mean = 16.6 lb./ac.
S.E. of body of table or control mean = 28.8 lb./ac

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 56(104).**

Site :- Agri. Res. Stn., Saundatti. **Type :- 'M'.**

Object :—To study the effect of different methods of applications of P on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) Nil. (ii) (a) Medium black soil. (b) N.A. (iii) 8.7.1956. (iv) (a) 2 harrowings. (b) Drilling. (c) 100 lb./ac. (d) 12″×3″ to 6″. (e) N.A. (v) Nil. (vi) Spanish peanut (local). (vii) Unirrigated. (viii) 3 interculturings and 1 weeding. (ix) 24.37″. (x) 22.10.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(197) on page 700.

4. GENERAL :

(i) Normal. (ii) Aphids were noticed. No control measurers were taken. (iii) Plant count and yield of pods and *bhusa*. (iv) 1951—1956. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 600 lb./ac. (ii) 62.9 lb./ac. (iii) 'Control *vs.* rest' is highly significant and the main effect of P is significant. (iv) Av. yield of pod in lb./ac.

Control = 469 lb./ac.

	M_1	M_2	M_3	Mean
P_1	608	559	563	577
P_2	614	634	613	620
P_3	677	682	585	648
Mean	633	625	587	615

S.E. of any marginal mean = 18.2 lb./ac.
S.E. of body of the table or control mean = 31.5 lb./ac.

Crop :- Groundnut. **Ref :- Ms. 55(30).**

Site :- Agri. Res. Stn., Siruguppa. **Type:- 'M'.**

Object :—To find out the optimum doses of N and P to Groundnut crop under project conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 5 C.L./a.c. of F.Y.M.+40 lb./ac. of N+40 lb./ac. of P_2O_5. (ii) Heavy black clayey soil. (b) N.A. (iii) 21.6.1955. (iv) (a) 3 ploughings and bund forming. (b) Sown behind *gorru*. (c) to (e) N A. (v) 5 tons/ac. of F.Y.M. (vi) TMV—2. (vii) Irrigated. (viii) 2 weedings. (ix) 26.08″. (x) 21.10.1955.

2. TREATMENTS :

7 manurial treatments : M_0=Control (no fertilizers) M_1=20 lb./ac. of N, M_3=40 lb./ac. of N, M_3=20 lb./ac. of P_2O_5, M_4=40 lb./ac. of P_2O_5, $M_5=M_1+M_3$ and $M_6=M_2+M_4$.

N applied as A/S and P_2O_5 as Super.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) 1/100 ac. (b) 1/200 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) **Yield of pods.** (iv) (a) 1955—1958. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Heavy rains in August affected the crop resulting in poor yields. (vii) Nil.

5. RESULTS :

(i) 144 lb./ac. (ii) 59.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6
Av. yield	156	138	138	150	219	138	69

S.E./mean = 29.6 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 56(116).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the optimum dosage of N and P for Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut (b) F.Y.M. at 5 tons/ac.+20 lb./ac. of N+20 lb /ac. of P_2O_5. (ii) (a) Black cotton soil. (b) N.A. (iii) 30.6.1956. (iv) (a) Ploughing. (b) Drilling. (c) 100 lb./ac. (d) 12″×3″ to 6″. (e) N.A. (v) 5 tons/ac. of F.Y.M. (vi) TMV—2. (early). (vii) Irrigated. (viii) Weeding. (ix) 34 46″. (x) 22.11.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(30) on page 702.

4. GENERAL :

(i) Normal. (ii) Tikka disease was noticed in patches. (iii) Yield of pods. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 789 lb./ac. (ii) 127.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of dry pod in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6
Av. yield	665	791	743	928	806	759	621

S.E./mean = 63.7 lb./ac.

Crop :- Groundnut *(Rabi)*. **Ref :- Ms. 57(93).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the optimum dose of N and P for Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) N.A. (ii) (a) Deep black soil. (b) N.A. (iii) 18.6.1957. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 100 lb./ac. (d) 12″×3″ to 6″. (e) N.A. (v) 5 tons/ac. of F.Y.M. (vii) Irrigated. (viii) Hand weeding and passing *danthis* in between rows. (ix) 17.72″. (x) 8.10.1957.

2. TREATMENTS :

8 manurial treatments : M_0=Control, M_1=20 lb./ac. of N, M_2=40 lb./ac. of N, M_3=20 lb./ac. of P_2O_5, M_4=40 lb./ac. of P_2O_5, M_5=20 lb./ac. N+20 lb./ac. of P_2O_5, M_6=40 lb./ac. N+20 lb./ac of P_2O_5 and M_7=40 lb./ac. of N+40 lb /ac. of P_2O_5.

N applied as A/S and P_2O_5 as Super.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 1/66.7 (b) 1/133.3 (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of dry pods. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) One treatment is added during 1957.

5. RESULTS :

(i) 1775 lb./ac. (ii) 198.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of dry pod in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7
Av. yield	1652	1773	1829	1789	1777	1615	1889	1875

S.E./mean = 99.3 lb./ac.

Crop :- Groundnut. **Ref :- Ms. 59(67).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'M'.**

Object :—To find out the optimum dose of N and P for Groundnut.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Jowar.* (c) 5 tons/ac. of F.Y.M. (ii) (a) Black soil. (b) N.A. (iii) 4.7.1959. (iv) (a) Ploughing. (b) Drilling. (c) 128½ lb./ac. (d) 6"×6". (e) N.A. (v) 4 tons/ac. of F.Y.M. (vi) TMV—2. (vii) Irrigated. (viii) Hand weeding. (ix) 24.41". (x) 22.10.1959.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 levels of N as A/S : N_0=0, N_1=20 and N_2=40 lb./ac.

(2) 3 levels of P_2O_5 as Super : P_0=0, P_1=20 and P_2=40 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 1/50 ac. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Yield of pods. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 449 lb./ac. (ii) 159.7 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

	P_0	P_1	P_2	Mean
N_0	478	380	477	445
N_1	389	454	391	411
N_2	391	503	574	490
Mean	419	446	481	449

S.E. of any marginal mean = 46.1 lb./ac.
S.E. of body of the table = 79.9 lb./ac.

Crop :- Groundnut. **Ref :- Ms. 59(SFT).**

Centre :- Belgaum (c.f.). **Type :- 'M'.**

Object :—Type A—To study the response of Groundnut to levels of N, P and K, applied individually and in combinations.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Black soil. (iii) Nil. (iv) and (v) N.A. (vi) July 1959. (vii) Unirrigated. (viii) and (ix) N.A. (x) November—December, 1959.

2. TREATMENTS :

0 =Control (no manure).
n =20 lb./ac. of N as A/S.
p =30 lb /ac. of P_2O_5 as Super.
np =20 lb./ac. of N as A/S+30 lb./ac. of P_2O_5 as Super.
k =30 lb./ac. of K_2O as Mur. Pot.
nk =20 lb./ac. of N as A/S+30 lb./ac. of K_2O as Mur. Pot.
pk =30 lb./ac. of P_2O_5 as Super+30 lb./ac. of K_2O as Mur. Pot.
npk =20 lb./ac. of N as A/S+30 lb./ac. of P_2O_5 as Super+30 lb./ac. of K_2O as Mur. Pot.

3. DESIGN :

(i) and (ii) The district has been divided into four agriculturally homogeneous zones and one field assistant posted in each zone. The field assistant conducts the trials in one Revenue circle or thana in the zone and the circle/thana is changed once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year, 8 on *kharif* cereal, 8 on *rabi* cereal, 8 on cash crops, 4 on an oilseed crop and 3 on a leguminous crop. Half the number of trials conducted are of type A and the other half of type B on crops other tha the legumes. The three trials on legumes are of type C. Residual effects of phosphate application are studied on type C trials in two out of the zones in each district every year. The experiments are laid out in randomly located fields in randomly selected villages in each of the 4 zones at the rate of one experiment per village. (iii) (a) 1/40 ac. (b) 1/80 ac. (iv) Yes.

4. GENERAL :

(i) Normal. (ii) N.A. (iii) Pod yield. (iv) (a) 1959—contd. (b) No. (c) Nil. (v) As per design. (vi) and (vii) Nil.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	132	362	197	40.3	16	33	0	58	48.5

Control yield = 938 lb./ac. and no. of trials = 7.

Crop :- Groundnut. **Ref :- Ms. 59(SFT).**

Centre :- Bellary (c.f.). **Type :- 'M'.**

Object :—Type A—To study the response of Groundnut to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red and deep black soil. (iii) Nil. (iv) and (v) N.A. (vi) July. (vii) Unirrigated. (viii) and (ix) N.A. (x) November—December, 1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59(SFT) type A on page 704 conducted at Belgaum.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	16	99	16	27.2	—16	16	0	16	23.9

Control mean = 823 lb./ac. and no. of trials = 6.

Crop :- Groundnut. **Ref :- Ms. 59(SFT).**

Centre :- Chikkamaglur (c.f.). **Type :- 'M'.**

Object :—Type A—To study the response of Groundnut to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red soil. (iii) Nil. (iv) and (v) N.A. (vi) July, 1959. (vii) Unirrigated. (viii) and (ix) N.A. (x) November—December, 1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59(SFT) type A on page 704 conducted at Belgaum.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	107	99	33	80.6	91	—304	148	58	131.7

Control mean = 1243 lb./ac. and no. of trials = 2.

Crop :- Groundnut. **Ref :- Ms. 59(SFT).**

Centre :- Mandya (c.f.). **Type :- 'M'.**

Object :—Type A—To study the response of Groundnut to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red soil. (iii) Nil. (iv) and (v) N.A. (vi) July, 1959. (vii) Unirrigated. (viii) and (ix) N.A. (x) November—December, 1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59(SFT) type A on page 704 conducted at Belgaum.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	99	91	8	22.2	—8	16	25	25	14.8

Control mean = 922 lb./ac. and no. of trials = 3.

Crop :- Groundnut. **Ref :- Ms. 59(SFT).**

Centre :- Raichur (c.f.). **Type :- 'M'.**

Object :—Type A—To study the response of Groundnut to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Laterite soil. (iii) Nil. (iv) and (v) N.A. (vi) July, 1959. (vii) Unirrigated. (viii) and (ix) N.A. (x) November—December, 1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59(SFT) type A on page 704 conducted at Belgaum.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	0	33	8	9.9	0	0	—16	8	17.3

Control mean = 173 lb./ac. and no. of trials = 2.

Crop :- Groundnut. **Ref :- Ms. 59(SFT).**

Centre :- Shimoga (c.f.). **Type :- 'M'.**

Object :—Type A—To study the response of Groundnut to levels of N P and K applied individually and in combinations.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red and laterite soil. (iii) Nil. (iv) and (v) N.A. (vi) July, 1959. (vii) Unirrigated. (viii) and (ix) N.A. (x) November—December, 1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59(SFT) type A on page 704 conducted at Belgaum.

5. RESULTS :

Effect	n	p	k	S.E.	np	nk	pk	npk	S.E.
Av. response in lb./ac.	82	132	—49	34.6	—72	—33	—66	82	28.8

Control mean = 848 lb./ac. and no. of trials = 4.

Crop :- Groundnut. **Ref :- Ms. 59(SFT).**

Centre :- Bangalore (c.f.). **Type :- 'M'.**

Object :—Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red and laterite soil. (iii) Nil. (iv) July, 1959. (v) Nil. (vi) N.A. (vii) Unirrigated. (viii) and (ix) N.A. (x) November—December, 1959.

2. TREATMENTS :

0 = Control (no manure).
n_1 = 20 lb./ac. of N as A/S.
n_2 = 40 lb./ac. of N as A/S.
n_1' = 20 lb./ac. of N as Urea.
n_2' = 40 lb./ac. of N as Urea.
n_1'' = 20 lb./ac. of N as A/S/N.
n_2'' = 40 lb./ac. of N as A/S/N.

3. DESIGN :

(i) and (ii) The district has been divided into four agriculturally homogenous zones and one field assistant posted in each zone. The field assistant conducts the trials in one Revenue circle or thana in the zone and the circle/thana is changed once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year, 8 on *kharif* cereal, 8 on *rabi* cereal, 8 on cash crops, 4 on an oilseed crop and 3 on a leguminous crop. Half the number of trials conducted are of type A and the other half of type B on crops other than the legumes. The three trials on legumes are of type C. Residual effects of phosphate application are studied on type C trials in two out of the four zones in each district every year. The experiments are laid out the in randomly located fields in randomly selected villages in each of the 4 zones at the rate of one experiment per village. (iii) (a) 1/40 ac. (b) 1/80 ac. (iv) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Pod yield. (iv) (a) 1959—contd. (b) No. (c) Nil. (v) As per design. (vi) and (vii) Nil.

5. RESULTS :

Treatment	0	n_1	n_2	n_1'	n_2'	n_1''	n_2''
Av. yield	1580	2139	1596	1514	1531	1679	1703

G.M. = 1677 lb./ac. ; S.E, = 69.8 lb./ac. and no. of trials = 4.

Crop :- Groundnut. **Ref :- Ms. 59(SFT).**

Centre :- Belgaum (c.f.). **Type :- 'M'.**

Object :—Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Black soil. (iii) Nil. (iv) and (v) N.A. (vi) July 1959. (vii) Unirrigated. (viii) and (ix) N.A. (x) November—December 1959.

2. TREATMENTS :

0 =Control (no manure).
n_1' =20 lb./ac. of N as Urea.
n_2' =40 lb./ac. of N as Urea.
n_1'' =20 lb./ac of N as A/S/N.
n_2'' =40 lb./ac. of N as A/S/N.
n_1''' =20 lb./ac. of N as C/A/N.
n_2''' =40 lb./ac. of N as C/A/N.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 59(SFT) type B on page 707 conducted at Bangalore.

5. RESULTS :

Treatment	0	n_1'	n_2'	n_1''	n_2''	n_1'''	n_2'''
Av. yield	1284	1588	1596	1728	1942	1613	1489

G.M. = 1606 lb./ac. ; S.E. = 100.1 lb./ac. and no. of trials = 6.

Crop :- Groundnut. **Ref :- Ms. 59(SFT).**

Centre :- Bellary (c.f.). **Type :- 'M'.**

Object :—Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red and deep black soil. (iii) Nil. (iv) and (v) N.A. (vi) July 1959. (vii) Unirrigated. (viii) and (ix) N.A. (x) November—December 1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59(SFT) type B on page 707 conducted at Bangalore.

5. RESULTS :

Treatment	0	n_1	n_2	n_1'	n_2'	n_1''	n_2''
Av. yield	1424	1440	1473	1473	1448	1448	1539

G.M. = 1464 lb./ac. ; S.E. = 52.4 lb./ac. and no. of trials = 3.

Crop :- Groundnut. **Ref :- Ms. 59(SFT).**

Centre :- Bellary (c.f). **Type :- 'M'.**

Object :—Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red and deep black soil. (iii) Nil. (iv) and (v) N.A. (vi) July 1959. (vii) Unirrigated. (viii) and (ix) N.A. (x) November—December 1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59(SFT) type B on page 707 conducted at Bangalore.

5. RESULTS :

Treatment	0	n_1	n_2	n_1'	n_2'	n_1''	n_2''
Av. yield	370	411	477	420	477	477	527

G.M. = 451 lb./ac. ; S E. = 14.5 lb./ac. and no. of trials = 3.

Crop :- Groundnut. **Ref :- Ms. 59(SFT).**

Centre :- Chickmagalur (c.f.). **Type :- 'M'.**

Object :—Type B—To investigate the relative efficiency of different nitrogenus fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red soil. (iii) Nil. (iv) and (v) N.A. (vi) July 1959. (vii) Unirrigated. (viii) and (ix) N.A. (x) November—December, 1959.

2. TREATMENTS :

0 =Control (no manure).
n_1' =20 lb./ac. of N as Urea.
n_2' =40 lb./ac. of N as Urea.
n_1'' =20 lb./ac. of N as A/S/N.
n_2'' =40 lb./ac. of N as A/S/N.
n_1''' =20 lb./ac. of N as C/A/N.
n_2''' =40 lb./ac. of N as C/A/N.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 59(SFT) type B on page 707 conducted at Bangalore.

5. RESULTS :

Treatment	0	n_1'	n_2'	n_1''	n_2''	n_1'''	n_2'''
Av. yield	1407	1127	1243	1201	1325	1243	1127

G.M. = 1239 lb./ac. ; S E. = 70.4 lb./ac. and no. of trials = 2.

Crop :- Groundnut. **Ref :- Ms. 59(SFT).**

Centre :- Raichur (c.f.). **Type :- 'M'.**

Object :—Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Latrerite soil. (iii) Nil. (iv) and (v) N.A. (vi) July 1959. (vii) Unirrigated. (viii) and (ix) N.A. (x) November 1959.

2. TREATMENTS :

0 =Control (no manure).
n_1' =20 lb./ac. of N as Urea.
n_2' =40 lb./ac. of N as Urea.
n_1'' =20 lb./ac. of N as A/S/N.
n_2'' =40 lb./ac. of N as A/S/N.
n_1''' =20 lb./ac. of N as C/A/N.
n_2''' =40 lb./ac. of N as C/A/N.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 59 (SFT) type B on page 707 conducted at Bangalore.

5. RESULTS :

Treatment	0	n_1'	n_2'	n_1''	n_2''	n_1'''	n_2'''
Av. yield	189	230	206	148	181	156	206

G.M. = 188 lb./ac., S.E. = 36.1 lb./ac. and no. of trials = 2.

Crop :- Groundnut. **Ref :- Ms. 59(SFT).**

Centre :- Shimoga (c.f.). **Type :- 'M'.**

Object : –Type B–To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Black soil. (iii) Nil. (iv) and (v) N.A. (vi) July. (vii) Unirrigated, (viii) and (ix) N.A. (x) November—December.

2. TREATMENTS :

0 =Control (no manure).
n_1' =20 lb./ac. of N as Urea.
n_2' =40 lb./ac. of N as Urea.
n_1'' =20 lb./ac. of N as A/S/N.
n_2'' =40 lb./ac. of N as A/S/N.
n_1''' =20 lb./ac. of N as C/A/N.
n_2''' =40 lb./ac. of N as C/A/N.

3. DESIGN and 4. GENERAL :

Same as in expt. 59 (SFT) type B on page 707 conducted at Bangalore.

4. RESULTS :

Treatment	0	n_1'	n_2'	n_1''	n_2''	n_1'''	n_2'''
Av. yield	724	1226	1053	897	938	897	831

G.M. = 938 lb./ac., S.E. = 77.4 lb./ac. and no. of trials = 4.

Crop :- Groundnut. **Ref :- Ms. 54(171).**

Site :- Agri. Res. Stn., Annigeri. **Type :- 'C'.**

Object :—To find out the effect of different seed rates and spacings on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Safflower. (c) N.A. (ii) (a) Deep black soil. (b) Refer soil analysis, Annigeri. (iii) 8.7.1954. (iv) (a) Ploughing. (b) Seeds dibbled. (c) and (d) As per treatments. (e) N.A. (v) 5 C.L./ac. of F.Y.M. applied before sowing. (v) Spanish improved (early). (vii) Unirrigated. (viii) 4 interculturings and 1 weeding. (ix) 15.75". (x) 21.10.1954.

2. TREATMENTS :

Main-plot treatments :

3 row spacings : R_1=12", R_2=15" and R_3=18".

Sub-plot treatments :

3 seed rates : S_1=80, S_2=100 and S_3=120 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 36'×19', 36'×20' and 36'×21' for R_1, R_2 and R_3 respectively. (b) 30'×15'. (v) 2 rows on either side of the plot and 3' on the other two sides. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Yield of pod. (iv) (a) 1952—1954. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Scarcity of rains was there. (vii) Nil.

5. RESULTS :

(i) 1452 lb./ac. (ii) (a) 82.8 lb./ac. (b) 108.5 lb./ac. (iii) Main effect of S alone is significant. (iv) Av. yield of dry pod in lb./ac.

	R_1	R_2	R_3	Mean
S_1	1399	1377	1419	1399
S_2	1494	1495	1403	1464
S_3	1510	1495	1476	1494
Mean	1468	1456	1433	1452

S.E. of difference of two

1. R marginal means = 27.6 lb./ac.
2. S marginal means = 36.2 lb./ac.
3. S means at the same level of R = 62.6 lb./ac.
4. R means at the same level of S = 58.1 lb./ac.

Crop :- Groundnut. **Ref :- Ms. 54(126).**

Site :- Agri. Res. Stn., Bailhongal. **Type :- 'C'.**

Object :—To find out the optimum seedrate and spacing for Groundnut crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar.* (c) 4 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) N.A. (iii) 2.7.1954. (iv) (a) 1 ploughing and 2 harrowings. (b) to (e) N.A. (v) 4 C.L./ac. of F.Y.M. broadcasted at the time of preparatory tillage. (vi) Spanish improved. (vii) Unirrigated. (viii) 2 interculturings and 1 weeding. (ix) 16.5". (x) 6.10.1954.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(171) on page 710.

4. GENERAL :

(i) Not satisfactory. (ii) Slight attack of *tikka* disease. No control measures taken. (iii) Height of plant, no. of sterile and fertile pods per plant and yield of pods. (iv) (a) 1952—1954. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) Draught condition prevailed during the season.

5. RESULTS :

(i) 898 lb./ac. (ii) (a) 112.3 lb./ac. (b) 98.7 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of pod in lb./ac.

	R_1	R_2	R_3	Mean
S_1	898	942	802	881
S_2	926	902	966	931
S_3	897	869	881	882
Mean	907	904	883	898

S.E. of difference of two

1. R marginal means = 26.5 lb./ac.
2. S marginal means = 23.3 lb./ac.
3. S means at the same level of R = 57.0 lb./ac.
4. R means at the same level of S = 59.7 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 56(188).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'C'.**

Object :—To study the effect of different seed sizes and seed rates on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 10, 11.8.1956. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) As per treatments. (d) 12" between rows. (e) N.A. (v) N.A. (vi) P—8 (late) (spreading variety). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 14.13". (x) 6.12.1956.

2. TREATMENTS :

Main-plot treatments :

6 grades of seeds : G_1=Grade I, G_2=Grade II, G_3=Grade III, G_4=Grade IV, G_5=Grade V and G_6=Grade VI.

Sub-plot treatments :

3 seed rates : R_1=100, R_2=125 and R_3=150 lb./ac.

Details of gradation of seeds N.A.

3. DESIGN :

(i) Split-plot. (ii) (a) 6 main-plots/replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 7'×18'. (b) 7'×16'. (v) 1 row on either side of the plot. (vi) Yes.

4. GENERAL :

(i) Stunted due to heavy rains. (ii) *Tikka* disease noticed. (iii) No. of pods/plant and weight of dry pods. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 479 lb./ac. (ii) (a) 121.5 lb./ac. (b) 108.8 lb./ac. (iii) Only the main effect of G is highly significant. (iv) Av. yield of pod in lb./ac.

	G_1	G_2	G_3	G_4	G_5	G_6	Mean
R_1	486	529	456	529	328	413	457
R_2	407	620	535	486	377	444	478
R_3	517	656	498	498	334	504	501
Mean	470	602	496	504	346	454	479

S.E. of difference of two

1. G marginal means = 49.6 lb./ac.
2. R marginal means = 31.4 lb./ac.
3. R means at the same level of G = 76.9 lb./ac.
4. G means at the same level of R = 80.0 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 57(217).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'C'.**

Object :—To study the effect of different seed sizes and seed rates on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) N.A. (ii) (a) Alkaline soil. (b) Refer soil analysis, Bijapur. (iii) 19.6.1957. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) As per treatments. (d) 12" between rows. (e) N.A. (v) N.A. (vi) P—8 (late) (spreading variety). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 29.68". (x) 18.12.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(188) on page 712.

4. GENERAL :

(i) Normal. (ii) Aphids attack was observed. (iii) Height of plants, spread, no. of pods/plant and yield of dry pod. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1033 lb./ac. (ii) (a) 168.0 lb./ac. (b) 166.3 lb./ac. (iii) Only the main effect of G is significant. (iv) Av. yield of pod in lb./ac.

	G_1	G_2	G_3	G_4	G_5	G_6	Mean
R_1	876	1047	1046	1082	772	1070	982
R_2	1037	1001	1145	928	942	1289	1057
R_3	1004	1114	1104	1025	960	1156	1061
	972	1054	1098	1012	891	1172	1033

S.E. of difference of two

1. G marginal means = 68.6 lb./ac.
2. R marginal means = 48.0 lb./ac.
3. R means at the same level of G = 117.6 lb./ac.
4. G means at the same level of R = 118.0 lb /ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 58(226).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'C'.**

Object :—To study the effect of different seed sizes and seed rates on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) N.A. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 9.7.1958. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) As per treatments. (d) 12" between rows. (e) N.A. (v) N.A. (vi) P—8 (late) (spreading variety). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 19.35". (x) 8.12.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(188) on page 712.

4. GENERAL :

(i) Fair. (ii) (a) Nil. (b) Height of plants ; no. of pods/plant and yield of dry pod. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1241 lb./ac. (ii) (a) 222.2 lb./ac. (b) 191.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of pod in lb./ac.

	G_1	G_2	G_3	G_4	G_5	G_6	Mean
R_1	1288	1392	1155	1379	1373	1136	1287
R_2	1203	1185	1057	1264	1331	1349	1231
R_3	1136	1142	1258	1215	1185	1300	1206
Mean	1209	1240	1156	1286	1296	1262	1241

S.E. of difference of two

1. G marginal means = 90.7 lb./ac.
2. R marginal means = 55.2 lb./ac.
3. R means at the same level of G = 135.2 lb./ac.
4. G means at the same level of R = 142.9 lb./ac.

Crop :- Groundnut *(Kharif).* **Ref :- Ms. 56(187).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'C'.**

Object :—To study the effect of different seed sizes and seed rates on the yield of erect variety of Groundnut.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Jowar.* (c) N.A. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 10.8.1956. (iv) (a) Ploughing and horrowing. (b) Dibbling. (c) As per treatments. (d) 12" between rows. (e) —. (v) N.A. (vi) Spanish improved—(early). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 14.13". (x) 6.12.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(188) on page 712.

5. RESULTS :

(i) 420 lb./ac. (ii) (a) 52.9 lb./ac. (b) 59.2 lb./ac. (iii) Only the main effect of G is highly significant. (iv) Av. yield of pod in lb./ac.

	G_1	G_2	G_3	G_4	G_5	G_6	Mean
R_1	340	468	456	346	298	492	400
R_2	395	511	438	353	310	498	417
R_3	498	511	419	383	310	529	442
Mean	411	496	438	361	306	506	420

S.E. of difference of two

1. G marainal means = 21.6 lb./ac.
2. R marginal means = 17.1 lb./ac.
3. R means at the same level of G = 37.4 lb./ac.
4. G means at the same level of R = 40.4 lb./ac.

Crop :- Groundnut *(Kharif).* **Ref :- Ms. 57(218).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'C'.**

Object :—To study the effect of different seed sizes and seed rates on the yield of erect variety of Groundnut

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar.* (c) N.A. (ii) (a) Alkaline soil. (b) Refer soil analysis, Bijapur. (iii) 19.6.1957/. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) As per treatments. (d) 12" between rows. (e) —. (v) N.A. (vi) Spanish improved (early). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 29.68". (x) 17, 18.11.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(188) on page 712.

4. GENERAL :

(i) Normal. (ii) Aphids attack noticed. (iii) Height of plants No. of pods/plants, and yield of dry pods. (lv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 524 lb./ac. (ii) (a) 102.9 lb./ac. (b) 95.3 lb./ac. (iii) Effect of R alone is significant. (iv) Av. yield of pod in lb./ac.

	G_1	G_2	G_3	G_4	G_5	G_6	Mean
R_1	525	375	502	547	515	441	484
R_2	469	578	581	470	568	563	538
R_3	583	484	482	578	656	524	551
Mean	526	479	522	532	580	509	524

S.E. of difference of two

1. G marginal means = 42.0 lb./ac.
2. R marginal means = 27.5 lb./ac.
3. R means at the same level of G = 67.4 lb./ac.
4. G means at the same leve of R = 69.2 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 58(225).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'C'.**

Object :—To study the effect of different seed sizes and seed rates on the yield of erect variety of Groundnut

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) N.A. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 9.7.1958/—. (iv) (a) Ploughings and horrowing. (b) Drilling. (c) As per treatments. (d) 12" between rows. (e) N.A. (v) N.A. (vi) Spanish improved (early). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 17.12". (x) 24.10.1958.

2. TREATMENTS and 3. DESIGN :

Same as expt. no. 56(188) on page 712.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Height of plants, no. of pods/plant and yield of dry pods (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 684 lb./ac. (ii) (a) 103.9 lb./ac. (b) 159.3 lb./ac. (iii) Only the effect of G is significant. (iv) Av. yield of pod in lb./ac.

	G_1	G_2	G_3	G_4	G_5	G_6	Mean
R_1	480	711	596	796	638	650	645
R_2	644	650	748	735	760	699	706
R_3	602	638	802	693	681	784	700
Mean	575	666	715	741	693	711	684

S.E. of difference of two

1. G marginal means = 42.4 lb./ac.
2. R marginal means = 46.0 lb./ac.
3. R means at the same level of G = 112.6 lb./ac.
4. G means at the same level of R = 101.3 lb./ac.

Crop :- Groundnut. **Ref :- Ms. 54(143).**

Site :- Agri. Res. Stn., Bijapur (c.f.). **Type :- 'C'.**

Object :—To find out a suitable spacing and economic seed rate for Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 5 C. L./ac. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 7, 8.8.1954/—. (iv) (a) Ploughing once in three years and 2—3 harrowings. (b) Drill sowing. (c) and (d) As per treatments. (e) N.A. (v) 5 C.L./ac. of F.Y.M. applied once in 3 years. (vi) Pondichery—8 (late). (vii) Unirrigated. (viii) 1 interculturing and 3 weedings. (ix) 8.95". (x) 15.12.1954.

2. TREATMENTS :

Main-plot treatments :

3 row spacings : R_1=12", R_2=18" and R_3=24".

Sub-plot treatments :

3 seed rates : S_1=80, S_2=100 and S_3=120 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication, 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 54'×16' for R_1 and R_3 and 54'×15' for R_2. (b) 48'×12'. (v) 3' along length. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) *Tikka* disease at the time of its maturity. No control measures taken. (iii) Yield of pod. (iv) (a) 1952—1954. (b) No. (c) Nil.(v) (a) and (b) N.A. (vi) Nil. (vii) Poor yields due to low rainfall.

5. RESULTS.

(i) 413 lb./ac. (ii) (a) 65.8 lb./ac. (b) 36.3 lb./ac. (iii) Main effect S and R×S interaction are highly significant. (iv) Av. yield of pod in lb./ac.

	R_1	R_2	R_3	Mean
S_1	428	399	349	392
S_2	366	440	418	408
S_3	407	477	436	440
Mean	400	439	401	413

S.E. of difference two

1. R marginal means = 21.9 lb./ac.
2. S marginal means = 12.1 lb./ac.
3. S means at the same level of R = 21.0 lb./ac.
4. R means at the same level of S = 27.8 lb./ac.

Crop :- Groundnut. **Ref :- Ms. 54(142).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'C'.**

Object :—To find out a suitable spacing and economic seed rate for Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 7.8.1954. (iv) (a) Ploughing once in three years and 2—3 harroings. (b) Drill sowing. (c) and (d) As per treatments. (e) N.A. (v) 5 C.L./ac. of F.Y.M. applied once in 3 years. (vi) Spanish improved, (early). (vii) Unirrigated. (viii) One interculturing and two weedings. (ix) 8.70". (x) 25, 26.11.1954.

2. TREATMENTS :

Main-plot treatments :

3 row spacings . R_1=12", R_2=15" and R_3=18".

Sub-plot treatments :

3 seed rates : S_1=80, S_2=100 and S_3=120 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 51′×19′, 51′×20′ and 51′×21′ for R_1, R_2 and R_3 respectively. (b) 45′×15′. (v) 3′ along length, 2′, 2½′ and 3′ along breadth. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) *Tikka* disease appeared on the the crop at the time of maturity. No control measures taken. (iv) (a) 1952—1954. (b) No. (c) Nil. (v) (a) and (b) Not known. (vi) Rain fall was scarce. (vii) Nil.

5. RESULTS :

(i) 371 lb./ac. (ii) (a) 63.9 lb./ac. (b) 42.6 lb./ac. (iii) Main effect of S alone is highly significant. (iv) Av. yield of pod in lb./ac.

	R_1	R_2	R_3	Mean
S_1	315	323	360	333
S_2	381	374	388	381
S_3	432	372	391	398
Mean	376	356	380	371

S.E. of difference of two

1. R marginal means = 21.3 lb./ac.
2. S marginal means = 14.2 lb./ac.
3. S means at the same level of R = 24.6 lb./ac.
4. R means at the same level of S = 29.3 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 54(209).**

Site :- College Farm, Dharwar. **Type :- 'C'**

Object :—To find out a suitable spacing and seed rate for Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar (College Farm). (iii) 14.6.1954. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) and (d) As per treatments. (e) N.A. (v) Nil. (vi) Spanish improved—erect (early). (vii) Unirrigated. (viii) 1 interculturing and 1 weeding. (ix) 29.9″. (x) 9.10.1954.

2. TREATMENTS :

Main-plot treatments :

3 row spacings : R_1=12″, R_2=15″ and R_3=20″

Sub-plot treatments :

3 seed rates : S_1=80, S_2=100 and S_3=120 lb./ac.

3. DESIGN :

(i) Split-plot. (b) (a) 3 main-plots/replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 19′×36′ for R_1 ; 20′×36′ for R_2 and 21′×36′ for R_3. (b) 15′×32′. (v) 2′ along length and 2′, 2½′ and 3′ along breadth. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Yield of wet pods. (iv) (a) 1952—1955. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1967 lb./ac. (ii) (a) 524.3 lb./ac. (b) 277.7 lb./ac. (iii) Main effect of S alone is highly significant. (iv) Av. yield of wet pod in lb./ac.

	R_1	R_2	R_3	Mean
S_1	1830	1739	1996	1855
S_2	1603	1883	2102	1863
S_3	2223	2087	2238	2183
Mean	1885	1903	2112	1967

S.E. of difference of two

1. R marginal means = 174.8 lb./ac.
2. S marginal means = 92.6 lb./ac.
3. S means at the same level of R = 160.3 lb./ac.
4. R means at the same level of S = 218.4 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 55(190).**

Site :- College Farm, Dharwar. **Type :- 'C'.**

Object :—To find out a suitable spacing and seed rate for Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar.* (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar (College farm). (iii) 11, 12.7.1955. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) and (d) As per treatments. (e) N.A. (v) Nil. (vi) Spanish improved erect variety (early). (vii) Unirrigated. (viii) Two interculturings and one weeding. (ix) 20". (x) 5.11.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(209) on page 717.

5. RESULTS :

(i) 1295 lb./ac. (ii) (a) 353.6 lb./ac. (b) 581.0 lb./ac. (iii) Main effect of R alone is highly significant. (iv) Av. yield of wet pod in lb./ac.

	R_1	R_2	R_3	Mean
S_1	1467	1361	787	1205
S_2	1664	1104	1225	1331
S_3	1739	1331	983	1351
Mean	1623	1265	998	1295

S.E. of difference of two

1. R marginal means = 117.9 lb./ac.
2. S marginal means = 193.7 lb./ac.
3. S means at the same level of R = 335.4 lb./ac.
4. R means at the same level of S = 298.2 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 54(210).**

Site :- College Farm, Dharwar. **Type :- 'C'.**

Object :—To find out the suitable spacing and seed rate for the spreading variety of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jawar.* (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar (College Farm). (iii) 20.6.1954. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) and (d) As per treatments. (e) N.A. (v) Nil. (vi) Pondicherry 8—Spreading variety (late). (vii) Unirrigated. (viii) One interculturing and weeding. (ix) 29.9". (x) 5.12.1954.

2. TREATMENTS :

Main-plot treatments :

3 row spacings : R_1=12", R_2=15" and R_3=11".

Sub-plot treatments :

3 seed rates : S_1=80, S_2=100 and S_3=120 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 16'×36' for R_1, 20'×36' for R_2 and 18'×36' for R_3. (b) 12'×32'. (v) 2' along the breadth and 2', 4' and 3' along the length. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of pods. (iv) (a) 1952—1954. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 817 lb./ac. (ii) (a) 125.9 lb./ac. (b) 297.8 lb./ac. (iii) Main effect of R alone is significant. (iv) Av. yield of pod in lb./ac.

	R_1	R_2	R_3	Mean
S_1	879	813	889	860
S_2	690	889	926	835
S_3	700	700	870	757
Mean	756	801	895	817

S.E. of difference of two

1. R marginal means = 42.0 lb./ac.
2. S marginal means = 99.3 lb./ac.
3. S means at the same level of R = 171.9 lb./ac.
4. R means at the same level of S = 146.5 lb./ac.

Crop :- Groundnut *(Rabi)*. **Ref :- Ms. 57(91).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'C'.**

Object :—To find out the effect of different dates of sowing on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) As per treatments. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 100 lb./ac. (d) and (e) N.A. (v) 20 lb./ac. of P_2O_5+5 tons/ac. of F.Y.M. (vi) TMV—2 (early). (vii) Irrigated. (viii) Hand weeding. (ix) 13.65", (x) N.A.

2. TREATMENTS :

6 dates of sowing : D_1=8.11.1957, D_2=15.11.1957, D_3=3.12.1957, D_4=18.12.1957, D_5=3.1.1958 and D_6=21.1.1958.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) 1/66.7 ac. (b) 1/100 ac. (v) Details N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of pod. (iv) (a) 1957—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 606 lb./ac. (ii) 202.0 lb /ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	D_1	D_2	D_3	D_4	D_5	D_6
Av. yield	687	834	490	600	526	496

S.E./mean = 90.3 lb./ac.

Crop :- Groundnut *(Rabi)*. **Ref :- Ms. 58(81).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'C'.**

Object :—To find out the effect of different dates of sowing on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) As per treatments. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) 100 lb./ac. (d) and (e) N.A. (v) 5 tons/ac. of F.Y M. broadcasted+20 lb./ac. of P_2O_5 as Super drilled. (vi) TMV—2 (early). (vii) Irrigated. (viii) Hand weeding and passing danthies. (ix) 15.20". (x) N.A.

2. TREATMENTS :

6 dates of sowing : D_1=4.11.1958, D_2=19.11.1958, D_3=1.12.1958, D_4=15.12.1958, D_5=2.1.1959 and D_6=20.1.1959.

3. DESIGN :

(i) R.B D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) and (b) 1/100 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Surulpuchi noticed. (iii) Yield of pod. (iv) (a) 1957—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 315 lb./ac. (ii) 139.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

Treatment	D_1	D_2	D_3	D_4	D_5	D_6
Av. yield	201	161	136	321	339	733

S.E./mean = 62.2 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 59(216).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'D'.**

Object :—To study the effect of different fungicides on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) Alkaline soil. (b) Refer soil analysis, Bijapur. (iii) 26.7.1959. (iv) (a) Ploughing. (b) Dibbling. (c) 100 lb./ac. (d) 15" between rows. (e) —. (v) N.A. (vii) Spanish improved. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 11.07": (x) 16.12.1959.

2. TREATMENTS :

5 fungicides : F_0=Control, F_1=Ceresan dry, F_2=Ceresan wet, F_3=Agrosan G.N. and F_4=Sulphur.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/302 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Slight attack of aphids. (iii) Yield of pod. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 597 lb./ac. (ii) 105.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	F_0	F_1	F_2	F_3	F_4
Av. yield	657	628	581	595	524

S.E./mean = 52.9 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 58(86).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'D'.**

Object :—To find out the effect of different fungicides on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Black soil. (b) Refer soil analysis, Bijapur. (iii) 10.7.1958. (iv) (a) N.A. (b) Dibbling. (c) 100 lb./ac. (d) 12″ between rows. (e) N.A. (v) Nil. (vi) Spanish improved. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 7.82″. (x) 25.11.1958.

2. TREATMENTS :

4 fungicides : F_0=Control, F_1=Ceresan dry, F_2=Cereson wet and F_3=Agroson G.N.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 8. (iv) (a) 30′×8′. (b) 24′×6′. (v) 3′×1′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of pod. (iv) (a) 1958—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 511 lb./ac. (ii) 55.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	F_0	F_1	F_2	F_3
Av. yield	513	494	503	532

S.E./mean = 19.7 lb./ac.

Crop :- Groundnut *(Kharif)*. **Ref :- Ms. 54(140).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'M'.**

Object :—To study the effect of hormone treatment of seed on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Cereals—Pulses. (b) Gram. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 8.11.1954. (iv) (a) Ploughing is done once in three years. (b) Drilling with 12″ spaced 4 coultered seed drill. (c) 80 lb./ac. (d) 12″ between rows. (e) —. (v) 5 C.L./ac. of F.Y.M. once in three years. (vi) Spanish improved (early). (vii) Unirrigated. (viii) 1 interculturing and weeding. (ix) 8.70″. (x) 30 11.1954.

2. TREATMENTS :

7 hormone treatments of the seed (soaking for 20 hrs.) : H_0=Control (untreated), H_1=water, H_2=0.00033 ppm, H_3=0.0033 ppm, H_4=0.0011 ppm, H_5=00.1 ppm and H_6=0.33 ppm.

Hormone used is 2—4—Dicotox

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) 36′×18′. (b) 30′×12′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) The crop growth was poor due to inadequate rainfall. (ii) Slight incidence of *tikka* disease. (iii) Yield data. (iv) (a) 1952—1954. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 317 lb./ac. (ii) 35.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	H_0	H_1	H_2	H_3	H_4	H_5	H_6
Av. yield	330	340	306	328	345	307	262

S.E./mean = 17.5 lb./ac.

Crop :- Safflower. **Ref :- Ms. 54(124).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object—To dertermine the N, P and K requirements of Safflower.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Fodder *Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 25.10.1954. (iv) (a) 3 harrowings. (b) Dibbled. (c) N.A. (d) Rows 24″ apart.(e) 2. (v) Nil. (vi) Local. (vii) Unirrigated. (viii) Nil. (ix) 25.44″. (x) 20.3.1955.

2. TREATMENTS :

All combinations of (1) ,(2) and (3) with a B.D. of 5 C.L./ac. of F.Y.M.+Control.

(1) 2 levels of N as A/S : N_0=0, and N_1=20 lb./ac.
(2) 2 levels of P_2O_5 as Super P_0=0 and P_1=20 lb./ac.
(3) 2 levels of K_2O as Pot. Sul : K_0=0 and K_1=20 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 36′×16′. (b) 24′×12′. (v) 6′×2′. (vi) Yes.

4. GENERAL :

(i) Germination poor. (ii) Nil. (iii) Height measurements, plant population and yield of safflower. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 386 lb./ac. (ii) 155.8 lb./ac. (iii) Main effect of N alone is highly significant. (iv) Av. yield of safflower. in lb./ac.

Control = 340 lb./ac.

	N_0	N_1	Mean	K_0	K_1
P_0	277	549	413	451	375
P_1	220	521	371	343	399
Mean	249	535	392	397	387
K_0	256	538			
K_1	242	532			

S.E. of any marginal mean = 38.9 lb./ac.
S.E. of body of any table = 55.1 lb./ac.
S.E. of control mean = 77.9 lb./ac.

Crop :- Safflower. **Ref :- Ms. 55(121).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To determine the N, P and K requirements of Safflower.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 5 C.L./ac. of F.Y.M. broadcasted before sowing. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 31.10.1955 to 2.11.1955. (iv) (a) Harrowing. (b) Dibbling. (c) N.A. (d) 24" between rows. (e) 2. (v) Nil. (vi) Local. (vii) Unirrigated. (viii) Nil. (ix) 4.69". (x) 23.3.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(124) on page 722.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of safflower. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 753 lb./ac. (ii) 105.2 lb./ac. (iii) Main effect of N alone is significant. (iv) Av. yield of safflower in lb./ac.

Control = 812 lb./ac.

	N_0	N_1	Mean	K_0	K_1
P_0	662	769	716	698	734
P_1	731	822	776	784	768
Mean	696	796	746	741	751
K_0	720	762			
K_1	672	830			

S.E. of any marginal mean = 26.3 lb./ac.
S.E. of body of any table = 37.2 lb./ac.
S.E. of control mean = 52.6 lb./ac.

Crop :- Safflower *(Rabi)*. **Ref :- Ms. 56(87).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To determine the N, P and K requirements of Safflower.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Groundnut. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 28.6.1956. (iv) (a) N.A. (b) Dibbling. (c) N.A. (d) 12"×2". (e) 2. (v) Nil. (vi) Safflower (local). (vii) Unirrigated. (viii) Nil. (ix) 42.48". (x) 27.3.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(124) on page 722.

4. GENERAL :

(i) Satisfactory. (ii) Slight attack of aphids noticed. Folidol sprayed. (iii) Yield of safflower. (iv) (a) 1954—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 808 lb./ac. (ii) 96.7 lb./ac. (iii) Main effect of N alone is highly significant. (iv) Av. yield of safflower in lb./ac.

Control = 652 lb./ac.

	N_0	N_1	Mean	K_0	K_1
P_0	718	936	827	846	808
P_1	742	912	827	776	878
Mean	730	924	827	811	843
K_0	728	894			
K_1	732	954			

S.E. of any marginal mean = 24.2 lb./ac.
S.E. of body of the table = 34.2 lb./ac.
S.E. of control mean = 48.4 lb./ac.

Crop :- Safflower *(Rabi)*. **Ref :- Ms. 57(64).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To determine the N, P and K requirements of Safflower.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *China-mug*. (c) N.A. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 18.10.1957. (iv) (a) Harrowing 4 times. (b) Drilling. (c) N.A. (d) 12″×24″. (e) 2. (v) Nil. (vi) Safflower (local). (vii) Unirrigated. (viii) The gaps were filled. (ix) 7.59″. (x) 23.3.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(124) on page 722.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height measurements and yield of safflower. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 606 lb./ac. (ii) 100.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of safflower in lb./ac.

Control = 626 lb./ac.

	N_0	N_1	Mean	K_0	K_1
P_0	579	607	593	579	607
P_1	569	663	616	629	603
Mean	574	635	604	604	605
K_0	563	645			
K_1	585	625			

S.E. of any marginal mean = 25.1 lb./ac.
S.E. of body of any table = 35.5 lb./ac.
S.E. of control mean = 50.3 lb./ac.

Crop :- Chillies *(Kharif)*. **Ref :- Ms. 58(112).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'M'.**

Object :—To fix up optimum doses of N, P and K for Chillies.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Nandyal—Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Red soil. (b) Refer soil analysis, Dharwar. (iii) July, 1958. (iv) (a) Ploughing. (b) Transplanting. (c) N.A. (d) 3′×3′. (e) 2. (v) 6 C.L./ac. of F.Y.M. (vi) Pyadgi. (vii) Unirrigated. (viii) 7 interculturings and 2 weedings. (ix) 45.5″. (x) Dec. to March, 1959.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1 3 levels of N : N_0=0, N_1=20 and N_2=40 lb./ac.
(2) 3 levels of P_2O_5 : P_0=0, P_1=20 and P_2=40 lb./ac.
(3) 3 levels of K_2O : K_0=0, K_1=20 and K_2=40 lb./ac.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9. (b) N.A. (iii) 2. (iv) (a) 36′×24′. (b) 30′×18′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield data. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 692 lb./ac. (ii) 176.6 lb./ac. (iii) Only main effect of N is significant. (iv) Av. yield of chillies in lb./ac.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	583	555	750	629	656	641	590
N_1	643	746	593	661	685	677	620
N_2	690	922	747	786	848	639	872
Mean	639	741	697	692	730	652	694
K_0	587	802	799				
K_1	638	686	634				
K_2	691	734	657				

S.E. of any marginal mean = 41.6 lb./ac.
S.E. of body of any table = 72.1 lb./ac.

Crop :- Chillies. **Ref :- Ms. 57(161).**

Site :- Agri. Res. Stn., Arbhavi. **Type :- 'CM'.**

Object :—To find the effect of manurial doses and spacing on the yield of Chillies.

1. BASAL CONDITIONS :

(i) (a) and (b) Nil. (c) N.A. (ii) (a) *Masari* type. (b) N.A. (iii) 27/28.6.1957. (iv) (a) Ploughing. (b) Transplanting. (c) N.A. (d) 18″ between rows. (e) 1. (v) 10 C.L./ac. of F.Y.M. (vi) *Sankeswar*. (vii) Irrigated. (viii) Nil. (ix) 20.74″. (x) 10.10.1957 to 17.2.1958.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 4 levels of N as A/S and G.N.C. in 1 : 2 ratio : N_1=15, N_2=30, N_3=45 and N_4=60 lb./ac.
(2) 2 row spacings : S_1=2′ and S_2=3′.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 26′×18′. (b) 20′×15′. (v) 3′×1½′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Moisture studies and yield data. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 593 lb./ac. (ii) 187.7 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of chillies in lb./ac.

	N_1	N_2	N_3	N_4	Mean
S_1	575	532	539	684	582
S_2	584	598	689	543	603
Means	579	565	614	614	593

S.E. of S marginal mean = 46.9 lb./ac.
S.E. of N marginal mean = 66.3 lb./ac.
S.E. of body of table = 93.9 lb./ac.

Crop :- Groundnut, Wheat, Gram and Safflower. **Ref :- Ms. 56(84).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'R'.**

Object :—To find out the best rotation for the transitional tract.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Nandyal Jowar.* (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) Groundnut on 9.7.1956 and others on 4.11.1956. (iv) (a) N.A. (b) Dibbling. (c) N.A. (d) Groundnut 12″×6″, Wheat and gram 12″×6″ to 8″ and safflower 24″×12″. (e) 2. (v) Nil. (vi) Groundnut : spanish improved, Wheat : kenphad, Gram : chafa and Safflower : local. (vii) Unirrigated. (viii) Safflower thinned on 13.12.1956. (ix) 31.37″ for groundnut and 5.02″ for others. (x) Groundnut on 21.10.1956, Gram on 11.2.1957, Wheat on 14.2.1957 and Safflower on 27.3.1957.

2. TREATMENTS :

6 crop rotations : R_1=Groundnut—Wheat, R_2=Groundnut—Gram, R_3=Groundnut—Safflower, R_4=Fallow—Wheat, R_5=Fallow—Gram and R_6=Fallow—Safflower.

Groundnut manurial with 5 C.L./ac. of F.Y.M.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 2. (iv) (a) 48′×72′. (b) 36′×50′. (v) 6′×11′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) No. (iii) Grain yield of wheat, gram and Safflower and yield of groundnut pods. (iv) (a) 1956—contd. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

Groundnut

(i) 1910 lb./ac. (ii) 99.5 lb /ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	R_1	R_2	R_3
Av. yield	1996	1863	1872

S.E./mean = 70.33 lb./ac.

Wheat

Av. yield of grain in lb./ac.

Treatment	R_1	R_4	Mean
Av. yield	466	430	448

Gram

Av. yield of grain in lb./ac.

Treatment	R_2	R_5	Mean
Av. yield	108.1	113.6	110.8

Safflower

Av. yield of seed in lb./ac.

Treatment	R_3	R_6	Mean
Av. yield	42.7	36.8	39.8

Crop :- Groundnut, Wheat, Gram and Safflower. **Ref :- Ms. 56(57).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'R'.**

Object :—To find out the best rotation for the transitional tract.

1. BASAL CONDITIONS :

(i) (a) and (b) As per treatments. (c) Only groundnut plots manured with 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) Groundnut on 25.6.1957, Wheat on 19.10.1957, Gram on 19.10.1957 and Safflower on 19.10.1957. (iv) (a) 4 harrowings. (b) and (c) N.A. (d) Safflower 24″ others 12″. (e) N.A. (v) Only groundnut manured with 5 C.L./ac. of F.Y.M. (vi) Groundnut : spanish improved, Wheat : kenphad, Gram : chafa and Safflower : N.A. (vii) Unirrigated. (viii) Groundnut gap-filling on 6.7.1957 and one weeding wheat and gram 1 interculturing and 1 weeding and safflower 1 interculture and 2 weedings. (ix) Groundnut 16″ and others 8″. (x) Groundnut on 7.10.1957, Wheat on 3.2.1958, Gram on 29.1.1958 and Safflower on 16.3.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(84) on page 726.

5. RESULTS :

Groundnut

(i) 1106 lb./ac. (ii) 74.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb /ac.

Treatment	R_1	R_2	R_3
Av. yield	1307	974	1039

S.E./mean = 52.71 lb./ac.

Wheat

Av. yield of grain in lb./ac.

Treatment	R_1	R_4	Mean
Av. yield	623.1	602.0	612.6

Gram

Av. yield of grain in lb./ac.

Treatment	R_2	R_5	Mean
Av. yield	1061	1170	1116

Safflower

Av. yield of seed in lb./ac.

Treatment	R_3	R_6	Mean
Av. yield	883.3	762.3	822.8

Crop :- Groundnut, Jowar and Cotton. **Ref :- Ms. 54(159).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'R'.**

Object :—To study the best rotation for Cotton and Jowar with and without Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) As per rotation. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) *Jowar* on 15.7.1954, Groundnut on 20.6.1954 and Cotton on 5.8.1954. (iv) (a) 4 harrowings. (b) Groundnut and *Jowar* drilled, cotton dibbled. (c) Groundnut 80 lb./ac., *Jowar* 4 lb./ac. and cotton 7 lb./ac. (d) Groundnut 12", *Jowar* 18", and cotton 24". (e) N.A. (v) Nil. (vi) *Jowar* : *Nandyal*, Groundnut : spanish (improved) and Cotton : *Jayadhar*. (vii) Unirrigated. (viii) 3 interculturings and 2 hand weedings Gap-filling in groundnut was done two times. (ix) *Jowar* : 36.29" ; Groundnut : 17.61" ; Cotton : 25.56". (x) *Jowar* : 2.1.1955 ; Groundnut : 1.10.1954 and Cotton : 18.3.1955.

2. TREATMENTS :

The cycle of rotation : Key to the treatments.

	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60
A	Cm	Cm	Cm	Cm	Cm	Cm
B	Cm	C	Cm	C	Cm	C
C	C	Cm	C	Cm	C	Cm
D	Jm	Jm	Jm	Jm	Jm	Jm
E	Jm	J	Jm	J	Jm	J
F	J	Jm	J	Jm	J	Jm
G	C	Jm	C	Jm	C	Jm
H	Jm	C	Jm	C	Jm	C
I	C	G	C	G	C	G
J	G	C	G	C	G	C
K	Cm	G	Cm	G	Cm	G
L	G	Cm	G	Cm	G	Cm
M	J	G	J	G	J	G
N	G	J	G	J	G	J
O	Jm	G	Jm	G	Jm	G
P	G	Jm	G	Jm	G	Jm
Q	C	Jm	G	C	Jm	G
R	C	G	Jm	C	G	Jm
S	Jm	C	G	Jm	C	G
T	Jm	G	C	Jm	G	C
	UG	C	Jm	G	C	Jm
V	G	Jm	C	C	Jm	C

C=Cotton, J=*Jowar*, G · Groundnut, m=Manured with F.Y.M. at 5 C.L./ac. spread and harrowed. All plots divided into two halves. In case of groundnut plots, one sub-plot receives Super at 100 lb./ac. (P_1).

A, B, C, D, E and F are one crop rotations. G, H, I, J, K, L, M, N, O and P are two crop rotations. Q, R, S, T, U and V are three crop rotations.

Cycle of rotations for the years 1948 to 1953 may be referred to on page 432 of Vol 9 part I.

3. DESIGN :

(i) Split-plot for groundnut and R.B.D. for other crops. (ii) (a) 44 groundnut plots receive super at 0 and 100 lb./ac. (b) N.A. (iii) 5. (iv)) (a) 62'×30'. (b) 50'×18'. For groundnut 2 plots of size 25'×18' as gross and 22'×18' as net. (v) 6'×6' over all and then for the sub-plot of groundnut 1½' on either side. (vi) As per rotation.

4. GENERAL :

(i) Satisfactory. (ii) No. (iii) Groundnut pod, *Jowar* grain and *kapas* yield. (iv) (a) 1948—contd. (b) As per rotations. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

Groundnut

(i) 1725 lb./ac. (ii) (a) 199.1 lb./ac. (b) 220.0 lb./ac. (iii) Effect of main-plot and P are highly significant. (iv) Av. yield of pod in lb./ac.

	L	V	N	J	U	P	Mean
P_0	1595	2376	1776	1760	1884	1702	1849
P_1	1507	1856	1411	1495	1661	1678	1601
Mean	1551	2116	1594	1627	1772	1690	1725

S.E. of difference of two

1. main-plot marginal means = 89.3 lb./ac.
2. P marginal means = 56.8 lb./ac.
3. P means at the same level of main-plot = 139.1 lb./ac.
4. main-plot means at the same level of P = 132.7 lb./ac.

Jowar

(i) 1658 lb./ac. (ii) 164.6 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	D	E	F	H	M	O	S	T
Av. yield	1558	1471	1350	1641	1738	1810	2183	1510

S.E./mean = 73.6 lb./ac.

Cotton

(i) 552 lb./ac. (ii) 72.11 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	A	B	C	G	I	K	Q	R
Av. yield	531	499	504	544	525	612	670	531

S.E./mean = 32.25 lb./ac.

Crop :- Groundnut, Jowar and Cotton. **Ref :- Ms. 55(113).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'R'.**

Object :—To study the best rotation for Cotton and Jowar with and without Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) As per rotation. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) Groundnut 9.6.1955 ; *Jowar* 14.7.1955 and Cotton 14.8.1955. (iv) (a) Ploughing and harrowing (b) Groundnut and Cotton dibbled and *Jowar* drilled. (c) Groundnut 80 lb./ac., *Jowar* 4 lb./ac. and Cotton 5 lb /ac. (d) Groundnut 12″×6″, *Jowar* 18″×4″ and Cotton 24″×12″. (e) N A. (v) Nil. (vi) Groundnut spanish (improved), *Jowar nandyal* ; Cotton *Jayadhar*. (vii) Unirrigated. (vii) Groundnut gap-filling, *Jowar* interculturing and Cotton intercu'turings and hand weedings. (ix) N.A. (x) Groundnut 1.10.1955 ; *Jowar* 17.12.1955 and Cotton 19.3.1956 and 4.4.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(159) on page 728.

5. RESULTS :

Groundnut

(i) 1369 lb./ac. (ii) (a) 285.6 lb./ac. (b) 165.3 lb./ac. (iii) Interaction main-plot × P is significant. (iv) Av. yield of pod in lb./ac.

	I	K	M	O	R	T	Mean
P_0	1353	1386	1298	1399	1492	1485	1362
P_1	1284	1298	1320	1452	1529	1430	1375
Mean	1287	1342	1309	1326	1490	1458	1369

Cotton

(i) 399 lb./ac. (ii) 100.1 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	A	B	C	H	J	L	Q	R
Av. yield	292	251	320	360	473	488	632	373

S.E./means = 44.8 lb./ac.

Crop :- Groundnut, Jowar and Cotton. **Ref :- Ms. 58 (1).**

Site :- Agri. Res Stn., Dharwar. **Type :- 'R'.**

Object :—To study the best rotation for Jowar and Cotton with and without Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) As per rotation. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) Groundnut : 27.6.1958, *Jowar* : 26.7.1958 and Cotton : 21.8.1958. (iv) (a) Harrowing 4 times. (b) and (c) N.A. (d) Row spacing Groundnut : 12" *jowar* : 18" and cotton : 24". (e) N.A. (v) Nil. (vi) Groundnut : Spanish (improved), *Jowar* : *Nandyal* and Cotton : *Jayadhar*. (vii) Unirrigated. (viii) 2 interculturings and 1 hand weeding to all the crops. (ix) Groundnut : 19 7", *Jowar* : 11.3" and Cotton : 10". (x) Groundnut : 12.10.1958, *Jowar* : 10.1.1959 and Cotton : 13, 23.2.1959 and 5, 15.3.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(159) on page 728.

5. RESULTS :

Groundnut

(i) 1372 lb./ac. (ii) (a) 261.9 lb./ac. (b) 206.1 lb./ac. (iii) Main effect of P alone is highly significant. (iv) Av. yield of pod in lb./ac.

	J	L	N	P	R	T	Mean
S_0	1397	1304	1507	1606	1414	1590	1470
S_1	1089	1326	1204	1287	1424	1309	1273
Mean	1243	1315	1356	1446	1419	1449	1372

S.E. of difference of two

1. Main-plot marginal means = 117.1 lb./ac.
2. P marginal means = 53.2 lb./ac.
3. P means at the same level of main-plot = 130.3 lb./ac.
4. Main-plot means at the same level of P = 149.0 lb./ac.

Jowar

(i) 1018 lb./ac. (ii) 145.3 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	D	E	F	H	M	O	Q	V
Av. yield	1109	832	841	896	861	1060	1077	1469

S.E /mean = 65.0 lb./ac.

Cotton

(i) 579 lb./ac. (ii) 93.98 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	A	B	C	G	I	K	S	U
Av. yield	579	503	505	671	482	570	610	714

S.E./mean = 42.03 lb./ac.

Crop :- Cotton, Cholam and Bengalgram. **Ref :- Ms. 54(13).**

Site :- Agri. Res. Stn., Hagari. **Type :- 'R'.**

Object :—To find out suitable rotation of Jowar, Cotton and Pulses.

1. BASAL CONDITIONS :

(i) (a) and (b) As per treatments. (c) Nil. (ii) (a) Deep black cotton soil. (b) Refer soil analysis, Hagari. (iii) *Sorghum* : 8.10.1954 ; Cotton : 8.10.1954 ; Bengal gram. : 20.10 1954. (iv) (a) Working blade harrow, 3 to 4 times as prepartory cultivation. (b) Drill sowing. (c) Cotton 10 lb /ac. *Cholam* 3 lb./ac. and Bengalgram 15 lb./ac. (d) and (e) N.A. (v) No. (vi)Cottcn H. 1. (improved) ; *Cholam* M. 47—3.(improved, early), Bengal-gram : 112 (improved). (vii) Unirrigated. (viii)During summer country blade harrow was worked 2 to 3 times and finally *guntaka* was worked. Seeds were sown through the seed drill and after one month *danthis* were worked and the weeding was done. (ix) 4.28". (x) *Sorghum* : 5.3 1955 ; Cotton : 1.4.1955 and 12.4.1955 and Bengalgram : 27.1.1955.

2. TREATMENTS :

6 crop rotations : R_1=Cotton—Cotton—Cotton, R_2=Cholam—Cholam—Cholam, R_3=Cotton—Cholam—Cotton, R_4=Cotton—Cholam—Bengalgram, R_5=Cotton—Bengalgram—Cholam and R_6=Cotton—Fallow—Cotton.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 33'×66'. (b) 26.4'×59.4'. (v) 3.3'×3.3'. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) No. (iii) Germination, stand, flowering grain and straw yield. (iv) (a) 1940—1960. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) Raw-data N.A. Results taken from the annual report.

5. RESULTS :

Av. yield in lb./ac.

Treatment	R_1 (cotton)	R_2 (cholam)	R_3 (cholam)	R_4 (cholam)	R_5 (bengal gram)	R_6 (fallow)
Av. yield	71 (*kapas*)	344 (grain) 707 (straw)	345 (grain) 1113 (straw)	438 (grain) 1182 (straw)	329 (grain)	—

Crop :- Cotton, Cholam and Bengalgram. **Ref :- Ms. 55(64).**

Site :- Agri. Res. Stn , Hagari. **Type :- 'R'.**

Object—To find out the suitable rotation of Jowar, Cotton and Pulses.

1. BASAL CONDITIONS :

(i) (a) and (b) As per treatments. (c) Nil. (ii) (a) Black cotton soil. (b) Refer soil analysis, Hagari. (iii) Cotton : 31.8.1955 *Cholam* : 4 10.1955 and Bengalgram 8.11.1955. (iv) (a) Working twice blade harrow, working *danties* in *Cholam* : and Bengalgram, *hattikunte* in cotton as intercultivation. (b) Drill sowing. (c) Cotton 10 lbs./ac ; *Cholam* 3 lb./ac. ; Bengalgram 15 lb./ac. (d) and (e) N.A. (v) No. (vi) Cotton H. 1, *Cholam* M. 47-3 *Cholam* (early) and Bengalgram CA—112. (vii) Unirrigated. (viii)Working *danties* in *Cholam* and Bengalgram and *hattikunti* in cotton in between the rows as intercultivation and line weeding (ix) 12.96". (x) Cotton 15, 26.2.1956 and 9, 21.3.1956 ; *Cholam* : 16.2.1956 and Bengalgram : 18.2.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(13) above.

5. RESULTS :

Av. yield in lb./ac.

Treatment	R_1 (cotton)	R_2 (cholam)	R_3 (cotton)	R_4 (bengalgram)	R_5 (cholam)	R_6 (cotton)
Av. yield	254 (*kapas*)	318 (grain)	195 (*kapas*)	168 (grain)	536 (grain)	387 (*kapas*)
		801 (straw)			1169 (straw)	

Crop :- Cotton, Cholam and Bengalgram. **Ref :- Ms. 56(1).**

Site :- Agri. Res. Stn , Hagri. **Type :- 'R'.**

Object :—To find out suitable rotation of Jowar, Cotton and Pulses.

1. BASAL CONDITIONS :

(i) (a) and (b) As per treatments. (c) No. (ii) (a) Black soil. (b) Refer soil analysis, Hagari. (iii) Cotton : 4.9.1956, *Cholam* : 2 10.1956 and Bengal gram : N.A. (iv) (a) Working with blade harrows and *danties*. (b) Drill sowing. (c) Cotton 10 lb./ac , *Cholam* at 3 lb./ac. and Bengalgram 15 lb./ac. (d) and (e) N.A. (v) No. (vi) Cotton H. 1. (medium), *Cholam* M. 47-3 (early). (vii) Unirrigated. (viii) Working with blade harrow and *danties* and hand weeding in lines. (ix) 23.52". (x) 29.3.1957, 12.4.1957, 28.4.1957, *Cholam* 31.3.1957 and Bengalgram : N.A.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no 54(13) on page 733.

4. GENERAL :

(i) Fair. *Cholam* was stunted. (ii) Borer attack on *Cholam*. (iii) Grain and straw yield. (iv) (a) 1940—1960. (b) Yes. (c) Nil. (v) (a) No. (b)—. (vi) Nil. (vii) Raw data N.A. Results taken from annual report.

5. RESULTS :

(iv) Av. yield in lb./ac.

Treatment	R_1 (Cotton)	R_2 (*sorghum*)	R_3 (*sorghum*)	R_4 (cotton)	R_5 (cotton)	R_6 (fallow)
Av. yield	194 (*kapas*)	192 (grain)	422 (grain)	225 (*kapas*)	186 (*kapas*)	--
		834 (straw)	1262 (straw)			

S.E's = N.A.

Crop :- Cotton, Cholam and Bengalgram. **Ref :- Ms. 57(31).**

Site :- Agri. Res. Stn., Hagari. **Type :- 'R'.**

Object :—To find out suitable rotation of Jowar, Cotton and Pulses.

1. BASAL CONDITIONS :

(i) (a) and (b) As per treatments. (c) No. (ii) (a) Black cotton soil. (b) Refer soil analysis, Hagari. (iii) Cotton : 13.9.1957, *Cholam* : 5.10.1957 and Bengalgram : 13.10.1957. (iv) (a) 1 harrowing. (b) N.A. (c) Cotton 10 lb./ac., *Cholam* 5 lb./ac. and Bengalgram 15 lb./ac. (d) Cotton 37" apart, *Cholam* and Bengalgram 12.5" apart. (e) N.A. (v) No. (vi) *Cholam* : M. 47—3 (early), Cotton W_1—(medium), and Bengalgram : CA—112 (medium). (vii) Unirrigated. (viii) *Danthies* worked twice. *Hallikunte* worked in Cotton. Thinning was done and live weeding was also done. (ix) 4.87". (x) Cotton : 22.2.1958 and 24.2.1958, *Cholam* : 21.2.1958 and Bengalgram : 17.1.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(13) on page 733.

4. GENERAL :

(i) Bengalgram and cotton was fair. *Cholam* dried up at the time of seed. (ii) There was stem-borer attack at the very early stage of *Cholam*. Dead hearts were removed and burnt. (iii) Grain and straw yield. (iv) (a) 1940—1960. (b) Yes. (c) Nil. (v) and (vi) Nil. (vii) Raw data not available. Results taken from annual report.

5. RESULTS :

Av. yield in lb./ac.

Treatment	R_1 (cotton)	R_2 (*sorghum*)	R_3 (cotton)	R_4 (*sorghum*)	R_5 (bengalgram)	R_6 (cotton)
Av. yield	268 (*kapas*)	156 (grain) 1368 (straw)	318 (*kapas*)	219 (grain) 2007 (straw)	252 (grain)	384 (*kapas*)

S.E./mean = N.A.

Crop :- Cotton, Cholam and Bengalgram. **Ref :- Ms. 58(126).**

Site :- Agri. Res. Stn., Hagari. **Type :- 'R'.**

Object :—To find out suitable rotation of Jowar, Cotton and Pulses.

1. BASAL CONDITIONS :

(i) (a) and (b) As per treatments. (c) No. (ii) (a) Black cotton soil. (b) Refer soil analysis, Hagari. (iii) Cotton : 22.9.1958, *Cholam* : 10.10.1958 and Bengalgram : 17.10.1958. (iv) (a) 3 harrowings. (b) Drilling by seed drill. (c) Cotton 8 lb./ac., *Cholam* 5 lb./ac. and Bengalgram 15 lb./ac. (d) Cotton : 27", *Cholam* : 13½" and Bengalgram : 13½". (e)—. (v) No. (vi) *Cholam* : M. 47-3 (early), Cotton : W_1 (medium) and Bengalgram : CA—112 (medium). (vii) Unirrigated. (viii) Line weeding and interculturing with blade harrows. (ix) 4.21". (x) Cotton : 9.2.1959 and 1.3.1959, *Cholam* : 2.2.1959 and Bengalgram : 1.2.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(13) on page 733.

4. GENERAL :

(i) Cotton, Bengalgram and normal *Cholam* dried up at the time of seed setting. (ii) Stem borer attack in early stages of cholam. Dead hearts removed and burnt Germination counts, boll formation, grain and straw yield. (iv) (a) 1940—1960. (b) Yes. (c) Nil. (v) and (vi) Nil. (vii) Raw data not available.

5. RESULTS :

Av. yield in lb./ac.

Treatment	R_1 (cotton)	R_2 (*cholum*)	R_3 (*cholam*)	R_4 (bengalgram)	R_5 (*cholam*)	R_6 (fallow)
Av. yield	40 (*kapas*)	108 (grain)	128 (grain)	123 (grain)	123 (grain)	—

S.E./mean = N.A.

Crop :- Cotton, Cholam and Bengalgram. **Ref :- Ms. 59(224).**

Site :- Agri. Res. Stn., Hagari. **Type :- 'R'.**

Object :—To find out suitable rotation of Jowar, Cotton and Pulses.

1. BASAL CONDITIONS :

(i) (a) and (b) As per treatments. (c) No. (ii) (a) Black cotton soil. (b) Refer soil analysis, Hagari. (iii) Cotton : 23.9.1959 and *Jowar* : 5.10.1959. (iv) (a) Harrowing. (b) Drilling. (c) Cotton 10 lb./ac. (d) *Jowar* : row spacing 18" and Cotton : 36". (e) N A. (v) Nil. (vi) Cotton : H. 1. and *Cholam* : M. 47-3 (early). (vii) Unirrigated. (viii) Thinning in Cotton and working *danthies* in *Jowar*. (ix) 7.36". (x) Cotton : 29.2.1960, 8, 16.3.1960 and *Cholam* : 27.1.1960.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(13) on page 733.

4. GENERAL :

(i) Very poor. (ii) Bollworm attack on Cotton, Mite and stemborer attack on *Jowar*. Dusting of gammexane and Sulphur. (iii) Weight of *kapas* in Cotton, grain and straw yield for *Jowar*. (iv) (a) 1940—1960. (b) Yes. (c) Nil. (v) and (vi) Nil. (vii) Bad crop year. Raw data not available.

5. RESULTS :

Av. yield in lb./ac.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6
Av. yield	95.3 (*kapas*)	272.2 (grain)	144.6 (*kapas*)	188.0 (*kapas*)	186.2 (*kapas*)	126.8 (*kapas*)

S.E. = N.A.

Crop :- Cotton and Wheat. **Ref :- Ms. 59(199)$_9$**

Site :- Agri. Res. Stn., Naragund. **Type :- 'R'.**

Object :—To study the effect of rotations and manures on the yield of Wheat and Cotton.

1. BASAL CONDITIONS :

(i) (a) to (c) As per treatments. (ii) Alkaline soil. (b) Refer soil analysis, Naragund. (iii) Cotton 2.10.1959 ; Wheat 15.10.1959. (iv) (a) N.A. (b) Drilling. (c) Wheat 40 lb./ac., Cotton 8 lb./ac. (d) 12" for wheat and 27" for cotton. (v) Nil. (vi) Cotton—*Jayadhar* ; Wheet—Kanphad. (vii) Unirrigated. (viii) Interculture by entire hoe to cotton only. (ix) 20.45" during the year. (x) Cotton 22.2.1960 and 9, 20.3 1960 ; Wheat 16, 21.1.1960.

2. TREATMENTS :

Main-plot treatments :

4. rotations : R_1=Cotton—wheat with sulphur to both the crops, R_2=Cotton—Wheat with sulphur to cotton only, R_3=Wheat—cotton with sulphur to both the crops and R_4=Wheat —cotton with sulphur to cotton only.

Sub-plot treatments :

All combinations of (1) and (2)

(1) 3 levels of sulphur : S_0=0, S_1=150 and S_2=300 lb./ac.

(2) 2 levels of F.Y.M. : F_0=0, and F_1=5 C.L./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/replication. ; 6 sub-plots/main-plot. (b) N.A.(iii) 4. (iv) (a) 20'×36'. (b) 15'×32'. (v) 2½'×2'. (vi) Yes.

4. GENERAL :

(i) Crop growth below normal in cotton and failure in wheat. (ii) Nil. (iii) Plant and boll count in cotton, grain yield in wheat and monetary value. (iv) (a) 1959—N.A. (b) Nil. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 32.14 Rs./ac. (ii) (a) 48.77 Rs./ac. (b) 13.38 Rs./ac. (iii) None of the effects is significant. (iv) Av. value of produce in Rs./ac.

	S_0	S_1	S_2	Mean	F_0	F_1
R_1	53.27	50.18	51.41	51.62	48.35	54.88
R_2	47.05	47.05	49.85	47.98	46.27	49.70
R_3	19.28	12.90	23.35	18.51	22.55	14.47
R_4	11.19	13.38	6.76	10.44	8.71	12.17
Mean	32.70	30.88	32.84	32.14	31.47	32.81
F_0	34.01	26.17	34.23			
F_1	31.38	35.58	31.46			

S.E. of difference of two

1. R marginal means	= 14.08 Rs./ac.	5. R means at the same level of S	= 15.10 Rs./ac.
2. S marginal means	= 3.34 Rs./ac.	6. F means at the same level of R	= 5.46 Rs./ac.
3. F marginal means	= 2.73 Rs./ac.	7. R means at the same level of F	= 14.60 Rs./ac.
4. S means at the same level of R	= 6.69 Rs./ac.	S.E. of body of S×F table	= 3.34 Rs./ac.

Crop :- Cotton and Wheat. **Ref :- Ms. 59(200).**

Site :- Agri. Res. Stn., Naragund. **Type :- 'R'.**

Object :—To study the effects of different levels of N, P and K on Cotton and Wheat growth in rotation.

1. BASAL CONDITIONS :

(i) (a) As per treatment. (b) N.A. (c) Nil. (ii) (a) Alkaline soil. (b) Refer soil analysis, Naragund. (iii) Cotton : 1.10.1959. and wheat : 20.10.1959. (iv) (a) Harrowing. (b) Drilling. (c) Wheat : 40 lb./ac and Cotton 8 lb./ac. (d) 12" for wheat and 27" for cotton. (e) N.A. (iv) 2½ tons/ac. of F.Y.M. by broadcast. (vi) Cotton Jayadhar and wheat of Kenphad. (vii) Unirrigated. (viii) Interculturing to cotton only. (ix) 20.45". (x) Cotton :22.2.1960 and 9, 20 3.1960 and wheat 16 and 21.1.1960.

2. TREATMENTS :

Main-plot treatments :

All combinations of (1), (2) and (3)

(1) 2 rotations : R_1=Cotton—wheat and R_2=Wheat - cotton.

(2) 3 levels of N : N_0=0, N_1=15 and N_2=30 lb./ac.

(3) 2 methods of applications of fertilizers : F_1=T_0 cotton only and F_2=T_0 both the crops.

Sub-plot treatments :

All combinatians of (1) and (2)

(1) 3 levels of P_2O_5 : P_0=0, P_1=15 and P_2=30 lb./ac.

(2) 3 level of K_2O : K_0=0, K_1=15 and K_2=30 lb./ac.

3. DESIGN :

(i) Split-plot, RF and RNF partially confounded. (ii) (a) 2 blocks/replication ; 6 main-plots/block. (b) 9 sub-plots/main-plot. (iii) 3. (iv) (a) 25'×29'. (b) 20'×24'. (v) 1½' all round. (vi) Yes.

4. GENERAL :

(i) Cotton - good and wheat—unsatisfactory. (ii) Nil. (iii) Moisture determination in main-plot ; Plant counts, boll counting, yield and mony value. (iv) (a) 1959—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 48.07 Rs./ac. (ii) (a) 73.49 Rs./ac. (b) 26.68 Rs./ac. (iii) Main effect of R alone is highiy significant. (iv) Av. value of produce in Rs./as.

	F_1	F_2	R_1	R_2	P_0	P_1	P_2	N_0	N_1	N_2	Mean
K_0	58.15	44.28	80.30	22.15	55.08	53.67	44.90	56.22	53.21	44.22	51 22
K_1	56.79	43.48	82 83	17.43	51.02	51.07	48 30	50.54	51.02	48.83	50.13
K_2	47 81	37.93	69.07	16.67	43.88	46.18	38.55	46 06	38.57	43.99	42.87
Mean	54.25	41.90	77.40	18.75	49.99	50.31	43.92	50.94	47.60	45.68	48.07
N_0	56.56	45.32	77.06	24 82	53 09	53.21	46 51				
N_1	52.52	42.68	77.71	17.50	47.72	47.97	47.11				
N_2	53.67	37.70	77.43	13.93	49 16	49.74	38.14				
P_0	55.99	44.00	77.88	22.11							
P_1	56.61	44.01	83 89	16.72							
P_2	50.15	37.68	70.42	17.41							
R_1	85.51	69.28									
R_2	24.11	13.39									

S.E. for the difference of two :

1. R or F marginal means	= 8.17 Rs./ac.	6. P or K means at the same leval of N	=6.29 Rs./ac.
2. N marginal means	=10.00 Rs./ac.	7. N means at the same level of P or K	=11.24 Rs./ac.
3. P or K marginal means	= 3.63 Rs./ac.	S.E. of body of table R×N or F×N	=10.00 Rs./ac.
4. P or K means at the same level of R or F	= 5.13 Rs./ac.	S.E. of body of table R×F	= 8.67 Rs./ac.
		S.E. of body of table P×K	= 4.45 Rs./ac.
5. R or F means at toe same level of P or K	= 9.18 Rs./ac.		

Crop :- Jowar, Groundnut and Cotton. **Ref :- Ms. 54(164).**

Site :- Agri. Res. Stn., Saundatti. **Type :- 'R'.**

Object :—To find out a suitable rotation for Cotton, Jowar and Groundnut with and without F.Y.M. and P_2O_5.

1. BASAL CONDITIONS :

(i) (a) to (c) As per treatments. (ii) (a) Medium black soil. (b) N.A. (iii) Cotton Aug. 1954 ; Groundnut : July 1954 ; *Jowar* : July 1954. (iv) (a) Harrowing. (b) Drilled. (c) Cotton 10 lb./ac. *Jowar* 6 lb./ac. and Groundnut 100 lb./ac. (d) Cotton 24"×6" to 7", *Jowar* 12"×6" to 8", Groundnut 12"×3" to 6" (e) N.A. (v) Nil. (vi) Cotton *Jayadhar* (medium) ; Groundnut spanish (early) ; *Jowar* Fulgar white (medium). (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 15.50". (x) Cotton March—1955 ; Groundnut. Nov. 1954 and *Jowar* Jan. 1955.

2. TREATMENTS :

The cycle of rotations : Key to the treatments

Treatmen. No.	1954	1955	1956	1957	1958	1959
1.	Cm	Cm	Cm	Cm	Cm	Cm
2.	Cm	C	Cm	C	Cm	C
3.	C	Cm	C	Cm	C	Cm
4.	Jm	Jm	Jm	Jm	Jm	Jm
5.	Jm	J	Jm	J	Jm	J
6.	J	Jm	J	Jm	J	Jm
7.	C	Jm	C	Jm	C	Jm
8.	Jm	C	Jm	C	Jm	C
9.	C	G	C	G	C	G
10.	G	C	G	C	G	C
11.	Cm	G	Cm	G	Cm	G
12.	G	Cm	G	Cm	G	Cm
13.	C	Gp	C	Gp	C	Gp
14.	Gp	C	Gp	C	Gp	C
15.	J	G	J	G	J	G
16.	G	J	G	J	G	J
17.	Jm	G	Jm	G	Jm	G
18.	G	Jm	G	Jm	G	Jm
19.	J	Gp	J	Gp	J	Gp
20.	Gp	J	Gp	J	Gp	J
21.	C	Jm	G	C	Jm	G
22.	Jm	G	C	Jm	G	C
23.	G	C	Jm	G	C	Jm
24.	Jm	C	G	Jm	C	G
25.	C	G	Jm	C	G	Jm
26.	G	Jm	C	G	Jm	C
27.	C	Jm	Gp	C	Jm	Gp
28.	Jm	Gp	C	Jm	Gp	C
29.	Gp	C	Jm	Gp	C	Jm
30.	Jm	C	Gp	Jm	C	Gp
31.	C	Gp	Jm	C	Gp	Jm
32.	Gp	Jm	C	Gp	Jm	C

C=Cotton, J=*Jowar*, G=Groundnut, m=5 C.L./ac. of F.Y.M. in June and p=40 lb./ac. of P_2O_5 in July each year. Details of treatments for the yeras 1951 to 1953 may please be refered to on page 441 of Vol. 9, part I.

3. DESIGN :

(i) R.B.D. (ii) (a) 32. (b) N.A. (iii) 6. (iv) (a) Cotton 57'10" × 27' and 51'10" × 20'. *Jowar* and Groundnut 57'10" × 27' and 51'10" × 21'. (b) N.A. (v) Cotton 3' × 3½'; *Jowar* and Groundnut 3' × 3'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Groundnut pod, *Jowar* grain and *kapas* yield. (iv) (a) 1951—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

Groundnut

(i) 446.0 lb./ac. (ii) 66.61 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	9	11	13	15	17	19	23	26	29	32
Av. yield	396.7	470.1	468.4	412.2	467.3	414.7	395.9	440.2	494.3	499.8

S.E./mean = 27.29 lb./ac.

Jowar

(i) 554.4 lb./ac. (ii) 195.8 lb./ac. (Ii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	4	5	6	7	16	18	20	22	24	28	30
Av. yield	591.1	394.8	310.1	634.9	453.8	452.6	711.2	476.9	715.7	501.9	855.7

S.E./mean = 79.9 lb./ac.

Cotton

(i) 272.8 lb./ac. (ii) 72.54 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	1	2	3	8	10	12	14	21	25	27	31
Av. yield	279.1	322.5	190.8	280.1	226.7	238.9	327.7	297.7	261.3	294.6	281.8

S.E./mean = N.A.

Crop :- Jowar, Groundnut and Cotton. **Ref :- Ms. 55(127).**

Site :- Agri, Res. Stn., Saundatti. **Type :- 'R'.**

Object :—To find out a suitable rotation for Cotton, Jowar and Groundnut with and without F.Y.M. and P_2O_5.

1. BASAL CONDITIONS :

(i) (a) to (c) As per treatments. (ii) (a) Medium black soil. (b) N.A. (iii) Cotton Aug. 1955 ; Goundnut, July 1955 ; *Jowar* July 1955. (iv) (a) Harrowing. (b) Drilling. (c) Cotton 10 lb./ac., *Jowar* 6 lb./ac., Groundnut 100 lb./ac. (d) Cotton 24" × 6" to 7", *Jowar* 12" × 6" to 8", Groundnut 12" × 3" to 6". (e) N.A. (v) Nil. (vi) Cotton *Jayadhar* (medium) ; Groundnut spanish (early) and *Jowar* fulgarwhite (medium), (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 27".06". (x) Cotton March 1956 ; Groundnut Nov. ;1955 and *Jowar* Jan., 1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54 (164) on page 738.

5. RESULTS :

Groundnut

(i) 451 lb./ac. (ii) 72·26 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of pod in lb./ac.

Treatment	10	12	14	16	18	20	22	25	28	31
Av. yield	404	501	521	427	450	481	406	370	468	477

S.E /mean = 29.50 lb./ac.

Jowar

(i) 552 lb./ac. (ii) 137.6 lb.ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	4	5	6	8	15	17	19	21	26	27	32
Av. yield	535	534	450	567	321	696	480	487	647	637	722

S.E./mean = 56.2 lb./ac.

Cotton

(i) 249 lb./ac. (ii) 76.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	1	2	3	7	9	11	13	23	24	29	30
Av. yield	274	273	179	298	200	205	200	239	278	294	305

S.E./mean = 31.2 lb./ac.

Crop :- Jowar, Cotton and Groundnut. **Ref :- Ms. 56(32).**

Site :- Agri. Res. Stn., Saundatti. **Type : 'R'.**

Object :—To find a suitable rotation for Cotton, Jowar and Groundnut with and without F.Y.M. and P_2O_5.

1. BASAL CONDITIONS :

(i) (a) to (c) As per treatments. (ii) (a) Medium black soil. (b) N.A. (iii) Cotton Aug 1956 ; Groundnut July 1956 ; Jowar July 1956. (iv) (a) Harrowing. (b) Drilling. (c) Cotton 10 lb /ac., *Jowar* 6 lb./ac. and groundnut 100 lb./ac. (d) Cotton 24"×6" to 7", *Jowar* 12"×6" to 8" and Groundnut 12"×3" to 6". (e) N.A. (v) Nil. (vi) Cotton—*Jayadhar* (medium) ; Groundnut—Spanish (early) ; *Jowar*—Fulgarwhite (medium). (vii) Unirrigated. (viii) Weeding and interculturing. (ix) 29.96". (x) Cotton March 1957 ; Groundnut Nov. 1956 and *Jowar* Jan. 1957.

2. TREATMENTS to 4. GENERAL :

Same as expt. no. 54(164) on page 738.

5. RESULTS :

Gr oundnut

(i) 568 lb./ac. (ii) 72.5 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

Treatment	9	11	13	15	17	19	21	24	27	30
Av. yield	459	618	591	453	588	583	576	520	648	639

S.E./mean = 29.6 lb./ac.

Jowar

(i) 304 lb /ac. (ii) 100.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

Treatment	4	5	6	7	16	18	20	23	25	29	31
Av. yield	259	226	190	325	225	408	350	252	413	257	442

S.E./mean = 40.8 lb./ac.

Cotton

(i) 106 lb./ac. (ii) 29.4 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

Treatment	1	2	3	8	10	12	14	22	26	28	32
Av. yield	108	123	72	112	90	89	130	92	132	106	109

S.E./mean = 12.0 lb./ac.

Crop :- Jowar, Groundnut and Cotton. **Ref :- Ms. 57(2).**

Site :- Agri. Res. Stn., Saundatti. **Type :- 'R'.**

Object :—To find a suitable rotation for Cotton, Jowar and Groundnut with and without F.Y.M. and P_2O_5.

1. BASAL CONDITIONS :

(i) (a) to (c) As per treatments. (ii) (a) Medium black soil. (b) N.A. (iii) Cotton 14.8.1957 ; *Jowar* 9.7.1957 and Groundnut 9.7.1957. (iv) (a) Harrowing. (b) Drilling. (c) Cotton 10 lb./ac., *Jowar* 6 lb./ac. and groundnut 100 lb./ac. (d) Cotton 24"×6" to 7", *Jowar* 12"×6" to 8" and Groundnut 12"×3" to 6". (e) N.A. (v) Nil. (vi) Cotton *Jayadhar*—(medium) ; *Jowar*—Fulgarwhite (medium) ; Groundnut—Spanish (early). (vii) Unirrigated. (viii) Harrowing and interculturing. (ix) 21.19". (x) Cotton 28.3.1958 ; *Jowar* 31.12.1957 and Groundnut 16.10.1957.

2. TREATMENTS to 3. DESIGN :

Same as in expt. no. 54(164) on page 738.

4. GENERAL :

(i) Germination was satisfactory. Due to heavy rainfall during October, Groundnut *bhusa* was all spoiled. Due to the continued moist condition Cotton crop was affected by mildew which resulted in depliation to an appreciable extent and consequent reduction in cotton yield. (ii) Mildew attack on cotton, dusting gamaxene. (iii) Groundnut pod, *Jowar* grain and *Kapas* yield. (iv) (a) 1951—contd. (b) Yes. (c) No. (v) to (vii) Nil.

5. RESULTS :

Groundnut

(i) 509 lb./ac. (ii) 92.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

Treatment	10	12	14	16	18	20	23	26	29	32
Av. yield	389	541	603	383	426	518	496	489	668	575

S.E./mean = 37.9 lb./ac

Jowar

(i) 631 lb./ac. (ii) 170.1 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	4	5	6	8	15	17	19	22	24	28	30
Av. yield	567	456	438	536	499	893	722	562	821	544	906

S.E./mean = 69.4 lb./ac.

Cotton

(i) 93 lb./ac. (ii) 32.3 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	1	2	3	7	9	11	13	21	25	27	31
Av. yield	94	119	65	106	73	65	83	126	94	93	102

S.E./mean = 13.2 lb./ac.

Crop :- Jowar, Cotton and Groundnut. **Ref :- Ms. 58(52).**

Site :- Agri. Res. Stn., Saundatti. **Type :- 'R'.**

Object :—To find out a suitable rotation for Cotton, Jowar and Groundnut with and without F.Y.M. and P_2O_5.

1. BASAL CONDITIONS :

(i) (a) to (c) As per treatment. (ii) (a) Medium black soil. (b) N.A. (iii) *Jowar* : 9.7 1957 ; Cotton : 14.8.1957 and Groundnut : 9.7.1957. (iv) (a) Harrowing. (b) Drilling. (c) Cotton 10 lb./ac., *Jowar* 6 lb./ac and Groundnut 100 lb./ac. (d) Cotton 24"×6" to 7", *Jowar* 12"×6" to 8" and Groundnut 12"×3" to 6". (e) N.A. (v) Nil. (vi) *Jowar*—Fulgarwhite ; Cotton—*Jayadhar* and Groundnut—Spanish improved. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 28.0". (x) *Jowar* : 31.12.1957 ; Cotton : 28.3.1958 and Groundnut : 16.10.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(164) on page 738.

4. GENERAL :

(i) Germination was final satisfactory in all crops. Due to heavy rainfail in Oct., Groundnut was all spoiled. Due to continued mist condition Cotton crop was also affected which resulted in defation to an appreciable extent and consequential reduction in all yield. (ii) Attack of grass hoppers, B.H.C. 10% dusted. Gammexane also dusted. (iii) Height of plants, plant counts and yield. (iv) (a) 1951—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

Groundnut

(i) 341 lb./ac. (ii) 47.5 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

Treatment	9	11	13	15	17	19	22	25	28	31
Av. yield	311	398	343	293	372	323	331	353	297	386

S.E./mean = 19.4 lb./ac.

Jowar

(i) 565 lb./ac. (ii) 107.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	4	5	6	7	16	18	20	21	26	27	32
Av. yield	566	406	500	621	364	606	589	546	713	538	763

S.E./mean = 43.7 lb./ac.

Cotton

(i) 134 lb./ac. (ii) 37.8 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	1	2	3	8	10	12	14	23	24	29	30
Av. yield	150	152	104	122	90	109	163	124	132	183	145

S.E./mean = 15.4 lb./ac.

Crop :- Jowar, Cotton, Groundnut. **Ref :- Ms. 59(103).**

Site :- Agri. Res. Stn., Saundatti. **Type :- 'R'.**

Object :—To find out a suitable rotation for Cotton, Jowar and Groundnut, with and without F.Y.M. and P.

1. BASAL CONDITIONS :

(i) (a) to (c) As per treatments. (ii) (a) Medium black. (b) N.A. (iij) *Jowar* 14.7.1959 ; Cotton 25.8.1959 and Groundnut 14.7.1959. (iv) (a) Harrowings. (b) Drilling. (c) Cotton 10 lb./ac., *Jowar* 6 lb./ac. and groundnut 100 lb./ac. (d) Cotton 24" × 6" to 7", *Jowar* 12" × 6" to8" and groundnut 12" × 3" to 6" (e) N.A. (v) Nil. (vi) *Jowar*—Fulgar white ; Groundnut—Spanish improved ; Cotton—*Jayadhar*. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) *Jowar* 12.78" : Cotton 10.48" and Groundnut 10.68". (x) *Jowar* 31.12.1959. ; Cotton 4.3.1960. and Groundnut 23.10,1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(164) on page 738.

4. GENERAL :

(i) Satisfactory. (ii) Grass hoppers attack was observed and was controlled by dusting B.H C. 10%. (iii) Plant hight, plant counts and yield. (iv) (a) 1951—Contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

Groundnut

(i) 345.9 lb./ac. (ii) 38.0 lb./ac. (iii) Treatment differences are highly signifieant. (iv) Av. yield of pod in lb./ac.

Treatment	10	12	14	16	18	20	21	24	27	30
Av. yield.	312.6	396.2	399.2	276.4	313.1	325.6	330.2	335.0	364.2	406.4

S.E./mean = 15.5 lb./ac.

Jowar

(i) 604.1 lb./ac. (ii) 127.5 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	4	5	6	8	15	17	19	23	25	29	31
Av. yield	573.2	554.3	487.7	531.0	405.6	728.2	669.4	594.8	726.1	621.1	754.0

S.E./mean = 52.1 lb./ac.

Cotton

(i) 123.1 lb./ac. (ii) 47.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	1	2	3	7	9	11	13	22	26	28	32
Av. yield	101.9	125.1	94.1	135.2	87.5	116.9	121.5	126.4	144.8	153.7	147.1

S.E./mean = 19.3 lb./ac.

Crop :- As per rotation. **Ref :- Ms. 54(30).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'R'.**

Object :—To find the best rotations of crop for shallow soils (4 course rotation).

1. BASAL CONDITIONS :

(i) (a) to (c) As per treatments. (ii) (a) Deep black soil. (b) Refer soil analysis, Siruguppa. (iii) *Jowar* 17.7 1954 ; Groundnut and Redgram 26.6.1954 ; Wheat 2.11.1954 and Cotton 23.8.1954. (iv) (a) to (e) N.A. (v) For wheat, G.M. crop of sannhemp was raised applying 40 lb./ac. of P_2O_5 and ploughed in *situ*. A/S at 40 lb./ac. of N was applied when the crop was one month old. (vi) *Jowar* CO—9 ; Groundnut. TMV—2. Redgram Udgir ; Wheat local ; Cottan *Laxmi*. (vii) Irrigated. (viii) Intercultivation and weeding. (ix) 16.69". (x) *Jowar* 30.10.1954, Groundnut 26.10.1954 ; Redgram 28.12.1954 ; Wheat 21.2.1955 and Cotton 17.2.1955 to 2 4.1955.

2. TREATMENTS :

1. Groundnut+Redgram—Cotton—Wheat—*Jowar*.
2. *Jowar*—Wheat—Cotton—Groundnut+Redgram.
3. Wheat—Groundnut+Redgram—*Jowar*—Cotton.
4. Cotton—*Jowar*—Groundnut+Redgram—Wheat.

3 . DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 44'×30'. (b) 29'×15'. (v) 7½'×7½'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Crop yield. (iv) (a) 1948—contd. (b) As per treatments. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

Treatment	Crop	Av. yield in lb./ac.
1.	Wheat	1187 (grain)
2.	Cotton	641 (*kapas*)
3.	*Jowar*	3072 (grain) 5267 (straw)
4.	Groundnut	1100 (pod)
	Redgram	331 (grain)

Crop :- As per rotation. **Ref :- Ms. 55(44).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'R'.**

Object :—To find the best rotation of crop for shallow soils (4 course rotation).

1. BASAL CONDITIONS :

(i) (a) to (c) As per treatments. (ii) (a) Heavy black clay soil. (b) Refer soil analysis, Siruguppa. (iii) Cotton 24.9.1955 ; Wheat 21.10.1955 ; Groundnut and Redgram 23.6.1955 and *Jowar* 28.7.1955. (iv) (a) to (e) N.A. (v) In Wheat and Cotton plots Sannhemp was grown and ploughed in *situ*. In other plots F.Y.M. at 5 tons/ac. and 40 lb./ac. of P_2O_5 as Super was applied. Sannhemp and *Jowar* received N at 40 lb./ac. (vi) Cotton *Laxmi* ; Wheat local ; Groundnut TMV—2 ; Redgram Udgir ; *Jowar* CO—9. (vii) Irrigated. (viii) Intercultivation and weeding. (ix) 30.32". (x) Cotton 14, 27.3.1956 and 5.4.1956 ; Wheat 10.2.1956 ; Groundnut 21.10.1955 ; Redgram 28.1.1956 and *Jowar* 23.11.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(30) on page 743.

4. GENERAL :

(i) *Jowar* and Groundnut suffered due to heavy rains in the early stages. Wheat had excellent growth. (ii) Spraying with Hexidole 0.1% against jassids and aphids of Cotton, twice. (iii) Crop yield. (iv) (a) 1948—1955. (b) As per treatments. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

Treatment	Crop	Av. yield in lb./ac.
1.	*Jowar*	119 (grain) 494 (straw)
2.	Groundnut	283 (pod)
	Redgram	200 (grain)
3.	Cotton	994 (*kapas*)
4.	Wheat	1338 (grain)

Crop :- As per rotation. **Ref :- Ms. 54(31).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'R'.**

Object :—To find out the most economical 4 year rotation in deep black soils of Thungabhadra project.

1. BASAL CONDITIONS :

(i) (a) to (c) As per treatments. (ii) (a) Heavy black clay soil. (b) Refer soil analysis, Siruguppa. (iii) *Jowar* : 16.7.1954, Groundnut and redgram : 26.6.1954 ; Wheat : 2.11.1954 and cotton : 23.8.1954. (iv) (a) to (e) N.A. (v) For wheat, G.M. crop of sannhemp was raised applying at 40 lb./ac. of P_2O_5 and ploughed in *situ*. A/S at 40 lb./ac. of N was applied one month later. (vi) *Jowar* CO—9 Groundnut TMV—2, Redgram udgir, Wheat local and Cotton *Laxmi*. (vii) Irrigated. (viii) Intercultivation and weeding. (ix) 16.69". (x) *Jowar* : 28.10.1954, Croundnut : 27.10.1954, Redgram : 24.12.1954, Wheat : 17.2.1955 and Cotton : 31.1.1955 to 2 4.1955.

2. TREATMENTS :

1. Groundnut+Redgram—Cotton—Wheat—*Jowar*.
2. *Jowar*—Wheat—Cotton—Groundnut+Redgram.
3. Wheat—Groundnut—Redgram—*Jowar*—Cotton.
4. Cotton—*Jowar*—Groundnut+Redgram—Wheat.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 32'×30'. (b) 29'×15'. (v) 1½'×7½'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Crop yield. (iv) (a) 1948—1955. (b) and (c) No. (v) (a) Nil. (b)—. (vi) and (vii) Nil.

5. RESULTS :

Treatment	Crop	Av. yield in lb./ac.
1.	Wheat	1495 (grain)
2.	Cotton	1317 (*kapas*)
3.	*Jowar*	3138 (grain) 4667 (straw)
4.	Groundnut	1192 (pod)
	Redgram	539 (grain)

Crop :- As per rotation. **Ref :- Ms. 55(45).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'R'.**

Object : —To find out an economical 4 year rotation for deep black soils of Thungabhadra project.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Heavy black clayey soil. (b) Refer soil analysis, Siruguppa. (iii) Cotton : 24.9.1955, Wheat : 21.10.1955, Groundnut and Redgram : 23.6.1955 and *Jowar* : 28.7.1955. (iv) (a) to (e) N.A. (v) In Wheat and Cotton plots Sannhemp was grown and ploughed in *situ*. In other plots F.Y.M. at 5 tons/ac.+40 lb./ac. of P_2O_5 as Super was applied. Sannhemp and *Jowar* received N at 40 lb./ac. (vi) Cotton : *Laxmi*, Wheat : local, Groundnut : TMV—2, Redgram : Udgir and *Jowar* : CO—9. (vii) Irrigated. (viii) Intercultivation and weeding. (ix) 30.32". (x) Cotton : 14, 21.3.1956 and 5.4.1956, Wheat 10.2.1956, Groundnut : 21.10.1955, Redgram : 28.1.1956 and *Jowar* : 23.11.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(31) on page 744.

4. GENERAL :

(i) *Jowar* and groundnut suffered due to heavy rains in the early stages. Wheat had excellent growth. (ii) (ii) Spraying with Hexidole 0.1% again jassids and aphids of Cotton, twice. (iii) Crop yield. (iv) (a) 1948—1955. (b) As per rotation. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

Treatment	Crop	Av. yield in lb./ac.
1.	*Jowar*	263 (grain) 1010 (straw)
2.	Groundut	238 (pod)
	Redgram	550 (grain)
3.	Cotton	1050 (*kapas*)
4.	Wheat	1244 (grain)

Crop :- As per rotation. **Ref :- Ms. 54(21).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'R'.**

Object :—To fix up a suitable 3 year rotation for black shallow soils of Thungabhadra project.

1. BASAL CONDITIONS :

(i) (a) to (c) As per treatments. (ii) (a) Heavy black clayey soil. (b) Refer soil analysis, Siruguppa. (iii) Groundnut and redgram 25.6.1954 ; *Jowar* 17.7.1954 and Cotton 23.8.1954. (iv) (a) to (e) N.A. (v) In cotton plots sannhemp as G.M. was grown applying 40 lb./ac. of N and 40 lb./ac. of P_2O_5 as Super and ploughed in *situ*. *Jowar* received 5 tons/ac. of F.Y.M.+40 lb./ac. of N as A/S+40 lb./ac. of P_2O_5 as Super. Korra received 5 tons/ac. of F.Y.M.+40 lb./ac. of N as A/S. Groundnut and redgram received 5 tons/ac. of F.Y.M. +40 lb./ac. of P_2O_5 as Super. (vi) Cotton—*Laxmi* ; Groundnut ; TMV—2 ; Redgram - Udgir and Jola—Co —9. (vii) Irrigated. (viii) Intercultivation and weeding. (ix) 16.69". (x) Groundnut 25.10.1954 ; Redgram 28.12.1954 ; *Jowar* 29.10.1954 and Cotton 22.2.1955 to 2.4.1955.

2. TREATMENTS :

1. Groundnut+Red gram—Cotton—Korra.
2. *Jowar*—Groundnut+Red gram—Cotton.
3. Cotton—Groundnut+Red gram—*Jowar*.

3. DESIGN:

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 44′×37½′. (b) 38¾′×22½′. (v) 2½′×7½′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Crop yield. (iv) (a) 1948—1955. (b) As per rotation. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

Treatment	Crop	Av. yield in lb./ac.
1.	Groundnut	779 (pod)
	Redgram	241 (grain)
2.	*Jowar*	2214 (grain)
3.	Cotton	561 (*kapas*)

Crop :- As per rotation. **Ref :- Ms. 55(42).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'R'.**

Object :—To fix up a suitable 3 year rotation for black shallow soils of Thungabhadra project.

1. BASAL CONDITIONS :

(i) (a) to (c) As per treatments. (ii) (a) Heavy black clayey soil. (b) Refer soil analysis, Siruguppa. (iii) Cotton 24.9.1955 ; Groundnut 22.6.1955 and Redgram 23.6.1955. (iv) (a) to (e) N.A. (v) Cotton 40 lb./ac. of phosphoric acid+G.M. crop raised in *situ* and ploughed in 40 lb./ac. of N Groundnut+Redgram—basal dressing of 5 tons/ac. of F.Y.M.+40 lb./ac. of phosphoric acid. (vi) Cotton : *Laxmi* ; Groundnut : TMV—2 andRedgram Udgir. (vii) Irrigated. (viii) Intercultivation and weeding. (ix) 30.32". (x) Cotton 10, 24.3.1956 and 6.4.1956 ; Groundnut 22.10.1956 and Redgram 30.1.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no, 54(21) on page 745.

4. GENERAL :

(i) Poor. (ii) Spraying with hexidol 0.1 % twice for control of jassids and aphids. (iii) Crop yield. (iv) (a) 1948—1955. (b) As per rotation. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

Treatment	Crop	Av. yield in lb./ac.
1.	Cotton	911 (*kapas*)
2.	Groundnut	319 (pod)
	Redgram	88 (grain)
3.	Groundnut	211 (pod)
	Redgram	161 (grain)

Crop :- As per rotation. **Ref :- Ms. 55(22).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'R'.**

Object :—To fix up a suitable 3 year rotation for deep black soils of project area.

1. BASAL CONDITIONS :

(i) (a) to (c) As per treatments. (ii) (a) Deep black. (b) Refer soil analysis, Siruguppa. (iii) *Jowar* 16.7.1954 ; Groundnut 25.6.1954 ; Redgram 26.6.1954 and Cotton 23.8.1954. (iv) (a) to (e) N.A. (v) In cotton plots Sannhamp as G.M. was grown applying 40 lb./ac. of N and 40 lb./ac. of P_2O_5 as Super and ploughed in *situ*. *Jowar* received 5 tons/ac. of F.Y.M.+40 lb./ac. of N as A/S+40 lb./ac. of P_2O_5 as Supper. *Korra* received 5 tons/ac. of F.Y.M.+40 lb./ac. of as N as A/S, Groundnut and redgram received 5 tons/ac. of F.Y.M.+40 lb /ac. of P_2O_5 as Super. (vi) *Jowar Laxmi* ; Groundnut TMV—2 ; Redgram Udgir and Cotton CO—9. (vii) Same as that given under shallow soil. (viii) Interculturing and weeding. (ix) 16.69" [From 25.6.1954 to 2.4.1955]. (x) *Jowar*, Groundnut and redgrain 29.10.1954 and Cotton 21.2.1955 to 2.4.1955.

2. TREATMENTS :

1. Groundnut+Redgram–Cotton—*Korra.*
2. *Jowar*—Groundnut+Redgram—Cotton.
3. Cotton—Groundnut+Redgram—*Jowar.*

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 44′×22½′. (b) 29′×7½′. (v) 7½′×7½′. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Crop yield. (iv) (a) 1948—1955. (b) As per rotation. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

Crop	Av. yield in lb./ac.
Groundnut	742 (pod)
Redgram	283 (grain)
Jowar	2017 (grain)
Cotton	500 (*kapas*)

Crop :- As per rotation. **Ref :- Ms. 55(43).**

Site :- Agri. Res. Stn., Siruguppa. **Type :- 'R'.**

Object :—To fix up a suitable 3 year rotation for deep black soil of the project area.

1. BASAL CONDITIONS :

(i) (a) to (c) As per treatments. (ii) (a) Heavy black clayey soil. (b) Refer soil analysis, Siruguppa. (iii) Cotton 24.9.1955, Groundnut 22.6 1955 and Redgram 23.6.1955. (iv) (a) to (e) N.A. (v) Cotton : 40 lb./ac. of P_2O_5+G.M. Crop raised in *situ* and ploughed in+40 lb./ac. of N. Groundnut+Redgram : Basal dressing of 5 tons/ac. of F.Y.M.+40 lb./ac. of P_2O_5. (vi) Cotton—*Laxmi* ; Groundnut : TMV—2 and Redgram : Udgir. (vii) Irrigated. (viii) Interculturing and weeding. (ix) 30.32″. (x) Cotton 10, 24.3.1956 and 6.4.1956 ; Groundnut 22.10.1955 and Redgram 30.1.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54 (21) on page 745

4. GENERAL :

(i) Poor. (ii) Spraying with Hexidole 0.1% twice for control of jassids and aphids. (iii) Crop yield. (iv) (a) 1948—1955. (b) As per treatments. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

Crop	Av. yield in lb./ac.
Cotton	964 (*kapa*)
Groundnut	278 (pod)
Redgram	332 (grain)
Groundnut	308 (pod)
Redgram	439 (grain).

Crop :- Gram and Wheat *(Rabi)*. **Ref :- Ms. 54(180).**

Site :- Agri. Res. Stn., Annigeri. **Type :- 'X'.**

Object :—To study the effect of mixed cropping on yield.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Groundnut—Gram+Wheat. (b) *Jowar*—Groundnut. (c) N.A. (ii) (a) Deep black soil. (b) Refer soil analysis, Annigeri. (iii) 1.11.1954. (iv) (a) N.A. (b) Drilling. (c) Wheat 32 lb./ac.+Gram 24 lb./ac. (d) and (e) N.A. (v) 4 C.L./ac. of F.Y.M. before sowing. (vi) Gram : *Chafa* (early) and wheat : *Kenphad* (early) (vii) Unirrigated. (viii) Gap-filling and 3 interculturings. (ix) 0.12″. (x) 9.2.1955.

2. TREATMENTS:

8 ratios of Wheat and Gram : M_1=Wheat alone, M_2=Gram alone, M_3=1 : 1 (mixed sowing), M_4= 1 : 2 (mixed sowing), M_5=1 : 3 (mixed sowing), M_6=1 : 1 (row sowing), M_7=1 : 2 (row sowing) and M_8=1: 3 (row sowing).

3. DESIGN:

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 46′×30′. (b) 40′×18′. (v) 3′×6′. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Sporadic wilting of gram, blight of wheat and slight borer attack. (iii) Grain yield and money value of the produce. (iv) (a) 1954—1955. (b) No. (c) Nil. (v) (a) N.A. (b)—. (vi) Scarce rains (vii) Nil.

5. RESULTS:

(i) 111.00 Rs./ac. (ii) 16.94 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. value of produce in Rs./ac.

Treatment	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8
Av. value	144.30	78.80	125.10	99.20	83.40	129.70	115.90	111.70

S.E./mean = 8.47 Rs./ac.

Crop :- Gram and Wheat *(Rabi)*. **Ref :- Ms. 55(155).**

Site :- Agri. Res. Stn., Annigeri. **Type :- 'X'.**

Object—To study the effect of mixed cropping on yield.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Deep black soil. (b) Refer soil analysis, Annigeri. (iii) 22.11.1955. (iv) (a) to (e) N.A. (v) N.A. (vi) Gram—*Chafa* (early) and wheat : *Kenphad* (early). (vii) Unirrigated. (viii) Nil. (ix) 0.15″. (x) 28.2.1956.

2. TREATMENTS :

Same as in expt. no. 54(180) on page 747.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 46′×30′. (b) 38′10″×21′. (v) 3′7″×4′6″. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield and money value of the produce. (iv) (a) 1954—1955. (b) No. (c) Nil. (v) (a) N.A. (b)—. (vi) and (vii) Nil.

5. RESULTS :

(i) 103.50 Rs./ac. (ii) 13.17 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. value of produce in Rs./ac.

Treatment	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8
Av. value	76.40	122.70	92.60	92.90	113.10	100.10	121.70	108.90

S.E./mean = 6.58 Rs./ac.

Crop :- Groundnut and Bajri. **Ref :- Ms. 54(175).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'X'.**

Object :—To find out a suitable ratio of mixture for Groundnut and Bajri.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Gram. (c) F.Y.M. at 5 C.L./ac. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 7.8.1954. (iv) (a) Ploughing is done once in 3 years as per dry farming method. (b) Drilling. (c) to (e) N.A. (v) F.Y.M. at 5 C.L./ac. once in 3 years as per dry farming method. (vi) Groundnut : Spanish (improved early) and *Bajri* : N.A. (vii) Unirrigated. (viii) 1 interculturing and 2 weedings. (ix) 8.70". (x) 29.11.1954 and 15.12.1954.

2. TREATMENTS :

6 ratios of rows of groundnut : *Bajri* :—R_1=Groundnut alone, R_2=*Bajri* alone, R_3=1 : 1, R_4= 1 : 2, R_5=2 : 1 and R_6=3 : 1.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 46'×30'. (b) 40'×24'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Both the crops were poor. (ii) *Tikka* disease on groundnut at the time of maturity. No control measures taken. (iii) Grain yield and money value of the produce. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Poor rainfall. (vii) Nil.

5. RESULTS :

(i) 31.29 Rs /ac. (ii) 6.42 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. value of produce in Rs./ac.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6
Av. value	37.78	16.11	28.47	31.20	36.53	37.66

S.E./mean = 3.21 Rs./ac.

Crop :- Groundnut and Bajri *(Kharif)*. **Ref :- Ms. 55(216).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'X'.**

Object—To find out a suitable ratio of mixture for Groundnut and Bajri.

1. BASAL CONDITIONS :

(i) Nil. (b) *Jowar*. (c) N.A. (ii) (a) Alkaline soil. (b) Refer soil analysis, *Bijapur*. (iii) 9.8.1955. (iv) (a) Ploughings. (b) Drilling. (c) *Bajri* 2 lb./ac. and groundnut 100 lb./ac. (d) 12" between rows (e) N.A. (v) Nil. (vi) *Bajri* : Bijapur Farm Selection and Groundnut : Spanish improved. (vii) Unirrigated. (viii) Interculturing. (ix) 14.14". (x) 16.12.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(175) on page 748.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plants, No. of plants, weight of earheads and money value of produc (iv) (a) 1954—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 47.16 Rs./ac. (ii) 6.90 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. value of the produce in Rs./ac.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6
Av. value	47.10	28.59	48.01	45.28	56.63	57.35

S.E./mean = 3.45 Rs./ac.

Crop :- Groundnut and Bajri *(Kharif).* **Ref :- Ms. 56(192).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'X'.**

Object :—To find out a suitable ratio of mixture for Groundnut and Bajri.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Bajri.* (c) 5 C.L./ac. of F.Y.M. (ii) (a) Alkaline soil. (b) Refer soil analysis, Bijapur. (iii) 9.8.1956. (iv) (a) Ploughing. (b) Drilling. (c) *Bajri* 2 lb./ac. and Groundnut 100 lb./ac. (d) 15" between rows. (e) N.A. (v) N.A. (vi) *Bajri* : Bijapur 11-11-7-14 and Groundnut : Spanish improved. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 14.19". (x) 9.12.1956.

2. TREATMENTS :

Same as in expt. no. 54(175) on page 748.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 46'×35'. (b) 40'×30'. (v) 3'×2·5'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) *Tikka* appeared in the late stages of groundnut. (iii) Height and number of plants, size and weight of earhead and money value of produce. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Crop affected by heavy rains. (vii) Nil.

5. RESULTS :

(i) 36.16 Rs /ac. (ii) 4.18 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. value of produce in Rs./ac.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6
Av. value	48.82	12.43	39.57	34.21	39.66	42.29

S.E./mean = 2.09 Rs./ac.

———

Crop :- Groundnut and Bajri *(Kharif).* **Ref :- Ms. 57(219).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'X'.**

Object :—To find out a suitable ratio of mixture for Groundnut and Bajri.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar.* (c) N.A. (ii) (a) N.A. (b) Refer soil analysis, Bijapur. (iii) 27.6.1957. (iv) (a) Ploughing. (b) Drilling. (c) *Bajri* 2 lb./ac. and Groundnut 100 lb./ac. (d) 15" between rows. (e) N.A. (v) N.A. (vi) *Bajri* : Bijapur 11-11-7-14, and Groundnut : Spanish (improved). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 23.09". (x) 27.10.1957.

2. TREATMENTS :

Same as in expt. no. 54(175) on page 748.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 46'×35'. (b) 40'×30'. (v) 3'×2·5'. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Eargot disease on *bajri.* Slight *tikka* on groundnut. (iii) Height and number of plants, size and weight of ear head and money value of produce. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 77.41 Rs./ac. (ii) 21.05 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. value of produce in Rs./ac.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6
Av. value	132.31	15.61	67.70	61.07	87.03	100.73

S.E./mean = 10.52 lb./ac.

———

Crop :- Gram and Wheat. **Ref :- Ms. 54(166).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'X'.**

Object :—To work out returns of mixed cropping as compared with those of pure crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) N.A. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 9.10.1954. (iv) (a) Ploughing once in 3 years and 2 harrowings. (b) Drill sowing. (c) Gram : 30 lb./ac., Wheat : 40 lb./ac. (d) Rows 12" apart. (e) N.A. (v) Nil. (vi) Gram : *Chafa* (early) and wheat : *Kenphad* (medium). (vii) Unirrigated. (viii) Interculturing. (ix) 2.21". (x) 27.1.1955.

2. TREATMENTS :

8 ratios of Wheat : Gram : M_1=Wheat alone, M_2=Gram alone, M_3=1 : 1 (mixed sowing), M_4=1 : 2 (mixed sowing), M_5=1 : 3 (mixed sowing), M_6=1 : 1 (row sowing), M_7=1 : 2 (row sowing) and M_8=1 : 3 (row sowing).

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 46'×30'. (b) 40'×24'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) and (b) N.A. (c) No. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 72.78 Rs./ac. (ii) 12.07 Rs./ac. (iii) Treatment differences are not significant. (iv) Av. value of produce in Rs./ac.

Treatment	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8
Av. value	80.20	65.57	80.66	64.89	69.54	78.95	71.96	70.79

S.E./mean = 6.03 Rs./ac.

Crop :- Wheat and Gram *(Rabi)*. **Ref :- Ms. 56(171).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'X'.**

Object :—To work out the returns of mixed cropping as compared with pure crop.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Gram+Wheat. (b) *Jowar*. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Black soil. (b) Refer soil ana ysis, Bijapur. (iii) 26.10.1956. (iv) (a) Ploughing. (b) Drilling. (c) Wheat : 40 lb./ac. and Gram : 30 lb./ac. (d) 12" between lines. (e) N.A (v) Nil. (vi) wheat : *Kenphad* and gram : *Chafa* (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 10.79". (x) 9.2.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(166) above.

4. GENERAL :

(i) Stunted growth. (ii) Nil. (iii) No. of plants, no. of tillers of wheat and no. of pods/plant of gram and money value of produce. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) N A. (vi) Heavy rains. (vii) Nil.

5. RESULTS :

(i) 229.2 Rs./ac. (ii) 131.4 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. value of produce in Rs./ac.

Treatment	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8
Av. value	113.7	140.8	241.9	272.9	290.3	236.5	274.7	262.5

S.E./mean = 65.7 Rs./ac.

Crop :- Wheat and Gram *(Rabi)*. **Ref :- Ms. 57(178).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'X'.**

Object :—To work out the returns of mixed cropping with entire crop.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Wheat—Gram. (b)) *Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Black soil. (b) Refer soil analysis, Bijapur. (iii) 16.10 1957. (iv) (a) Ploughing. (b) Drilling. (c) Wheat 40 lb./ac. and Gram 30 lb./ac. (d) 12" between lines. (e) N.A. (v) Nil. (vi) Wheat : *Kenphad* and Gram : *Chaffa*. (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 15.06". (x) 29.1.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(166) on page 751.

4. GENERAL :

(i) Poor. (ii) Nil. (iii) No. of plants, no. of tillers/plant and no. of pods of gram and money value of produce. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Heavy rainfall. (vii) Nil.

5. RESULTS :

(i) 151.96 Rs./ac. (ii) 32.46 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. value of produce in lb./ac.

Treatment	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8
Av. yield	94.39	84.19	190.82	193.42	156.11	199.98	136.47	151.96

S.E./mean = 16.23 Rs./ac.

Crop :- Wheat and Gram *(Rabi)*. **Ref :- Ms. 58(167).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'X'.**

Object :—To work out the returns of mixed cropping with entire crop.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Wheat. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Black soil. (b) Refer soil analysis, Bijapur. (iii) 24.10.1958. (iv) (a) Ploughing. (b) Drilling. (c) Wheat : 40 lb./ac. and Gram : 30 lb./ac. (d) 12" between rows. (e) N.A. (v) Nil. (vi) Wheat : *Kenphad* and Gram : *Chaffa*. (vii) Unirrigated. (viii) Interculturing twice. (ix) 11.46". (x) 9.2.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(166) on page 751.

5. RESULTS :

(i) 204.40 Rs./ac. (ii) 56.41 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. value of produce in lb./ac.

Treatment	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8
Av. yield	123.10	82.40	265.17	244.55	280.78	206.26	236.02	196.42

S.E./mean = 28.21 Rs./ac.

Crop :- Wheat and Gram *(Rabi)*. **Ref :- Ms. 58(171).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'X'.**

Object :—To find out the suitable combination of Wheat and Gram.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Wheat—Gram. (b) *Jowar*. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Black soil. (b) Refer soil analysis, Bijapur. (iii) 23.10.1958. (iv) (a) Ploughing. (b) Drilling. (c) Wheat : 40 lb./ac. and Gram : 30 lb./ac. (d) 12". (e) N.A. (v) Nil. (vi) Wheat : *Kenphad* and Gram : *Chaffa*. (vii) Unirrigated. (viii) As per treatments. (ix) 11.46". (x) 13.2.1959.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 2 levels of N : N_0=0 and N_1=10 lb./ac.

(2) 3 mechanical operations : M_0=No operation, M_1=Stimuli by Japanese weeder and M_2=Stimuli by tooth cultivator.

(3) 3 ratios of wheat and gram : R_1=1 : 2, R_2=1 : 1 and R_3=Wheat alone all by rows.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 18. (b) N.A. (iii) 2. (iv) (a) 50'×8'. (b) 45'×6'. (v) 2½'×1'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plants, number of tillers/plant and monetary value. (iv) (a) 1958—N.A. (b) No. (c)—. (v) to (vii) Nil.

5. RESULTS :

(i) 111.59 Rs./ac. (ii) 20.01 Rs./ac. (iii) Main effect of N alone is significant. (iv) Av. value of produce in Rs /ac.

	M_0	M_1	M_2	Mean	R_1	R_2	R_3
N_0	105.94	116.16	89.00	103.70	108.63	105.67	96.80
N_1	125.84	116.16	116.43	119.48	115.09	130.14	113.20
Mean	115.89	116.16	102.72	111.59	111.86	117.91	105.00
R_1	116.56	114.95	104.06				
R_2	123.02	121.81	108.90				
R_3	108.09	111.72	95.19				

S.E. of marginal mean of M or R = 5.78 Rs./ac.
S.E. of marginal mean of N = 4.72 Rs./ac.
S.E. of body of N×M or N×R table = 8.17 Rs./ac.
S.E. of body of M×R table = 10.00 Rs./ac.

Crop :- Wheat and Gram. **Ref :- Ms. 59(121).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'X'.**

Object :—To find the suitable combinations of Wheat and Gram with different cultural practices.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 19.10 1959. (iv) (a) Ploughing and harrowing thrice. (b) As per treatments. (c) Wheat : 40 lb./ac. and Gram : 30 lb./ac. (d) 12". (e) N.A. (v) Nil. (vi) Wheat—*Kenphad* and Gram—*Chafa*. (vii) Unirrigated. (viii) As per treatments. (ix) 8.11". (x) 9.2.1960.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 4 ratios of gram and wheat : R_1=gram alone, R_2=1 : 1, R_3=1 : 2 and R_4= 1 : 3 all by rows.

(2) 2 levels of N as A/S : N_0=0 and N_1=10 lb./ac.

(3) 3 mechanical operations : M_1=Stimuli by Japanese weeder, M_2=Stimuli by tooth cultivator and M_3=No stimuli.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 24. (b) 100′×96′. (iii) 2. (iv) (a) 50′×8′. (b) 46′×6′. (v) 1 row. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) No. of panicles, tiller/plant, spikelets/panicle and monetary value. (iv) (a) 1958—1960. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Continuous drought conditions. (vii) Nil.

5. RESULTS :

(i) 1062.27 Rs./ac. (ii) 258.83 Rs./ac. (iii) Main effect of R is highly significant. (iv) Av. value of produce in Rs./ac.

	D_1	D_2	D_3	Mean	N_0	N_1
R_1	1356.12	1442.92	1421.62	1406.89	1367.04	1446.74
R_2	1063.75	1236.57	1070.06	1123.46	1263.13	983.78
R_3	1034.16	980.10	727.58	913.94	997.72	830.16
R_4	793.07	866.86	754.41	804.78	758.09	851.47
Mean	1061.78	1131.61	993.41	1062.27	1096.50	1028.04
N_0	1003.97	1224.93	1060.59			
N_1	1119.58	1038.30	926.24			

S.E. of marginal mean of R = 74.72 Rs./ac.
S.E. of marginal mean of M = 64.71 Rs./ac.
S.E. of marginal mean of N = 52.82 Rs./ac.
S.E. of body of R×M table = 129.82 Rs./ac.
S.E. of body of R×N table = 105.64 Rs./ac.
S.E. of body of M×N table = 91.52 Rs./ac.

Crop :- Gram and Jowar. **Ref :- Ms. 54(165).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'X'.**

Object :—To work out money value returns of mixed cropping of Gram and Jowar as compared to those of pure crop of Jowar.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 6, 8.10.1954. (iv) (a) Ploughing once in three years. (b) Gram sown with 12″ spaced 4 coultered seed drill and *Jowar* with 18″ spaced 3 coultered seed drill. (c) Gram, 30 lb./ac. and *Jowar*: 4 lb./ac. (d) and (e) N.A. (v) 5 C.L./ac. of F.Y.M. once in 3 years. (vi) Gram : *Chafa* (early) and *Jowor* M. 35—1 (early). (vii) Unirrigated. (viii) Interculturing. (ix) 2.21″. (x) 17.2.1955.

2. TREATMENTS :

8 ratios of gram : *Jowar* : R_1=*Jowar* alone, R_2=Gram alone, R_3=1 : 1 (mixed sowing), R_4=2 : 1 (mixed sowing), R_5=3 : 1 (mixed sowing), R_6=1 : 1 (row sowing), R_7=2 : 1 (row sowing) and R_8=3 : 1 (row sowing).

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 46′×30′. (b) 40′×24′. (v) 3′ all round. (vi) Yes.

4. GENERAL :

(i) Germination was good. Growth was satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—1958. (b) No. (c) Nil. (v) (a) N.A. (b) —. (vi) and (vii) Nil.

5. RESULTS :

(i) 60.83 Rs./ac. (ii) 19.56 Rs./ac. (iii) Treatment differences are not significant. (iv) Av. value of produce in Rs./ac.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. value	37.21	70.56	75.89	55.36	65.57	68.97	60.12	52.98

S.E./mean = 9.78 Rs./ac.

Crop :- Jowar and Gram *(Rabi)*. **Ref :- Ms. 55(229).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'X'.**

Object :—To work out money value of mixed cropping of Gram and Jowar as compared to those of pure crop of Jowar.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) N.A. (iv) Ploughing and harrowing. (b) Drilling. (c) *Jowar* : 6 lb./ac. and Gram : 30 lb./ac. (d) *Jowar* 18" between rows and Gram 12". (e) N.A. (v) N.A. (vi) *Jowar* M-35—1. and Gram—*Chafa* (vii) Unirrigated. (viii) Interculturing for *Jowar* only. (ix) and (x) N.A.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(165) on page 754.

5. RESULTS :

(i) 99.90. Rs./ac. (ii) 16.79 Rs./ac. (iii) Treatment differences are not significant. (iv) Av. value of produce in Rs./ac.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. value	97.33	96.88	100.05	121.38	112.08	89.39	87.01	95.06.

S.E./mean = 8.39 Rs./ac.

Crop :- Jowar and Gram. **Ref :- Ms. 56(209).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'X'.**

Object : —To work out returns of mixed cropping of Gram and Jowar as compared to those of entire crop.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 25 and 26.9.1956. (iv) (a) Ploughing and harrowing. (b) Drilling. (c) *Jowar* : 6 lb./ac. and Gram : 30 lb./ac. (d) *Jowar* 18" between rows and Gram 12". (e) N.A. (v) N A. (vi) *Jowar*: M-35—1 ; Gram : *Chafa*. (vii) Unirrigated. (viii) Interculturing for *Jowar* only. (ix) 11.79". (x) 8.3.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(165) on page 754.

5. RESULTS :

(i) 44.18 Rs /ac. (ii) 14.97 Rs./ac. (iii) Treatment differences are significant. (iv) Av. value of produce in Rs./ac.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. value	41.86	20.19	54.45	56.04	61.26	40.61	39.48	39.59

S.E./mean = 7.49 Rs./ac.

Crop :- Jowar and Gram *(Rabi)*. **Ref :- Ms. 57(222).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'X'.**

Object :—To work out money value of mixed cropping of Gram and Jowar as compared to those of pure crop of Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Gram. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 27.9.1957. (iv) (a) Ploughing and harrowings. (b) Drilling. (c) *Jowar* : 6 lb./ac. and Gram : 30 lb./ac. (d) and (e) N.A. (v) Nil. (vi) *Jowar* : M-35-1 (medium) ; Gram : *Chafa* (medium). (vii) Unirrigated. (viii) Interculturing and weeding. (ix) 10.52". (x) Gram : 28.1.1958. and *Jowar* : 11.2.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(165) on page 754.

4. GENERAL :

(i) Normal (iii) Heavy attack of *Sugary* disease and slight attack of pod borer. (iii) Hight of plant, number and length of internodes, grain and straw yield and monetary value. (iv) (a) 1954 - 1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 146 81 Rs./ac. (ii) 15.88. Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. value of produce in Rs./ac.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. value	144.86	123.08	179.23	157.00	151.21	127.50	146.45	145.65

S.E. mean = 7.94 Rs./ac.

Crop :- Jowar and Gram *(Rabi)*. **Ref :- Ms. 58(224).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'X'.**

Object :—To compare the yield of Jowar and Gram under different cultural practices.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 18.9.1958. (iv) (a) Ploughing and harrowing. (b) As per treatments. (c) *Jowar* : 6 lb./ac. and Gram : 30 lb./ac. (d) As per treatments. (e) N.A. (v) N.A. (vi) *Jowar* : M-35-1 (medium) and Gram : *chafa* (medium). (vii) Unirrigated. (viii) Interculturing for *Jowar*. (ix) 8.11". (x) 5.2.1959.

2. TREATMENTS :

8 cultural operations : C_1=Mixed sowing of *Jowar* and gram in 1 : 1 ratio at 18" by drilling. C_2=Mixed sowing of *Jowar* and gram in 1 : 2 ratio at 18" by drilling. C_3=Row sowing of *Jowar* and gram in 1 : 1 ratio at 18" by drilling. C_4=Row sowing of *Jowar* and gram in 1 : 2 ratio at 18" by drilling. C_5=Gram at 18" by drilling and hand dibbling of *Jowar* at 18". C_6=Gram at 18" by drilling and hand dibbling of *Jowar*. at 36". C_7=*Jowar* alone at 18" by drilling and C_8=Gram alone at 18" by drill.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) 50'×144'. (iii) 2. (iv) (a) 50'×18'. (b) 44'×9'. (v) 3'×4½'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of plant, plant count, number and length of internodes, grain and straw yield and monetary value. (iv) (a) 1958—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 179.51 Rs./ac. (ii) 34.10 Rs./ac. (iii) Treatment differences are significant. (iv) Av. value of produce in Rs./ac.

Treatment	C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8
Av. value	261.80	199.65	130.90	148.50	216.70	177.65	212.30	88.55

S.E./means = 24.12 Rs./ac.

Crop :- Jowar and Gram (*Rabi*). **Ref :- Ms. 59(185).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'X'.**

Object :—To compare the yield of Jowar and Gram under different cultural practices.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 26.9.1959. (iv) (a) Ploughing and harrowing thrice. (b) As per treatments (c) *Jowar* : 6 lb./ac. and Gram: 30 lb./ac. (d) As per treatments. (e) N.A. (v) Nil. (vi) *Jowar* : M-35-1 (medium) and Gram : *Chafa* (medium). (vii) Unirrigated. (viii) One intreculturing. (ix) 4.98". (x) 10.2.1960.

2. TREATMENTS :

8. cultural operations : C_1=Mixed sowing of *Jowar* and Gram in 1 : 1 ratio at 18" by drilling. C_2=Mixed sowing of *Jowar* and Gram in 1 : 2 ratio at 18" by drilling. C_3=Row sowing of *Jowar* and Gram in 1 : 1 ratio at 18" by drilling. C_4=Row sowing of *Jowar* and Gram in 1 : 2 ratio at 18" by drilling. C_5=Gram at 12" by drilling and hand dibbling of *Jowar* at 18". C_6=Gram at 12" by drilling and hand dibbling of *Jowar* at 36". C_7=*Jowar* alone at 18" by drilling and C_8=Gram alone at 12" by drill.

3. DESIGN :

(i) R.B D. (ii) (a) 8. (b) 50'×144'. (iii) 2. (iv) (a) 50'×18'. (b) 44'×9'. (v) 3'×4½'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height of the plant, length and breadth of leaf and earhead and monetary value. (iv) (a) 1958—1960. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Continuous heavy drought condition prevailed. (vii) Nil.

5. RESULTS :

(i)78.03 Rs./ac. (ii) 41.80 Rs./ac. (iii) Treatment differences are not significant. (iv) Av. value of produce in Rs./ac.

Treatment	C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8
Av. value	92.40	86.90	96.25	75.90	34.10	70.40	116.05	52.25

S.E./means = 29.56 Rs./ac.

Crop :- Jowar and Gram. **Ref :- Ms.58(121).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'X'.**

Object :—To find the effect of various combinations of cultural and manurial practices on the yield.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Wheat. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Bijapur. (iii) 26.9.1958. (iv) (a) Ploughing and harrowing thrice. (b) As per treatments. (c) *Jowar* : 6 lb./ac. and Gram : 30 lb./ac (d) As per treatments. (e) N.A. (v) Nil. (vi) *Jowar* : M-35-1 (medium). and Gram—*Chafa*. (v) Unirrigated. (viii) We ding and interculturing. (ix) 11.46". (x) 7.2.1959.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of N : N_0=0 and N_1=10 lb./ac.

(2) 4 ratios of *Jowar* and Gram : R_1=*Jowar* alone drilled at 18", R_2=1 : 1, R_3=1 : 2 and R_4=Gram alone dibbled at 18"×18".

3. DESIGN:

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 2. (iv) (a) 45′×13½′. (b) 40′×9′. (v) 2.5′×2.25′. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Weight of plants, plant counts, size of earhead, grain yield and monetary value. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 148.75 Rs./ac. (ii) 21.78 Rs./ac. (iii) Main effect of N is highly significant. (iv) Av. value of produce in Rs./ac.

	R_1	R_2	R_3	R_4	Mean
N_0	133.10	125.84	140.36	109.50	127.20
N_1	198.44	170.00	173.03	139.76	170.31
Mean	165.77	147.92	156.69	124.63	148.75

S.E. of marginal mean of N = 7.70 Rs./ac.
S.E. of marginal mean of R = 10.89 Rs./ac.
S.E. of body of table = 15.40 Rs./ac.

Crop :- Jowar and Gram *(Rabi)*. **Ref :- Ms. 59(119).**

Site :- Agri. Res. Stn., Bijapur. **Type :- 'X'.**

Object :—To study the effect of various combinations of cultural and manurial practices on the yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Wheat. (c) 4 C.L./ac. of F.Y.M. (ii) (a) Medium black. (b) Refer soil analysis, B ijapur. (iii) 26.9.1959. (iv) (a) Ploughing and 3 harrowings. (b) As per treatments. (c) *Jowar* : 6 lb./ac. and Gram : 30 lb./ac. (d) As per treatments. (e) N.A. (v) Nil. (vi) *Jowar* : M-35-1 (medium) and Gram : *Chafa* (medium). (vii) Unirrigated. (viii) 1 hand weeding and 1 interculturing. (ix) 8.11″. (x) 7.2 1960.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of N as A/S : N_0=0 and N_1=10 lb./ac.

(2) 5 ratios *Jowar* and gram : R_1=1 : 0 drilled at 18″, R_2=1 : 1, R_3=1 : 2, R_4= 1 : 0 dibbled at 18″×18″ and R_5=1 : 0 dibbled at 18″×12″.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 10. (b) 45′×135′. (iii) 2. (iv) (a) 45′×13½′. (b) 40′×9′. (v) 2·5′×2.25′ (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Sugary disease to some extent—No control measures taken. (iii) Height of plants, plant counts, length and breadth of internodes, yield and monetary value. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Continuous drought conditions. *Jowar* was unaffected. (vii) Nii.

5. RESULTS :

(i) 112.54 Rs /ac. (ii) 49.07 Rs./ac. (iii) None of the effect is significants. (iv) Av. value of produce in Rs./ac.

	R_1	R_2	R_3	R_4	R_5	Mean
N_0	80.07	143.32	92.14	88.01	127.05	106.12
N_1	94.62	131.00	115.70	140.28	113.16	118.95
Mean	87.35	137.16	103.92	114.15	120.10	112.54

S.E. of marginal mean of N = 15.52 Rs./ac.
S.E. of marginal mean of R = 24.54 Rs./ac,
S.E. of body of table = 34.70 Rs./ac.

Crop :- Groundnut and Cotton. **Ref :- Ms. 54(113).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'X'.**

Object :—To study the effect of P and intercropping of Groundnut in Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Chinamug.* (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) Cotton : 5.8.1954 and Groundnut : 21.6.1954. (iv) (a) Ploughing and harrowing 3 times. (b) Groundnut drilled, cotton dibbled. (c) Groundnut 80 lb./ac. cotton 7 lb./ac. (d) Groundnut 24" apart and cotton 24" apart in between rows of groundnut. (e) N.A. (v) Nil. (vi) Groundnut : Spanish improved and Cotton : *Jayadhar.* (vii) Unirrigated. (viii) N.A. (ix) Groundnut : 17.61" and cotton : 25.56". (x) Cotton : 11.3.1955 and groundnut : 6.10.1954.

2. TREATMENTS:

3 mixtures : M_1=Cotton alone, M_2=Groundnut intercropped in Cotton, and M_3=Groundnut intercropped in Cotton+50 lb./ac. of P_2O_5.

Super applied by opening furrows a day prior to sowing groundnut.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 62'×36'. (b) 50'×24'. (v) 6'×6'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) No. (iii) Pods/plant, height of cotton plant and money value of produce. (iv) (a) 1949—Cont. (b) No. (e) Nil.

5. RESULTS :

(i) 251.54 Rs /ac. (ii) 32.20 Rs./ac. (iii) Treatment differences are significant. (iv) Av. value in Rs./ac.

Treatment	M_1	M_2	M_3
Av. value	220.58	248.96	285.08

S.E./mean = 13.14 Rs./ac.

Crop :- Groundnut and Cotton. **Ref :- Ms. 55(154).**

Site :- Agri Res. Stn., Dharwar. **Type :- 'X'.**

Object :—To study the effect of P and intercropping of Groundnut in Cotton.¶

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton+Groundnut. (b) *Jowar.* (c) F.Y.M. at 5 C.L./ac. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) Groundnut : 11.6.1955 and Cotton 13.8.1955. (iv) (a) 3 Harrowings. (b)and (c) N.A. (d) 2'. (e) N.A. (v) Nil. (vi) Groundnut : spanish (improved). and cotton : *Jayadhar.* (vii) Unirrigated. (viii) 2 interculturings and 1 weeding in Groundnut, 4 interculturing and 1 weeding in cotton. (ix) Groundnut : 16.62" and Cotton : 30.20". (x) Groundnut : 2.10.1955 ; Cotton 19.3.1956 to 25.4.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(113) above.

5. RESULTS :

(i) 187.65 Rs./ac. (ii) 31.94 Rs./ac. *(iii)* Treatment differences are highly significant. (iv) Av. value in Rs./ac.

Treatment	M_1	M_2	M_3
Av. value	107.93	226.21	228.81

S.E./mean = 13.04 Rs./ac.

Crop :- Groundnut and Cotton *(Kharif)*. **Ref :- Ms. 56(83).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'X'.**

Object - To study the effect of P and intercropping of Groundnut in Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 6.7.1956. (iv) (a) N.A. (b) Drilling. (c) Groundnut 80 lb./ac. and Cotton 5 lb./ac. (d) 24" between rows. (e) N.A. (v) Nil. (vi) Groundnut : spanish improved (early) and Cotton : *Jayadhar*. (vii) Unirrigated. (viii) Gap-filling, interculturing and 3 weedings. (ix) 31.03". (x) 15.10.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(113) on page 759. P_2O_5 was drilled through drill.

5. RESULTS :

Groundnut

(i) 1717 lb:/ac. (ii) 91.0 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of pod in lb./ac.

Treatment	M_2	M_3
Av. yield	1706	1729

S.E./mean = 37.1 lb./ac.

Results on Cotton N.A.

Crop :- Groundnut and Cotton. **Ref :- Ms. 57(62).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'X'.**

Object :—To study the effect of P and intercropping of Groundnut in Cotton.

1. BASAL CONDITIONS :

(i) (a)Nil. (b) *Jowar*. (c) N.A. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) Groundnut : 25 6.1957 and Cotton : 14.8.1957. (iv) (a) Harrowing 4 times in cotton and groundnut. (b) and (c) N.A. (d) 24". (e) N.A. (v) Nil. (vi) Cotton : *Jayadhar* and Groundnut : spanish (improved). (vii) Unirrigated. (viii) Groundnut—one interculturing and weeding, Cotton—four interculturings and 2 weedings. (ix) Cotton : 16.34". and Groundnut 15.97". (x) Cotton : 19.3.1958 and groundnut :4.10.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(113) on page 759

5. RESUL TS :

(i) 579.80 Rs./ac. (ii) 64.58 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. value in Rs./ac.

Treatment	M_1	M_2	M_3
Av. value	197.05	447.58	494.77

S.E./mean = 26.37 Rs./ac.

Crop :- Cotton and Groundnut. **Ref :- Ms. 58(23).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'X'.**

Object :—To study the effect of N on intercropping Cotton with Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) F.Y.M. at 5 C.L./ac. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) Groundnut on 1.7.1958 and Cotton on 22.8.1958. (iv) (a) Ploughing once and harrowing 5 times. (b) and (c) N.A. (d) As per treatments. (e) N.A. (v) Nil. (vi) Groundnut : Spanish improved and Cotton : *Jayadhar*. (vii) Unirrigated. (viii) Gap-filling, interculturing twice and hand weeding once. (ix) Groundnut : 19.13" and Cotton : 9.96". (x) Groundnut on 16.10.1958 and Cotton from 7.2.1959 to 9.3.1959.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 4 levels of N : N_0=0, N_1=10, N_2=20 and N_3=30 lb./ac.

(2) 2 crop mixtures : M_1=Cotton alone 2' apart and M_2=Groundnut intercropped in cotton.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 30'×40'. (b) 20'×32'. (v) 5'×4'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Slight attack of *tikka* on groundnut. (iii) Height measurements and money value of produce. (iv) (a) 1957—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 331.20 Rs./ac. (ii) 34.10 Rs./ac. (iii) M effect is highly significant. Interaction M×N is significant. (iv) Av. money value in Rs./ac.

	N_0	N_1	N_2	N_3	Mean
M_1	200.27	222.90	244.68	218.30	221.54
M_2	475.91	433.54	410.74	443.24	440.86
Mean	338.09	328.22	327.71	330.77	331.20

S.E. of M marginal mean = 8.53 Rs./ac.
S E. of N marginal mean = 12.05 Rs./ac.
S.E. of body of table = 17.05 Rs./ac.

Crop :- Cotton and Groundnut *(Kharif)*. **Ref :- Ms. 58(119).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'X'.**

Object :—To find out a suitable spacing for mixture crop of Cotton and Groundnut.

1. BASAL CONDITIONS :

(i) (a) Chilly—Groundnut—Cotton. (b) Gronudnut. (c) N.A. (ii) (a) Red soil. (b) Refer soil analysis, Dharwar. (iii) 26.6.1958. (iv) (a) Ploughing and harrowing. (b) Dibbling. (c) 10 lb./ac. (d) As per treatments. (e) 2. (v) Nil. (vi) Cotton : *Laxmi* and Groundnut : Spanish improved. (vii) Unirrigated. (viii) 3 interculturings and 2 hand weedings. (ix) 17.5". (x) December to March for cotton and 4th week of Oct. for groundnut.

2. TREATMENTS :

4 ratios of cotton : groundnut : S_1=Cotton alone at 2' spacing, S_2=1 : 1 with rows 2' apart, S_3=1 : 1 with rows 2.5' apart and S_4=1 : 1 with rows 3' apart.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 30'×40'. (b) 26'×36'. (v) 2'×2'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant count, boll count and monetary value. (iv) (a) 1958—N.A. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 301.22 Rs./ac. (ii) 56.03 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. money value in Rs./ac.

Treatment	S_1	S_2	S_3	S_4
Av. value	126.97	360.73	333.66	383.46

S.E./mean = 22.87 Rs./ac.

Crop :- Cotton and Groundnut. **Ref :- Ms. 58(118).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'X'.**

Object :—To study the effect of time of sowing on mixed cropping of Cotton and Groundnut.

1. BASAL CONDITIONS :

(i) (a) *Chillies* –Groundnut—Cotton. (b) *Chillies*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Red soil. (b) Refer soil analysis, Dharwar. (iii) Cotton : As per treatments ; Groundnut : 2nd week of June 1958. (iv) (a) Ploughing. (b)Groundnut drilling ; cotton in draw tubes. (c) Cotton 7 lb./ac. and Groundnut 100 lb./ac. (d) 2' between cotton lines. 1' between cotton and groundnut. (e) N.A. (v) 20 lb./ac. of N and 10 lb./ac. of P_2O_5 to cotton at the time of sowing. (vi) Cotton : *Laxmi* and Groundnut : spanish (improved). (vii) Unirrigated. (viii) Nil. (ix) 52". (x) 3rd week of Oct. for Groundnut ; Dec. to March for cotton.

2. TREATMENTS :

Main-plot treatments :

4 dates of sowing : D_1=2nd week of June, D_2=4th week of June, D_3=2nd week of July and D_4=4th week of July.

Sup-plot treatments :

2 ratios of cotton and groundnut : R_1=1 : 1 and R_2=1 : 0.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 5. (iv) (a) 36'×46'. (b) 30'×40'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) and (iii) Nil. (iv) (a) 1958—1959. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 70.73 Rs./ac. (ii) (a) 27.95 Rs./ac. (b) 28.97 Rs./ac. (iii) Only effect of R is highly signficant. (iv) Av. value in Rs./ac.

	D_1	D_2	D_3	D_4	Mean
R_1	79.35	93.15	91.91	80.30	86.18
R_2	38.12	85.89	65.70	31.44	55.29
Mean	58.73	89.52	78.80	55.87	70.73

S.E. of difference of two

1. D marginal means = 12.49 Rs./ac.
2. R marginal means = 9 15 Rs./ac.
3. R means at the same level of D = 18.32 Rs./ac.
4. D means at the same level of R = 18.00 Rs./ac.

Crop :- Groundnut and Jowar. **Ref :- Ms. 54(120).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'X'.**

Object :—To observe the yields of Groundnut and Jowar as mixed crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Nandyal—Jowar.* (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) Groundnut on 9.7.1954 and *Jowar* on 9.7.1954. (iv) (a) Ploughing and harrowing. (b) Dibbled. (c) Groundnut at 80 lb./ac. and *Jowar* 4 lb./ac. (d) 12″×6″. (e) N.A. (v) 5 C.L./ac. of F.Y.M. broadcasted. (vi) Groundnut : spanish improved (early) and *Jowar* : *Nandyal* (early). (vii) Unirrigated. (viii) 2 interculturings and gap-filling. (ix) Groundnut 22.68″. and *Jowar* 25.56″. (x) Groundnut on 14.10.1954 and *Jowar* on 8.1.1955.

2. TREATMENTS :

8 ratios of groundnut and *Jowar* : R_1=*Jowar* alone, R_2=groundnut alone R_3=1 : 1 (mixed sowing), R_4=2 : 1 (mixed sowing), R_5=3 : 1 (mixed sowing), R_6=1 : 1 (row sowing) R_7=2 : 1 (row sowing), and R_8=3 : 1 (row sowing).

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 46′×30′. (b) 40′×24′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Slight attack of aphids on groundnut—No control measures taken. (iii) Height of crops at various stages, *kadli* yield of *Jowar* and monetary value. (iv) (a) 1954—contd. (b) and (c) No. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 299.96 Rs./ac. (ii) 32.26 Rs./ac. (iii) Treatment differences are highiy significant. (iv) Av. value in Rs./ac.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. value	91.89	316.04	307.42	362.33	342.48	278.50	326.59	374.47

S.E./mean = 16.13 Rs./ac.

Crop :- Groundnut and Jowar. **Ref :- Ms. 55(124).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'X'.**

Object :—To observe the yields of Groundnut and Jowar as mixed crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 12.7.1955. (iv) (a) 3 harrowings. (b) Row sowing. As per treatments. (c) *Jowar* : 4 lb./ac. and Groundnut : 80 lb./ac. (d) Row spacing 15″ for R_1 and 12″ for others. (e) N.A. (v) C.L./ac. of F.Y.M. by broadcasting before sowing. (vi) Groundnut –Spanish improved (early) and *Jowar*—*Naadyal* (early). (vii) Unirrigated. (viii) Interculturing and hoeing. (ix) Groundnut : 16.62″ and *Jowar* : 29.56″. (x) Groundnut : 10.10.1955 and *Jowar* : 17.12.1955.

2. TREATMENTS :

8 ratios of Groundnut and *Jowar* : R_1=*Jowar* alone drilled, R_2=Groundnut alone drilled, R_3=1 : 1 R_4=2 : 1 dibbled, dibbled. R_5=3 : 1 dibbled, R_6=1 : 1 drilled, R_7=2 : 1 drilled and R_8=3 : 1 drilled.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 30′×46′. (b) 24′×40′. (v) 3′×3′. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield and monetary value. (iv) (a) and (b) No. (c) Nil. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 148.08 Rs./ac. (ii) 16.99 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. value in Rs./ac.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. value	110.99	137.49	147.92	166.44	176.15	137.49	154.46	153.73

S.E./mean = 8.49 Rs./ac.

Crop :- Groundnut and Jowar *(Kharif)*. **Ref :- Ms. 56(81).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'X'.**

Object :—To observe the yields of Groundnut and Jowar as mixed crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) 15.7.1956. (iv) (a) N.A. (b) Drilling for mixed sowing and dibbling for row sowing. (c) Groundnut : 80 lb./ac. and *Jowar* : 4 lb./ac. (d) 12" between rows. (e) 2. (v) F.Y.M. at 5 C.L./ac. applied one month prior to sowing. (vi) Groundnut : Spanish improved (early) and *Jowar* : *Nandyal* (early). (vii) Unirrigated. (viii) 2 intercultures and gap-filling. (ix) Groundnut : 32.32" and *Jowar* : 37.31". (x) Groundnut : 5.11.1956 and *Jowar* : 16.12.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(120) on page 762.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield and monetary value. (iv) (a) 1954—contd. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 352.45 Rs./ac. (ii) 39.29 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. value in Rs./ac.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. value	330.22	204.08	376.39	404.64	370.38	385.81	363.92	384.22

S.E./mean = 19.64 Rs./ac.

Crop :- Chillies and Cotton *(Kharif)*. **Ref :- Ms. 58(113).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'X'.**

Object :—To study the yield of mixed cropping of Chillies and Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Medium black soil. (b) Refer soil analysis, Dharwar. (iii) July, 1958. (iv) (a) Ploughing. (b) Cotton—Dibbling and Chillies—Transplanting. (c) Cotton : 10 lb./ac (d) 3'×3'. (e) 2. (v) 6 C.L./ac. of F.Y.M. (vi) Chillies—*Byadgi* and Cotton : *Laxmi*. (vii) Unirrigated. (viii) 7 interculturings and 2 weedings. (ix) 45.5". (x) 8.11.1958 to 26.3.1959.

2. TREATMENTS :

3 cropping patterns : M_1=Chillies alone, M_2=Chillies and Cotton at one spot in the middle and M_3= Chillies and Cotton at 2 spots 6" apart in the centre.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 36'×24'. (b) 30'×18'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield and monetary value. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5 RESULTS :

(i) 1202.25 Rs./ac. (ii) 135.53 Rs./ac. (iii) Treatment differences are not significant. (iv) Av. value of produce in Rs./ac.

Treatment	M_1	M_2	M_3
Av. value	1277.14	1122.31	1206.78

S.E./mean = 47.92 Rs./ac.

Crop :- Wheat and Gram. **Ref :- Ms. 54(176).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'X'.**

Object :—To study the effect of different ratios of Wheat and Gram mixture on the yield.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Cotton—Wheat+Gram. (b) Cotton. (c) Nil. (ii) (a) Black soil. (b) Refer soil analysis, Dharwar. (iii) 13.10.1954. (iv) (a) Harrowing. (b) Drilling. (c) 40 lb./ac. (d) and (e) N.A. (v) 5 C.L./ac of F.Y.M. (vi) Wheat—*Kenphad* and Gram—*Chafa*. (vii) Unirrigated. (viii) Weeding and hoeing. (ix) 29 90". (x) 7.2.1955.

2. TREATMENTS :

8 ratios of Wheat and Gram : R_1=Wheat alone, R_2=Gram alone, R_3=Mixed sowing in 1 : 1, R_4=Mixed sowing in 1 : 2, R_5=Mixed sowing in 1 : 3, R_6=Row sowing in 1 : 1, R_7= Row sowing in 1 : 2 and R_8=Row sowing in 1 : 3.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 30'×46'. (b) 24'×40'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Yield and monetary value. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 42.48 Rs./ac. (ii) 12.25 Rs./ac. (iii) Treatment differences are not significant. (iv) Av. value of produce in Rs./ac.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. value	62.27	23 03	48.49	37.21	37.09	43.79	51.05	36.53

S.E./mean = 6.13 Rs./ac.

Crop :- Grass and Legume. **Ref :- Ms. 57, 58(206) and 59(163).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'X'.**

Object :—To study the effect of growing grass and Legume mixture in different proportions.

1. BASAL CONDITIONS :

(i) Land reclaimed for cultivation in 1955-1956. Prior to that it was used as village grazing land. (ii) (a) and (b) Red soil having a depth of about 9" to 10". (iii) Sowing of seed. (iv) Grass thin Napier ; Legume (*Calopogonum Muconides*). (v) Transplanting tussocks 2 to 3 at a place with a spacing of 24". Planted from 28.7.1955 to 4.8.1955. Legume dibbled 2 to 3 seeds at a place. (vi) N.A. (vii) Nil, (viii) 3 hoeings, 1 weeding and gap-filling. (ix) Nil. (x) Unirrigated. (xi) 1957—N.A. 1958—25". to 26" and 1959—40". (xii) 1957—Harvest was done according to flowering stages exact date N.A. ; 1958—3.9.1958 to 20.12.1958 ; 1959—2 cuttings of grass and one cutting of legume with 2nd cutting of grass.

2. TREATMENTS :

6 ratios of grass and legume mixture : R_1=Gram alone, R_2=Legume alone, R_3=1 : 1, R_4=2 : 1, R_5=3 : 1 and R_6=4 : 1.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) 20'×14'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Grass normal Legume poor. (ii) Nil. (iii) Height, number of tillers, girth measurements, fodder yield and money value of the produce. (iv) (a) and (b) 1955—1960. (v) to (vii) Nil.

5. RESULTS :

1957 (206)

(i) 69.68 Rs./ac. (ii) 10 66 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. money value of the produce in Rs./ac.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6
Av. value	81.66	9 33	71.17	80.89	80.89	94.11

S.E./mean = 5.32 Rs./ac.

1958 (206)

(i) 43.17 Rs /ac. (ii) 5.60 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. money value of the produce in Rs./ac.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6
Av. value	49.00	6.61	50.56	52.89	47.06	52.89

S.E./mean = 2.80 Rs./ac.

1959 (163)

(i) 75.06 Rs./ac. (ii) 8.07 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. money value of the produce in Rs./ac.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6
Av. value	84.00	11.28	89.84	85.56	87.11	92.56

S.E./mean = 4.03 Rs./ac.

Crop :- Wheat and Gram. **Ref :- Ms. 54(163).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'X'.**

Object—To find the effects of mixed cropping of Wheat and Gram on the yield.

1. BASAL CONDITIONS :

(i) (a) Wheat—Gram—*Jowar*. (b) *Jowar*. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 12.10.1954. (iv) (a) 2 harrowings. (b) Sowing by drill. (c) 40 lb./ac. (d) Rows 12″ apart. (e) N.A. (v) Nil. (vi) Wheat : R.R.—(medium) and Gram : *Chafa* (medium). (vii) Unirrigated. (viii) Weeding. (ix) 22 77″. (x) 10, 11.2.1955.

2. TREATMENTS :

8 ratios of wheat and gram : R_1=wheat alone, R_2=gram alone, R_3=mixed sowing in 1 : 1, R_4=mixed sowing in 1 : 2, R_5=mixed sowing in 1 : 3, R_6=row sowing in 1 : 1, R_7=row sowing in 1 : 2 and R_8=row sowing in 1 : 3.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 46′×26′. (b) 40′×24′. (v) 3′ at the ends and 1′ along the sides. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield and money value of the produce. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) (a) N.A. (b) — (vi) and (vii) Nil.

5. RESULTS :

(i) 86.94 Rs./ac. (ii) 12.70 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. value of produce in Rs./ac.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. value	52.39	44.68	98.20	94.12	94.01	111.13	105.80	95.03

S.E./mean = 6.35 Rs./ac.

Crop :- Wheat and Gram. **Ref :- Ms. 55(125).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'X'.**

Object :—To find the effect of mixed cropping of Wheat and Gram on the yield.

1. BASAL CONDITIONS :

(i) (a) Wheat—Gram—*Jowar*. (b) *Jowar*. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 21.10.1955. (iv) (a) 2 harrowings. (b) Sowing by drill. (c) 40 lb./ac. (d) 12" apart. (e) N.A. (v) Nil. (vi) Wheat—R.R. (medium) and Gram—*Chafa* (medium). (vii) Unirrigated. (viii) Weeding. (ix) 26.87". (x) 28.1.1956 and 6, 7.2.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(163) on page 766.

4. GENERAL :

(i) Normally well. (ii) Seedling blight in mild form. Pod-borer appeared in few cases control measures N.A. (iii) Yield and monetary value. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) (a) N.A. (b) —. (vi) and (vii) Nil.

5. RESULTS :

(i) 129.79 Rs./ac. (ii) 28.32 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. value of produce in Rs./ac.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. value	85.24	50.73	138.58	147.66	141.31	165.14	155.83	154.25

S.E./mean = 14.16 Rs./ac.

Crop :- Gram and Wheat *(Rabi)*. **Ref :- Ms. 57(152).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'X'.**

Object :—To study the effect of mixed cropping of Wheat and Gram on the yield.

1. BASAL CONDITIONS :

(i) (a) Gram—Wheat—*Jowar*. (b) *Jowar*. (c) No. (ii) (a) Deep black. (b) Refer soil analysis, Kaladgi. (iii) 16.10.1957. (iv) (a) 2 harrowings. (b) Drilling. (c) 40 lb./ac. (d) 12" between rows. (e) N.A. (v) Nil. (vi) Wheat—R.R. (medium) and Gram—*Chafa* (medium). (vii) Unirrigated. (viii) Nil. (ix) 21.98". (x) 27.1.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(163) on page 766.

5. RESULTS :

(i) 57.32 Rs./ac. (ii) 14.70 Rs./ac. (iii) Treatment differences are significant. (iv) Av. value of produce in Rs./ac.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. value	81.87	57.27	49.10	62.26	40.82	52.05	49.90	65.32

S.E./mean = 7.35 Rs./ac.

Crop :- Wheat and Gram *(Rabi)*. **Ref :- Ms. 58(147).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'X'.**

Object :—To study the effect of mixed croping of Wheat and Gram on the yield.

1. BASAL CONDITIONS :

(i) (a) Gram+Wheat—*Jowar*. (b) *Jowar*. (c) Nil. (ii) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 25.10.1958. (iv) (a) 3 harrowings. (b) Drilling. (c) 40 lb./ac. (d) 12" between rows. (e) N A. (v) Nil. (vi) Wheat—R.R. and Gram—*Chaffa*. (vii) Unirrigated. (viii) Hand weeding. (ix) 12.18". (x) 25.1.1959.

2. TREATMENTS to 4. GENERAL:

Same as in expt. no. 54 (163) on page 766.

5. RESULTS:

(i) 77.60 Rs./ac. (ii) 14.63 Rs./ac. (iii) Treatment differences are not significant. (iv) Av. value of produce in Rs./ac.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. value	66.68	77.79	76.20	66.34	77.68	91.97	80.63	83.46

S.E./mean = 7.31 Rs./ac.

Crop :- Wheat and Gram *(Rabi)*. **Ref :- Ms. 59(155).**

Site :- Agri. Res. Stn., Kaladgi. **Type :- 'X'.**

Object :—To study the effect of mixed croping of Wheat and Gram on the yield.

1. BASAL CONDITIONS:

(i) (a) Wheat and Gram—*Jowar*. (b) *Jowar*. (c) Nil. (ii) Deep black soil. (b) Refer soil analysis, Kaladgi. (iii) 13.10.1959. (iv) (a) Harrowing 3 times. (b) Drilling. (c) 40 lb./ac. (d) 12″ between rows. (e) N.A. (v) Nil. (vi) Wheat: *kenphad* and Gram: *Chafa*. (vii) Unirrigated. (viii) One weeding. (ix) 24.74″. (x) 24.1.1960.

2. TREATMENTS to 4. GENERAL:

Same as in expt. no. 54 (163) on page 766.

5. RESULTS:

(i) 28.05 Rs./ac. (ii) 5.78 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. value of produce in Rs./ac.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. value	34.58	16.83	35.31	27.22	27.29	31.63	25.25	26.27

S.E./mean = 2.89 Rs./ac.

Crop :- Lucerene. **Ref :- Ms. 55(27).**

Site :- Fodder Res. Stn., Kudige. **Type :- 'M'.**

Object :—To find out the suitable fertilizer combination for Lucerene crop.

1. BASAL CONDITIONS:

(i) The area was full of jungles recently reclaimed and levelled for the experiment. (ii) (a) Black clay cotton soil. (b) N.A. (iii) Sowing seeds. (iv) Lucerene improved. (v) 23.9.1955. Sown in lines 1½′ apart. (vi) Only seeds were sown. (vii) 20 C.L./ac. of compost broadcast before sowing the seeds. (viii) Inter-cultivated with *keente* once in 15 days. (ix) No. (x) Irrigated. (xi) 43.40″. (xii) 8 harvests for each treatment.

2. TREATMENTS:

All combinations of (1) and (2)

(1) 3 levels of P_2O_5 as Super: $P_0=0$, $P_1=40$ and $P_2=80$ lb./ac.
(2) 3 levels of K_2O as Mur. Pot: $K_0=0$, $K_1=40$ and $K_2=80$ lb./ac.
Manures applied by broadcasting.

3. DESIGN:

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) Net plot size: 80′×27′. (v) ½′ alround. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Height, and colour and yield. (iv) (a) 1955—1959. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 23222 lb./ac. (ii) 4211 lb./ac. (iii) Only the interaction K×P is highly significant. (iv) Av. yield of fodder in lb./ac.

	K_0	K_1	K_2	Mean
P_0	26308	15533	23852	21897
P_1	24225	25491	22269	23994
P_2	23762	27477	20086	23774
Mean	24764	22833	22068	23222

S.E. of any marginal mean = 1216 lb./ac.
S.E. of body of table = 2105 lb./ac.

Crop :- Lucerene. **Ref :- Ms. 56(106).**

Site :- Fodder Res. Stn., Kudige. **Type :- 'M'.**

Object :—To find the suitable combination of fertilizers for Lucerene crop.

1. BASAL CONDITIONS :

(i) The area was full of jungle. Recently reclaimed, levelled and plots are laid out for this experiment. (ii) (a) Black cotton soil. (b) N.A. (iii) Sowing seeds. (iv) Medicago sativa. (v) Sepember, 1955. (vi) Only seeds were sown. (vii) Compost at 19 C.L./ac. broadcasted after harvest. (viii) Weeding once a month and intercultivation after each harvest. (ix) Nil. (x) Irrigated. (xi) 40" average. (xii) 9 monthly harvests from 7.7.1956–16.6.1957.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 levels of P_2O_5 as Super : P_0=0, P_1=40 and P_2=80 lb./ac.
(2) 3 levels of K_2O as Mur. Pot. : K_0=0, K_1=40 and K_2=80 lb./ac.
Manures applied by broadcasting.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 23′×21′. (b) 22′×20′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height, tiller counts and yield data. (iv) (a) 1955—1960. (b) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 113300 lb./ac. (ii) 26555 lb./ac. (iii) Intraction P×K alone is significant. (iv) Av. yield of fodder in lb./ac.

	P_0	P_1	P_2	Mean
K_0	133279	120013	117810	123701
K_1	69003	128626	144194	113941
K_2	97862	102515	106400	102259
Mean	100048	117051	122801	113300

S.E. of any marginal mean = 7666 lb./ac.
S.E. of the body of table = 13277 lb./ac.

Crop :- Lucerene. **Ref :- Ms. 57(83).**
Site :- Fodder Res. Stn., Kudige. **Type :- 'M'.**

Object :—To find suitable combinations of fertilizers for Lucerene crop.

1. BASAL CONDITIONS :

(i) to (xi) Same as in expt. no. 56(106) on page 769. (xii) 9 monthly harvestes from 17.9.1957 to 25.7.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(106) on page 769.

5. RESULTS :

(i) 74566 lb./ac. (ii) 13965 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of fodder in lb./ac.

	P_0	P_1	P_2	Mean
K_0	85561	74250	80759	80190
K_1	55143	79670	85437	73416
K_2	62766	75290	72221	70092
Mean	67823	76403	79472	74566

S.E. of any marginal mean = 4031 lb./ac.
S.E. of body of table = 6982 lb./ac.

Crop :- Lucerene. **Ref :- Ms. 58(43).**
Site :- Fodder Res. Stn., Kudige. **Type :- 'M'.**

Object :—To find the suitable combinations of fertilizers for Lucerene crop.

1. BASAL CONDITIONS :

(i) to (xi) Same as in expt. no. 56(106) on page 769. (xii) May to July 1959.

2 TREATMENTS :

Same as in expt. no. 55(27) on page768.

3. DESIGN .

(i) Fact. in R.B.D, (ii) (a) 9 (b) N.A. (iii) 4, (iv) (a) 23'×21' (b) 22'×20' (v) Nil. (vi) Yes.

4. GENERAL :,

(i) Poor stand. (ii) Nil. (iii) Height, tiller counts and yield data. (iv) (a) 1955—1960. (b) N.A. (v) Nil. (vi) Due to poor stand of the crop the area had to be resown after the 3rd cutting. So the poor yield.

5. RESULTS :

(i) 12172 lb./ac. (ii) 3167 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of fodder in lb./ac.

	P_0	P_1	P_2	Mean
K_0	12350	11509	13118	12326
K_1	9603	11459	13538	11533
K_2	12821	11880	13266	12656
Mean	11591	11616	13307	12172

S.E. of any marginal mean = 914 lb./ac.
S.E. of body of table = 1584 lb./ac.

Crop :- Lucerene. **Ref :- Ms. 59(221).**

Site :- Fodder Res. Stn., Kudige. **Type :- 'M'.**

Object :—To find out the suitable fertilizer combination for Lucerene.

1. BASAL CONDITIONS :

(i) Prior to 1955 there was a jungle. It was reclaimed and Lucerene sown in 1955. Due to poor stand in 1958 resowing was done on 20.3.1959. (ii) (a) Black cotton soil. (b) N.A. (iii) Sowing seeds. (iv) Medicago sativa. (v) 20.3.1959. sowing in lines 1½' apart. (vi) —. (vii) 10 C.L./ac. of compost. (viii) Interculturing and weeding. (ix) Nil. (x) Irrigated. (xi) 40". (xii) September 1959 to June 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(106) on page 769

5. RESULTS :

(i) 24783 lb./ac. (ii) 3530 lb /ac. (iii) None of the effects is significant. (iv) Av. yield of fodder in lb./ac.

	K_0	K_1	K_2	Mean
P_0	22176	25492	24824	24164
P_1	23587	25121	25542	24750
P_2	26012	25790	24502	25435
Mean	23925	25468	24956	24783

S.E. of any marginal mean = 1019 lb./ac.
S.E. of body of table = 1765 lb./ac.

Crop :- Paragrass. **Ref :- Ms. 56(105).**

Site :- Fodder Res. Stn., Kudige. **Type :- 'M'.**

Object :—To find out suitable, fertilizer combination for Paragrass.

1. BASAL CONDITIONS :

(i) The area was full of jungle. Recently reclaimed, levelled and the plots were laid out for the experiment. (ii) (a) Black cotton soil. (b) N.A. (iii) Sowing seeds. (iv) Brachianian mutica. (v) October 1956. Rows 1½' apart. (vi) Only seeds were sown. (vii) Nil. (viii) Weeding once a month and intercultivation after harvest. (ix) Nil. (x) Irrigated. (xi) 40". (x) December 1956 and April to June 1957.

2. **TREATMENTS :**

All combinations of (1) and (2)

(1) 2 levels of N as A/S : N_0=0 and N_1=20 lb./ac.

(2) 2 levels of P_2O_5 as Super : P_0=0 and P_1=20 lb./ac.

3. **DESIGN :**

(i) Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 94′×26′. (b) 93′×25′. (v) ½′×½′. (vi) Yes.

4. **GENERAL :**

(i) Satisfactory. (ii) Nil. (iii) Length, tiller counts and yield data. (iv) (a) 1956—1960. (b) Nil. (v) and (vi) Nil.

5. **RESULTS :**

(i) 50269 lb./ac. (ii) 2102 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of fodder in lb./ac.

	N_0	N_1	Mean
P_0	52327	49886	51106
P_1	51924	46939	49432
Mean	52126	48413	50269

S.E. of any marginal mean = 743.2 lb./ac.
S.E. of body of table = 105.1 lb./ac.

Crop :- Paragrass. **Ref :- Ms. 57(82).**

Site :- Fodder Res. Stn., Kudige. **Type :- 'M'.**

Object :—To find the suitable fertilizer combination for Paragrass.

1. BASAL CONDITIONS :

(i) to (xi) Same as in expt. no. 56(105) on Page 771. (xii) August, December 1957 and May 1958.

TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(105) on page 771

5. RESULTS :

(i) 31542 lb./ac. (ii) 5980 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of fodder in lb./ac.

	N_0	N_1	Mean
P_0	34031	28649	31340
P_1	34767	28719	31743
Mean	34399	28684	31542

S.E. of any marginal mean = 2114 lb./ac.
S.E. of body of table = 2990 lb./ac.

Crop :- Paragrass. **Ref :- Ms. 58(42).**

Site :- Fodder Res. Stn., Kudige. **Type :- 'M'.**

Object :—To find out the suitable fertilizer combination for Paragrass.

1. BASAL CONDITIONS :

(i) to (xi) Same as in expt. no. 56(105) on page 771. (xii) August and November, 1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(105) on page 771

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Length, tiller counts and yield data. (iv) (a) 1956—1960. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

(i) 22392 lb./ac. (ii) 3536 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of fodder in lb./ac.

	N_0	N_1	Mean
P_0	19972	22020	20996
P_1	24086	23491	23788
Mean	22029	22756	22392

S.E. of N or P marginal mean = 1250 lb./ac.
S.E. of body of table = 1768 lb./ac.

Crop :- Paragrass. **Ref :- Ms. 59(222).**

Site :- Fodder Res. Stn., Kudige. **Type :- 'M'.**

Object :—To find out suitable fertilizer combination for Paragrass.

1. BASAL CONDITIONS :

(i) to (xi) Same as in expt. no. 56(105) on page 771. (xii) August and December, 1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(105) on page 771

5. RESULTS :

(i) 46120 lb./ac. (ii) 10500 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of fodder in lb./ac.

	N_0	N_1	Mean
P_0	42197	49050	45624
P_1	46970	46263	46616
Mean	44584	47656	46120

S.E. of N or P marginal mean = 3712 lb./ac.
S.E. of body of table = 5250 lb./ac.

Crop :- Grass. **Ref :- Ms. 57(208).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'MV'.**

Object :—To determine the effect of manurial and fertilizer treatment on growth, yield and chemical composition of different varieties of grass.

1. BASAL CONDITIONS :

(i) The land was first reclained for cultivation in the year 1955—56, Prior to that it was serving as pastures. (ii) (a) Red light soil. (b) Refer soil analysis, Dharwar. (iii) Planting tussocks 2 to 3 at a place at 24" spacing between lines and plants. (iv) As per treatments. (v) Planted on 28.7.1955 to 4.8.1955. (vi) N.A. (vii) Nil. (viii) Interculturing, hand weeding. 25% gap filling was done in Rhodes. (ix) Nil. (x) Unirrigated. (xi) N.A. (xii) Harvested according to flowering stages. Exact dates N.A.

2. TREATMENTS :

Main-plot treatments :

All combinations of (1) and (2)

(1) 3 varieties of grass : V_1=Thin napier, V_2=Rhodes and V_3=Marvel.

(2) 2 levels of F.Y.M. : F_0=0 and F_1=15 C.L./ac.

Sub-plot treatments :

All combinations of (1) and (2)

(1) 4 levels of N as A/S : N_0=0, N_1=20, N_2=40 and N_3=60 lb./ac.

(2) 3 levels of P_2O_5 as Super : P_0=0, P_1=20 and P_2=40 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 6 main-plots/replication ; 12 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) (a) 80'×42'. (b) 20'×14'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height, no. of tillers, girth measurements and wt. of green matter. (iv) (a) 1955—1960. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

(i) 24045 lb./ac. (ii) (a) 7604 lb./ac. (b) 3987 lb./ac. (iii) Effects of V, N and interaction V×N are highly significant while effect F and intection F×N are significant. (iv) Av. yield of grass in lb./ac.

	F_0	F_1	P_0	P_1	P_2	N_0	N_1	N_2	N_3	Mean
V_1	31391	32493	32177	32825	30822	16274	28158	36248	47518	31942
V_2	12303	14632	13476	13658	13269	10605	12532	15427	15306	13468
V_3	24252	29199	25591	27445	27141	22800	25972	27579	30552	26726
Mean	22649	25441	23748	24643	23744	16416	22220	26418	31126	24045
N_0	14774	18058	15306	16828	17113					
N_1	19665	24776	22376	23033	21253					
N_2	26113	26724	26516	27164	25574					
N_3	30042	32209	30794	31546	31036					
P_0	22381	25116								
P_1	22601	26685								
P_2	22964	24524								

S.E. of difference of two

1. F marginal means = 1035 lb./ac.
2. V marginal means = 1268 lb./ac.
3. N marginal means = 767 lb./ac.
4. P marginal means = 665 lb./ac.
5. V means at the same level of N = 1712 lb./ac.
6. V means at the same level of P = 1578 lb./ac.
7. F means at the same level of N = 1398 lb./ac.
8. F means at the same level of P = 1288 lb./ac.
9. N means at the same level of V = 1329 lb./ac.
10. N means at the same level of F = 1085 lb./ac.
11. P means at the same level of V = 1151 lb./ac.
12. P means at the same level of F = 940 lb./ac.

S.E. of body of V×F table = 1268 lb./ac.

S.E. of body of N×P table = 940 lb./ac.

Crop :- Grass. **Ref :- Ms. 58(204).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'MV'.**

Object :—To determine the effect of manurial and fertilizer treatment on growth and yield and chemical composition of different varieties of grass.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. no. 57(208) on page 773. (xi) 25" to 26". (xii) 4.6.1958 to 23.12.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(208) on page 773.

4. GENERAL :

(i) Poor yield due to scarcity of rains. (ii) Nil. (iii) Height, no. of tillers, girth of tussocks and weight of green matter. (iv) (a) 1955—1960. (b) Nil. (v) and (vi) Nil.

5. RESULTS :

(i) 7.04 tons/ac. (ii) (a) 7.25 tons/ac. (b) 1.71 tons/ac. (iii) Main effects of V and N are highly significant. Interactions N×P, N×V and F×N are significant. (iv) Av. yield of fodder in tons/ac.

	N_0	N_1	N_2	N_3	P_0	P_1	P_2	F_0	F_1	Mean
V_1	7.59	8.85	10.62	10.98	9.83	9.74	8.95	9.13	9.88	9.51
V_2	3.82	3.94	4.16	5.71	4.15	4.50	4.57	4 14	4.67	4.41
V_3	5.49	7.50	7.47	8.33	6.99	7.39	7.20	6.28	8.14	7.20
Mean	5.63	6.76	7.42	8.34	6.99	7.21	6.91	6.52	7.55	7.04
F_0	5.65	5.94	6.72	7.76						
F_1	5.60	7.58	8.12	8.91						
P_0	5.49	6.62	8.27	7.59						
P_1	5.75	7.08	7.42	8.59						
P_2	5.65	6.59	6.56	8.83						

S.E. of difference of two

1. V marginal means = 1.21 tons/ac.
2. F marginal means = 0.99 tons/ac.
3. N marginal means = 0.33 tons/ac.
4. P marginal means = 0.29 tons/ac.
5. V means at the same level of N = 1.31 tons/ac.
6. V means at the same level of P = 1.27 tons/ac.
7. F means at the same level of N = 1.10 tons/ac.
8. F means at the same level of P = 1.04 tons/ac.
9. N means at the same level of V = 0.57 tons/ac.
10. N means at the same level of F = 0.47 tons/ac.
11. P means at the same level of V = 0.49 tons/ac.
12. P means at the same level of F = 0.40 tons/ac.

S.E. of body of V×F table = 1.21 tons/ac.

S.E. of body of N×P table = 0.40 tons/ac.

Crop :- Grass. **Ref :- Ms. 59(165).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'MV'.**

Object :—To determine the effect of manurial and fertilizer treatment on growth, yield and chemical composition of different varities of grass.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. no. 57(208) on page 773. (xi) 40.1". (xii) 3 to 4 harvests.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(208) on page 773.

5. **RESULTS :**

(i) 10.41 tons/ac. (ii) (a) 3.41 tons/ac. (b) 1.40 tons/ac. (iii) Main effects of F, N, V and P and interaction N×V are highly significant. (iv) Av. yield of fodder in tons/ac.

	N_0	N_1	N_2	N_3	P_0	P_1	P_2	F_0	F_1	Mean
V_1	12.29	14.74	17.44	21.31	15.26	17.02	17.07	15.62	17.28	16.45
V_2	4.55	5.10	4.90	5.44	4.71	5.04	5.24	4.09	5.91	5.00
V_3	8.37	9.23	9.87	11.67	9.41	10.09	9.86	8.95	10.62	9.79
Mean	8.40	9.69	10.74	12.81	9.79	10.72	10.72	9.55	11.27	10.41
F_0	7.57	8.63	10.11	11.89	9.08	9.65	9.93			
F_1	9.23	10.75	11.37	13.72	10.51	11.78	11.51			
P_0	7.54	9.05	10.37	12.21						
P_1	8.70	10.16	10.98	13.04						
P_2	8.97	9.86	10.86	13.18						

S.E. of difference of two

1. V marginal means = 0.57 tons/ac.
2. F marginal means = 0.46 tons/ac.
3. N marginal means = 0.27 tons/ac.
4. P marginal means = 0.23 tons/ac.
5. V means at the same level of N = 0.70 tons/ac.
6. V means at the same level of P = 0.66 tons/ac.
7. F means at the same level of N = 0.57 tons/ac.
8. F means at the same level of P = 0.54 tons/ac.
9. N means at the same level of V = 0.47 tons/ac.
10. N means at the same level of F = 0.38 tons/ac.
11. P means at the same level of V = 0.40 tons/ac.
12. P means at the same level of F = 0.33 tons/ac.

S.E. of body of V×F table = 0.57 tons/ac.

S.E. of body of N×P table = 0.33 tons/ac.

Crop :- Grass. **Ref :- Ms. 57(207).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'CV'.**

Object :—To study the effect of varying number of cuttings on different varieties of Grass.

1. BASAL CONDITIONS :

(i) The fallow land was put to cultivation in 1955. (ii) (a) Red light soil. (b) Refer soil analysis Dharwar. (iii) Nil. (iv) As per treatments. (v) By planting tussocks, 2 to 3 at a place at 24″ spacing from 28.7.1955 to 4.8.1955. (vi) N.A. (vii) 5 C.L./ac. of F.Y.M. by spreading and mixing. (viii) Hoeings, weeding and gap-filling. (ix) Nil. (x) Unirrigated. (xi) N.A. (xii) As per treatments.

2. TREATMENTS :

Main-plot treatments :

6 varieties : V_1=Thin Napier, V_2=Rhodes, V_3=Blue panic, V_4=Marvel, V_5=Anjan and V_6=*Amphilcphis glabra.*

Sub-plot treatments :

3 cuttings : C_1=Single cutting, C_2=2 cuttings at 6 months interval and C_3=3 cuttings at an interval of 4 months.

3. DESIGN :

(i) Split-plot. (ii) (a) 6 main-plots/replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) 20′×14′. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Height, no. of tillers and girth of tussocks and yield of green matter. (iv) (a) 1955—1960. (b) Nil (v) and (vi) Nil.

5. RESULTS :

(i) 9766 lb./ac. (ii) (a) 507 lb./ac. (b) 2268 lb./ac. (iii) V and C effects are highly significant. (iv) Av. yield of grass in lb./ac.

	V_1	V_2	V_3	V_4	V_5	V_6	Mean
C_1	15907	4628	1556	9957	8362	7390	7967
C_2	19369	6651	3306	11707	10307	8479	9970
C_3	19835	7934	2722	18280	12173	7234	11363
Mean	18370	6404	2528	13314	10281	7701	9766

S.E. of difference of two

1. V marginal means = 2058 lb./ac.
2. C marginal means = 655 lb./ac.
3. C means at the same level of V = 1604 lb./ac.
4. V means at the same level of C = 2449 lb./ac.

Crop :- Grass. **Ref :- Ms. 58(205).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'CV'.**

Object :—To study the effect of varying number of cuttings on different varieties of Grass.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. no. 57(207) on page 776. (xi) 25 to 26". (xii) 4.9.1958 to 10.4.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(207) on page 776.

4. GENERAL :

(i) Poor. (ii) Nil. (iii) Height, no. of tillers and girth of tussocks. Yield of green matter. (iv) (a) 1955—1960. (b) Nil. (v) and (vi) Nil.

5. RESULTS ;

(i) 2913 lb./ac. (ii) (a) 878 lb./ac. (b) 1008 lb.ac. (iii) V and C effects are highly significant. (iv) Av. yield of grass in lb./ac.

	V_1	V_2	V_3	V_4	V_5	V_6	Mean
C_1	2531	1949	515	2419	1590	2173	1863
C_2	2419	2643	1680	2912	2262	3069	2498
C_3	6653	4323	1389	5286	3920	4704	4379
Mean	3868	2972	1195	3539	2591	3315	2913

S.E. of difference of two

1. V marginal means = 358 lb./ac.
2. C marginal means = 291 lb./ac.
3. C means at the same level of V = 713 lb./ac.
4. V means at the same level of C = 683 lb./ac.

Crop :- Grass. **Ref :- Ms. 59(164).**

Site :- Agri. Res Stn., Dharwar. **Type :- 'CV'.**

Object :—To study the effect of varying number of cuttings on different varieties of Grass.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. no. 57(207) on page 776. (xi) 40.1". (xii) As per treatments.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(207) on page 776.

5. RESULTS :

(i) 6884 lb./ac. (ii) (a) 1216 lb./ac. (b) 1028 lb./ac. (iii) All effects are highly significant. (iv) Av. yield of grass in lb./ac.

	V_1	V_2	V_3	V_4	V_5	V_6	Mean
C_1	4395	3189	2917	6106	4667	4278	4259
C_2	6145	5134	4589	8362	7078	5951	6210
C_3	13690	7117	6378	14157	9684	10073	10183
Mean	8077	5147	4628	9542	7143	6767	6884

S.E. of difference of two

1. V marginal means = 496 lb./ac.
2. C marginal means = 297 lb./ac.
3. C means at the same level of V = 726 lb./ac.
4. V means at the same level of C = 774 lb./ac.

Crop :- Grass. **Ref :- Ms. 57(205).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'CV'.**

Object :—To study the effect of varying the number of cuttings on the yield of different varieties of Grass.

1. BASAL CONDITIONS :

(i) The land was open for cultivation in 1955-1956 and it was a waste land till then and was used as a village grazing land. (ii) (a) Red light to medium black soil. (b) Refer soil analysis, Dharwar. (iii) By planting tissocks, 2 to 3 at a place at 24" spacing from 28.7.1955 to 4.8.1955. (iv) As per treatments. (v) By planting tissocks, 2 to 3 at a place at 24" spacing from 28.7.1955 to 4.8.1955. (vi) N.A. (vii) 5 C.L./ac. of F.Y.M. by spreading and mixing. (viii) 4 hoeings, weeding and gap-filling. (ix) Nil. (x) Unirrigated. (xi) N.A. (xii) As per treatments.

2. TREATMENTS :

Main-plot treatments :

5 varieties of grass : V_1=Elephant grass, V_2=Segregate no. 4, V_3=Segregate no. 9, V_4=Segregate no. 5 and V_5=Segregate no. 3.

Sub-plot treatments :

4 cuttings : C_1=Single cutting, C_2=2 cuttings, C_3=3 cuttings and C_4=4 cuttings.

3. DESIGN :

(i) Split-plot. (ii) (a) 5 main-plots/replication ; 4 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) 14'×20'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Height, no. of tillers, girth measurements yield of green matter. (iv) (a) 1955—1960. (b) Nil. (v) and (vi) Nil.

5. RESULTS :

(i) 15944 lb./ac. (ii) (a) 3458 lb./ac. (b) 4163 lb./ac. (iii) V and C effects are highly significant. V×C. Interaction is significant. (iv) Av. yield of grass in lb./ac.

	V_1	V_2	V_3	V_4	V_5	Mean
C_1	4667	2748	1245	2230	1608	2500
C_2	18357	24632	16387	19446	18617	19488
C_3	26188	29040	13742	18669	24010	22330
C_4	29558	25202	10060	15764	16698	19456
Mean	19693	20406	10358	14027	15233	15944

S.E. of difference of two

1. V marginal means = 1412 lb./ac.
2. C marginal means = 1520 lb./ac.
3. C means at the same level of V = 3398 lb./ac.
4. V means at the same level of C = 3264 lb./ac.

Crop :- Grass. **Ref:- Ms. 58 (208).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'CV'.**

Object :—To study the effect of varying the no. of cuttings on the yield of different varieties of Grass.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. no. 57(205) on page 778. (xi) 25° to 26°. (xii) 15.9.1958 to 10.6.1959 as per treatments.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(205) on page 778.

4. GENERAL :

(i) Stunted growth. (ii) Nil. (iii) Height, no. of tillers, girth measurements and yield of green matter. (iv) (a) 1955—1960. (b) Nil. (v) and (vi) Nil.

5. RESULTS :

(i) 7208 lb./ac. (ii) (a) 1756 lb./ac. (b) 1564 lb./ac. (iii) V and C effects are highly significant. (iv) Av. yield of grass in lb./ac.

	V_1	V_2	V_3	V_4	V_5	Mean
C_1	3629	4032	2016	3315	4659	3530
C_2	7706	8803	5219	6250	6160	6828
C_3	8893	9475	6205	9565	8378	8503
C_4	11850	12880	5802	9923	9408	9973
Mean	8020	8798	4810	7263	7151	7208

S.E. of difference of two

1. V marginal means = 717 lb./ac.
2. C marginal means = 577 lb./ac.
3. C means at the same level of V = 1277 lb./ac.
4. V means at the same level of C = 1318 lb./ac.

Crop :- Grass. **Ref :- Ms. 59(161).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'CV'.**

Object : - To study the effect of varying no. of cuttings on the yield of different varieties of Grass.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. no. 57(205) on page 778. (xi) 40.1". (xii) As per treatments.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(205) on page 778.

5. RESULTS :

(i) 6811 lb./ac. (ii) (a) 781 lb./ac. (b) 641 lb./ac. (iii) Main effects of V and C are highly significant. (iv) Av. yield of grass in lb./ac.

	V_1	V_2	V_3	V_4	V_5	Mean
C_1	4719	5497	2541	3786	4252	4159
C_2	6845	7830	3682	5652	5393	5881
C_3	8712	10112	5393	6638	7260	7623
C_4	10320	12549	6897	8556	9594	9583
Mean.	7649	8997	4628	6158	6625	6811

S.E. of difference of two

1. V marginal means = 319 lb./ac.
2. C marginal means = 234 lb./ac.
3. C means at the same level of V = 523 lb /ac.
4. V means at the same level of C = 554 lb./ac.

Crop :- Grass. **Ref :- Ms. 58(207).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'CV'.**

Object :—To study the effective methods of establishing the pasture lands with suitable mixtures of Grass and legumes.

1. BASAL CONDITIONS :

(i) Since 1954 to 1957, the plot was under grass museum. (ii) (a) Red light soil. (b) Refer soil analysis, Dharwar. (iii) As per treatments on 1.8.1958. Grass at 5 lb./ac. and legumes : 10 lb./ac. 18" between lines and 4" to 6" within lines. (iv) As per treatments. (v) As per treatments on 1.8.1958. Grass sown at 5 lb./ac. and legume : at 10 lb./ac. with spacing of 18" between lines and 4" to 6" within lines. (vi) N.A. (vii) 5 C.L./ac. of F.Y M. in May, 1958+30 lb./ac of N as A/S+20 lb./ac. of P_2O_5 as Super. (viii) 2 hoeings and 1 weeding. (ix) Nil. (x) Unirrigated. (xi) 6" to 10". (xii) 5.1.1959 to 7.6.1959.

2. TREATMENTS :

Main-plot treatments :

M_1=Sowing with the help of light seed drill and M_2=Broadcasting and dragging bushes over it.

Sub-plot treatments :

All combinations of (1) and (2)

(1) 3 species of grass : V_1=Thin Napier, V_2=Rhodes and V_3=Blue panic.
(2) 3 species of legumes : L_1=Centrosema, L_2=Calopogoniun and L_3=Barbada.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication ; 9 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) Net plot size : 15'×12'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Slow and gappy growth. (ii) Nil. (iii) Height, no. of tillers, girth measurement and yield of green matter. (iv) (a) 1958—1960. (b) Nil. (v) Nil. (vi) Rain was scarce.

5. RESULTS :

(i) 1.85 tons/ac. (ii) (a) 0.70 tons/ac. (b) 0.86 tons/ac. (iii) Only the main effect of V is highly significant. (iv) Av. yield of grass in tons/ac.

	L_1	L_2	L_3	M_1	M_2	Mean
V_1	2.79	3.40	3.15	2.94	3.29	3.11
V_2	1.75	1.51	1.15	1.48	1.46	1.47
V_3	0.99	1.12	0.79	1.01	0.92	0.97
Mean	1.84	2.01	1.70	1.81	1.89	1.85
M_1	1.80	1.86	1.76			
M_2	1.88	2.16	1.63			

S.E. of difference of two

1. M marginal means = 0.19 tons/ac.
2. V or L marginal means = 0.29 tons/ac.
3. V or L means at the same level of M = 0.40 tons/ac.
4. M means at the same level of V or L = 0.38 tons/ac.

S.E. of body of V×L table = 0.35 tons/ac.

Crop :- Grass. **Ref :- Ms. 59(162).**

Site :- Agri. Res. Stn., Dharwar. **Type :- 'CV'.**

Object :—To study the effective methods of establishing pasture lands with suitable mixture of Grass and legumes.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. no. 58 (207) on page 780. (xi) 40.1". (xii) 2 cuttings : Dates—N.A.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 58(207) on page 780.

4. GENERAL :

(i) Summer was severe for the crop. (ii) Nil. (iii) Height, no. of tillers, girth measurements and yield of green matter. (iv) (a) 1958—1960. (b) Nil. (v) and (vi) Nil.

5. RESULTS :

(i) 4.67 tons/ac. (ii) (a) 1.82 tons/ac. (b) 1.20 tons/ac. (iii) Effects of V and M×L are highly significant while the effects of L and M×L×V are significant. (iv) Av. yield of grass in tons/ac.

	L_1	L_2	L_3	M_1	M_2	Mean
V_1	7.82	7.29	6.56	7.41	7.03	7.22
V_2	4.43	3.10	2.61	3.26	3.49	3.38
V_3	3.53	3.03	3.66	3.53	3.28	3.41
Mean	5.26	4.47	4.28	4.73	4.60	4.67
M_1	6.03	3.41	3.73			
M_2	4.49	4.50	4.81			

S.E. of difference of two

1. M marginal means = 0.49 tons/ac.
2. V or L marginal means = 0.40 tons/ac.
3. V or L means at the same level of M = 0.56 tons/ac.
4. M means at the same level of V or L = 0.68 tons/ac.

Crop :- Grass *(Rabi)*. **Ref :- Ms. 57(156).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'CMV'.**

Object :—To study the effect of manures and cultural practices on different varieties of Grass.

1. BASAL CONDITIONS :

(i) N.A. (ii) (a) Sandy. (b) Refer soil analysis, Mandya. (iii) N.A. (iv) As per treatments.(v) 19.2.1957 ; transplanting 20200 suckers/ac. (vi) N.A. (vii) 10 C.L./ac. of F.Y.M. (viii) Weeding and interculturing. (ix) N.A. (x) Unirrigated. (xi) 17.0". (xii) As per treatments.

2. TRETMENTS :

All combinations of (1) to (6)

(1) 2 verieties : V_1=Rhodes and V_2=Guinea grass.
(2) 2 row spacings : $S_1=1\frac{1}{2}'$ and $S_2=2'$.
(3) 2 plant spacings : $R_1=12"$ and $R_2=15"$.
(4) 2 levels of N as A/S : $N_0=0$ and $N_1=30$ lb./ac.
(5) 2 levels of P_2O_5 : $P_0=0$, $P_1=40$ lb./ac.
(6) 2 cutting intervals : $C_1=4$ and $C_2=6$ weeks.

3. DESIGN :

(i) 2^6 confd. (ii) (a) 16 plots/block, 4 blocks/replication (b) N.A. (iii) 2. (iv) (a) 36'×26'. (b) 30'×20'. (v) 2 rows. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) N.A. (iii) Tillering habits and yield data. (iv) (a) 1957—1961. (b) No. (c) —. (v) to (vii) Nil.

5. RESULTS :

(i) 6852 lb./ac. (b) 1859 lb./ac. (iii) Main effects of V, N and C are highly significant. (iv) Mean and differential response in lb./ac.

	Mean response in lb./ac.	Differential response in lb./ac.											
		V		S		R		N		P		C	
		+	−	+	−	+	−	+	−	+	−	+	−
V	2499.0	—	—	2470.7	2527.4	2391.3	2606.8	3117.3	1880.8	2391.3	2606.8	3124.1	1874.0
S	−411.8	−440.1	−383.4	—	—	−744.2	−79.4	−158.8	−664.7	−490.0	−333.5	−542.2	−281.3
R	−536.6	−644 3	−428.8	−868.9	−204.2	—	—	−122.5	−950.6	−739.6	−333.5	−859.9	−213.3
N	1006.2	1624.4	388.0	1259.2	753.2	1420.2	592.1	—	—	1125.3	887.0	1050.4	962.0
P	656.8	549.0	764.6	578.5	735.1	453.8	859.8	775.9	537.7	—	—	859.8	775.9
C	2138.3	2763.3	1513.3	2007.8	2268.8	1815.0	2461.6	2182.5	2094.1	2341.4	1935.2	—	—

S.E. of mean response = 328.7 lb./ac.
S.E. differential response = 464.8 lb./ac.

Crop :- Grass *(Rabi)*. **Ref :- Ms. 58(142).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'CMV'.**

Object :—To study the effect of manures and cultural practices on different varieties of Grass.

1. BASAL CONDITIONS :
(i) to (x) Same as in expt. no. 57 (156) on page 782. (xi) 12.9". (xii) As per treatments.

2. TREATMENTS to 4. GENERAL :
Same as in expt. no. 57 (156) on page 782

5. RESULTS :
(i) 9943 lb./ac. (ii) 1966 lb./ac. (iii) Main effects of V, N and C are highly significant and interaction V×N is significant. Others are not significant. (iv) Mean and differential response in lb./ac.

Mean response in lb./ac.	Differential response in lb./ac.											
	V		S		R		N		P		C	
	+	−	+	−	+	−	+	−	+	−	+	−
V 2021.5	—	—	1787.8	2255.1	1951.1	2091.8	2765.6	1277.3	2096.3	1946.6	2493.4	1549.6
S −388.0	−621.6	−154.3	—	—	−721.5	−54.4	−124.8	−651.1	−462.8	−313.1	−442.4	−333.5
R −342.6	−412.9	−272.3	−676.1	−9.1	—	—	−97.6	−587.6	−381.2	−304.0	−569.5	−115.7
N 1052.7	1796.8	308.6	1315.9	789.5	1297.7	807.7	—	—	1089.0	1016.4	1059.5	1045.9
P 673.8	748.7	598.9	598.9	748.7	635.2	712.4	710.1	637.5	—	—	669.3	678.4
C 1928.4	2400.3	1456.5	1874.0	1982.9	1701.6	2155.3	1935.2	1921.6	1923.9	1933.0	—	—

S.E. for mean response = 347.7 lb./ac.
S.E. for differential response = 491.6 lb./ac.

Crop :- Grass *(Rabi)*. **Ref :- Ms. 59(115).**

Site :- Agri. Res. Stn., Mandya. **Type :- 'CMV'.**

Object :—To study the effect of manures and cultural practices on Rhodes and Guinea grass.

1. BASAL CONDITIONS :
(i) to (x) Same as in expt. no. 57 (156) on page 782. (xi) 14.6". (xii) As per treatments.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 57 (156) on page 782

5. RESULTS :
(i) 8 12 lb./ac. (ii) 1908 lb./ac. (iii) Main effects of N and P are highly significant and main effect of C is significant. Others are not significant. (iv) Mean and differential response in lb./ac.

Mean response in lb./ac.	Differential response in lb./ac.											
	V		S		R		N		P		C	
	+	−	+	−	+	−	+	−	+	−	+	−
V 307.07	—	—	608.99	5.14	249.25	364.88	400.86	213.28	236.40	377.73	385.44	228.69
S −242.83	59.10	−544.76	—	—	−167.02	−318.63	−298.08	−187 52	−71.95	−413.70	−277 52	−208.14
R 178.59	120.77	236.41	254.39	102.78	—	—	−15.41	372 59	385.44	−28.27	411.13	−53.96
N 2416.70	2510.49	2322.91	2361.45	2471.94	2222.69	2610.70	—	—	2471.94	2361.48	2132 75	2700.64
P 1440.25	1369.59	1510.91	1611.13	1269.37	1647.11	1233.40	1495.50	1385.01	—	—	950.75	1929.76
C 767.02	845.40	688.64	732.33	801.41	999.56	534.47	483.08	1050.96	277.51	1256.53	—	—

S.E. for mean response = 337.27 lb./ac.
S.E. for differential response = 475.98 lb./ac.

Crop :- Orange. **Ref :- Ms. 57(236).**

Site :- Citrus die-back Res. Stn., Gonnicoppal. **Type :- 'M'.**

Object :—To find out the effect of different minor elements on the growth and prevention of mottling of plants.

1. BASAL CONDITIONS :

(i) Moderate jungle—cleared and planted in 1957. (ii) (a) Clay loam. (b) Refer soil analysis, Gonnicoppal. (iii) By seedlings. (iv) Coorg *Mandarin*. (v) August 1957 ; 20′ between plants. (vi) 1 year. (vii) N.A. (viii) Scuffling. (ix) Nil. (x) Unirrigated. (xi) 72.2″. (x) Nil.

2. TREATMENTS :

9 trace element sprayings : T_0=Control, T_1=Zn+Mn+Mg+Mo+B+Cu+Fe, T_2=T_1 Without Zn, T_3=T_1 without Mn, T_4=T_1 without Mg, T_5=T_1 without Mo, T_6=T_1 without B, T_7=T_1 without Cu and T_8=T_1 without Fe.

Zn : 5 lb./ac of $ZnSO_4$+2½ lb./ac. of hydrated lime in 50 gallons of water ; Mn : 3 lb /ac. of $MnSO_4$ in 100 gallons of water ; Mg and Fe at 2 lb./ac. of their sulphates in 100 gallons of water each ; Cu : 8 lb./ac. of $CuSO_4$+ 8 lb./ac. of hydrated lime in 100 gallons of water ; Mo : 1 oz. of Sod. Molybdate in 100 gallons of water and B=1 lb./ac. of Borax.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 3. (iv) 4. (v) A guard row of seedlings around every plot. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Girth, height and volume measurement. (iv) (a) 1957—contd. (b) N.A. (v) to (vii) Nil.

5. RESULTS :

Girth

(i) 6.85 cm./plant. (ii) 0.81 cm./plant. (iii) Treatment differences are not significant. (iv) Av. girth in cm./plant.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8
Av. girth	6.51	6.45	7.36	7.25	6.50	7.20	7.09	7.07	6.22

S.E./mean = 0.47 cm./plant.

Height

(i) 133 cm./plant. (ii) 14 cm./plant. (iii) Treatment differences are not significant. (iv) Av. height in cm./plant.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8
Av. height	122	124	137	139	128	143	140	137	129

S.E./mean = 8 cm./plant.

Crop :- Orange. **Ref :- Ms. 58(240).**

Site :- Citrus Die-back Res. Stn., Gonnicoppal. **Type :- 'M'.**

Object :—To find out the effect of different miror elements on the growth and prevention of mottling of plants

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. no. 57(236) above. (xi) 87.4″. (xii) Nil.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(236) above

4. GENERAL :

(i) Not good. (ii) Nil. (iii) Girth, height and volume. (iv) (a) 1957—contd. (b) N.A. (v) Nil. (vi) Rainfall was scarce.

5. RESULTS :

Girth

(i) 10.34 cm./plant. (ii) 1.24 cm./plant. (iii) Treatment differences are not significant. (iv) Av. girth in cm./plant.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8
Av. girth	9.08	10.02	10.81	11.08	9.71	10.76	10.48	10.81	10.12

S.E./mean = 0.72 cm./plant.

Height

(i) 190 cm./plant. (ii) 21 cm./plant. (iii) Treatment differences are not significant. (iv) Av. height in cm./plant.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8
Av. height	177	189	190	187	169	205	202	201	193

S.E./mean = 12 cm./plant.

Crop :- Orange. **Ref :- Ms. 59(212).**

Site :- Citrus Die-back Res. Stn., Gonnicoppal. **Type :- 'M'.**

Object :—To find out the effect of different minor elements on the growth and prevention of mottling of plant.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. no. 57(236) on page 784. (xi) 104.9°. (xii) Nil.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(236) on page 784.

4. GENERAL :

(i) Not good. (ii) Severe incidence of leaf fall and fruit rot. (iii) Girth, height and chlorosis %. (iv) (a) 1957—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

Girth

(i) 18.06 cm./plant. (ii) 2.27 cm./plant. (iii) Teatment differences are not significant. (iv) Av. girth in cm./plant.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8
Av. girth	15.64	19.74	18.02	18.09	17.09	19.21	19.21	17.88	17.70

S.E./mean = 1.31 cm./plant.

Height

(i) 261 cm./plant. (ii) 23 cm./plant. (iii) Treatment differences are not significant. (iv) Av. height in cm./plant.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8
Av. height	238	267	253	249	237	285	282	272	271

S.E./mean = 13 cm./plant.

Crop :- Orange. **Ref :- Ms. 55(224).**

Site :- Consolidated Coffee Estates Ltd., Mocha. **Type :- 'M'.**

Object : —To study the effect of different micronutrients on the leaf disease.

1. BASAL CONDITIONS :

(i) Old plantation. (ii) (a) Medium Red loam. (b) N.A. (iii) By seedlings. (iv) Coorg *Mandarin.* (v) Planted in 1935. (vi) 1 year. (vii) 4 lb./plant of C/N+Mixture (Super and Mur. Pot in 2 : 1) at 2 lb./plant+ Urea at 2 lb./plant. (viii) Scuffling, shallow digging, weeding and shade regulation. (ix) Nil. (x) Unirrigated. (xi) 69". (xii) July 1955 to June 1956.

2. TREATMENTS :

12 micronutrient treatments : T_0=control, T_1=Mg, T_2=Mo, T_3=Bo, T_4=Zn+Cu+Fe, T_5=T_4+Mg, T_6=T_4+Mo, T_7=T_4+Bo, T_8=T_4+Mg+Mo, T_9=T_4+Mg+Bo, T_{10}=T_4+Mo+Bo and T_{11}=T_8+Bo.

Boron at 1 lb./ac. of Boric acid in 100 gallons of water, Molybdenum at 10 oz. as Am. Molybdate in 100 gallons of water. Other elements at 5 lb./plant with 2½ lb. lime in 50 gallons of water.

3. DESIGN :

(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 3. (iv) (a) 3. (b) N.A. (v) N.A. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) Incidence of chlorosis noticed. (iii) % of chlorofic leaves on whole tree basis. (12 tag shoots at 4/tree for 3 trees under observation). (iv) (a) 1955–1962. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

(i) 87.5%. (ii) 7.8%. (iii) Treatment differences are not significant. (iv) Mean % of affected leaves :

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9	T_{10}	T_{11}
Mean %	87.0	74.5	88.5	85.2	86.1	90.0	86.5	81.9	93.3	91.8	89.5	95.2

S.E./mean = 4.5%.

Crop :- Orange. **Ref :- Ms. 56(203).**

Site :- Consolidated Coffee Estates Ltd., Moeha. **Type :- 'M'.**

Object : —To study the effect of different micronutrients on the leaf disease.

1. BASAL CONDITIONS :

(i) Old plantations. (ii) (a) Medium red loam. (b) N.A. (iii) By seedlings. (iv) Coorg *Mandarin.* (v) Planted in 1935. (vi) 1 year. (vii) 11 lb./plant of A/S+6 lb./plant of B.M.+2 lb./plant of Mur. Pot.+ 16 lb./plant Rock Phos. (viii) Scuffling, shallow digging. Weeding and shade regulations. (ix) Nil. (x) Unirrigated. (xi) 69". (xii) July 1956 to June 1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(224) on page 785.

5. RESULTS :

(i) 67.4%. (ii) 10.8%. (iii) Treatment differences are not significant. (iv) Mean % of affected leaves.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9	T_{10}	T_{11}
Mean%	67.4	56.6	60.7	64.1	71.9	58.5	79.3	70.8	55.6	79.5	77.2	67.0

S.E./mean 6.3%.

Crop :- Orange. **Ref :- Ms. 57(234).**

Site :- Consolidated Coffee Estate Ltd.,Moeha. **Type :- 'M'.**

Object :—To study the effect of different micronutrients on the leaf disease.

1. BASAL CONDITIONS :

(i) Old plantations. (ii) (a) Medium red loam. (b) N.A. (iii) By seedlings. (iv) Coorg *Mandarin.* (v) Planted in 1955. (vi) 1 year. (vii) 11 lb./plant of A/S+6 lb./plant of B.M.+16 lb/plant Rock phos.+ 2 lb./plant of Mur. Pot. (viii) Scuffling, shallow digging, weeding and shade regulations. (ix) Nil. (x) Unirrigated. (xi) 69". (xii) July 1957 to June 1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(224) on page 786.

5. RESULTS :

(i) 49.1%. (ii) 10.4%. (iii) Treatment differences are not significant. (iv) Mean. % of affected leaves.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9	T_{10}	T_{11}
Mean %	59.2	46.7	53.8	58.4	59.3	38.8	48.8	40.3	47.2	45.4	43.2	47.7

S.E./mean = 6.0 %.

Crop :- Orange. **Ref :- Ms.58(238).**

Site :- Consolidated Coffee Estates Ltd., Moeha **Type :- 'M'.**

Object :—To study the effect of different micronutrients on the leaf disease.

1. BASAL CONDITIONS :

(i) Old plantations. (ii) (a) Medium red loam. (b) N.A. (iii) By seedlings. (iv) Coorg *Mandarin*. (v) Planted in 1935. (vi) 1 year (vii) 2 lb./plant of Super+1 lb./plant of Pot. Sul+2 lb./plant of urea. (viii) Weeding twice. (ix) Nil. (x) Unirrigated. (xi) 69". (xii) Nil.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(224) on page 785.

5. RESULTS :

(i) 40.0%. (ii) 8.3%. (iii) Treatment differences are not significant. (iv) Mean. % of affected leaves.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9	T_{10}	T_{11}
Mean %	50.3	45.3	45.0	45.0	39.7	38.3	37.7	34.7	38.3	27.0	46.0	32.3

S.E./mean = 4.8 %.

Crop :- Orange. **Ref :- Ms. 59(211).**

Site :- Consolidated Coffee Estates Ltd., Moeha. **Type :- 'M'.**

Object :—To study the effect of different micronutrients on the leaf disease.

1. BASAL CONDITIONS :

(i) Old plantations. (ii) (a) Medium red loam. (b) N.A. (iii) By seedlings. (iv) Coorg *Mandarin*. (v) Planted in 1935. (vi) 1 year. (vii) 1 lb./plant of N+½ lb./plant of P_2O_5+½ lb./plant of K_2O in two doses. (viii) Weeding twice only. (ix) Nil. (x) Unirrigated. (xi) 69". (xii) November and April 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(224) on page 785.

5. RESULTS :

(i) 21.9 %. (ii) 6.5 %. (iii) Treatment differences are not significant. (iv) Mean % of affected leaves.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9	T_{10}	T_{11}
Mean %	31.0	27.3	26.0	19.0	21.0	15.7	23.7	13.3	18.3	24.7	22.7	20 7

S.E./mean = 3.7 %.

Crop :- Orange. **Ref :- Ms. 55(228).**

Site :- Consolidated Coffee Estates Ltd., Moeha. **Type :- 'M'.**

Object :—To study the effect of different levels of different micronutrients on the chlorosis %.

1. BASAL CONDITIONS :

(i) Old plantntions about 20 years old. (ii) (a) Medium red loam. (b) N.A. (iii) By seedlings. (iv) Coorg *mandarin.* (v) Planted 20 years back. (vi) 1 year. (vii) 4 lb./plant of C/N+4 lb./plant of Super+2 lb,/plant of Mur. Pot.+2 lb./plant of Urea. (viii) Scuffling, shallow digging, weeding and shade regulation. (ix) Nil. (x) Unirrigated. (xi) 69". (xii) June 1956.

2. TREATMENTS:

All combinations of (1), (2), (3) and (4)

(1) 2 levels of Zn as $ZnSO_4$: $Z_0=0$ and $Z_1=5$ lb./ac.
(2) 2 level of Cu as $CuSO_4$: $C_0=0$ and $C_1=5$ lb./ac.
(3) 2 levels of Mn as $MnSO_4$: $M_0=0$ and $M_1=5$ lb./ac.
(4) 2 levels of Fe as Ferrous Sul. : $F_0=0$ and $F_1=5$ lb./ac.

Spraying was done (with or without the chemical) twice in an year along with 2½ lb./ac. of lime and 50 galls. of water.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 16. (b) N.A. (iii) 3. (iv) 3. (v) N.A. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) Incidence of chlorosis. (iii) % of affected leaves on tagged shoots at 4/tree. (iv) (a) and (b) 1959—1962, (b) N.A. (v) Nil. (vi) The expt. was conducted by C.D.R.S. Gonnicoppal.

5. RESULTS :

(i) 92.72 %. (ii) 5.02 %. (iii) The main effect of Z and the interaction C×Z×M are significant. Other effects are not significant. (iv) Mean and differential responses of chlorosis %.

Factor	Mean response	Differential response							
		Z		M		C		F	
		−	+	−	+	−	+	−	+
Z	−5.75	—	—	−4.85	−6.65	−3.85	−7.65	−4.99	−6.51
M	−1.76	−0.86	−2.66	—	—	−2.68	−0.85	−4.09	−0.56
C	0.19	2.09	−1.71	−0.73	1.10	—	—	−1.84	2.21
F	0.65	1.41	−0.11	−1.68	2.98	−1.36	2.68	—	—

S.E. of mean response = 1.4 %
S.E. of differential response = 2.1 %

Crop :- Orange. **Ref :- Ms. 56(207).**

Site :- Consolidated Coffee Estates Ltd., Moeha. **Type :- 'M'.**

Object :—To study the effect of different levels of different micronutrients on the chlorosis %.

1. BASAL CONDITIONS :

(i) Old plantation about 21 years old. (ii) (a) Medium red loam. (b) N.A. (iii) By seedlings. (iv) Coorg *mandarin.* (v) Planted in 1935. (vi) 1 year. (vii) 11 lb./ac. of A/S+6 lb./ac. of B.M. and 16 lb./ac. of Rock phos.+2 lb./ac. of Mur. Pot. (viii) Scuffling, shallow digging, weeding and shade regulation. (ix) Nil. (x) Unirrigated. (xi) 69". (xii) Nil.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(228) above.

5. RESULTS :

(i) 63.34 %. (ii) 17.30 %. (iii) Only the main effects of Z and C are significant. (iv) Mean and differential response of chlorosis %.

Factor	Mean response	Differential response							
		Z		M		C		F	
		—	+	—	+	—	+	—	+
Z	−16.38	—	—	−15.65	17.11	−24.46	−8.30	−10.25	−22.51
M	0.54	1.28	−0.19	—	—	−0.14	1.23	0.38	0.71
C	20.48	28.56	12.40	19.80	21.16	—	—	17.30	23.66
F	3.44	9.58	−2.69	3.28	3.61	0.26	6.63	—	—

S.E. of mean response = 4.99 %
S.E. of differential response = 7.06 %

Crop :- Orange. **Ref :- Ms. 57(238).**

Site :- Consolidated Coffee Estates Ltd., Moeha. **Type :- 'M'.**

Object :—To study the effect of different levels of different micronutrients on the chlorosis %.

1. BASAL CONDITIONS :

(i) Old plantations. (li) (a) Medium red loam. (b) N.A. (iii) By seedlings. (iv) Coorg *mandarin*. (v) Planted 22 years back. (vi) 1 year. (vii) 1 lb./ac. of Pot. Sul.+2 lb./ac. of Super and 2 lb./ac. of Urea per plant. (viii) Scuffling, shallow digging, weeding and shade regulation. (ix) Nil. (x) Unirrigated. (xi) 69". (xii) Nil.

2. TREATMENTS to 4 GENERAL:

Same as in expt. no. 55(228) on page 788.

5. RESULTS :

(i) 42.15 %. (ii) 9.62 %. (iii) Main effects of Z, C, F and interaction Z×C are highly significant. Main effect of M and interaction Z×M are significant. (iv) Mean and differential response of chlorosis %.

Factor	Mean response	Differential response							
		Z		M		C		F	
		+	—	+	—	+	—	+	—
Z	−26.46	—	—	−20.26	−32.65	−13.30	−39.62	−24.88	−28.03
M	−7.11	−0.91	−13.31	—	—	−9.00	−5.22	−7.57	−6.65
C	−8.30	4.86	−21.46	−10.19	−6.41	—	—	−5.82	−10.78
F	8.75	10.32	7.18	8.29	9.21	11.23	6.27	—	—

S.E. of mean response = 2.78 %.
S.E. of differential response = 3.93 %.

Crop :- Orange. **Ref :- Ms. 58(244).**

Site :- Consolidated Coffee Estates Ltd., Moeha. **Type :- 'M'.**

Object :—To study the effect of different levels of different micronutrients on the chlorosis percentage.

1. BASAL CONDITIONS :

(i) Old plantation. (ii) (a) Medium red loam. (b) N.A. (iii) By seedlings. (iv) Coorg *Mandarin.* (v) Planted in 1935. (vi) 1 year. (vii) 2 lb./plant of Super+1 lb./plant of Pot. Sul.+2 lb./plant of Urea. (viii) Weeding was done twice. (ix) Nil. (x) Unirrigated. (xi) 69". (xii) June 1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55 (228) on page 788.

5. RESULTS :

(i) 39.85%. (ii) 8.60. (iii) Main effect of Z and interactions C×Z and C×Z×M are highly significant. Other effects are not significant. (iv) Mean and differential responses of chlorosis %.

Factor	Mean response	Differential response							
		Z		M		C		F	
		+	−	−	+	−	+	−	+
Z	−21.69	—	—	−25.13	−18.25	−32.13	−11.25	−15.88	−27.50
M	−2.31	−5.75	1.13	—	—	−0 63	−4.00	+0.38	−5.00
C	−1.81	−12.25	8.63	−0.13	−3.50	—	—	−0.63	−3.00
F	3.44	9.25	−2.38	6.13	0.75	4.63	2.25	—	—

S.E. of mean response = 2.48%.
S.E. of differential response = 3.51%.

Crop :- Orange. **Ref :- Ms. 59(220).**

Site :- Consolidated Coffee Estates Ltd., Moeha. **Type :- 'M'.**

Object :—To study of the effect of different levels of different micronutrient on the chlorosis percentage.

1. BASAL CONDITIONS :

(i) N.A. (ii) (a) Medium red loam. (b) N.A. (iii) By seedlings. (iv) Coorg *Mandarin.* (v) Planted in 1935. (v) 1 year. (vii) 1 lb./plant of NT+½ lb./plant of P_2O_5 + ½ lb./plant of K_2O. (viii) 2 weedings. (ix) Nil. (x) Unirrigated. (xi) 69". (xii) Nil.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55 (228) on page 788.

5. RESULTS :

(i) 19.98%. (ii) 6.88%. (iij) Only the main effect of Z is highly significant. No other effect is significant. (iv) Mean and differential responses of chlorosis %.

Factor	Mean response	Differential response							
		Z		M		C		S	
		−	+	−	+	−	+	−	+
Z	−12.19	—	—	−12.00	−12.38	−16.63	−7.75	−10.38	−14.00
M	−2.31	−2.12	−2.50	—	—	−6.63	2.00	−0.13	−4.50
C	−1.69	−6.13	2.75	−6.00	2 63	—	—	3.88	−7.25
F	1.56	3.38	−0.25	3.75	−0.63	7.13	−4.00	—	—

S.E. of mean response = 1.99%
S.E. of differential response = 2.81%

Crop :- Orange. **Ref :- Ms. 56(199).**

Site :- Reg. Fruit Res. Stn., Chethally. **Type :- 'C'.**

Object :—To study the effect of mulching and providing shade on Mandarin.

1. BASAL CONDITIONS :

(i) Jungle. (ii) (a) Clay loam. (b) Refer soil analysis, Chethally. (iii) By seedlings. (iv) Coorg orange. (v) September 1956 and plot size : 20′×20′. (vi) 1 year. (vii) 4 oz./plant of Urea+4 oz./plant of Pot. Sul. +2 oz./plant of Super applied in two instalments. (viii) Scraping only. (ix) Nil. (x) Unirrigated. (xi) 65". (xii) Nil.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of shade : S_0=No shade and S_1=Shade.

(2) 2 levels of mulching : M_0=No mulching and M_1=Mulching.

3. DESIGN :

(i) Fact in. R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) 4. (v) One guard row around each plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Bordeaux paint, folidol and soladar sprayed against aphids, scale insects and mildew. (iii) Stem girth, height and volume. (iv) (a) 1956—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

Girth

(i) 3.55 cm./plant. (ii) 0.36 cm./plant. (iii) No effect is significent. (iv) Av. girth in cm./plant.

	S_0	S_1	Mean
M_0	3.58	3.70	3.64
M_1	3.40	3.53	3.46
Mean	3.49	3.61	3.55

S.E. of any marginal mean = 0.13 cm./plant.
S.E. of body of table = 0.18 cm./plant.

Height

(i) 80 cm./plant. (ii) 7.7 cm./plant. (iii) No effect is significant. (iv) Av. height in cm./plant.

	S_0	S_1	Mean
M_0	83	75	79
M_1	84	79	81
Mean	83	77	80

S.E. any marginal mean = 2.7 cm./plant.
S.E. of body of the table = 3.8 cm./plant.

Crop :- Orange. **Ref :- Ms. 57(229).**

Site :- Reg. Fruit Res. Stn., Chethally. **Type :- 'C'.**

Object :—To study the effect of mulching and providing shade on Mandarin.

1. BASAL CONDITIONS:

(i) to (x) Same as in expt. 56 (199) above. (xi) 63.6". (xii) Nil.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56 (199) on page 791.

5. RESULTS :

Girth

(i) 11.0 cm./plant. (ii) 0.82 cm./plant. (iii) No effect is significant. (iv) Av. girth in cm./plant.

	S_0	S_1	Mean
M_0	11.5	11.6	11.5
M_1	10.9	10.2	10.6
Mean	11.2	10.9	11.0

S.E. of any marginal mean = 0.29 cm./plant.
S.E. of body of the table = 0.41 cm./plant.

Height

(i) 182 cm./plant. (ii) 18 cm./plant. (iii) No effect is significant. (iv) Av. height in cm./plant.

	S_0	S_1	Mean
M_0	188	192	190
M_1	179	170	174
Mean	183	181	182

S.E. of any marginal mean = 6.4 cm./plant.
S.E. of the body of the table = 9.0 cm./plant.

Crop :- Orange. **Ref :- Ms. 58(233).**
Site :- Reg. Fruit Res. Stn., Chethally. **Type :- 'C'.**

Object :—To study the effect of mulching and providing shade on Mandarin.

1. BASAL CONDITIONS :

(i) Jungle. (ii) (a) Clay loam. (b) Refer soil analysis, Chethally. (iii) By seedlings. (iv) Coorg orange. (v) September 1956, plot size : 20′×20′. (vi) 1 year. (vii) 1 lb./plant of N+½ lb./plant of P_2O_5+½ lb./plant of K_2O in two instalments in the form of organic and inorganic fertiliezrs+G.M. (viii) Scraping and weeding. (ix) Nil. (x) Unirrigated. (xi) 70.37″. (xii) Nil.

2. TREATMENTS to 4. GENERAL :

Same as in expt, no. 56(199) on page 791.

5. RESULTS :

Girth

(i) 16.08 cm./plant. (ii) 1.25 cm./plant (iii) No effect is significant. (iv Av. girth in cm./plant.

	S_0	S_1	Mean
M_0	16.78	16.33	16.55
M_1	15.60	15.63	15.61
Mean	16.19	15.98	16.08

S.E. of any marginal mean = 0.44 cm./plant.
.E. of body of the table = 0.62 cm./plant

Height

(i) 228 cm./plant. (ii) 16 cm./plant (iii) No effect is significant. (iv) Av, height in cm./plant.

	S_0	S_1	Mean
M_0	219	232	225
M_1	234	229	231
Mean	226	230	228

S.E. of any marginal mean = 5.7 cm./plant.
S.E. of body of the table = 8.0 cm./plant.

Crop :- Orange. **Ref :- Ms. 59(202).**

Site :- Reg. Fruit Res. Stn., Chethally. **Type :- 'C'.**

Object :—To study the effect of mulching and providing shade on Mandarin.

1. BASAL CONDITIONS :

(i) Jungle. (ii) (a) Clay loam. (b) Refer soil analysis, Chethally. (iii) By seedlings. (iv) Coorg orange. (v) September 1956, plot size 20'×20'. (vi) 1 year. (vii) 1¼ lb./plant of N+¾ lb./plant of P_2O_5 +¾ lb./plant of K_2O in two instalments as organic and inorganic fertilizers. (viii) Scrapping and weeding. (ix) Nil. (x) Unirrigated. (xi) 84.61". (xii) Nil.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(199) on page 791.

5. RESULTS :

Girth

(i) 22.38 cm./plant. (ii) 2.07 cm./plant. (iii) No effect is significant. (iv) Av. girth in cm./plant.

	S_0	S_1	Mean
M_0	22.93	21.90	22.42
M_1	22.45	22.23	22.34
Mean	22.69	22.07	22.38

S.E. of any marginal mean = 0.73 cm /plant.
S.E. of body of table = 1.04 cm./plant.

Height

(i) 274 cm./plant. (ii) 18.2 cm./plant. (iii) No effect is significant. (iv) Av. height in cm /plant.

	S_0	S_1	Mean
M_0	267	282	275
M_1	270	275	273
Mean	269	279	274

S.E. of any marginal mean = 6.4 cm./plant.
S.E. of body of table = 9.1 cm./plant.

Crop :- Orange. **Ref :-Ms. 55(221).**

Site :- Reg. Fruit Res. Stn., Chethally. **Type :- 'C'.**

Object :—To establish the superiority or otherwise of budded orange plants over the practice of seedling plants.

1. BASAL CONDITIONS :

(i) Jungle. (ii) (a) Clay loam. (b) Refer soil analysis, Chethally. (iii) By budding seedlings. (iv) Coorg orange. (v) 1953, plot size 20′×20′. (vi) 1½ year. (vii) 1 md./plant of F.Y.M.+10 lb /plant of Rock phos. +G.M. (viii) Weeding, scraping and mulching. (ix) Nil. (x) Unirrigated. (ix) 48.52″. (xii) Nil.

2. TREATMENTS :

11 Rootstocks : R_1=Citron, R_2=Grapefruit, R_3=*Sathgudi*, R_4=Lemon, R_5=Coorg orange, R_6=Rough Lemon, R_7=Seedlings coorg orange (Control) (2 plots), R_8=*Baduvapuli*, R_9=Pummelo, R_{10}=Sour orange and R_{11}=Sweet Lime.

3. DESIGN :

(i) R.B.D. (ii) (a) 11. (b) N.A. (iii) 4. (iv) 6. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Folidol spray against aphids and scale insects. Solabar (wetable Sulphur) against powdery mildew. Lemon stocks were treated with Bordeaux mixture against gummosis. (i i) Stock girth, scion girth, height and spread in terms of volume. (iv) (a) 1953—contd. (b) N A. (v) and (vi) Nil.

5. RESULTS :

Stock Girth

(i)26.8 cm./plant. (ii) 1.62 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. stock girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8	R_9	R_{10}	R_{11}
Av. girth	13.8	30.5	25.1	26.6	27.0	30.8	28.6	23.7	30.1	28.5	27.9

S.E./mean, other than R_7 = 0.81 cm./plant.
S.E./R_7 = 0.57 cm./plant.

Scion Girth

(i) 23.9 cm./plant. (ii) 1.81 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. scion girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8	R_9	R_{10}	R_{11}
Av. girth	14.4	26.0	23.0	23.2	23.6	25.7	28.0	19.4	24.4	26.0	24.7

S.E./mean, other than R_7 = 0.91 cm./plant.
S.E./R_7 = 0.64 cm./plant.

Height

(i) 250 cm./plant. (ii) 14.89 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. height in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8	R_9	R_{10}	R_{11}
Av. height	161	253	243	258	259	260	279	241	238	264	268

S.E./mean, other than R_7 = 7.44 cm./plant.
S.E./R_7 = 5.26 cm./plant.

Crop :- Orange. **Ref :- Ms. 56(197).**

Site :- Reg. Fruit Res. Stn., Chethally. **Type :- 'C'.**

Object :—To establish the superiority or otherwise of the budded Mandarin plants over the practice of raising seedling plants.

1. BASAL CONDITIONS :

(i) Jungle. (ii) (a) Clay loam. (b) **Refer soil analysis,** Chethally. (iii) Budding. (iv) Coorg orange. (v) 1953, plot size : 20′×20′. (vi) 1½ year. **(vii) 1 lb./tree** of Urea+1 lb./tree of A/S+1 lb./tree of A/S/N+ 60 lb./tree of C.M. in two instalments. **(viii) Weeding,scraping** and mulching. (ix) Nil. (x) Unirrigated. (xi) 65″. (xii) Nil.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(221) on page 794.

5. RESULTS:

Stock Girth

(i) 32.35 cm./plant. (ii) 2.14 cm./plant. **(iii) Treatment** differences are highly significant. (iv) Av. stock girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8	R_9	R_{10}	R_{11}
Av. girth	17.18	37.28	30.60	31.08	32.90	37.78	33.78	29.08	36.38	34.70	33.73

S.E./mean, other than R_7 = 1.07 cm./plant.
S.E./R_7 = 0.76 cm./plant.

Scion Girth

(i) 29.31 cm./plant. (ii) 2.004 cm./plant. **(iii) Treatment** differences are highly significant. (iv) Av. scion girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8	R_9	R_{10}	R_{11}
Av. girth	17.88	31.80	29.00	27.45	28.55	32.55	33.78	24.60	30.50	31.68	30.18

S.E./mean, other than R_7 = 1.002 cm./plant.
S.E./R_7 = 0.709 cm./plant.

Height

(i 267 cm./plant. (ii) 14 cm./plant. **(iii) Treatment** differences are highly significant. (iv) Av. height in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8	R_9	R_{10}	R_{11}
Av. height	173	270	263	268	265	285	289	265	260	290	285

S.E./mean, other than R_7 = 7 cm./plant.
S.E./R_7 = 4.9 cm./plant.

Crop :- Orange. **Ref :- Ms. 57(232).**

Site :- Reg. Fruit Res. Stn., Chethally. **Type :- 'C'.**

Object :—To establish the superiority or otherwise of budded Mandarin plants over the practice of seedling plants.

1. BASAL CONDITIONS:

(i) *Jungle.* (ii) (a) Clay loam. (b) Refer soil analysis, Chethally. (iii) By budding (iv) Coorg orange. (v) 1953, plot size: 20′×20′. (vii) 1½ years. (vi) N, P and K applied at 1, ½ and ½ lb./plant respectively in the inorganic form only. (viii) Weeding, scraping and mulching. Staking specially to citron stocks. (ix) Nil. (x) Unirrigated. (xi) 63.55″. (xii) Nil.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(221) on page 794.

5. RESULTS :

Stock girth

(i) 39.98 cm./plant. (ii) 2.82 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8	R_9	R_{10}	R_{11}
Av. girth	23.05	44.28	38.25	37.25	39.15	47.95	40.99	37.55	45.13	42 38	42.78

S.E./mean, other than R_7 = 1.41 cm./plant.
S.E./R_7 = 1.00 cm./plant.

Scion girth

(i) 36.85 cm./plant. (ii) 2.88 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. scion girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8	R_9	R_{10}	R_{11}
Av. girth	23.30	39.33	37.35	33.38	34.83	42.15	40.99	32.65	38.48	40.13	38.70

S.E./mean, other than R_7 = 1.44 cm./plant.
S.E./R_7 = 1.02 cm./plant.

Height

(i) 306 cm./plant. (ii) 18 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. height in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8	R_9	R_{10}	R_{11}
Av. height	210	302	308	304	289	337	325	304	306	328	334

S.E./mean other than R_7 = 9.00 cm./plant.
S.E./R_7 = 6.36 cm./plant.

Crop :- Orange. **Ref :- Ms. 58(232).**

Site :- Reg. Fruit Res. Stn., Chethally. **Type :- 'C'.**

Object :—To establish the superiority or otherwise of budded Mandarin plants over the practice of seedling plants.

1. BASAL CONDITIONS :

(i) Jungle. (ii) (a) Clay loam. (b) Refer soil analysis, Chethally. (iii) By budding. (iv) Coorg orange. (v) 1953 ; plot size : 20′×20′. (vi) 1½ years. (vii) 1 lb./plant of N+½ lb./plant of P_2O_5+½ lb./plant of K_2O. (viii) Weeding, scraping and mulching. Staking specially to citron stocks. (ix) Nil. (x) Unirrigated. (xi) 70.37″. (xii) Nil.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(221) on page 794.

5. RESULTS :

Stock Girth

(i) 44.54 cm./plant. (ii) 3.38 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. stock girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8	R_9	R_{10}	R_{11}
Av. girth	25.93	48.43	42.73	41.73	42.93	54.38	45.69	41.83	49.88	47.03	48.23

S.E./mean, other than R_7 = 1.69 cm./plant.
S.E./R_7 = 1.20 cm./plant.

Scion Girth

(i) 41.18 cm./plant. (ii) 3.32 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. scion girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8	R_9	R_{10}	R_{11}
Av. girth.	26.45	43.13	41.03	37.05	37.85	48.03	45.69	36.83	43.88	45.15	43.95

S.E./mean, other than R_7 = 1.66 cm./plant.
S.E./R_7 = 1.17 cm /plant.

Height

(i) 329 cm./plant. (ii) 17 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. height in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8	R_9	R_{10}	R_{11}
Av. height.	230	327	328	332	320	353	345	327	329	361	360

S.E./mean, other than R_7 = 8.5 cm./plant.
S.E./R_7 = 6.0 cm./p ant.

Crop :- Orange. **Ref :- Ms. 59(203).**

Site :- Reg. Fruit Res. Stn., Chethally. **Type :- 'C'.**

Object :—To establish the superiority or otherwise of budded Mandarin plants over the practice of raising seedling plants.

1. BASAL CONDITIONS :

(i) Jungle. (ii) (a) Clay loam. (b) Refer soil analysis, Chethally. (iii) By buddings. (iv) Coorg orange. (v) 1953 ; plot size : 20′×20′. (vi) 1½ years. (vii) N, P and K in the ratio 2 : 1 : 1/plant in two instalments in organic and inorganic forms. (viii) Weeding, scraping and mulching. (ix) Nil. (x) Unirrigated. (xi) 84.61″. (xii) July 1959 and June, 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(221) on page 794

5. RESULTS :

(i) 193 fruits/tree. (ii) 56.5 fruits/tree. (iii) Treatment differences are not significant. (iv) Av. yield of fruit in number/tree.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8	R_9	R_{10}	R_{11}
Av. number	197	151	229	190	168	231	168	255	174	196	197

S.E./mean other than R_7 = 28.2 fruits/tree.
S.E./R_7 = 19.9 fruits/tree.

Crop :- Orange. **Ref :- Ms. 56(198).**

Site :- Reg. Fruit. Res. Stn., Chethally. **Type :- 'C'.**

Object :—To establish the superiority or otherwise of budded plants over the practice of raising seedling plants.

1. BASAL CONDITIONS :

(i) Jungle. (ii) (a) Clay loam. (b) Refer soil analysis, Chethally. (iii) By buddings. (iv) Coorg orange. (v) September, 1956, plot size : 20′×20′. (vi) 1½ years. (vii) 4 oz./plant of Urea+4 oz /plant of Pot. Sul.+2 oz./plant of Super applied in two instalments. (viii) Scraping. (ix) Nil. (x) Unirrigated. (xi) 65″. (xii) Nil.

2. TREATMENTS :

6 root stocks : R_1=Seedling Coorg orange (control), R_2=Lime, R_3=Naichakotha, R_4=Kichili, R_5=Kodakithuli and R_6=Moogunimbe.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) 6. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) 3 sprays of Folidol against aphids and scale insects. 2 sprays of Solabar against mildew. (iii) Stock and scion girth, height and spread in volume. (iv) (a) 1956—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

Stock Girth

(i) 10.93 cm./plant. (ii) 0.83 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. stock girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6
Av. girth	5.45	14.75	11.58	13.85	6.00	13.98

S.E./mean = 0.42 cm./plant.

Scion Girth

(i) 8.34 cm./plant. (ii) 0.62 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. scion girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6
Av. girth	5.45	11.58	8.55	9.25	5.03	10.18

S.E./mean = 0.31 cm./plant.

Height

(i) 130 cm./plant. (ii) 7 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. height in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6
Av. height	108	163	130	153	78	153

S.E./mean = 4 cm./plant.

Crop :- Orange. **Ref :- Ms. 57(228).**

Site :- Reg. Fruit Res. Stn., Chethally. **Type :- 'C'.**

Object :—To establish the superiority or otherwise of budded Mandarin plants over the practice of raising seedling plants.

1. BASAL CONDITIONS :

(i) Jungle (ii) (a) Clay loam. (b) Refer soil analysis, Chethally. (iii) By buddings. (iv) Coorg orange. (v) September, 1956, plot size : 20′×20′. (vi) 1½ years. (vii) 0.5 lb./plant of N+0.3 lb./plant of P_2O_5 and 0.3 lb./plant of K_2O+G.M. (viii) Scraping, weeding and mulching. (ix) Nil. (x) Unirrigated. (xi) 63.55″. (xii) Nil.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(198) on page 797.

5. RESULTS :

Stock Girth

(i) 20.8 cm./plant. (ii) 1.25 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. stock girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6
Av. girth	14.6	22.8	20.6	26.5	15.5	24.6

S.E./mean = 0.63 cm./plant.

Scion Girth

(i) 16.9 cm./plant. (ii) 1.09 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. scion girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6
Av. girth	14.6	19.0	16.6	18.4	13.0	20.0

S.E./mean = 0.55 cm./plant.

Height

(i) 215 cm./plant. (ii) 1 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. height in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6
Av. height	212	224	208	227	183	236

S.E./mean = 0.5 cm./plant.

Crop :- Orange. **Ref :- Ms. 58(234).**

Site :- Reg. Fruit Res. Stn., Chethally. **Type :- 'C'.**

Object :—To establish the superiority or otherwise of budded Mandarin plants over the practice of raising seedling plants.

1. BASAL CONDITIONS :

(i) Jungle (ii) (a) Clay loam. (b) Refer soil analysis, Chethally. (iii) By buddings. (iv) Coorg orange. (v) September, 1956, plot size : 20′×20′. (vi) 1½ years. (vii) 1.0 lb./plant of N+0.5 lb./plant. of P_2O_5+0 5 lb./plant of K_2O+G.M. (viii) Scraping, weeding and mulching. (ix) Nil. (x) Unirrigated. (xi) 70.37″. (xii) Nil.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(198) on page 797.

4. GENERAL :

(i) Satisfactory. (ii) 3 sprays of Folidol against aphids and scal insects and 2 sprays of Solabar against mildew. Bordeaux paste is also applied. (iii) Stock and scion girth, height and spread in terms of volume. (iv) (a) 1956—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

Stock Girth

(i) 27.04 cm /plant. (ii) 1.87 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. stock girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6
Av. girth	20.38	27.65	26.03	34.53	22.43	31.25

S.E./mean = 0.93 cm./plant.

Scion Girth

(i) 22 51 cm./plant. (ii) 1.54 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. scion girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6
Av. girth	20.38	23.08	21.68	24.48	19.13	26.35

S.E./mean = 0.77 cm./plant.

Height

(i) 244 cm./plant. (ii) 12 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. height in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6
Av. height	234	250	238	255	222	267

S.E./mean = 6 cm./plant.

Crop :- Orange. **Ref :- Ms. 59(201).**

Site :- Reg. Fruit Res. Stn., Chethally. **Type :- 'C'.**

Object :—To establish the superiority or otherwise of budded Mandarin plants over the practice of raising seedling plants.

1. BASAL CONDITIONS :

(i) *Jungle.* (ii) (a) Clay loam. (b) Refer soil analysis, Chethally. (iii) By buddings. (iv) Coorg orange. (v) September, 1956, plot size : 20′×20′. (vi) 1½ years. (vii) 1.25 lb./plant of N+0.75 lb./plant of P_2O_5+0.75 lb./plant of K_2O+G.M. (viii) Scraping, weeding and mulching. (ix) Nil. (x) Unirrigated. (xi) 84.61″. (xii) Nil.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(198) on page 797.

4. GENERAL :

Same as in expt No. 58(234) on page 799.

5. RESULTS :

Stock Girth

(i) 34.92 cm./plant. (ii) 2.18 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. stock girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6
Av. girth	27.95	34.68	31.25	44.73	31.23	39.70

S.E./mean = 1.09 cm./plant.

Scion Girth

(i) 29.79 cm./plant. (ii) 2.13 cm./plant. (iii) Treatment differences are highly signifiant, (iv) Av. scion girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6
Av. girth	27.95	28.98	27.05	32.85	27.43	34.48

S.E./mean = 1.07 cm./plant.

Height

(i) 267 cm./plant. (ii) 10.2 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. height in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6
Av. height	272	282	263	294	266	298

S.E./mean = 5.1 cm./plant.

Crop :- Orange. **Ref :- Ms. 56(201).**

Site :- Citrus Die-Back Res. Stn., Gonnicoppal. **Type :- 'C'.**

Object :—To study the effect of different root stocks on the incidence of Citrus Die-Back disease.

1. BASAL CONDITIONS :

(i) Moderate Jungle, cleared and planted. (ii) (a) Clay loam or sandy clay loam. (b) Refer soil analysis, Gonnicoppal. (iii) By budding seedlings. (iv) Coorg *mandarin*. (v) July, 1956 ; 20′×20′. (vi) 1½ years. (vii) A balanced dose of N, P, K mixture of 1½ lb./ac. in 2 doses/plant+32 lb./ac. of F.Y.M. (viii) Scraping, weeding and mulching. (ix) Nil. (x) Unirrigated. (xi) 75.08″. (xii) June, 1957.

2. TREATMENTS :

8 root stocks : R_1=Pummelo, R_2=Lime *sadaphal*, R_3=Grape fruit, R_4=*Kodakothuli*, R_5=Rough lemon, R_6=Coorg *mandarin*, seedling (control), R_7=Lemon and R_8=*Molepuli*.

3. DESIGN :

(i) R B D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) 6. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Mealy bugs and aphids. Folidol and Endrex sprayed 10 times. Powdery mildew solbar and wettable sulphur sprayed 6 times. Top shoot borer—Gammexane and D.D.T. sprayed once. (iii) Stock girth, scion girth, height and spread. (iv) (a) 1956– contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

Stock girth

(i) 9.16 cm./plant. (ii) 0.83 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. girth	9.53	12.85	10.73	8.33	10.68	7.05	8.13	6.03

S.E./mean = 0.42 cm./plant.

Scion girth

(i) 6.79 cm./plant. (ii) 0.66 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. scion girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. girth	6.28	9.28	7.35	6.33	7.38	7.05	6.68	4.03

S.E./mean = 0.33 cm./plant.

Height

(i) 126 cm./plant. (ii) 14.3 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. height in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. height	108	170	125	125	147	135	115	82

S.E./mean = 7.2 cm./plant.

Crop :- Orange. **Ref :- Ms. 57(231).**

Site :- Citrus Die-Back Res. Stn., Gonnicoppal. **Type :- 'C'.**

Object :—To study the effect of different root stocks on the incidence of Citrus Die-Back disease.

1. BASAL CONDITIONS :

(i) Moderate jungle cleared and planted. (ii) (a) Clay to sandy loam. (b) Refer soil analysis, Gonnicoppal (iii) By budding seedlings. (iv) Coorg *mandarin.* (v) July 1956 ; 20′×20′. (vi) 1½ years. (viii) A balanced dose of NPK 1 : 1. 5 : 1 was applied as organic and inorganic manures. (viii) Scraping, weeding and mulching. (ix) Nil. (x) Unirrigated. (xi) 72.2″. (xii) July 1957 to June 1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(201) on page 800.

4. GENERAL :

(i) Satisfactory. (ii) Mealy bugs and aphids : Folidol and Endrex 4 times sprayed. Powdery mildew : solbar and wettable sulphur 3 times sprayed. Top shoot borer—hand picking and Gammexane and D.D.T. sprayed 3 times. (iii) Stock girth, scion girth, height and spread. (iv) (a) 1956—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

Stock girth

(i) 17.23 cm./plant. (ii) 2.04 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. girth	16.58	20.72	18.49	17.34	20.67	15.39	14.92	13.74

S.E./mean = 1.02 cm./plant.

Scion girth

(i) 13.67 cm./plant. (ii) 1.62 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. scion girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. girth	11.94	16.44	13.74	13.32	15.49	15.39	13.21	9 82

S.E./mean = 0.81 cm./plant.

Height

(i) 211 cm./plant. (ii) 25 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. height in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. height	180	250	190	220	240	230	210	170

S.E./mean = 12.5 cm./plant.

Crop :- Orange. **Ref :- Ms. 58(235).**

Site :- Citrus Die-Back Res. Stn., Gonnicoppal. **Type :- 'C'.**

Object :—To study the effect of different root stocks on the incidence of Citrus Die-Back disease.

1. BASAL CONDITIONS :

(i) Moderate jungle cleared and planted. (ii) (a) Clay loam or sandy clay loam. (b) Refer soil analysis, Gonnicoppal. (iii) By budding. (iv) Coorg *mandarin*. (v) July 1956 ; 20′×20′. (vi) 1½ years. (vii) NPK mixture (1 : 1 : 1) in the form of organic manures (viii) Scraping, weeding and mulching. (ix) Nil. (x) Unirrigated. (xi) 87.4″. (xii) July 1958 to June 1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(201) on page 800.

4. GENERAL :

(i) Satisfactory. (ii) Aphids : Folidol sprayed 5 times, mealy bugs : Dieldrex sprayed 2 times. Powdery mildew : Wettable sulphur sprayed 5 times. Soft scales Malathion sprayed twice. Top shoot borer : sprayed Gammexane once+hand picking. (iii) Height, stock girth, scion girth and volume and mottling percentage. (iv) (a) 1956—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

Stock girth

(i) 21.80 cm./plant. (ii) 2.75 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. girth	20.39	23.76	21.14	23.09	27.33	19.22	20.27	19.19

S.E./mean = 1.37 cm./plant.

Scion girth

(i) 17.67 cm./plant. (ii) 2.26 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. girth	15.81	19.89	16.25	17.95	21.31	19.22	16.94	13.97

S.E./mean = 1.13 cm./plant.

Height

(i) 247 cm./plant. (ii) 23 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. height in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. height	213	282	193	265	291	264	261	215

S.E./mean = 0.12 cm./plant.

Crop :- Orange. **Ref :- Ms. 59(205).**

Site :- Citrus Die-Back Res. Stn., Gonnicoppal. **Type :- 'C'.**

Object :—To study the effect of different root stocks on the incidence of Citrus Die-Back disease.

1. BASAL CONDITIONS :

(i) Moderate jungle cleared and planted. (ii) (a) Clay to sandy loam. (b) Refer soil analysis, Gonnicoppal. (iii) By budding. (iv) Coorg *mandarin*. (v) July 1956 ; 20′×20′. (vi) 1½ years. (vii) 1.5 lb./plant of N+1 lb./plant of P_2O_5+0.75 lb./plant of K_2O in two doses in the form of C/A/N, Fishmeal Super and Mur. Pot. (viii) Scraping, weeding and mulching. (ix) Nil. (x) Unirrigated. (xi) 104.9″. (xii) July 1959 to June 1960.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(201) on page 800.

4. GENERAL :

(i) Fair. (ii) Proper plant protection operations were carried out in time to control pests life aphids, mealy bugs, top shoot borer, stem borer and disease like powdery mildew, leaf fall and fruit rot. (iii) Scion girth. stock girth, height, spread and chlorosis % at quarterly intervals. (iv) (a) 1956—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

Stock girth

(i) 28.57 cm./plant. (ii) 3.38 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. girth	26.39	28.10	26.45	31.93	36.87	28.49	24.24	26.06

S.E./mean = 1.69 cm./plant

Scion girth

(i) 23.83 cm./plant. (ii) 2.93 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. girth	21.07	24.12	20.93	25.47	30.39	28.49	21.14	19.04

S.E./mean = 1.47 cm./plant.

Height

(i) 291 cm./plant. (ii) 37 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. height in cm. plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. height	258	310	241	335	348	307	282	248

S.E./mean = 18.5 cm./plant.

Crop :- Orange. **Ref :- Ms. 55(223).**

Site :- Citrus Die-Back Res. Stn., Gonnicoppal. **Type :- 'C'.**

Object :—To study the influence of root stocks on the incidence of the disease.

1. BASAL CONDITIONS :

(i) Moderate Jungle clreared and planted. (ii) (a) Clay loam or clay sandy loam. (b) Refer soil analysis, Gonnicoppal. (iii) By budding seedlings. (iv) Coorg *Mandarin*. (v) August 1955 ; 20′×20′. (vi) 1½ years. (vii) 20 oz/plants of Urea+4 lb./plant of A/S+4 lb./plant of Super×4 lb./plant Mur. Pot. applied in 2 instalments. (viii) Weeding, scraping and mulching. (ix) Nil. (x) Unirrigated. (xi) 83.87″. (xii) June 1956.

2. TREATMENTS :

8 Root stocks ; R_1=Mandarin seedlings (control), R_2=Lime, R_3=*Baduvapuli*, R_4=*Belladokithuli*, R_5=*Naichekotha*, R_6=Rough lemon, R_7=Song orange and R_8=Khatta.

3. DESIGN :

(i) R.B.D. (ii) (a) 8, (b) N.A. (iii) 4. (iv) 6. (v) Nil. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) Folidol sprayed 4 times to control aphids and hand picking of top shoot borer and Wettable Sulphur sprayed five times to control mildew. (iii) Stock and scion girths, height spread and measurments. (iv) (a) 1955—contd. (b) N.A. (v) to (vii) Nil.

5. RESULTS :

Stock girth

(i) 11.1 cm./plant (ii) 0.52 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. girth	10.42	12.37	12.32	12.50	11.70	12.22	7.70	9.52

S.E./mean = 0.26 cm./plant.

Scion girth

(i) 8.79 cm./plant. (ii) 0.41 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. girth	10.42	10.20	8.70	8.97	8.90	9.60	6.17	7.40

S.E./mean = 0.20 cm./plant.

Height

(i) 131 cm./plant. (ii) 17 cm./plant. (iii) Treatment differences are higthly significant. (iv) Av. height in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. height	147	146	137	135	133	141	97	111

S.E./mean = 8.5 cm./plant.

Crop :- Orange. **Ref :- Ms. 56(202).**

Site :- Citrus Die-Back Res. Stn , Gonnicoppal. **Type :- 'C'.**

Object :—To study the influence of root stock on the incidence of the disease.

1. BASAL CONDITIONS :

(i) Modrate Jungle, cleared and planted. (ii) (a) Clay to sandy loam. (b) Refer soil analysis, Gonnicoppal. (iii) By budding seedlings. (iv) Coorg *Mandarin*. (v) August, 1955 ; 20′×20′. (vi) 1½ years. (vii) 128 lb./plant of F.Y.M.+a balanced N.P.K. mixture at 3 lb./plant in 2 doses. (viii) Weeding, scraping and mulching. (ix) Nil. (x) Unirrigated. (xi) 75.08″. (xii) July, 1956 to June, 1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55 (223) on page 803.

4. GENERAL :

(ii) N.A. (ii) Aphids—sprayed with Folidol and Basudin 10 times. Powdery mildew—solbar and wettable sulpher sprayed 6 times. Top shoot borer—Hand picking and gemmexane spraying once. (iii) Scion and stock girth, height and spread measurements. (iv) (a) 1955—contd. (b) N.A. (v) to (vii) Nil.

5. RESULTS :

Stock girth

(i) 18.79 cm./plant. (ii) 1.49 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. girth	17.38	18.95	19.60	23.08	17.83	19.78	14.83	18.90

S.E./mean = 0.74 cm./plant.

Scion girth

(i) 15.85 cm./plant. (ii) 1.19 cm./plant. (iii Treatment differences are highly significant. (iv) Av. scion girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. girth	17.38	16.75	15.20	16.38	14.80	17.30	13.05	15.93

S.E./mean = 0.59 cm /plant

Height

(i) 210 cm./plant. (ii) 15 cm./plant (iii) Treatment differences are highly significant. (iv) Av. height in cm /plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. height	220	210	230	210	200	230	170	210

S.E./mean = 8 cm./plant.

Crop :- Orange. **Ref :- Ms. 57(233).**

Site :- Citrus Die-Back Res. Stn., Gonnicoppal. **Type :- 'C'.**

Object :—To study the influence of root stocks on the incidence of the disease.

1. BASAL CONDITIONS :

(i) Moderate Jungle cleared and planted. (ii) (a) Clay to sandy loam. (b) Refer soil analysis, Gonnicoppal. (iii) By budding seedlings. (iv) Coorg *Mandarin*. (v) August, 1955 ; 20′×20′. (vi) 1½ years. (vii) N, P and K. (2 : 3 : 2) in the form of organic and inorganic manures were given. (viii) Weeding scraping and mulching. (ix) Nil. (x) Unirrigated. (xi) 83.87". (xii) July 1957 to June 1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55 (223) on page 803.

4. GENERAL :

(i) Fair. (ii) Folidol and Endrex sprayed 4 times against mealy bug and aphids. Solbar and wettable sulphur sprayed 3 times against powdery mildew. Gammexane and D.D.T. 3 times against top shoot borer. (iii) Stock and scion girth, height and spread measurements. (iv) (a) 1955—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

Stock girth

(i) 23.29 cm./plant. (ii) 1.95 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. girth	21.32	20.93	24.90	30.17	21.20	24.53	18.64	24.65

S.E./mean = 0.97 cm./plant.

Scion girth

(i) 20.02 cm./plant. (ii) 2.00 cm./plant. (iii) Treatment differences are significant. (iv) Av. girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. girth	21.32	19.14	19.52	21.46	18.54	21.82	17.02	21.31

S.E /mean = 1.00 cm./plant.

Height

(i) 246 cm./plant. (ii) 19 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. height in cm /plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. height	258	230	258	258	245	262	205	252

S E./mean = 9.5 cm./plant.

Crop :- Orange. **Ref :- Ms. 58(239).**

Site :- Citrus Die-Back Res. Stn., Gonnicoppal. **Type :- 'C'.**

Object : —To study the influence of root stocks on the incidence of the disease.

1. BASAL CONDITIONS :

(i) Moderate jungle cleared and planted. (ii) (a) Clay to sandy loam. (b) Refer soil analysis, Gonnicoppal. (iii) By budding seedlings. (iv) Coorg *Mandarin*. (v) August 1955 ; 20′×20′. (vi) 1½ years. (vii) 2 lb./plant of C/A/N+1½ lb./plant of Super+1 lb./plant of Mur. Pot.+2 baskets/plant of C M. (viii) Scraping and weeding. (ix) Nil. (x) Unirrigated. (xi) 87.4″. (xii) July 1958 to June 1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55 (223) on page 803.

4. GENERAL :

(i) Due to drought, plant growth was adversely effected. (ii) Aphids – sprayed with Folidol 5 times. Mealy bug—sprayed Dieldrix 2 times. Powdery Mildew—Solbar and wettable sulpher sprayed 5 times. Soft Scales — Sprayed Melathion 2 times. Top shoot borer—Hand picking and Gammexane sprayed once. Phytophthora leaf disease—Sprayed Bordeaux mixture 2 times. (iii) Girth, height and volume measurements. (iv) (a) 1955 – contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

Stock girth

(i) 26.77 cm./plant. (ii) 2.76 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. girth	22.98	24.16	28.36	36.05	25.07	27.89	21.08	28.56

S.E./mean = 1.38 cm./plant.

Scion girth

(i) 22.75 cm./plant. (ii) 2.50 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. girth	22.97	20.75	22.60	25.85	21.42	24.93	18.62	24.83

S.E /mean = 1.25 cm./plant.

Height

(i) 267 cm./plant. (li) 23 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. height in cm /plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. height	287	239	278	276	276	285	222	278

S.E./mean = 11.5 cm./plant.

Crop :- Orange. **Ref : -Ms. 59(210).**

Site :- Citrus Die-back Res. Stn., Gonnicoppal. **Type :- 'C'.**

Object :—To study the influence of root stock on the incidence of the disease.

1. BASAL CONDITIONS :

(i) Moderate Jungle cleared and planted. (ii) (a) Clay to sandy loam. (b) Refer soil analysis, Gonnicoppal. (iii) By budding seedlings. (iv) Coorg *Mandarin*. (v) August 1955 ; 20′×20′. (vi) 1½ years. (vii) 1 lb./plant of N as C/A/N+0.64 lb./plant of P_2O_5 as Super +0.75 lb /plant of K_2O as Mur. Pot.+B D. of 150 lb./ plant of C.M. (viii) Scraping and weeding. (ix) Nil. (x) Unirrigated. (xi) 104.9″. (xii) July 1959 to June 1960.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55 (223) on page 803.

4. GENARAL :

(i) N.A. (ii) Proper plant protection operations were carried out in time to control pests like aphids, mealy bugs topshoot borer and stem brorer and diseases like powdery mildew, leaf fall and fruit rot. (iii) Girth, Height and volume measurements. (iv) (a) 1955—contd. (b) Nil. (v) to (vii) Nil.

5. RESULTS :

Stock girth

(i) 31.70 cm./plant. (ii) 3.38 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. girth	29.76	26.98	33.60	42.72	29.53	34.76	23.35	32.93

S.E./mean = 1.69 cm./plant.

Scion girth

(i) 27.33 cm./plant. (ii) 3.07 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. girth in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. girth	29.76	22.85	27.15	31.59	25.08	30.75	21.20	30.22

S.E./mean = 1.54 cm./plant.

Height

(i) 297 cm./plant. (ii) 28 cm./plant. (iii) Treatment differences are highly significant. (iv) Av. height in cm./plant.

Treatment	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
Av. height	319	257	312	307	304	328	239	309

S.E./mean = 14 cm./plant.

Crop :- Orange. **Ref :- Ms. 55(220).**

Site :- Regional Fruit Res. Stn., Chethally. **Type :- 'IM'.**

Object :—To study the effect of irrigation with and without manures on Orange.

1. BASAL CONDITIONS :

(i) *Jungle* previously. (ii) (a) Clay loam soil. (b) Refer soil analysis, Chethally. (iii) By seedlings. (iv) Coorg orange. (v) August, 1954 ; 20′×20′. (vi) 1 year. (vii) Nil. (viii) Weeding, scraping and mulching. (ix) Nil. (x) Interval of irrigation as per treatments at 20 gallons/tree. (xi) 48.52″. (xii) July, 1955 to June, 1956.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 intervals of irrigation : I_0=No irrigation, I_1=Once a week and I_2=Once in 2 weeks.

(2) 2 levels of manures : M_0=No manure and M_1=1 lb./plant of Urea+1 lb./plant of A/S+ 60 lb./plant of C.M.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) 2. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) 6 sprays of folidol against aphids, 5 sprays of solbar against mildew. (iii) Stem girth, height and volume. (iv) (a) 1954—contd. (b) Nil. (v) and (vi) Nil.

5. RESULTS :

Girth

(i) 18.10 cm./plant. (ii) 1.44 cm./plant. (iii) Main effect of I alone is highly significant. (iv) Av. girth in cm./plant.

	I_0	I_1	I_2	Mean
M_0	19.98	18.95	14.50	17.81
M_1	20.60	93.32	15.28	18.40
Mean	20.29	19.14	14.89	18.10

S.E. of I marginal mean = 0.51 cm./plant.
S.E. of M marginal mean = 0.42 cm./plant.
S.E. of body of table = 0.72 cm /plant.

Height

(i) 242 cm./plant. (ii) 23 cm./plant. (iii) Main effect of I alone is highly significant. (iv) Av. height in cm /plant.

	I_0	I_1	I_2	Mean
M_0	254	252	214	240
M_1	257	261	216	245
Mean	256	256	215	242

S.E. of I marginal mean = 8.1 cm./plant.
S.E. of M marginal mean = 6.6 cm./plant.
S.E. of body table = 11.5 cm./plant.

Crop :- Orange. **Ref :- Ms. 56(196).**

Site :- Regional Fruit Res. Stn., Chethally. **Type :- 'IM'.**

Object—To study the effect of irrigation with and without manures on Orange.

1. BASAL CONDITIONS :

(i) Jungle previously. (ii) (a) Clay loam. (b) Refer soil analysis, Chethally. (iii) By seedlings. (iv) Coorg orange. (v) August 1954 ; 20′×20′. (vi) 1 year. (vii) Nil. (viii) Weeding, scraping and mulching. (ix) Nil. (x) Interval of irrigation as per treatments at 20 gallons/tree. (xi) 65″. (xii) July, 1956 to June, 1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(220) on page 807.

5. RESULTS :

Girth

(i) 23.95 cm./plant. (ii) 2.61 cm./plant. (iii) Main effect of I alone is highly significant. (iv) Av. girth in cm./plant.

	I_0	I_1	I_2	Mean
M_0	25.73	26.20	18 53	23.49
M_1	26.85	24.28	22.10	24.41
Mean	26.29	25.24	20.32	23.95

S.E. of I marginal mean = 0.92 cm./plant.
S.E. of M marginal mean = 0.75 cm./plant
S.E. of body of table = 1.30 cm./plant.

Height

(i) 253 cm./plant. (ii) 34 cm./plant. (iii) None of the effects is significant. (iv) Av. height in cm./plant.

	I_0	I_1	I_2	Mean
M_0	258	278	213	250
M_1	260	268	243	257
Mean	259	273	228	253

S.E. of I marginal mean = 12 cm./plant.
S.E. of M marginal mean = 9 cm./plant.
S.E. of body of table = 17 cm./plant.

Crop :- Orange. **Ref :- Ms. 57(227).**

Site :- Regional Fruit Res. Stn., Chethally. **Type :- 'IM'.**

Object :—To study the effect of irrigation with and without manures on Orange.

1. BASAL CONDITIONS :

(i) Jungle periously. (ii) (a) Clay loam. (b) Refer soil analysis, Chethally. (iii) Seedlings. (iv) Coorg orange. (v) August, 1954; 20′×20′. (vi) 1 year. (vii) Nil. (viii) Weeding, scraping and mulching. (ix) Nil. (x) Interval of irrigation as per treatments. (xi) 63.55″. (xii) July 1957 to June 1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(220) on page 807.

5. RESULTS :

Girth

(i) 28.67 cm./plant. (ii) 4.56 cm./plant. (iii) None of the effects is significant. (iv) Av. girth in cm./plant.

	I_0	I_1	I_2	Mean
M_0	30.52	29.40	23.88	27.93
M_1	30.20	31.32	26.72	29.41
Mean	30.36	30.36	25.30	28.67

S.E. of I marginal mean = 1.61 cm./plant.
S.E. of M marginal mean = 1.32 cm./plant.
S.E. of body of table = 2.28 cm./plant.

Height

(i) 288 cm./plant. (ii) 44 cm./plant. (iii) None of the effects is significant. (iv) Av. height in cm./plant.

	I_0	I_1	I_2	Mean
M_0	300	284	263	282
M_1	290	311	277	293
Mean	295	298	270	288

S.E. of I marginal mean = 16 cm /plant.
S.E. of M marginal mean = 13 cm./plant.
S.E. of boby of table = 22 cm./plant.

Crop :- Orange. **Ref :- Ms. 58(231).**

Site :- Regional Fruit Res. Stn., Chethally. **Type :- 'IM'.**

Object :—To study the effect of irrigation with and without manures on Orange.

1. BASAL CONDITIONS :

(i) Jungle previously. (ii) (a) Clay loam. (b) Refer soil analysis, Chethally. (iii) By seedling. (v) Coorg orange. (v) August, 1954 ; 20′×20′. (vi) 1 year. (vii) Nil. (viii) Weeding, scraping and mulching. (ix) Nil. (x) Intervals of irrigations as per treatments at 52 gallons/tree. (xi) 70.37″. (xii) July, 1958 to June, 1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(220) on page 807.

5. RESULTS :

Girth

(i) 31.87 cm /plant. (ii) 5.11 cm./plant. (iii) None of the effects is significant. (iv) Av. girth in cm./plant.

	I_0	I_1	I_2	Mean
M_0	33.95	33.03	26.75	31.24
M_1	33.85	33.73	29.90	32.49
Mean	33.90	33.38	28.32	31.87

S.E. of I marginal mean = 1.81 cm./plant.
S.E. of M marginal mean = 1.48 cm./plant.
S.E. of body of table = 2.56 cm./plant.

Height

(i) 298 cm./plant. (ii) 44 cm./plant. (iii) None of the effects is significant. (iv) Av. height in cm./plant.

	I_0	I_1	I_2	Mean
M_0	323	292	273	296
M_1	307	313	280	300
Mean	315	302	276	298

S.E. of I marginal mean = 16 cm./plant.
S.E. of M marginal mean = 13 cm./plant.
S.E. of body of table = 22 cm./plant.

Crop :- Orange. **Ref :- Ms. 59(198).**

Site :- Regional Fruit Res. Stn., Chethally. **Type :- 'IM'.**

Object :—To study the effect of irrigation with and without the manures on Orange.

1. BASAL CONDITIONS :

(i) Jungle previously. (ii) (a) Clay loam. (b) Refer soil analysis, Chethally. (iii) By seedlings. (iv) Coorg orange. (v) August, 1954 ; 20′×20′. (vi) 1 year. (vii) Nil. (viii) Weeding, scraping and mulching. (ix) Nil. (x) Interval of irrigation as per treatments at 72 gallons/tree. (xi) 84.61″. (xii) July, 1959 to June, 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(220) on page 807.

5. RESULTS :

Girth

(i) 37.88 cm./plant. (ii) 4.85 cm./plant. (iii) Main effect of I alone is highly significant. (iv) Av. girth in cm./plant.

	I_0	I_1	I_2	Mean
M_0	41.75	41.25	29.63	37.54
M_1	41 65	39.10	33.90	38.21
Mean	41.70	40.18	31.76	37.88

S.E. of I marginal mean = 1.71 cm./plant.
S.E. of M marginal mean = 1.40 cm./plant.
S.E. of body of table = 2.42 cm./plant.

Height

(i) 345 cm./plant. (ii) 31.3 cm./plant. (iii) **Main effect** of I alone is highly significant. (iv) Av. height in cm./plant.

	I_0	I_1	I_2	Mean
M_0	385	370	311	356
M_1	378	375	331	361
Mean	382	332	321	345

S.E. of I marginal mean = 11.1 cm./plant.
S.E. of M marginal mean = 9.0 cm /plant.
S.E. of body of table = 15.7 cm./plant.

Crop :- Orange. **Ref :- Ms. 55(226).**

Site :- Citrus Die-Back Res. Stn., Gonicoppal. **Type :- 'IM'.**

Object :—To study the effect of spray of micro-elements at different levels of irrigation on Orange.

1. BASAL CONDITIONS :

(i) Moderate Jungle cleared and planted. (ii) (a) Clay to sandy loam. (b) Refer soil analysis, Gonnicoppal (iii) By seedlings. (iv) Coorg *Mandarin*. (v) August, 1955 ; 20′×20 . (vi) 1 year. (vii) 20 oz./plant of Urea + 4 lb./plant of Super+4 lb./plant of Potash+4 lb./plant of A/S in 2 instalments. (viii) Scuffling and shade regulation. (ix) Nil. (x) Irrigated at different intervals as per treatments at 48 gallons/plant. (xi) 83 87″. (xii) June, 1956.

2. TREATMENTS :

Main-plot treatments :
3 intervals of irrigation : I_0=No irrigation, I_1=Once a week and I_2=Once in 2 weeks.

Sub-plot treatments :
8 micro nutrient element sprays : S_0=Water, S_1=Zn, S_2=Fe, S_3=Mn, S_4=Cu, S_5=Bo, S_6=Mo and S_7=Mg.

5 lb. each of Zn, Fe, Mg, Mn, and Cu as sulphates along with 2½ lb. of lime in 100 galons of water : Bo as Boric acid at ½ lb. and Mo as Ammo. Molybdate at ½ lb. in 100 galons of water.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication ; 8 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) 2 trees/sub plot. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Folidol sprayed 4 times against aphids. Wettable sulphur sprayed 5 times against powdery mildew and hand picking of top shoot borers. (iii) Girth, height, spread and soil. moisture % at fortnightly intervals at two different depths 0 to 9″ and 9″ to 18″. (iv) (a) 1955—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

Girth

(i) 12.68 cm./plant. (ii) (a) 1.07 cm./plant. (b) 1.27 cm./plant. (iii) Main effect of I alone is highly significant. (iv) Av. girth in cm./plant.

	S_0	S_1	S_2	S_3	S_4	S_5	S_6	S_7	Mean
I_0	11.83	12.43	11.47	11.60	11.20	10.27	11.07	11.70	11.45
I_1	15.00	13.97	13.33	13.20	13 57	12.73	13.53	14.57	13.74
I_2	13.33	12.00	12.73	13.10	13.73	13.17	12.30	12.50	12.86
Mean	13.39	12.80	12.51	12.63	12.83	12.06	12 30	12.92	12.68

S.E. of difference of two

1. I marginal means = 0.31 cm /plant.
2. S marginal means = 0.60 cm./plant.
3. S means at the same level of I = 1.04 cm./plant.
4. I means at the same level of S = 1.02 cm./plant.

Height

(i) 178 cm./plant. (ii) (a) 14.5 cm./plant. (b) 42.4 cm./plant. (iii) Main effect of I alone is highly significant. (iv) Av. height in cm /plant.

	S_0	S_1	S_2	S_3	S_4	S_5	S_6	S_7	Mean
I_0	161	168	165	158	155	164	149	168	161
I_1	206	200	177	194	204	174	181	196	192
I_2	175	180	183	182	200	186	173	174	182
Mean	181	183	175	178	186	175	168	179	178

S E. of difference of two

1. I marginal means = 4.2 cm./plant.
2. S marginal means = 20.0 cm./plant.
3. S means at the same level of I = 34.6 cm./plant.
4. I means at the same level of S = 32.7 cm./plant.

Crop :- Orange. **Ref :- 56(205).**

Site :- Citrus Die-Back Res. Stn., Gonnicoppal. **Type :- 'IM'.**

Object :—To study the effect of micro-elements spray at different levels of irrigation on Orange.

1. BASAL CONDITIONS :

(i) Moderate jungle cleared and planted in 1955. (ii) (a) Clay to sandy loam. (b) Refer soil analysis, Gonnicoppal. (iii) By seedlings. (iv) Coorg *mandarin.* (v) August, 1955 ; 20′ × 20′. (vi) 1 year. (vii) 128 lb./plant of F.Y.M. and a balanced NPK mixture at 3 lb /plant in 2 instalments. (viii) Scuffling, shade regulation, shallow digging and weeding. (ix) Nil. (x) Irrigated at different intervals as per treatments at 32 gallons/plant. (xi) 75.08". (xii) July, 1956 to June, 1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(226) on page 811.

4. GENERAL :

(i) Fair. (ii) Folidol and Basudin sprayed 10 times against aphids. Solabar and W. Sulphur sprayed 6 times against powdery mildew, hand picking and Gammexane sprayed once against top shoot borer. (iii) Girth, height and volume and soil moisture percentage at two different depths at fortnightly interva's. (iv) (a) 1956—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

Girth

(i) 22.33 cm./plant. (ii) (a) 3.85 cm./plant. (b) 2.12 cm./plant. (iii) I×S interaction alone is significant. (iv) Av. girth in cm./plant.

	S_0	S_1	S_2	S_3	S_4	S_5	S_6	S_7	Mean
I_0	20.77	21.43	20 40	19.88	21.55	22.02	21.03	23.32	21.30
I_1	26.27	23.17	22.97	25.40	22.65	22.85	19.88	23.75	23.37
I_2	23.00	19.70	22.80	24.20	23.90	21.70	23.68	19.50	22.31
Mean	23.35	21.43	23.06	23.16	22.70	22.19	21.53	22.19	22.33

S.E. of difference of two

1. I marginal means = 1.11 cm./plant.
2. S marginal means = 1.00 cm./plant.
3. S means at the same level of I = 1.73 cm./plant.
4. I means at the same level of S = 1.96 cm./plant.

Height

(i) 268 cm./plant. (ii) (a) 34.6 cm./plant. (b) 74.2 cm./plant. (iii) No effect is significant. (iv) Av. height in cm./plant.

	S_0	S_1	S_2	S_3	S_4	S_5	S_6	S_7	Mean
I_0	249	249	249	287	291	235	269	266	262
I_1	296	268	282	264	272	299	261	259	275
I_2	268	264	268	269	222	302	273	273	267
Mean	271	260	266	273	262	279	268	266	268

S.E. of difference of two

1. I marginal means = 10.0 cm./plant.
2. S marginal means = 35.0 cm./plant.
3. S means at the same level of I = 60.6 cm./plant.
4. I means at the same level of S = 57.5 cm./plant.

Crop :- Orange. **Ref :- Ms. 57(239).**

Site :- Citrus Die-Back Res. Stn., Gonnicoppal. **Type :- 'IM'.**

Object :—To study the effect of micro-element spray at different levels of irrigation on Orange.

1. BASAL CONDITIONS :

(i) Moderate jungle cleaned and planted. (ii) (a) Clay to sandy clay loam. (b) Refer soil analysis, Gonnicoppal. (iii) By seedlings. (iv) Coorg *mandarin*. (v) August, 1955 ; 20′×20′. (vi) 1 year. (vii) A balanced NPK [1 : 1.5 : 1] was applied both in organic and inorganic form. (viii) Scuffling, shade regulation, shallow digging and weeding. (ix) Nil. (x) Irrigated at different intervals as per treatments at 45 gallons/plant. (xi) 72.2″. (xii) July, 1957 to June, 1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(226) on page 311.

4. GENERAL :

(i) Fair. (ii) Folidol and Endrex sprayed 4 times against aphids and mealybugs, Solabar and wettable sulphur sprayed 3 times against mildew and Gammexane and D.D.T. sprayed 3 times against top shoot borer. (iii) Girth, height, volume and chlorosis %. (iv) (a) 1955—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

Girth

(i) 27.85 cm./plant. (ii) (a) 5.06 cm./plant. (b) 3.18 cm./plant. (iii) I×S interaction alonei s significant. (iv) Av. girth in cm./plant.

	S_0	S_1	S_2	S_3	S_4	S_5	S_6	S_7	Mean
I_0	25.68	24.03	24.42	26.83	25.40	30.28	27.50	31.92	27.01
I_1	32.17	28.62	28.53	26.27	32.77	28.97	24.20	29.55	28.88
I_2	28.52	25.02	26.93	27.48	32.20	26.00	30.13	24.90	27.65
Mean	28.79	25.89	26.63	26.86	30.12	28.42	27.28	28.79	27.85

S.E. of difference of two

1. I marginal means = 1.46 cm./plant.
2. S marginal means = 1.50 cm./plant.
3. S means at the same level of I = 2.60 cm./plant.
4. I means at the same level of S = 2.83 cm./plant.

Height

(i) 308 cm./plant. (ii) (a) 48.5 cm./plant. (b) 33.9 cm./plant. (iii) No effect is significant. (iv) Av. height in cm./plant.

	S_0	S_1	S_2	S_3	S_4	S_5	S_6	S_7	Mean
I_0	323	280	267	287	277	320	303	350	301
I_1	330	300	320	300	357	303	297	307	314
I_2	313	303	303	300	350	300	323	273	308
Mean	322	294	297	296	328	308	308	310	308

S.E. of difference of two

1. I marginal means = 14.0 cm./plant.
2. S marginal means = 16.0 cm./plant.
3. S means at the same level of I = 27.7 cm./plant.
4. I means at the same level of S = 29.4 cm./plant.

Crop :- Orange. **Ref :- Ms. 58(245).**

Site :- Citrus Die-Back Res. Stn., Gonnicoppal. **Type :- 'IM'.**

1. BASAL CONDITIONS :

(i) Moderate Jungle cleared and planted. (ii) (a) Clay to sandy clay loam. (b) Refer soil analysis, Gonnicoppal. (iii) By seedlings. (iv) Coorg mandarin. (v) August, 1955 ; 20′×20′. (vi) 1 year. (vii) 2 lb./plant of C/A/N+1½ lb./plant of Super+1 lb./plant of Mur. Pot.+two baskets of C.M. (viii) Scuffling, shade regulation, shallow digging and weeding. (ix) Nil. (x) Irrigated at different intervals as per treatments at 72 gallons/plant. (xi) 81.4". (xii) July, 1958 to June, 1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(226) on page 311.

4. GENERAL :

(i) Fair. (ii) Aphids—Sprayed folidol 5 time ; Mealy bugs—sprayed Dieldrix 2 times ; Powdery mildew—sprayed Solbar and wettable sulphur 5 times; soft scale—sprayed Malathion 2 times. Top shoot borer—Hand picking and Gammexane sprayed once. Leaf disease—sprayed Bordeaux mixture 2 times. (iii) Girth, height, volume, chlorosis % (in May 1959) and soil moxiture % at two different depths during fortnightly intervals. (iv) (a) 1955—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

Girth

(i) 32.03 cm /plant. (ii) (a) 5.40 cm /plant. (b) 4.64 cm./plant. (iii) I×S interaction alone is significant. (iv) Av. girth in cm./plant.

	S_0	S_1	S_2	S_3	S_4	S_5	S_6	S_7	Mean
I_0	28.55	29.62	28.48	30.92	29.40	35.67	31.62	39.63	31.15
I_1	38.27	31.90	32.57	28.65	38.92	31.58	29.25	33.15	33.04
I_2	32.62	28.68	32.63	31.10	38.97	27.98	34.98	28.17	31.89
Mean	33.15	30.07	30.56	30.22	35.76	31.74	31.95	32.75	32.03

S.E. of difference of two

1. I marginal means = 1.56 cm./plant.
2. S marginal means = 2.19 cm./plant.
3. S means at the same level of I = 3.79 cm./plant.
4. I means at the same level of S = 3.88 cm./plant.

Height

(i) 332 cm./plant. (ii) (a) 48.5 cm./plant. (b) 38.2 cm./plant. (iii) No effect is significant. (iv) Av. height in cm./plant.

	S_0	S_1	S_2	S_3	S_4	S_5	S_6	S_7	Mean
I_0	307	310	290	320	303	343	317	350	318
I_1	383	327	337	330	363	333	323	337	349
I_2	343	320	333	323	373	333	350	307	335
Mean	344	319	320	324	346	336	330	331	332

S.E. of difference of two

1. I marginal means = 14.0 cm./plant.
2. S marginal means = 18.0 cm./plant.
3. S means at the same level of I = 31.2 cm./plant.
4. I means at the same level of S = 32.4 cm./plant.

Crop :- Orange. **Ref :- Ms. 59(219).**

Site :- Citrus Die-Back Res. Stn., Gonnicoppal. **Type :- 'IM'.**

Object :—To study the effect of micro-element spray at different levels of irrigation on Orange.

1. BASAL CONDITIONS :

(i) Moderate jungle cleared and planted. (ii) (a) Clay loam to sandy clay loam. (b) Refer soil analysis, Gonnicoppal. (iii) By seedlings. (iv) Coorg *mandarin*. (v) August, 1955 ; 20′×20′. (vi) 1 year. (vii) 0.4 lb./plant of N+0.24 lb./plant of P_2O_5+0.12 lb./plant of K_2O in two doses. (viii) Weeding 4 times, scraping and mulching. (ix) Nil. (x) Irrigated at different intervals as per treatments at 80 gallons/plant. (xi) 104.9″. (xii) July, 1959 to June, 1960.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(226) on page 811.

4. GENERAL :

(i) Fair. (ii) Proper plant protection operations were carried out in time to control pests like aphids, mealy bugs, top shoot borer and diseases like powdery mildew, leaf fall and fruit rot. (iii Girth, height, volume and chlorosis % at quarterly intervals and soil moisture % at different depths. (iv) (a) 1955—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

Girth

(i) 38.72 cm./plant. (ii) (a) 5.09 cm./plant. (b) 5.30 cm./plant. (iii) No effect is significant. (iv) Av. girth in cm./plant.

	S_0	S_1	S_2	S_3	S_4	S_5	S_6	S_7	Mean
I_0	35.28	35.55	29.33	36.03	35.23	41.20	36.22	42.95	36.14
I_1	46.42	36.82	39.28	36.35	46.18	39.57	35.95	39.45	40.00
I_2	38.23	38.28	41.85	37.35	47.90	37.58	41.65	37.23	40.01
Mean	39.08	36.88	36.82	36.58	43.10	39.45	37.94	39.88	38.72

S.E. of difference of two

1. I marginal means = 1.47 cm./plant.
2. S marginal means = 2.50 cm./plant.
3. S means at the same level of I = 4.33 cm /plant.
4. I means at the same level of S = 4.31 cm./plant.

Height

(i) 376 cm./plant. (ii) (a) 45.0 cm./plant. (b) 38.2 cm./plant. (iii) No effect is significant. (iv) Av. height in cm./plant.

	S_0	S_1	S_2	S_3	S_4	S_5	S_6	S_7	Mean
I_0	344	357	324	387	349	387	357	388	362
I_1	425	360	367	380	404	379	376	364	382
I_2	370	377	390	416	393	363	397	366	384
	380	365	360	394	382	376	377	373	376

S.E. of difference of two

1. I marginal means = 13.0 cm./plant.
2. S marginal means = 18.0 cm./plant.
3. S means at the same level of I = 31.2 cm./plant.
4. I means at the same level of S = 31.9 cm./plant.

Crop :- Orange. **Ref :- Ms. 55(222).**

Site :- Citrus Die-Back Res. Stn., Gonnicoppal. **Type :- 'DC'.**

Object :—To study the effect of mulching, hoeing and shading on the Crop,

1. BASAL CONDITIONS :

(i) Moderate jungle cleared and planted. (ii) (a) Clay to sandy clay loam. (b) Refer soil analysis, Gonnicoppal. (iii) By seedlings. (iv) Coorg *mandarin.* (v) August, 1955. (vi) 1 year. (vii) 2 oz./plant of Urea+4 lb./plant of A/S+4 lb./plant of Super+4 lb./plant of Mur. Pot. applied in two instalments. (viii) Weeding and scraping, other practices as per treatments. (ix) Nil. (x) Unirrigated. (xi) 83.87". (xii) June, 1956.

2. TREATMENTS :

5 orchard practices of controlling disease : C_0=Control (No treatment), C_1=Providing soil mulch by hoeing, C_2=Dry leaves mulching, C_3=Shading the plants on south west side by planting *Erythinna Indica.* and C_4= Spraying the ground with 2-4-D.

3. DESIGN :

(i) R B.D. (ii) 5. (iii) 4. (iv) 4. (v) One guard row around every plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Folidol and Endrex 4 times against mealy bugs and aphids. Solbar and wettable sulphur 3 times against powdery mildew, Gammexane+D.D.T. 5 times against shoot borer. (iii) Girth, height and spread of plants ; observations taken at quarterly intervals. (iv) (a) 1955—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

Girth

(i) 12.1 cm./plant. (ii) 0.74 cm./plant. (iii) Treatment differences are not significant. (iv) Av. girth in cm./plant.

Treatment	C_0	C_1	C_2	C_3	C_4
Av. girth	12.4	12.0	12.5	12.2	11.3

S.E./mean = 0.37 cm./plant.

Height

(i) 167 cm./plant. (ii) 14 cm./plant. (iii) Treatment differences are not significant. (iv) Av. height in cm./plant.

Treatment	C_0	C_1	C_2	C_3	C_4
Av. height	166	167	181	164	157

S.E./mean = 7 cm./plant.

Crop :- Orange. **Ref :- Ms. 56(200).**

Site :- Citrus Die-Back Res., Stn., Gonnicoppal. **Type :- 'DC'.**

Object :—To study the effect of mulching, hoeing and shading on the crop.

1. BASAL CONDITIONS :

(i) Moderate jungle cleared and planted. (ii) (a) Clay to sandy clay loam. (b) Refer soil analysis, Gonnicoppal. (iii) By seedlings. (iv) Coorg mandarin. (v) August, 1955. (vi) 1 year. (vii) 128 lb./plant. of F.Y.M. and a balanced doses of NPK mixture of 3 lb./plant in 2 doses. (viii) Weeding, scraping and hand picking. (ix) Nil. (x) Unirrigated. (xi) 75.08". (xii) July, 1956 to June, 1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(222) on page 816.

4. GENERAL :

(i) Satisfactory. (ii) Folidol against mealy bugs and aphids and Basudin sprayed 10 times. Solbar and wettable sulphur against powdery mildew—sprayed 6 times. Hand picking and Gammexane sprayed once against top shoot borer. (iii) Girth, height and spread of plants and % of affected plants. (iv) (a) 1955—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

Girth

(i) 19.95 cm./plant. (ii) 2.92 cm./plant. (iii) Treatment differences are not significant. (iv) Av. girth in cm./plant.

Treatmment	C_0	C_1	C_2	C_3	C_4
Av. girth	20.00	20.04	20.75	21.85	16.75

S.E./mean = 1.46 cm./plant.

Height

(i) 244 cm./plant. (ii) 18 cm./plant. (iii) Treatment differences are significant. (iv) Av. height in cm./plant.

Treatment	C_0	C_1	C_2	C_3	C_4
Av. height	252	250	255	248	215

S.E./mean = 9 cm./plant.

Crop :- Orange. **Ref :- Ms. 57(230).**

Site :- Citrus Die-Back Res. Stn., Gonnicoppal. **Type :- 'DC'.**

Object :—To study the effect of mulching, hoeing and shading on the crop.

1. BASAL CONDITIONS :

(i) Moderate jungle cleared and *mandarin* was planted. (ii) (a) Clayey loam or sandy clay loam. Refer soil analysis, Gonnicoppal. (iii) By seedlings. (iv) Coorg *mandarin*. (v) August, 1955. (vi) 1 year. (vii) A balanced doses of NPK (1 : 1.5 : 1) in the form of organic and inorganic was given. (viii) Weeding and scraping. (ix) Nil. (x) Unirrigated. (xi) 72.2". (xii) July, 1957 to June, 1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(222) on page 816

4. GENERAL :

(i) Satisfactory. (ii) Folidol and Endrex sprayed 4 times against aphids. Solbar and wettable sulphur against powdery mildew and mealy bugs. Gammexane and D.D.T. Sprayed 3 times against top shoot borer, hand picking was also done. (iii) Girth, height and spread of plants. (iv) (a) 1955—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

Girth

(i) 23.6 cm./plant. (ii) 2.61 cm./plant. (iii) Treatment differences are not significant. (iv) Av. girth in cm./plant.

Treatment	C_0	C_1	C_2	C_3	C_4
Av. girth	24.4	25.5	25.1	23.4	19.8

S.E./mean = 1.30 cm./plant.

Height

(i) 296 cm./plant. (ii) 23 cm./plant. (iii) Treatment differences are significant. (iv) Av. height in cm./plant.

Treatment	C_0	C_1	C_2	C_3	C_4
Av. height	300	300	310	300	270

S.E./mean = 11.5 cm./plant.

Grop :- Orange. **Ref :- Ms. 58(236).**

Site :- Citrus Die-Back Res. Stn., Gonnicoppal. **Type :- 'DC'.**

Object :—To study the effect o mulching, hoeing and shading on the crop.

1. BASAL CONDITIONS :

(i) Moderate jungle cleared and planted. (ii) (a) Clay to sandy clay loam. (b) Refer soil analysis, Gonnicoppal. (iii) By seedlings. (iv) Coorg *mandarin*. (v) August, 1955. (vi) 1 year. (vii) 2 lb /plant of C/A/N+1½ lb./plant of Super+1 lb./plant of Mur. Pot. and 2 baskets/plant of C.M. (viii) Weeding and scraping. (ix) Nil. (x) Unirrigated. (xi) 87.4". (xii) July, 1958 to June, 1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(222) on page 816

4. GENERAL :

(i) Due to drought the plant growth was adversely affected. (ii) Folidol sprayed 5 times against aphids, Dieldrex 2 times against mealy bugs, Solbar and wettable sulphur 5 times against powdery mildew, Malathion 2 times against soft scale, hand picking and Gammexane once against—top shoot borer. Bordeaux mixture twice against *phylopthora*. (iii) Girth, height and spread and motlling percentage. (iv) (a) 1955—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

Girth

(i) 26.69 cm./plant. (ii) 3.16 cm./plant. (iii) Treatment differences are not significant. (iv) Av. girth in cm./plant.

Treatment	C_0	C_1	C_2	C_3	C_4
Av. girth	27.14	28.89	29.54	26.69	21.20

S.E./mean 1.58 cm./plant.

Height

(i) 302.5 cm./plant. (ii) 30 cm./plant. (iii) Treatment differences are not significant. (iv) Av. height in cm./plant.

Treatment	C_0	C_1	C_2	C_3	C_4
Av. height	318	318	305	300	273

S.E./mean = 15 cm./plant.

Mottling percentage

(i) 56.60 %. (ii) 10.68 %.(iii) Treatment differences are significant. (iv) Av. mottling percentage.

Treatment	C_0	C_1	C_2	O_3	C_4
Av. percentage	60.00	52.50	56.75	58.00	55.75

S.E./mean = 5.34 %.

Crop :- Orange. **Ref :- Ms. 59(204).**

Site :- Citrus Die-Back Res. Stn., Gonnicoppal. **Type :- 'DC'.**

Object :—To study the effect of mulching, hoeing and shading on the crop.

1. BASAL CONDITIONS :

(i) Moderate jungle cleared and planted. (ii) (a) Clay to sandy clay loam. (b) Refer soil analysis, Gonnicoppal. (iii) By seedlings. (iv) Coorg *mandarin*. (v) August, 1955. (vi) 1 year. (vii) 1 lb./plant of C/A/N+0.64 lb./plant of P_2O_5 as Super+0.75 lb./plant of K_2O as Mur. Pot. in two doses. A basal dose of 150 lb./plant of C.M. was also given. (viii) Weeding, scraping and hand picking. (ix) Nil. (x) Unirrigated. (xi) 104.9". (xii) July, 1958 to June, 1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(222) on page 816.

4. GENERAL :

(i) Fair. (ii) Proper plant protection operations were carried out in time to control pests like aphids, mealy bugs, top shoot borer, stem borer and diseases like powdery mildew; leaf fall and fruit rot. (iii) Stock girth, height, volume and chlorosis % at quarterly intervals. (iv) (a) 1955—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

Girth

(i) 32.58 cm./plant. (ii) 3.48 cm./plant. (iii) Treatment differences are not significant. (iv) Av. girth in cm./plant.

Treatment	C_0	C_1	C_2	C_3	C_4
Av. girth	33.65	35.02	34.15	32.36	27.70

S.E /mean = 1.74 cm./plant.

Height

(i) 359 cm./plant. (ii) 37 cm./plant. (iii) Treatment differences are not significant. (iv) Av. height in cm./plant.

Treatment	C_0	C_1	C_2	C_3	C_4
Av. height	371	358	367	364	338

S.E./mean = 19 cm./plant.

Crop :- Coffee. **Ref :- Ms. 54(190).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Object :—To study the effect of N, P and K on the yield of Coffee.

1. BASAL CONDITIONS :

(i) The cisterns were filled with soil first for finding out the pH tolerance of coffee. G.M. crop was raised before growing coffee plants. (ii) (a) Reddish clayey loam. (b) N.A. (iii) By seedlings. (iv) Coffee *arabica*-clones of S—31. (v) 1949 ; 6′×6′. (vi) Clones aged one year. (vii) Nil. (viii) Weeding, manuring, mulching, liming at 1 lb./plot, loosening the soil with garden forks. (ix) Nil. (x) Unirrigated. (xi) 120.29″. (xii) October to December.

2. TREATMENTS :

6 manurial treatments each for 1200 plants : $T_1=N_1P_1K_1$, $T_2=N_2P_1K_2$, $T_3=N_3P_1K_1$, $T_4=N_2P_2K_1$, $T_5=N_2P_2K_2$ and $T_6=N_3P_3K_3$ where $N_1=20$, $N_2=30$ and $N_3=40$ lb./ac. of N ; $P_1=30$, $P_2=45$ and $P_3=60$ lb./ac. of P_2O_5 and $K_1=40$, $K_2=60$ and $K_3=90$ lb./ac. of K_2O.

3. DESIGN :

(i) L. Sq. (ii) (a) 6. (b) N.A. (iii) 6. (iv) N.A. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Swabbing with Gammexane to prevent white stem borer attack. (iii) Yield of ripe cherry and clean coffee and floats. (iv) (a) 1950—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

(i) 1806 lb./ac. (ii) 933.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of coffee in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6
Av. yield	2517	2305	1623	1205	1387	1801

S.E./mean = 381.2 lb./ac.

Crop :- Coffee. **Ref :- Ms. 55(167).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Object :—To study the effect of N, P and K on the yield of Coffee.

1. BASAL CONDITIONS :

(i) The cisterns were filled with soil first for finding out the pH tolerance of coffee. G.M. crop was raised before planting coffee. (ii) (a) Reddish clayey loam. (b) N.A. (iii) By seedlings. (iv) Coffee *arabica* clones of S—31. (v) 1949 ; 6′×6′. (vi) Clone aged 1 year. (vii) Nil. (viii) Weeding, manuring, mulching, liming is at 1 lb./plot, loosening the soil with garden forks. (ix) Nil. (x) Unirrigated. (xi) 92.53″. (xii) October to December.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(190) on page above.

5. RESULTS :

(i) 4885 lb./ac. (ii) 2442.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of coffee in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6
Av. yield	4923	3348	5685	3906	4158	7288

S.E./mean = 996.7 lb./ac.

Crop :- Coffee. **Ref :- Ms. 56(101).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Object :—To study the effect of N, P and K on the yield of Coffee.

1. BASAL CONDITIONS :

(i) The cisterns were filled with soil first for finding out the pH tolerance of coffee. G. M. Crop was raised before planting coffee. (ii) (a) Reddish clayey loam. (b) N.A. (iii) By seedlings. (iv) Coffee : *Arabica*-clones of S—31. (v) 1949, 6′×6′. (vi) Clone aged 1 year. (vii) Nil. (viii) Weeding, manuring, mulching, liming at 1 lb./plot. loosening the soil with gardern forks. (ix) Nil. (x) Unirrigated. (xi) 119.82″. (xii) October to December.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(190) on page 820.

5. RESULTS :

(i) 817 lb./ac. (ii) 2369.2 lb./ac. (iii) I Treatment differences are not significant. (iv) Av. yield in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6
Av. yield	1434	801	686	682	512	787

S.E./mean = 967.0 lb./ac.

Crop :- Coffee. **Ref :- Ms. 57(60).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Object :—To study the effect of N, P and K on the yield of Coffee.

1. BASAL CONDITIONS :

(i) The cisterns were filled with soil first for finding out the pH tolerance of coffee. G.M. corp was raised before planting coffee. (ii) (a) Reddish clayey loam. (b) N.A. (iii) By seedlings. (iv) Coffee : *Arabica*-clones of S—31. (v) 1949, 6′×6′. (vi) Clone aged one year. (vii) Nil. (viii) Weeding, manuring, mulching, limining at 1 lb./plot. loosening the soil with gardern forks. (ix) Nil. (x) Unirrigated. (xi) 112.49″. (xii) October to December.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(190) on page 820.

5. RESULTS :

(i) 3279 lb./ac. (ii) 2060.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6
Av. yield	2904	2454	4886	2731	3444	3253

S.E./mean = 841.0 lb./ac.

Crop :- Coffee. **Ref :- Ms. 58(37).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Object:—To study the effect of N, P and K on the yield of Coffee

1. BASAL CONDITIONS :

(i) The cisterns were filled with soil first for finding out the pH tolerance of Coffee. G.M. crop was raised before planting coffee. (ii) (a) Reddish clayey loam. (b) N.A. (iii) Coffee : *Arabica* - clones of S—31. (iv) By seedlings. (v) 1949, 6′×6′. (vi) Clone aged one year. (vii) Nil. (viii) Weeding, manuring, mulching, liming at 1 lb./plot and loosening the soil with garden forks. (ix) Nil. (x) Unirrigated. (xi) 121.97″. (xii) October to December.

2. TREATMENTS to 4. GENERAL :

Same as in expt no. 54(190) on page 820.

5. RESULTS :

(i) 2524 lb./ac. (ii) 978.5 lb./ac. (iii) Treatment differencees are not significant. (iv) Av. yield in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6
Av. yield	2944	2120	2930	2194	2198	2755

S.E./mean = 399.4 lb./ac.

Crop :- Coffee. **Ref :- Ms. 59(55).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Objecl :—To study the effect of N, P and K on the yield of Coffee.

1. BASAL CONDITIONS :

(i) All the coffee plants and shade trees were uprooted and removed from the site. Plants were raised from suckers obtained from S. 46 ; B.A. 13, B.A. 17 and B.A. 22 plants which are resistant to leaf disease. Dry leaf mulch was applied uniformly to protect during hot weather. (ii) (a) Reddish loam. (b) N.A. (iii) From suckers. (iv) S. 46, B.A. 13, B.A. 17 and B.A. 22. (v) 1953, 6′×6′. (vi) 8 months. (vii) No. (viii) Manuring, weeding, handling, application of insecticides. Scuffling and shade regulations. (ix) No. (x) Irrigated. (xi) 144.3″. (xii) First harvest in (Nov.-Dec.) 1957.

2. TREATMENTS :

All combinations of (1) and (2)+2 extra treatments.

(1) 2 levels of P_2O_5 : P_1=30 and P_2=4[illegible] lb./ac.

(2) 2 levels of K_2O : K_1=40 and K_2=60 lb./ac.

80 lb./ac. of N applied to all combinations of (1) and (2)

Extra treatments : E_0=Control and E_1=80 lb./ac. of N.

3. DESIGN :

(i) R.B.D. (ii) (a) 6 (b) N.A. (iii) 4. (iv) (a) 35 plants (gross). (b) 15 plants (net). (v) One border row around each plot and a general guard row around the whole experimental area. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Attack of borer. Gammexane sprayed. (iii) Yield of coffee. (iv) (a) 1954—contd. (b) No. (v) and (vi) Nil.

5. RESULTS:

(i) 2399 lb./ac. (ii) 1086.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield in lb./ac.

E_0 = 2053 lb./ac. and E_1 = 2398 lb./ac.

	P_1	P_2	Mean
K_1	2673	2313	2493
K_2	1955	3001	2478
Mean	2314	2657	2486

S.E. of any marginal mean = 384.2 lb./ac.
S.E. of body of the table = 543.3 lb./ac.

Crop :- Coffee. **Ref :- Ms. 58(38).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Object :—To study the effect of varying sources of N on the yield of Coffee.

1. BASAL CONDITIONS :

(i) Old coffee plants were uprooted and cleared. (ii) (a) Reddish loam. (b) N.A. (iii) By cuttings (iv) Coffee : *Arabica* (cloval material). (v) April 1952, 6′×6′. (vi) 8 months. (vii) Nil. (viii) Weeding, suckering, manuring and shade regulation was done. (ix) Nil. (x) Unirrigated. (xi) 121.97″. (xii) November.

2. TREATMENTS :

5 sources of N : S_0=Control, S_1=C/N, S_2=C.A.N, S_3=Urea and S_4=A/S.
80 lb./ac. of N applied in 3 : 2 : 3 ratio in pre-blossom, post-blossom and fore-monsoon, stages 30 lb./ac. of K_2O and 40 lb./ac. of P_2O_5 applied in 2 equal doses in pre and post-blossom period.

3. DESIGN :

(i) L. Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 42 plants (gross). (b) 20 plants (net). (v) A general guard row right around the plots. (vi) Yes.

4. GENERAL :

(i) Normal (ii) Attack of red borer and white stem borer ; Gammexane applied. (iii) Yield of ripe cherry and clean Coffee. (iv) (a) 1953 (planted)—contd. (b) N.A. (v) Nil. (vi) Since the crop was too young 1957 harvest was very low and therefore. data was not analysed.

5. RESULTS :

(i) 4539 lb./ac. (ii) 1320.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of coffee in lb./ac.

Treatment	S_0	S_1	S_2	S_3	S_4
Av. yield	4666	2916	4777	5569	4765

S.E./mean = 590.3 lb./ac.

Crop :- Coffee. **Ref :- Ms. 59(54).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Object :—To study the effect of varying sources of N on the yield of Coffee.

1. BASAL CONDITIONS :

(i) Old coffee plants were uprooted and cleared. (ii) (a) Reddish loam. (b) N.A. (iii) By cuttings, (iv) *Arabica*. (v) April 1952, 6′×6′. (vi) 8 months. (vii) Nil. (viii) Weeding, suckering, manuring and shade regulations. (ix) Nil. (x) Unirrigated. (xi) 142″.6 (xii) November.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 58(38) above.

4. GENERAL :

(i) Normal. (ii) Attack of red borer and white stem borer ; Gammexane applied. (iii) Yield of ripe cherry. (iv) (a) 1953—contd. (b) N.A. (v) and (vi) N.A.

5. RESULTS:

(i) 1446 lb./ac. (ii) 897.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of ripe cherry in lb./ac.

Treatment	S_0	S_1	S_2	S_3	S_4
Av. yield	901	1777	912	1083	2558

S.E./mean = 401.2 lb./ac.

Crop :- Coffee. **Ref :- Ms. 56(100).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Object :—To study the effect of varying doses of N with constant levels of P and K on the yield of Coffee

1. BASAL CONDITIONS :

(i) An area of 1.193 acres in 17 acres block was utilised and all the coffee growing in the area were cut and removed. Natural shade is provided by planting the same no. of *dadap stakes*. Drains 18" deep have been dug. Liming done after finding out its requirements. Dry leaf mulch was uniformly applied during the hot weather. (ii) (a) Reddish loam. (b) N.A. (iii) By cuttings. (iv) Kent clones. (v) 1952 ; 6'×6'. (vi) 8 months. (vii) Liming. (viii) Spraying, manuring, weeding and application of insecticides were carried out during the year. (ix) Nil. (x) Unirrigated. (xi) 119.82". (xii) October to December.

2. TREATMENTS :

5 levels of N : N_0=0, N_1=40, N_2=60, N_3=80, and N_4=100 lb./ac.
80 lb./ac. of P_2O_5 and 40 lb./ac. of K_2O applied to all plots with N.
Manures applied in 4 doses at pre-blossom, post blossom, pre-monsoon and post-monsoon stages.

3. DESIGN :

(i) L. Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) 49 plants (Gross) and 25 plants (Net). (v) 24 Plants. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Gammexane applied to prevent stem borer attack. (iii) Yield of ripe cherry and clean coffee. (iv) (a) 1952 (Planted)—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

(i) 523 lb./ac. (ii) 224.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of ripe cherry in lb./ac.

Treatment	N_0	N_1	N_2	N_3	N_4
Av. yield	465	458	356	634	702

S.E./mean = 100.5 lb./ac.

Crop :- Coffee. **Ref :- 57(53).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Object :—To study the effect of varying doses of N with constant levels of P and K on the yield of Coffee.

1. BASAL CONDITIONS :

An area of 1.193 acres in 17 acres block was utilised and all coffee growing in the area were cut and removed. Natural shade is provided by planting the same no. of *dadap stakes*. Drains 18" deep have been dug. Liming done after finding out its requirements. Dry leaf mulch was uniformly applied during the hot weather. (ii) (a) Reddish loam. (b) N.A. (iii) By cuttings. (iv) Kent clones. (v) 1952 ; 6'×6'. (vi) 8 months. (vii) Liming. (viii) Spraying, manuring, weeding and application of insecticides were carried out during the year. (ix) Nil. (x) Unirrigated. (xi) 112.49". (xii) October to December.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(100) above.

5. RESULTS :

(i) 2006 lb./ac. (ii) 806.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of ripe cherry in lb /ac.

Treatment	N_0	N_1	N_2	N_3	N_4
Av. yield	1268	2284	2015	2668	1793

S.E./mean = 360.7 lb./ac.

Crop :- Coffee. **Ref :- 58(30).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Object :—To study the effect of varying doses of N with constant levels of P and K on the yield of Coffee.

1. BASAL CONDITIONS :

(i) An area of 1.193 acres in 17 acres block was utilised and all the coffee growing in the area were cut and removed. Natural shade is provided by planting the same no. of *dadap stakes*. Drains 18"deep have been dug. Liming done after finding out its requirements. Dry leaf mulch was uniformly applied during the hot weather. (ii) (a) Reddish loam. (b) N.A. (iii) By cuttings. (iv) Kent clones. (v) 1952 ; 6'×6'. (vi) 8 months. (vii) Liming. (viii) Spraying, manuring, weeding, and application of insecticides were carried out during the year. (ix) Nil. (x) Unirrigated. (xi) 121.97". (xii) October to December.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(100) on page 824.

5. RESULTS:

(i) 1594 lb./ac. (ii) 760.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of ripe cherry in lb./ac.

Treatment	N_0	N_1	N_2	N_3	N_4
Av. yield.	1410	1893	1218	1575	1814

S.E./mean = 399.9 lb./ac.

Crop :- Coffee. **Ref :- Ms 59(56).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Object :—To study the effect of varying doses of N with constant level of P and K on the yield of Coffee.

1. BASAL CONDITIONS :

(i) Old Coffee plants were uprooted and seedlings planted in 1954. (ii) (a) Reddish loam. (b) N.A. (iii) By cuttings. (iv) Kent clones. (v) 1952 ; 6'×6'. (vi) 8 months. (vii) Nil. (viii) weeding, manuring and handling. (ix) Nil. (x) Unirrigated. (xi) 144.3". (xii) November and December.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(100) on page 824.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yeild of ripe cherry and clean coffee. (iv) (a) 1956—Contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

(i) 1533 lb./ac. (ii) 745.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of ripe cherry in lb./ac.

Treatment	N_0	N_1	N_2	N_3	N_4
Av. yield.	1162	1344	1788	1131	2243

S.E./mean = 333.3 lb./ac.

Crop :- Coffee. **Ref :- Ms. 54(187).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Object :—To study the effect of varying doses of N with P and K on the yield of Coffee.

1. BASAL CONDITIONS :

(i) The experiment was laid out in 1951 on Robusta Coffee . (ii) (a) Brown Loam. (b) N.A. (iii) By seed. (iv) Robusta. (v) N.A. (vi) 8 months. (vii) Nil. (viii) Shade regulation, suckering, weeding and digging. (ix) Nil. (x) Unirrigated. (xi) 120.29". (xii) January and February.

2. TREATMENTS :

M_0=Control (no manure), M_1=40 lb./ac of N+30 lb./ac of P_2O_5+40 lb./ac. of K_2O, M_2=80 lb./ac. of N+30 lb./ac of P_2O_5+40 lb./ac of K_2O.

$\frac{1}{2}$ dose of N applied in pre-blossom period and the other half with P_2O_5 and K_2O during post-monsoon. Half the no. of replications were given light pruning during pre-blossom priod.

3. DESIGN :

(i) R.B D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) 32 plants (Gross) and 12 plants (Net) (v) 20 plants. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yeild of ripe cherry and clean coffee. (iv) (a) 1951—contd. (b) No. (v) and (vi) Nil.

5. RESULTS :

(i) 2345 lb./ac. (ii) 640.6 lb./ac. (iii) Treatment differences are not significant. (iv) (iv) Av. yield of ripe cherry in lb./ac.

Treatment	M_0	M_1	M_2
Av. yield.	2237	2479	2320

S.E/mean = 261.5 lb./ac.

Crop :- Coffee. **Ref :- Ms. 55(163).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Object :—To study the effect of varying doses of N with P and K on the yield of Coffee.

1. BASAL CONDITIONS :

(i) The experiment was laid out in 1951 on Robusta Coffee. (ii) (a) Brown loamy. (b) N.A. (iii) By seed. (iv) Robusta (v) N.A. (vi) 8 months. (vii) Nil. (viii) Shade regulation, suckering and weeding. (ix) Nil. (x) Unirrigated. (xi) 92.53". (xii) January and February.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(187) above

5. RESULTS :

(i) 4584 lb./ac. (ii) 931.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of ripe cherry in lb./ac.

Treatment	M_0	M_1	M_2
Av. yield	4791	4069	4891

S.E /mean = 380.3 lb./ac.

Crop :- Coffee. **Ref :- Ms. 56(96).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Object :—To study the effect of varying doses of N with P and K on the yield of Coffee.

1. BASAL CONDITIONS :

(i) The expt. was laid out in 1951 on Robusta Coffee. (ii) (a) Brown loamy. (b) N.A. (iii) By seed. (iv) Robusta. (v) N.A., 8′×8′. (vi) 8 months. (vii) Nil. (viii) Shade regulation, suckering and weeding. (ix) Nil. (x) Unirrigated. (xi) 119.82″. (xii) January and February.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(187) on page 826.

5. RESULTS :

(i) 2420 lb./ac. (ii) 640.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of ripe cherry in lb /ac.

Treatment	M_0	M_1	M_2
Av. yield	2129	2698	2434

S.E./mean = 261.6 lb./ac.

Crop :- Coffee. **Ref :- Ms. 57(48).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Object :—To study the effect of varying doses of N with P and K on the yield of Coffee.

1. BASAL CONDITIONS :

(i) The expt. was laid out in 1951 on Robusta Coffee. (ii) (a) Brown loamy. (b) N.A. (iii) By seed. (iv) Robusta. (v) N.A. ; 8′×8′. (vi) 8 months. (vii) Nil. (viii) Shade regulation, suckering and weeding. (ix) Nil. (x) Unirrigated. (xi) 112.49″. (xii) January and February.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(187) on page 826.

5. RESULTS :

(i) 4859 lb./ac. (ii) 1227.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of ripe cherry in lb./ac.

Treatment	M_0	M_1	M_2
Av. yield	4828	4088	5663

S.E./mean = 501.2 lb./ac.

Crop :- Coffee. **Ref :- Ms. 58(24).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Object :—To study the effect of varying doses of N with P and K on the yield of Coffee.

1. BASAL CONDITIONS:

(i) The expt. was laid out in 1951 on Robusta Coffee. (ii) (a) Brown loamy. (b) N.A. (iii) By seed. (iv) Robusta. (v) N.A. ; 8′×8′. (vi) 8 months. (vii) Nil. (viii) Shade regulation, suckering and weeding. (ix) Nil. (x) Unirrigated. (xi) 121.97″. (xii) January and February.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(187) on page 826.

5. RESULTS :

(i) 3113 lb./ac. (ii) 942.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of ripe cherry in lb./ac.

Treatment	M_0	M_1	M_2
Av. yield	2700	3197	3441

S.E./mean = 384.8 lb./ac.

Crop :- Coffee. **Ref :- Ms. 59(57).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Object :—To study the effect of varying doses of N with P and K on the yield of Coffee.

1. BASAL CONDITIONS:

(i) The expt. was started in 1951. (ii) (a) Brown loam. (b) N.A. (iii) By seed. (iv) Robusta (v) N.A., 8′×8′ (vi) 8 months. (vii) Nil. (viii) Shade regulation, suckering and weeding. (ix) Nil. (x) Unirrigated. (xi) 142.04″. (x) January and February, 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(187) on page 826.

5. RESULTS :

(i) 1742 lb /ac. (ii) 891.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of ripe cherry in lb /ac.

Treatment	M_0	M_1	M_2
Av. yield	1626	2051	1550

S.E./mean = 363.7 lb./ac.

Crop :- Coffee. **Ref :- Ms. 54(189).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Object :—To study the effect of varying combinations of N, P and K on the yield of Coffee.

1. BASAL CONDITIONS :

(i) Area was under 'Tea' prior to 1937 and that was cleared and the soil levelled and spread and sub soil drains were provided in 1942. Liming carried out in 1943, 1948 to 1945. 10,000 lb./ac. of dry mulch applied in two doses upto 1947 and after that 1000 lb./ac. in one dose in dry weather. (ii) (a) Reddish loam (b) N.A. (iii) Selected seedlings. (iv) Kents *Arabica*. (v) Planted 5′×5′ within sub-plots. Neighbouring plants in two sub-plots being 6′ apart. Each sub-plot is separated from its neighbouring plant by cement concrete slabs. (vi) 8 months. (vii) Liming. (viii) Manuring, mulching, weeding, hot weather strirring and Removing suckers. Regulation of shade by arranging bamboos and renewal of bamboos. (ix) Nil. (x) Unirrigated. (xi) 120.29″. (xii) October to December.

2. TREATMENTS :

5 manurial treatments : M_0=0. M_1=60 lb./ac. of N, $M_2=M_1+30$ lb./ac. of P_2O_5, $M_3=M_1+40$ lb./ac. of K_2O and $M_4=M_2+40$ lb./ac. of K_2O.

In control plot, leaf mulching was done. N applied as Urea and C.A.N. in three equal doses in pre-blossom (Feb.—March), Pre-monsoon (May) and post-monsoon (Sept. and Oct.) periods.

P_2O_5 applied as Hydrophosphate, and K_2O as Mur. Pot. and Pot. Sul.

P_2O_5 and K_2O both applied in two equal doses in pre-blossom and post-monsoon periods.

3. DESIGN :

(i) L. Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) 40. (v) One guard raw all around the plots. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Gammexane applied to prevent the attack of white stem borer. Sprayed with Bordeaux mixture. (iii) Yield of ripe cherry and clean Coffee. (iv) (a) 1937 (planted)—contd. (b) Nil. (v) and (vi) Nil.

5. RESULTS :

(i) 7177 lb./ac. (ii) 1302.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of ripe cherry in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4
Av. yield	6550	6838	7893	7215	7391

S.E./mean = 582.7 lb./ac.

Crop :- Coffee. **Ref :- Ms. 55(166).**

Site :- Coffee Res. stn., Balehonnur. **Type :- 'M'.**

Object :—To study the effect of varying combinations of N, P and K on the growth and yield of Coffee.

1. BASAL CONDITIONS :

(i) The land was under 'Tea' prior to 1937 and that was cleared and the soil bulked and spread and subsoil drains were provided in 1942. Liming carried out in 1943, 1948 and 1954. 10,000 lb./ac. dry mulch applied in 2 doses upto 1947 and after that 1000 lb./ac. in one dose in dry weather. (ii) (a) Reddish Loam. (b) N.A. (iii) Selected seedlings. (iv) Kents *Arabica*. (v) Planted ; 5′×5′ within sub-plots, neighbouring plants in two sub-plots being 6′ apart. Each sub-plot is separated from its neighbouring plant by cement concrete slabs. (vi) 8 months. (vii) Liming. (viii) Manuring, mulching, weeding, hot weather stirring, removing suckers, handling spraying with Boardeaux mixture. Regulation of shade by arranging bamboos and renewal of bamboos. (ix) Nil. (x) Unirrigated. (xi) 92.53". (xii) October to December.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54 (189) on page 828.

5. RESULTS :

(i) 7344 lb./ac. (ii) 1264.1 lb./ac. (iii) Treatment differences are significant. (iv) Av. yeild of ripe cherry in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4
Av. yield	6397	6950	9007	6541	7828

S.E./mean = 565.3 lb./ac.

Crop :- Coffee. **Ref :- Ms. 56(99).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Object :—To study the effect of varying combinations of N, P and K on the growth and yield of Coffee.

1. BASAL CONDITIONS :

(i) The land was under "Tea" prior to 1937 and that was cleared, the soil bulked and spread and subsoil drains were provided in 1942. Liming carried out in 1943, 1948 and 1954. 10,000 lb./ac. of dry mulch applied in 2 doses upto 1947 and after that 1000 lb./ac. in one dose in dry weather. (ii) (a) Reddish loam. (b) N.A. (iii) Selected seedlings, (iv) Kents *Arabica*. (v) Planted, 5′×5′ within sub-plots, neighbouring plants in two sub-plots being 6′ apart. Each sub-plot is separated from its neighbouring plant by cement concrete slabs. (vi) 8 months. (vii) Liming, (viii) Manuring, mulching, weeding, hot weather stirring, removing suckers, regulation of shade by arranging bomboos and renewal of bomboos. (ix) Nil. (x) Unirrigated. (xi) 119.82". (xii) October to December.

2. TREATMENTS :

Same as in expt. no. 54 (189) on page 828.

3. DESIGN :

(i) L Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) 20. (v) One general guard row all around the plots. Cement concrete slabs separate each sub plot from its neighbour. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Gammexane applied to prevent attack of white stem borer. Bordeaux mixture sprayed. (iii) Yield of ripe cherry and clean coffee. (iv) (a) 1937 planted—contd. (b) Nil). (v) and (vi) Nil.

5. RESULTS :

(i) 5328 lb /ac. (ii) 1025.7 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of ripe cherry in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4
Av. yield	3345	4932	6960	5054	6350

S.E./mean = 458.7 lb./ac.

Crop :- Coffee. **Ref :- Ms. 57(52).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Object :—To study the effcet of varying combinations of N, P and K on the growth and yield of Coffee.

1. TREATMENTS :

(i) The land was under 'Tea' prior to 1937 and that was cleared. The soil bulked and spread and sub-soil drains were provided in 1942. Liming carried out in 1943, 1948 and 1954. 10,000 lb./ac. of dry mulch applied in two doses upto 1947 and after that 1000 lb./ac. in one dose in dry weather. (ii) (a) Reddish loam. (b) N.A. (iii) Selected seedling. (iv) Kents *Arabica*. (v) Planted, 5′×5′ within sub-plots, neighbouring plants in two sub-plots being 6′ apart. Each sub-plot is separate d from its neighbouring plant by cement concrete slabs. (vi) 8 months. (vii) Liming. (viii) Manuring, mulching, weeding, hot weather stirring removing suckers, handling, and spraying with Bordeaux mixture. Regulation of shade by arranging bamboos, renewal of bamboos. (ix) Nil. (x) Unirrigated. (xi) 112.49″. (xii) October to December.

2. TREATMENTS :

Same as in expt. no. 54(189) on page 828.

3. DESIGN :

(i) L. Sq (ii) (a) 5. (b) N.A. (iii) 5. (iv) 20. (v) One general guard row all arround the plots. Cement Concrete slabs separate each sub-plot from its neighbour. (vi) Yes.

4. GENERAL :

Same as in expt. no. 54 (189) on page 828.

5. RESULTS :

(i) 6012 lb./ac. (ii) 1057.2 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of ripe cherry in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4
Av. yield	4976	5500	7104	5751	6729

S.E./mean = 472.8 lb./ac.

Crop :- Coffee. **Rəf :- Ms. 58(26).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Object :—To study the effect of varying combinations of N, P and K on the growth and yield of Coffee.

1. BASAL CONDITIONS :

(i) The land was under 'Tea' prior to 1937 and that was cleared. The soil bulked and spread and sub-soil drains were provided in 1942. Liming carried out in 1943, 1948 and 1954. 10,000 lb./ac. of dry mulch applied in 2 doses upto 1947 and after that 1000 lb./ac. in one dose in dry weather. (ii) (a) Reddish loam. (b) N.A. (iii) Seedlings, (iv) Kents *Arabica*. (v) Planted, 5′×5′ within sub-plot. Neighbouring plants in 2 sub-plots being 6′ apart. Each sub-plot is separated from its neighbouring plot by cement concrete slabs. (vi) 8 months. (vii) Liming. (viii) Manuring, mulching, weeding, hot weather stirring, removing suckers, handling, spraying with Bordeaux mixture, regulation of shade by arranging bamboos and renewal of bamboos. (ix) Nil. (x) Unirrigated. (xi) 121.97″. (x) October to December.

2. TREATMENTS :

Same as in expt. no. 54(189) on page 828.

3. DESIGN :

(i) L. Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) 20. (v) One guard row all around the plots. Cement concrete slabs separate each sub-plot from its neighbour. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Treated with Gammexane to prevent the attack of stem borer. Spraying twice a year to control disease. (iii) Yield of ripe cherry and clean coffee. (iv) (a) 1937 (planted)—contd. (b) Nil. (v) and (vi) Nil.

5. RESULTS :

(i) 12239 lb./ac. (ii) 1821.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of coffee in lb./ac.

Treatment	M_0	M_1	M_2	M_3	M_4
Av. yield	11030	12124	13369	11799	12872

S.E./mean = 814.6 lb./ac.

Crop :- Coffee. **Ref :- Ms. 59(53).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Object :—To study the effect of varying combinations of N, P and K on the growth and yield of Coffee.

1. BASAL CONDITIONS :

(i) The land was under 'Tea' prior to 1937, and that was cleared. The soil bulked and spread and subsoil drains were provided in 1942. Liming carried out in 1943, 1948 and 1954 and 10,000 lb./ac. of dry mulch applied in 2 doses upto 1947 and after that 1000 lb./ac. in one dose in dry weather. (ii) (a) Reddish loam. (b) N.A. (iii) Seedlings. (iv) Kents *Arabica*. (v) N.A., 5′×5′. (vi) 8 months. (vii) Liming. (viii) Manuring, mulching, weeding, hand ing and shade regulations. (ix) Nil. (x) Unirrigated. (xi) 142 04′. (xii) October to December.

2. TREATMENTS :

5 manurial treatments : M_0=0, M_1=80 lb./ac. of N, M_2=M_1+45 lb./ac. of P_2O_5, M_3=M_1+60 lb./ac. of K_2O and M_4=M_2+60 lb./ac. of K_2O.

8. DESIGN :

(i) L. Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) 20. (v) One general guard row all around the plots. Cement concrete slabs separate each sub-plot from its neighbours. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Heavy attack of red borer and white stem borer. Gammexane sprayed. (iii) Yield of ripe cherry and clean coffee. (iv) (a) 1937 planted—contd. (b) Nil. (v) and (vi) Nil.

5. RESULTS :

(i) 718 lb./ac. (ii) 408.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of coffee in lb./ac.

Treatments	M_0	M_1	M_2	M_3	M_4
Av. yield	290	725	721	877	976

S.E./mean = 182.6 lb./ac.

Crop :- Coffee. **Ref :- Ms. 57(61).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Object :—To find out the maximum economic dose of N and the role of P and K in balancing the N utilization.

1. BASAL CONDITIONS :

(i) The coffee plants were 40 years old. Bulk manuring at 85 lb./ac. of N, 40 lb./ac. of P_2O_5 and 60 lb /ac. of K_2O was being given before the experiment was started. (ii) (a) Reddish clayey loam. (b) N A. (iii) By seedlings. (iv) Coorg *Arabica*. (v) N A. ; 5′×5′. (vi) 8 months. (vii) As per treatments. (viii) Manuring, weeding, handling and application of insecticides. (ix) No. (x) Unirrigated. (xi) 112.49″. (xii) First harvest in November-December 1957.

2. TREATMENTS :

Main-plot treatments :

6 manurial treatments : M_0=Control (no manure), M_1=50 lb./ac. of N+40 lb /ac. of P_2O_5+40 lb./ac. of K_2O, M_2=100 lb /ac. of N+45 lb./ac. of P_2O_5+60 lb./ac. of K_2O, M_3=200 lb./ac. of N+90 lb./ac. of P_2O_5+120 lb./ac. of K_2O, M_4=400 lb./ac. of N+180 lb./ac. of P_2O_5+240 lb./ac. of K_2O and M_5=800 lb./ac. of N+360 lb./ac. of P_2O_5+480 lb./ac. of K_2O.

Sub-plot treatments :

4 applications : T_1=N with P_2O_5 and K_2O, T_2=T_1+basal dressing of 1 lb./ac. of finely ground rock phosphate/plant applied at the commencement of the experiment, T_3=N only+basal dressing of rock phosphate applied as above and T_4=N only as basal dressing.

Time of application of T_1 is not available.

3. DESIGN :

(i) Split-plot. (ii) (a) 6 main-plots/replication ; 4 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) 9 plants/plot. (v) N.A. (vi) Yes.

4 GENERAL :

(i) Good. (ii) Spraying with Bordeaux mixture against leaf disease and application of Gammexane to the stem was done against borer attack during the season. (iii) Yield of fresh cherry and clean coffee. (iv) (a) 1956—contd. (b) Nil. (v) and (vi) Nil.

5. RESULTS :

(i) 3057 lb./ac. (ii) (a) 1959.4 lb./ac. (b) 1268.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of coffee in lb./ac.

	M_0	M_1	M_2	M_3	M_4	M_5	Mean
T_1	2297	2304	2310	3168	2065	3278	2570
T_2	2426	2897	2749	6950	2672	2633	3388
T_3	2897	2439	2865	3323	2852	4259	3106
T_4	3227	2678	3175	4052	2071	3769	3162
Mean	2712	2580	2775	4373	2415	3485	3057

S.E. of difference of two

1. M marginal means = 779.7 lb./ac.
2. T marginal means = 422.7 lb./ac.
3. T means at the same level of M = 1035.4 lb./ac.
4. M means at the same level of T = 1202 3 lb./ac.

Crop :- Coffee. **Ref :- Ms. 58(39).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Object :—To find out the maximum economic dose of N and the role of P and K in balancing the N utilization.

1. BASAL CONDITIONS :

(i) The coffee plants were 40 years old. Bulk manuring at 85 lb./ac. of N, 40 lb./ac. of P_2O_5 and 60 lb./ac. of K_2O was being given before the experiment was started. (ii) (o) Reddish clayey loam. (b) N.A. (iii) By seedlings. (iv) Coorg *Arabica*. (v) N.A., 5′×5′. (vi) 8 months. (vii) As per treatments. (viii) Manuring weeding, handling and application of insecticides. (ix) No. (x) Unirrigated. (xi) 121.97″. (xii) November and December.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(61) on page 831.

5. RESULTS :

(i) 7361 lb./ac. (ii) (a) 3326.4 lb./ac. (b) 1122.9 lb./ac. (iii) Interaction M×T alone is significant. (iv) Av. yield of coffee in lb./ac.

	M_0	M_1	M_2	M_3	M_4	M_5	Mean
T_1	7698	6014	6511	7640	7576	7879	7220
T_2	7795	6943	8770	5756	5124	7711	7017
T_3	7118	6627	8363	7957	7079	8382	7586
T_4	7066	6234	8712	9292	6782	7627	7619
Mean	7419	6455	8089	7661	6640	7900	7361

S.E. of difference of two

1. M marginal means = 1357.7 lb./ac.
2. T marginal means = 374.3 lb./ac.
3. T means at the same level of M = 916.4 lb./ac.
4. M means at the same level of T = 1572.0 lb./ac.

Crop :- Coffee. **Ref :- Ms. 59(49).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'M'.**

Object :—To find out the maximum economic dose of N and the role of P and K in balancing the N utilization.

1. BASAL CONDITIONS :

(i) The coffee plants were 40 years old. (ii) (a) Reddish clayey loam. (b) N.A. (iii) By seedlings. (iv) Coorg *Arabica*. (v) N.A. ; 5′×5′. (vi) N.A. (vii) As per treatments. (viii) Weeding, handling and manuring. (ix) Nil. (x) Unirrigated. (xi) 142.04″. (xii) November and December.

2. TREATMENTS and 3. DESIGN:

Same as in expt. no. 57(61) on page 831.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of ripe cherry and clean coffee. (iv) (a) 1957—contd. (b) Nil. (v) and (vi) Nil.

5. RESULTS :

(i) 1380 lb./ac. (ii) (a) 846.1 lb./ac. (b) 495.9 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of coffee in lb./ac.

	M_0	M_1	M_2	M_3	M_4	M_5	Mean
T_1	1607	1839	1775	1458	1542	1788	1668
T_2	1162	1439	1181	1226	1136	1904	1341
T_3	1310	962	1284	1084	1355	1594	1265
T_4	1355	1187	1278	1168	1039	1458	1248
Mean	1358	1357	1380	1234	1268	1686	1380

S E. of difference of two

1. M marginal means = 345.4 lb./ac.
2. T marginal means = 165.3 lb./ac.
3. T means at the same level of M = 405.0 lb./ac.
4. M means at the same level of T = 492.3 lb./ac.

Crop :- Coffee. **Ref :- Ms. 54(229).**

Site :- Coffee Res. Sub-Stn., Chethally. **Type :- 'M'.**

Object :—To study the effect of the application of varying levels of N and with constant levels of P and K on the yield of Coffee.

1. BASAL CONDITIONS :

(i) N.A (ii) (a) Laterite. (b) Refer soil analysis, Chethally. (iii) By seed. (iv) Coorg *Arabica*. (v) N.A. ; 6′×6′. (vi) One year. (vii) Rock phosphate. (viii) Scuffling, weeding, gap-filling and shade loping. (ix) Nil. (x) Unirrigated. (xi) 73.67″. (xii) November 1954 to January 1955.

2. TREATMENTS :

Main-plot treatments :

4 levels of N as A/S : N_1=40, N_2=60, N_3=80 and N_4=100 lb./ac.

Sub-plot treatments :

4 times of application of fertilizers : T_1=N in two equal doses in pre-monsoon and post-monsoon period T_2=N in three equal doses in pre-blossom, pre-monsoon and post-monsoon period, $T_3=T_2+P_2O_5$ in two equal doses in pre-blossom and post-monsoon period, $T_4=T_3+K_2O$ in two equal doses in pre-blossom and post-monsoon period.

P_2O_5 used as Super at 30 lb./ac. and K_2O as potash at 40 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/replication ; 4 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) 70 plants (gross), 40 plants (net). (v) 1 row on all sides. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Attack of white stem borer and red borer swabbing with B.H.C. 50% wetable powder. (ii) Yield of ripe cherry. (iv) (a) 1954—1960. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

(l) 2468 lb./ac. (ii) (a) 1179.2 lb./ac. (b) 390.5 lb./ac. (iii) None of the effeets is significant. (iv) Av. yield of coffee in lb./ac.

	T_1	T_2	T_3	T_4	Mean
N_1	2474	2994	2089	3095	2663
N_2	2539	2818	2383	2282	2506
N_3	2473	2410	2276	2834	2498
N_4	2384	1855	2210	2374	2206
Mean	2468	2519	2240	2646	2468

S.E. of difference of two

1. N marginal means = 481.4 lb./ac.
2. T marginal means = 159.4 lb./ac.
3. T means at the same level of N = 318.8 lb./ac.
4. N means at the same level of T = 555.0 lb./ac.

Crop :- Coffee. **Ref :- Ms. 55(218).**

Site :- Coffee Res. Sub-Stn., Chethally. **Type :- 'M'.**

Object: —To study the effect of the application of varying levels of N and with constant levels of P and K on the yield of Coffee.

1. BASAL CONDITIONS :

(i) N.A. (ii) (a) Laterite. (b) Refer soil analysis, Chethally. (iii) By seed. (iv) Coorg *Arabica*. (v) N.A. ; 6′×6′. (vi) One year. (vii) Rock phosphate. (viii) Scuffling, weeding, gap-filling and shade loping. (ix) Nil. (x) Unirrigated. (xi) 60.45″. (xii) November 1955 to January 1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(229) on page 833.

5. RESULTS :

(i) 2176 lb./ac. (ii) (a) 1417.9 lb./ac. (b) 862.1 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of coffee in lb./ac.

	T_1	T_2	T_3	T_4	Mean
N_1	2111	1529	2880	1424	1986
N_2	2151	1633	2159	1907	1962
N_3	2409	2499	2947	1900	2439
N_4	2945	1743	2600	1984	2318
Mean	2404	1851	2646	1804	2176

S.E. of the difference of two

1. N marginal means = 578.8 lb./ac.
2. T marginal means = 352.0 lb./ac.
3. T means at the same level of N = 703.9 lb./ac,
4. N means at the same level of T = 840.7 lb./ac.

Crop :- Coffee. **Ref :- Ms. 56(194).**

Site :- Coffee Res. Sub-Stn., Chethally. **Type :- 'M'.**

Object :—To study the effect of the application of varying levels of N and with constant levels of P and K on the yield of Coffee.

1. BASAL CONDITIONS :

(i) N.A. (ii) (a) Laterite. (b) Refer soil analysis, Chethally. (iii) By seed. (iv) Coorg *Arabica*. (v) N.A. ; 6′×6′. (vi) One year. (vii) Rock phosphate. (viii) Scuffling, weeding, gap-filling and shade loping. (ix) Nil. (x) Unirrigated. (xi) 77.75″. (xii) November 1956 to January 1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(229) on page 833.

5. RESULTS :

(i) 6294 lb./ac. (ii) (a) 1591.2 lb./ac. (b) 1481.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of coffee in lb./ac.

	T_1	T_2	T_3	T_4	Mean
N_1	5757	5398	7213	7034	6350
N_2	5981	5981	6272	5040	5818
N_3	5667	5622	5533	8288	6278
N_4	5219	7101	6384	8221	6731
Mean	5656	6025	6350	7146	6294

S.E. of difference of two

1. N marginal means = 649.6 lb./ac.
2. T marginal means = 604.8 lb./ac.
3. T means at the same level of N = 1209.6 lb./ac.
4. N means at the same level of T = 1232.0 lb./ac.

Crop :- Coffee. **Ref :- Ms. 57(224).**

Site :- Coffee Res. Sub-Stn., Chethally. **Type :- 'M'.**

Object :—To study the effect of the application of varying levels of N and with constant levels of P and K on the yield of Coffee.

1. BASAL CONDITIONS :

(i) N.A. (ii) (a) Laterite. (b) Refer soil analysis, Chethally. (iii) By seed. (iv) Coorg *Arabica*. (v) N.A. 6′×6′. (vi) One year. (vii) Rock phosphate. (viii) Scuffling, weeding, gap-filling and shade loping. (x) Unirrigated. (xi) 70.64″. (xii) November 1957 to January 1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54 (229) on page 833.

5. RESULTS :

(i) 3977 lb./ac. (ii) (a) 2194.8 lb./ac. (b) 1152.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of coffee in lb./ac.

	T_1	T_2	T_3	T_4	Mean
N_1	3942	4032	4189	4099	4065
N_2	3786	3592	4659	4906	4486
N_3	3248	2822	3248	3472	3197
N_4	4010	3338	4614	4682	4161
Mean	3746	3696	4178	4290	3977

S.E. of the difference of two

1. N marginal means = 896.0 lb./ac.
2. T marginal means = 470.4 lb./ac.
3. T means at the same level of N = 940.8 lb./ac.
4. N means at the same level of T = 1209.6 lb./ac.

Crop :- Coffee. **Ref :- Ms. 58(228).**

Site :- Coffee Res. Sub-Stn., Chethally. **Type :- 'M'.**

Object :—To study the effect of the application of varying levels of N and with constant levels of P and K on the yield of Coffee.

1. BASAL CONDITIONS :

(i) N.A. (ii) (a) Laterite. (b) Refer soil analysis, Chethally. (iii) By seed. (iv) Coorg *Arabica*. (v) N.A.; 6′×6′. (vi) One year. (vii) Rock phosphate. (viii) Scuffling, weeding, gap-filling and shade loping. (ix) Nil. (x) Unirrigated. (xi) 72.36″. (xii) November 1958 to January 1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(229) on page 833.

5. RESULTS :

(i) 2015 lb./ac. (ii) (a) 673.8 lb./ac. (b) 828.1 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of coffee in lb./ac.

	T_1	T_2	T_3	T_4	Mean
N_1	2163	2136	2884	1509	2173
N_2	2282	1761	2099	1406	1887
N_3	2684	1966	2250	1642	2136
N_4	2098	2797	1318	1246	1865
Mean	2307	2165	2138	1451	2015

S.E. of difference of two

1. N marginal means = 275.1 lb./ac.
2. T marginal means = 338.1 lb./ac.
3. T means at the same level of N = 676.1 lb./ac.
4. N means at the same level of T = 646.9 lb./ac.

Crop :- Coffee. **Ref :- Ms. 59(195).**

Site :- Coffee Res. Sub-Stn., Chethally. **Type :- 'M'.**

Object :—To study the effect of the application of varying levels of N and with constant levels of P and K on the yield of Coffee.

1. BASAL CONDITIONS :

(i) N.A. (ii) (a) Laterite. (b) Refer soil analysis, Chethally. (iii) By seed. (iv) Coorg *Arabica*. (v) N.A. 6′×6′. (vi) One year. (vii) Rock phosphate. (viii) Scuffling, weeding, gap-filling and shade loping, (ix) Nil. (x) Unirrigated. (xi) 92.22″. (xii) November 1959 to January 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54 (229) on page 833.

5. RESULTS :

(i) 1240 lb./ac. (ii) (a) 749.5 lb./ac. (b) 631.1 lb./ac. (iii) None of the effects is significant. (iv) Av. yield in lb./ac.

	T_1	T_2	T_3	T_4	Mean
N_1	1327	1199	2001	1195	1430
N_2	1155	1019	2359	923	1364
N_3	1008	1151	1157	937	1063
N_4	1354	1053	863	1133	1101
Mean	1211	1106	1595	1047	1240

S.E. of the difference of two

1. N marginal means = 306.0 lb./ac.
2. T marginal means = 257.7 lb./ac.
3. T means at the same level of N = 515.3 lb./ac.
4. N means at the same level of T = 541.1 lb./ac.

Crop :- Coffee. **Ref :- Ms. 57(68).**

Site :- Coffee Res. Sub-Stn., Chethally. **Type :- 'M'.**

Object :—To find out the optimum combination of N, P and K needed for good growth and yield of Coffee under Coorg conditions.

1. BASAL CONDITIONS :

(i) The Jungle has been cleared, terraced and planted. (ii) (a) Loam (darkish brown). (b) Refer soil analysis Chethally. (iii) Seedlings. (iv) S. 446 (2nd generation)—*Arabica*. (v) March, 1951 (Basket plants). (vi) 8 months. (vii) Nil. (viii) Weeding, suckering, scuffling, manuring and shade lopping etc. (ix) Nil. (x) Unirrigated. (xi) 70.06″. (xii) November.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 4 levels of N as A/S : N_0=0, N_1=60, N_2=90 and N_3=120 lb./ac.

(2) 2 levels of P_2O_5 as Super : P_0=0 and P_1=30 lb./ac.

(3) 2 levels of K_2O as Mur. Pot.: K_0=0 and K_1=40 lb./ac.

3. DESIGN :

(i) 4×2^2 (2nd order interaction confd.). (ii) (a) 8 plots/block ; 2 blocks/replication. (b) N.A. (iii) 3. (iv) 49 plants (gross) ; 25 plants (net). (v) 24 plants. (vi) Yes.

4. GENERAL:

(i) N.A. (ii) Gammexane application—Swabbing twice a year against red borer and white borer. (iii) Yield of ripe cherry and clean coffee. (iv) (a) 1952—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

(i) 7742 lb./ac. (ii) 3471.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of coffee in. lb./ac.

	P_0	P_1	Mean	K_0	K_1
N_0	4979	6871	5925	6433	5417
N_1	8466	7103	7785	8698	6871
N_2	8702	8262	8482	8617	8347
N_3	9271	8280	8775	9240	8311
Mean	7854	7629	7742	8247	7236
K_0	8769	7725			
K_1	6939	7533			

S.E. of marginal mean of N = 1002.1 lb./ac.
S.E. of marginal mean of K or P = 708.6 lb./ac.
S.E. of body of N×P or N×K table = 1417.2 lb./ac.
S.E. of body of P×K table = 1002.1 lb./ac.

Crop :- Coffee. **Ref :- Ms. 58(40).**

Site :- Coffee Res. Sub-Stn., Chethally. **Type :- 'M'.**

Object :—To find out the optimum combination of N, P and K needed for good growth and yield of Coffee under Coorg conditions.

1. BASAL CONDITIONS :

(i) The Jungle has been cleared, terraced and planted. (ii) (a) Loam (darkish brown). (b) Refer soil analysis, Chethally. (iii) Seedlings. (iv) S. 446 (2nd generation)—*Arabica* Coffee. (v) March, 1951 (Basket plants). (vi) 8 months. (vii) Nil. (viii) Weeding, suckering, scuffling, manuring and shade lopping etc. (ix) Nil. (x) Unirrigated. (xi) 70.24". (xii) November.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(68) on page 837.

5. RESULTS :

(i) 3005 lb./ac. (ii) 1251.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of coffee in lb./ac.

	P_0	P_1	Mean	K_0	K_1
N_0	2827	2656	2742	3019	2464
N_1	2706	3832	3269	3088	3451
N_2	3166	3202	3184	3507	2862
N_3	1984	3666	2825	3017	2634
Mean	2671	3339	3005	3158	2853
K_0	2628	3687			
K_1	2714	2991			

S.E. of marginal mean of N = 361.3 lb./ac.
S.E. of marginal mean of P or K = 255.5 lb./ac.
S.E. of body of N×P or N×K table = 511.0 lb./ac.
S.E. of body of P×K table = 361.3 lb./ac.

Crop :- Coffee **Ref :- Ms. 59(48).**

Site :- Coffee Res. Sub-Stn., Chethally. **Type :- 'M'.**

Object :—To find out the optimum combination of N, P and K needed for good growth and yield of Coffee under Coorg conditions.

1. BASAL CONDITIONS :

(i) Jungle has been cleared, terraced and planted. (ii) (a) Darkish brown loam. (b) Refer soil analysis, Chethally. (iii) Seedlings. (iv) *Arabica*. (v) March, 1951. (vi) 8 months. (vii) Nil. (viii) Weeding, suckering, scuffling and manuring. (ix) Nil. (x) Unirrigated. (xi) 142.04". (xii) November and December,

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(68) on page 837.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Yield of ripe cherry and clean coffee. (iv) (a) 1957—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

(i) 7827 lb./ac. (ii) 3172.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of coffee in lb./ac.

	P_0	P_1	Mean	K_0	K_1
N_0	6962	8353	7658	7030	8284
N_1	7419	9406	8412	8040	8785
N_2	9164	6040	7602	8071	7133
N_3	8008	7268	7638	7510	7766
Mean	7888	7767	7827	7663	7992
K_0	7846	7480			
K_1	7931	8054			

S.E. of N marginal mean = 915.9 lb./ac.
S.E. of P or K marginal mean = 647.5 lb./ac.
S.E. of body of N×P or N×K table = 1295.0 lb./ac.
S.E. of body of P×K table = 915.9 lb./ac.

Crop :- Coffee. **Ref :- Ms. 57(226).**

Site :- Coffee Res. Sub-Stn., Chethally. **Type :- 'M'.**

Object :—To find out the best combination of N, P and K for Robusta Coffee.

1. BASAL CONDITIONS :

(i) Jungle cleared and coffee planted in 1954. The treatments were imposed in October, 1954. First year the manure was applied in 6 doses. During 2nd year in 4 equal doses. (ii) (a) Laterite. (b) Refer soil analysis, Chethally. (iii) By seed. (iv) Robusta (clonel material). (v) Planted in 1954. 13'×13' spacing. (vi) 8 months. (vii) Nil. (viii) Scuffling, weeding, gap-filling and shade lopping. (ix) Nil. (x) Unirrigated. (xi) 70.64". (xii) November, 1957 to January, 1958.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 4 levels of N as Urea : N_0=0, N_1=60, N_2=90 and N_3=120 lb./ac.

(2) 2 levels of P_2O_5 as Super : P_0=0 and P_1=45 lb./ac.

(3) 2 levels of K_2O as Mur. Pot. : K_0=0 and K_1=60 lb./ac.

N applied in 3 equal doses in pre-blossom, pre-monsoon and post-monsoon periods.

P and K applied in 2 equal doses in pre-blossom and post-monsoon periods.

3. DESIGN :

(i) 4×2^2 confd. (ii) (a) 8 plots/block ; 2 blocks/replication. (b) N.A. (iii) 3. (iv) 20. (v) A common guard row around the plot. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) White stem borer and red borer. Swabbing with B.H.C. 50% wetable powder. (iii) Yield of ripe cherry. (iv) (a) 1954—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

(i) 372.3 lb./ac. (ii) 154.1 lb./ac. (iii) Only N effect is highly significant. (iv) Av. yield of coffee in lb./ac.

	P_0	P_1	Mean	K_0	K_1
N_0	248.8	202.7	225.8	253.2	198.3
N_1	405.2	405.0	405.1	355.0	455.2
N_2	452.7	408.2	430.4	508.0	352.8
N_3	359.2	497.2	428.2	394.8	461.5
Mean	366.5	378.2	372.3	377.8	366.9
K_0	342.6	412.9			
K_1	390.3	343.6			

S.E. of marginal mean of N = 44.5 lb./ac.
S.E. of marginal mean of P or K = 31.4 lb./ac.
S.E. of body of N×P or N×K table = 62.9 lb./ac.
S.E. of body of P×K table = 44.5 lb./ac.

Crop :- Coffee. **Ref :- Ms. 58(230).**

Site :- Coffee Res. Sub-Stn., Chethally. **Type :- 'M'.**

Object :—To find out the best combination of N, P and K for Robusta Coffee.

1. BASAL CONDITIONS :

(i) Jungle cleared and planted in 1954. The treatments were imposed in Oct. 1954. First year the manure was applied in 6 split doses and 4 equal doses in the 2nd year. (ii) (a) Laterite. (b) Refer soil analysis, Chethally. (iii) By seed. (iv) Robusta (clonel material). (v) Planted in 1954. 13'×13' between plants. (vi) 8 months. (vii) N.A. (viii) Scuffling, weeding, gap filling and shade lopping. (ix) Nil. (x) Unirrigated. (xi) 72.36". (xii) November 1958 to January 1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(226) on page 840.

4. GENERAL :

(i) Poor. (ii) Attack of white stem borer and red borer. Swabbing with B.H.C. 50% wetable powder. (iii) Yield of ripe cherry. (iv) (a) 1954—contd. (b) Nil. (v) and (vi) Nil.

5. RESULTS :

(i) 39.1 lb./ac. (ii) 30.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of coffee in lb./ac.

	P_0	P_1	Mean	K_0	K_1
N_0	30.7	37.8	34.3	32.2	36.3
N_1	40.8	37.4	39.1	36.5	41.8
N_2	51.9	36.0	44.0	56.4	31.6
N_3	42.4	36.1	39.2	35.5	43.0
Mean	41.5	36.8	39.1	40.1	38.2
K_0	44 2	36.1			
K_1	38.8	37.6			

S.E. of marginal mean of N = 8.8 lb./ac.
S.E. of marginal mean of P or K = 6.2 lb./ac.
S.E. of body of the N×P or N×K table = 12.4 lb./ac.
S.E. of body of P×K table = 8.8 lb./ac.

Crop :- Coffee. **Ref :- Ms. 59(197).**

Site :- Coffee Res. Sub-Stn., Chethally. **Type :- 'M'.**

Object :—To find out the best combination of N, P and K for Robusta Coffee.

1. BASAL CONDITIONS :

(i) Jungle was cleared and coffee was planted in 1954 and the treatments were imposed in October 1964. First year the manure was applied in 6 split doses and during 2nd year in 4 equal doses. (ii) (a) Laterite. (b) Refer soil analysis, Chethally. (iii) By seed. (iv) Robusta (clonel material). (v) Planted in 1954. 13'×13' between plants. (vi) 8 months. (vii) N.A. (viii) Scuffling, weeding, gap-filling and shade lopping. (ix) Unirrigated. (x) 92.22". (xii) November, 1959 to January 1960.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57 (226) on page 840.

4. GENERAL :

(i) Satisfactory. (ii) Attack of white stem borer and red borer. Swabbling with B.H.C. 50% wetable powder. (iii) Yield of ripe cherry. (iv) (a) 1954—contd. (b) Nil. (v) and (vi) Nil.

5. RESULTS :

(i) 884 lb./ac. (ii) 268.7 lb./ac. (iii) N×K and P×K interactions are significant. (iv) Av. yield of coffee in lb./ac.

	P_0	P_1	Mean	K_0	K_1
N_0	894	694	794	948	640
N_1	921	863	892	870	915
N_2	868	926	897	783	1011
N_3	897	1008	953	1110	796
Mean	895	873	884	928	840
K_0	1025	831			
K_1	765	915			

S.E. of marginal mean of N = 77.6 lb./ac.
S.E. of marginal mean of P or K = 54.8 lb./ac.
S.E. of the body of N×P or N×K table = 109.7 lb./ac.
S.E. of the body of P×K table = 77.6 lb./ac.

Crop :- Coffee. **Ref :- Ms. 55(165).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'C'.**

Object :—To study the effect of various grades of cultivation during different seasons on the yield of old Coffee.

1. BASAL CONDITIONS :

(i) The variety of coffee is old *Arabica* of Coorg of age 30-40 years. (ii) (a) Brown soil. (b) N.A. (iii) N.A. (iv) *Arabica* Coffee Coorg. (v) N.A. ; 5′×5′. (vi) 8 months. (vii) Nil. (viii) Weeding, manuring, shade regulation, spraying with B.H.C. and swabbing etc. (ix) Nil. (x) Unirrigated. (xi) 82.5″. (xi) November and December 1955.

2. TREATMENTS :

7 cultural treatments : T_1=Deep digging in August. T_2=Light digging in August. T_3=Deep digging in November. T_4=Light digging in November. T_5=Deep digging in April. T_6=Scuffling in April. and T_7=Weeding only.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) 80 plants. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Stem borer and leaf disease. Swabbing with B.H.C. and spraying with Bordeaux mixture. (iii) Yield of ripe cherry and clean coffee. (iv) (a) 1954—contd. (b) Nil. (v) and (vi) Nil.

5. RESULTS :

(i) 6223 lb./ac. (ii) 1493.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of coffee in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6	T_7
Av. yield	5789	7061	6399	7231	6312	5619	5149

S.E./mean = 747 lb./ac.

Crop :- Coffee. **Ref :- Ms. 56(98).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'C'.**

Object :—To study the effect of various grades of cultivation during different seasons on the yield of old Coffee.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. 55 (165) on page 842. (xi) 119.8". (xii) November and December, 1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55 (165) on page 842.

5. RESULTS :

(i) 2095 lb./ac. (ii) 489.8 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of coffee in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6	T_7
Av. yield	1978	2378	1760	2191	1742	1647	2966

S.E./mean = 244.9 lb./ac.

Crop :- Coffee. **Ref :- Ms. 57(50).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'C'.**

Object :—To study the effect of various grades of cultivation during different seasons on the yield of old Coffee.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. no. 55(165) on page 842. (xi) 112.5". (xii) November and December 1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(165) on page 842.

5. RESULTS :

(i) 4216 lb./ac. (ii) 1195.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of coffee in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6	T_7
Av. yield	4003	4003	4757	3964	4330	4622	3833

S.E./mean = 598 lb./ac.

Crop :- Coffee. **Ref :- Ms. 58(27).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'C'.**

Object :—To study the effect of various grades of cultivation during different seasons on the yield of old Coffee.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. no. 55(165) on page 842. (xi) 122". (xii) November and December 1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(165) on page 842.

5. RESULTS :

(i) 4181 lb./ac. (ii) 2405.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of coffee in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6	T_7
Av. yield	4278	4060	4360	4339	4365	3515	4352

S.E./mean = 1203 lb./ac.

Crop :- Coffee. **Ref :- Ms. 59(51).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'C'.**

Object :—To study the effect of various grades of cultivation during different seasons on the yield of old Coffee.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. no. 55(165) on page 842. (xi) 842". (xii) November and December 1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(165) on page 842.

4. GENERAL :

(i) Normal. (ii) Attack of red borer and white stem borer—Gammexane sprayed. (iii) Yield of ripe cherry and clean coffee. (iv) (a) 1954—contd. (b) No. (v) and (vi) N.A.

5. RESULTS :

(i) 879 lb./ac. (ii) 346.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of coffee in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6	T_7
Av. yield	1010	819	662	1019	858	928	858

S.E./mean = 173.3 lb./ac.

Crop :- Coffee. **Ref :- Ms. 54(228).**

Site :- Coffee Res. Sub-Stn., Chethally. **Type :- 'C'.**

Object :—To find out the most suitable method of soil management in old Coffee plantation.

1. BASAL CONDITIONS :

(i) N.A. (ii) (a) Laterite. (b) N.A. (iii) By seed. (iv) Coorg *Arabica*. (v) 30 years old coffee ; 6'×6'. (vi) 1 year. (vii) Rock phos. (viii) Scuffling, weeding, desuckering gap filling and shade lopping. (ix) Nil. (x) Unirrigated. (xi) 73.66". (xii) November 1954 to January 1955.

2. TREATMENTS :

6 cultural treatments : T_1=Trenching 1½' deep, T_2=Trenching 9" deep, T_3=Rennovation pitting, T_4=Light digging, T_5=Heavy digging and T_6=Weeding only.

3. DESIGN :

(i) L. Sq. (ii) (a) 6. (b) N.A. (iii) 6. (iv) 160 plants (gross) and 112 plants (net). (v) 1 row on all sides. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) White stem-borer and red-borer. Swabbing with B.H.C. 50% wetable powder. (iii) Yield of ripe cherry. (iv) (a) 1954—1963. (b) No. (v) and (vi) N.A.

5. RESULTS :

(i) 1657 lb./ac. (ii) 273.0 lb./ac. (iii) Treatments differences are not significant. (iv) Av. yield of cherry in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6
Av. yield	1733	1538	1596	1541	1613	1920

S.E./mean = 111.4 lb./ac.

Crop :- Coffee. **Ref :- Ms. 55(217).**

Site :- Coffee Res. Sub-Stn., Chethally. **Type :- 'C'.**

Object :—To find out the most suitable method of soil management in old Coffee plantation.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. no. 54(228) on page 844. (xi) 60.45". (xii) November 1955 to January 1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(228) on page 844.

5. RESULTS :

(i) 2969 lb./ac. (ii) 518.6 lb./ac. (iii) Treatment differences are not significant, (iv) Av. yield of coffee in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6
Av. yield	2890	2756	2809	3165	3181	3010

S.E./mean = 211.7 lb./ac.

Crop :- Coffee. **Ref :- Ms. 56(193).**

Site :- Coffee Res. Sub-Stn., Chethally. **Type :- 'C'.**

Object :—To find out the most suitable method of soil management in old Coffee plantation.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. no. 54(228) on page 844. (xi) 77.8". (xii) November 1956 to January 1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(228) on page 844.

5. RESULTS :

(i) 7242 lb./ac. (ii) 970.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of coffee in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6
Av. yield	7001	7320	7132	7106	7047	7847

S.E./mean = 396.3 lb./ac.

Crop :- Coffee. **Ref :- Ms. 57(223).**

Site :- Coffee Res. Sub-Stn., Chethally. **Type :- 'C'.**

Object :—To find out the most suitable method of soil management in old Coffee plantation.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. no. 54(228) on page 844. (xi) 70.6". (xii) November, 1957 to January, 1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(228) on page 844.

5. RESULTS :

(i) 3205 lb./ac. (ii) 1008.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of coffee in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6
Av. yield	3350	3171	2940	3127	3526	3117

S.E./mean = 411.5 lb./ac.

Crop :- Coffee. **Ref :- Ms. 58(227).**

Site :- Coffee Res. Sub-Stn., Chethally. **Type :- 'C'.**

Object :—To find out the most suitable method of soil management in old Coffee plantation.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. no. 54(228) on page 844. (xi) 72.4". (xii) November, 1958 to January, 1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(228) on page 844.

5. RESULTS :

(i) 3058 lb./ac. (ii) 1186 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of coffee in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6
Av. yield	3370	3035	3341	3012	2698	2894

S.E./mean = 484 lb./ac.

Crop :- Coffee. **Ref :- Ms. 59(194).**

Site :- Coffee Res. Sub-Stn., Chethalli. **Type :- 'C'.**

Object :—To find out the most suitable method of soil management in old Coffee plantation.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. no. 54(228) on page 844. (xi) 92.2". (xii) November, 1959 to January, 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(228) on page 844.

5. RESULTS :

(i) 2841 lb./ac. (ii) 282.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of coffee in lb./ac.

Treatment	T_1	T_2	T_3	T_4	T_5	T_6
Av. yield	2905	2596	3073	3113	2749	2608

S.E./mean = 115.2 lb./ac.

Crop :- Coffee. **Ref :- Ms. 55(219).**

Site :- Coffee Res. Sub-Stn., Chethally. **Type :- 'C'.**

Object :—To compare the effect of multiple stem and single stem on the yield of Coffee plantation.

1. BASAL CONDITIONS :

(i) Jungle cleared and coffee planted in 1952. (ii) (a) Laterite. (b) N.A. (iii) By seed. (iv) S—446. (v) Planted in 1952 ; plot size : 7'×7'. (vi) 8 months. (vii) N.A. (viii) Scuffling, weeding, desuckering, gap-filling and shade loping. (ix) Nil. (x) Unirrigated. (xi) 60 45". (xii) November, 1955 to January, 1956.

2. TREATMENTS :.

2 types of stem : S_1=Single and S_2=Multiple.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 6. (iv) 50 plants. (v) 1 row on all sides. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) White stem borer and red borer—Swabbing with B.H.C. 50% wettable powder. (iii) Yield of ripe cherry. (iv) 1954—contd. (b) N.A. (v) Nil. (vi) Since the crop is only 3 years old, the yields are very poor.

5. RESULTS :

(i) 78 lb./ac. (ii) 21.2 lb./ac. (iii) Treatment difference is significant. (iv) Av. yield of coffee in lb./ac.

Treatment	S_1	S_2
Av. yield	101	55

S.E./mean = 8.7 lb./ac.

Crop :- Coffee. **Ref :- Ms. 56(195).**

Site :- Coffee Res. Sub-Stn., Chethally. **Type :- 'C'.**

Object :—To compare the effect of multiple stem and single stem on the yield of Coffee.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. no. 55(219) on page 846. (xi) 77.8". (xii) November, 1956 to January, 1957.

2. TREATMENTS to 4. GENERAL :

Same as expt. no. 55(219) on page

5. RESULTS :

(i) 9682 lb./ac. (ii) 2744 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of coffee in lb./ac.

Treatment	S_1	S_2
Av. yield	9045	10138

S.E./mean = 1120 lb./ac.

Crop :- Coffee. **Ref :- Ms. 57(225).**

Site :- Coffee Res. Sub-Stn., Chethally. **Type :- 'C'.**

Object :—To compare the effect of multiple stem and single stem on the yield of Coffee.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. no. 55(219) on page 846. (xi) 70.6". (xii) November, 1957 to January, 1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(219) on page 846.

5. RESULTS :

(i) 5126 lb./ac. (ii) 348.3 lb./ac. (iii) Treatment difference is highly significant. (iv) Av. yield of coffee in lb./ac.

Treatment	S_1	S_2
Av. yield	3604	6647

S.E./mean = 142.2 lb./ac.

Crop :- Coffee. **Ref :- Ms. 58(229).**

Site :- Coffee Res. Sub-Stn., Chethally. **Type :- 'C'.**

Object :—To compare the effect of multiple stem and single stem on the yield of Coffee.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. no. 55(219) on page 846. (xi) 72.4". (xii) November, 1958 to January, 1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(219) on page 846.

5. RESULTS :

(i) 1116 lb./ac. (ii) 541.7 lb./ac. (iii) Treatment difference is significant. (iv) Av. yield of coffee in lb./ac.

Treatment	S_1	S_2
Av. yield	1589	642

S.E./mean = 221.1 lb./ac.

Crop :- Coffee. **Ref :- Ms. 59(196).**

Site :- Coffee Res. Sub-Stn., Chethally. **Type :- 'C'.**

Object :—To compare the effect of multiple stem and single stem on the yield of Coffee.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. no. 55(219) on page 846. (xi) 92.2". (xii) November, 1959 to January, 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(219) on page 846.

5. RESULTS :

(i) 5072 lb./ac. (ii) 762.2 lb./ac. (iii) Treatment difference is significant. (iv) Av. yield of coffee in lb./ac.

Treatment	S_1	S_2
Av. yield	5722	4422

S.E./mean = 311.1 lb./ac.

Crop :- Coffee. **Ref :- Ms. 54(188).**

Site :- Bhadra Estate, Balehonnur. **Type :- 'CM'.**

Object :—To find the effect of pruning and different levels of manures on the yield of Coffee.

1. BASAL CONDITIONS :

(i) The Robusta coffee is 15 to 20 years of age. (ii) (a) Clay. (b) N.A. (iii) By seed. (iv) Robusta. (v) N.A. ; 8'×8'. (vi) 8 months. (vii) Nil. (viii) Weeding, shade regulation, suckering, and short hole borer removal. (ix) Nil. (x) Unirrigated. (xi) 120.29". (xii) January and February 1955.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 cultural operations : C_1=No pruning, and C_2=Pruning.

(2) 3 levels of manuring : M_0=0, M_1=40 lb./ac. of N+30 lb./ac. of P_2O_5+40 lb./ac. of K_2O. M_2= 80 lb./ac. of N+ 30 lb./ac. of P_2O_5 + 40 lb./ac. of K_2O.

Half dose of N applied during the pre-blossom and the other half along with P_2O_5 and K_2O during post monsoon period. Light pruning given during pre-blossom.

3. DESIGN:

(i) L. Sq. (ii) (a) 6. (b) N.A. (iii) 6. (iv) 60 plants (gross) and 32 plants (net). (v) 28 plants. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of ripe cherry and clean coffee. (iv) (a) 1952—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

(i) 4188 lb./ac. (ii) 998.7 lb./ac. (iii) Only M×C interaction is significant. (iv) Av. yield of coffee in lb./ac.

	M_0	M_1	M_2	Mean
C_1	4181	3689	4137	4002
C_2	3902	5054	4168	4375
Mean	4042	4372	4152	4188

S.E. of M marginal mean = 228.3 lb./ac.
S.E. of C marginal mean = 235.4 lb./ac.
S.E. of body of table = 407.7 lb./ac.

Crop :- Coffee. **Ref :- Ms. 55(164).**

Site :- Bhadra Estate, Balehonnur. **Type :- 'CM'.**

Object :—To find the effect of pruning and different levels of manures on the yield of coffee.

1. BASAL CONDITIONS :

(i) The experiment is on Robusta coffee of 15—20 years of age. (ii) (a) Clay. (b) N.A. (iii) By seed. (iv) Robutsa. (v) N.A. ; 8′×8′. (vi) 8 months. (vii) Nil. (viii) Weeding, shade regulation suckering, short hole borer removal. (ix) Nil. (x) Unirrigated. (xi) 92.53″. (xii) January and February 1956.

2. TREATMENTS to 4. GENERAL:

Same as in expt. no. 54(188) on page 848.

5. RESULTS :

(i) 4218 lb./ac. (ii) 856.6 lb./ac. (iii) Only M effect is highly significant. (iv) Av. yield of Coffee in lb./ac.

	M_0	M_1	M_2	Mean
C_1	3344	4740	4238	4107
C_2	3663	4644	4681	4329
Mean	3503	4692	4459	4218

S.E. of the marginal mean of M = 247.3 lb./ac.
S.E. of the marginal mean of C = 201.9 lb./ac.
S.E. of body of table = 349.7 lb./ac.

Crop :- Coffee. **Ref :- Ms. 56(97).**

Site :- Bhadra Estate, Balehonnur. **Type :- 'CM'.**

Object :—To find the effect of pruning and different levels of manures on the yield of Coffee.

1. BASAL CONDITIONS :

(i) The experiment is on Robusta coffee of 15—20 years of age. (ii) (a) Clay. (b) N.A. (iii) By seed. (iv) Robusta coffee. (v) N.A. ; 8′×8′. (vi) 8 months. (vii) Nil. (viii) Weedings, shade regulation, suckering and short hole borer removal. (ix) Nil. (x) Unirrigated. (xi) 119.82″. (xii) January and February 1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(188) on page 848.

5. RESULTS :

(i) 5258 lb./ac. (ii) 1054.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of coffee in lb./ac.

	M_0	M_1	M_2	Mean
C_1	5470	5105	5345	5307
C_2	5512	5183	4933	5209
Mean	5491	5144	5139	5258

S.E. of marginal mean of M = 304.4 lb./ac.
S.E. of marginal mean of C = 248.5 lb./ac.
S.E. of body of table = 430.5 lb./ac.

Crop :- Coffee. **Ref :- Ms. 57(49).**

Site :- Bhadra Estate, Balehonnur. **Type :- 'CM'.**

Object :—To fir d the effect of purning and different levels of manures on the yield of Coffee.

1. BASAL CONDITIONS :

(i) The experiment is on Robusta coffee of 15—20 years of age. (ii) (a) Clay. (b) N.A. (iii) By seed. (iv) Robusta. (v) N.A. ; 8′×8′. (vi) 8 months. (vii) Nil. (viii) Weeding, shade regulation, suckering,and short hole borer removal. (ix) Nil. (x) Unirrigated. (xi) 112.49″. (xii) January and February 1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(188) on page 848.

5. RESULTS :

(i) 3540 lb./ac. (ii) 637.7 lb.ac. (iii) None of the effects is significant. (iv) Av. yield of coffee in lb./ac.

	M_0	M_1	M_2	Mean
C_1	3414	3265	3619	3433
C_2	3751	3577	3612	3647
Mean	3582	3421	3616	3540

S.E. of marginal mean of M = 184.1 lb./ac.
S.E. of marginal mean of C = 150.3 lb./ac.
S.E. of body of table = 260.3 lb./ac.

Crop :- Coffee. **Ref :- Ms. 58(25).**

Site :- Bhadra Estate, Balehonnur. **Type :- 'CM'.**

Object :—To find the effect of pruning and different levels of manures on the yield of Coffee.

1. BASAL CONDITIONS :

(i) (a) The experiment is on Robusta coffee of 15—20 years of age. (ii) (a) Clay. (b) N.A. (iii) By seed. (iv) Robusta. (v) N.A. ; 8′×8′. (vi) 8 months. (vii) Nil. (viii) Weeding, shade regulation, suckering and short hole borer removal. (ix) Nil. (x) Unirrigated. (xi) 121.97″. (xii) January and February 1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(188) on page 848.

5. RESULTS :

(i) 6550 lb./ac. (ii) 1358.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of coffee in lb./ac.

	M_0	M_1	M_2	Mean
C_1	5789	6211	6661	6220
C_2	5913	6945	7781	6880
Mean	5851	6578	7221	6550

S.E. of marginal mean of M = 392.3 lb./ac.
S.E. of marginal mean of C = 320.3 lb./ac.
S.B. of body of table = 554.7 lb./ac.

Crop :- Coffee. **Ref. Ms. 59(58).**

Site :- Bhadra Estate, Balehonnur. **Type :- 'CM'.**

Object :—To find the effect of pruning and different levels of manures on the yield of Coffee.

1. BASAL CONDITIONS :

(i) The expt. is on Robusta Coffee of 15—20 years of age. (ii) (a) Clay. (b) N.A. (iii) By seed. (iv) Robusta. (v) N.A. ; 8′×8′. (vi) 8 months. (vii) Nil. (viii) Weeding, shade regulation, suckering and short hole borer removal. (ix) Nil. (x) Unirrigated. (xi) 142″. (xii) Jan. and Feb. 1960.

2. TREATMENTS to 4. GENERAL :

Same in expt. no. 54 (188) on page 848.

5. RESULTS :

(i) 2645 lb./ac. (ii) 833.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of ripe cherry in lb./ac.

	M_0	M_1	M_2	Mean
C_1	2506	2829	2949	2761
C_2	2549	2535	2503	2529
Mean	2528	2682	2726	2645

S.E. of marginal mean of M = 240.6 lb./ac.
S.E. of marginal mean of C = 196.4 lb./ac.
S.E. of body of table = 340.2 lb./ac.

Crop :- Coffee. **Ref :- Ms. 57(51).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'CM'.**

Object :—To find out the effect of mulching, cover cropping and G.M. on the growth and yield of Coffee.

1. BASAL CONDITIONS :

(i) Old *Arabica* was uprooted and planted with selections in 1954. The silver oaks in the blocks were uprooted and other shade trees were retained. (ii) (a) Brown soil. (b) N.A. (iii) By seed. (iv) Coffee *Arabica.* (v) March, 1953; 6'×6'. (vi) 8 months. (vii) 80 lb./ac. of N+45 lb./ac. of P_2O_5+60 lb./ac. of K_2O. N applied in 3 doses in 3 : 2 : 3 ratio in pre-blossom, pre-monsoon and post-monsoon periods. P and K applied in two equal doses in pre-blossom and post-monsoon periods. (viii) Weeding, suckering, swabbing and shade regulation are carried out as routine operations. (ix) Nil. (x) Unirrigated. (xi) 112.49". (xii) November and December 1957.

2. TREATMENTS :

6 cultural and manurial treatments : T_0=No mulching, T_1=Mulching with dry leaves, T_2=Mulching with dry husk, T_3=Cover cropping, T_4=G.M. before monsoon and T_5=G.M. after monsoon.

T_1 and T_2 applied at 3 tons/ac. during December, T_4 and T_5 *crotolacia* sown during May and October 1957.

3. DESICN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) 35 plants (gross), 15 plants (net). (v) 20 plants. (vi) Nil.

4. GENERAL :

(i) Fair. (ii) Incidence of leaf disease. Bordeaux mixture sprayed. (iii) Growth measurements and yield of ripe cherry and clean coffee. (iv) (a) 1956—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

(i) 94 lb./ac. (ii) 57.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5
Av. yield	61	69	97	169	118	47

S.E./mean = 28.7 lb./ac.

Crop :- Coffee. **Ref :- Ms. 58(28).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'CM'.**

Object :—To find out the effect of mulching, cover cropping and G.M. on the growth and yield of Coffee.

1. BASAL CONDITIONS :

(i) Old *Arabica* was uprooted and planted with selections in 1954. The silver oaks in the blocks were uprooted and other shade trees were retained. (ii) (a) Brown soil (b) N.A. (iii) By seed. (iv) Coffee *Arabica.* (v) March, 1953 ; 6'×6'. (vi) 8 months. (vii) 80 lb./ac. of N+45 lb./ac. of P_2O_5+60 lb /ac. of K_2O. N applied in 3 doses in 3 : 2 : 3 ratio in pre-blossom, pre-monsoon and post-monsoon periods. P and K applied in two equal doses in preblossom and post monsoon periods. (viii) Weeding, suckering, swabbing and shade regulation are carried out as routine operations. (ix) Nil. (x) Unirrigated. (xi) 121.97". (xii) November and December 1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(51) on page 851.

5. RESULTS :

(i) 956 lb./ac. (ii) 606.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of coffee in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5
Av. yield	826	666	1461	1195	908	681

S.E./mean = 303.1 lb./ac.

Crop :- Coffee. **Ref :- Ms. 59(50).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'CM'.**

Object :—To find out the effect of mulching, cover cropping and G.M. on the growth and yield of Coffee.

1. BASAL CONDITIONS :

(i) Old *Arabica* was uprooted and planted with selections in 1954. The silver oaks in the block were uprooted and other shade trees were retained. (ii) (a) Brown soil. (b) N.A. (iii) By seed. (iv) Coffee *Arabica*. (v) March, 1953 ; 6′×6′. (vi) 8 months. (vii) Nil. (viii) Weeding, suckering, swabbing and shade regulations. (ix) Nil. (x) Unirrigated. (xi) 144.3". (xii) November and December.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(51) on page 851.

4. GENERAL :

(i) Normal. (ii) Attack of red-borer and white stem-borer. Gammexane sprayed. (iii) Yield of ripe cherry and clean Coffee. (iv) (a) 1956—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

(i) 1478 lb./ac. (ii) 1165.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of Coffee in lb./ac.

Treatment	T_0	T_1	T_2	T_3	T_4	T_5
Av. yield	1518	1230	1209	1461	1590	1857

S.E./mean = 582.6 lb./ac.

Crop :- Coffee. **Ref :- Ms. 57(54).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'CM'.**

Object :—To find out the effect of mulching and different levels of manures on the yield of Coffee.

1. BASAL CONDITIONS :

(i) Coffee *Arabica* was uprooted and planted with selections in 1954. Permanent shade was retained. (ii) (a) Brown soil. (b) N.A. (iii) By seed. (iv) Coffee *Arabica* (selections). (v) N.A. ; 6′×6′. (vi) 8 months. (vii) Nil. (viii) Weeding, suckering, swabbing, shade regulation and handling. (ix) Nil. (x) Unirrigated. (xi) 112.49". (xii) October to December 1957.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 doses of manures : D_1=20 lb./ac. of N+30 lb./ac. of P_2O_5+40 lb./ac. of K_2O and D_2=40 lb./ac. of N+30 lb./ac. of P_2O_5+40 lb./ac. of K_2O.

(2) 3 mulchings at 3 tons/ac. during December : M_0=No mulching, M_1=With dry leaf and M_2=With cherry husk.

Manures were applied in two equal doses in pre-blossom and post-monsoon periods.

3. DESIGN:

(i) Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 35 plants (gross), 15 plants (net). (v) 20 plants. (vi) Yes.

4. GENERAL :

(i) Fairly satisfactory. (ii) Incidence of "Cercospora" disease. Bordeaux mixture sprayed. (iii) Growth measurements, yield of ripe cherry and clean coffee. (iv) (a) 1956—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

(i) 458 lb./ac. (ii) 491.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of coffee in lb./ac.

	M_0	M_1	M_2	Mean
D_1	393	689	370	484
D_2	197	742	358	432
Mean	295	715	364	458

S.E. of marginal mean of D = 141.8 lb./ac.
S.E. of marginal mean of M = 173.7 lb./ac.
S.E. of body of table = 245.6 lb./ac.

Crop :- Coffee. **Ref :- Ms. 58(29).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'CM'.**

Object :—To find out the effect of mulching and different levels of manures on the yield of Coffee.

1. BASAL CONDITIONS :

(i) Coffee *Arabica* was uprooted and planted with selections in 1954. Permanant shade was retained. (ii) (a) Brown soil. (b) N.A. (iii) By seed. (iv) Coffee *Arabica* (selections). (v) N.A. ; 6′×6′. (vi) 8 months. (vii) Nil. (viii) Weeding, suckering, swabbing, shade regulation and handling. (ix) Nil. (x) Unirrigated. (xi) 121.97″. (xii) October to December 1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(54) on page 853.

5. RESULTS :

(i) 2594 lb./ac. (ii) 1642.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of coffee in lb./ac.

	M_0	M_1	M_2	Mean
D_1	2190	4047	3070	3102
D_2	1773	2363	2121	2086
Mean	1982	3205	2595	2594

S.E. of marginal mean of D = 474.2 lb./ac.
S.E. of marginal mean of M = 580.7 lb./ac.
S.E. of body of table = 821.3 lb./ac.

Crop :- Coffee. **Ref :- Ms. 59(52).**

Site :- Coffee Res. Stn., Balehonnur. **Type :- 'CM'.**

Object :—To find out the effect of mulching at different levels of manures.

1. BASAL CONDITIONS :

(i) Old *Arabica* was uprooted and planted with selection in 1954. Permanent shade was retained. (ii) (a) Brown soil. (b) N.A. (iii) By seed. (iv) *Arabica*. (v) 1954, 6′×6′. (vi) 8 months. (vii) Nil. (viii) Weeding, suckering, swabbing and handling. (ix) Nil. (x) Unirrigated. (xi) 142″. (xii) October to December 1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(54) on page 853.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of ripe cherry and clean coffee. (iv) (a) 1956—contd. (b) N.A. (v) and (vi) Nil.

5. RESULTS :

(i) 2400 lb./ac. (ii) 954.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of coffee in lb./ac.

	M_0	M_1	M_2	Mean
D_1	2286	2445	2091	2274
D_2	3000	2322	2259	2527
Mean	2643	2383	2175	2400

S.E. of marginal mean of M = 337.3 lb./ac.
S.E. of marginal mean of D = 275.4 lb./ac.
S.E. of body of table = 477.0 lb./ac.

Crop :- Arecanut. **Ref :- Ms. 54(200).**

Site :- Reg. Arecanut Res. Stn., Thirthahally. **Type :- 'M'.**

Object :—To study the effect of organic and inorganic manures at different intervals of application.

1. BASAL CONDITIONS :

(i) N.A. (ii) (a) Laterite. (b) N.A. (iii) By sowing of seednuts. (iv) *Areca catechu.* (v) and (vi) N.A. (vii) Nil. (vii) Digging and weeding. (ix) Pepper and Betelvine. (x) Irrigated. (xi) 116.54". (xii) Nov. 1954 to Jan. 1955.

2. TREATMENTS :

Main-plot treatments :

4 times of applying B : B_0=No application, B_1=Every year, B_2=Once in 2 years and B_3=Once in 3 years.

B=30 lb./tree of F.Y.M.+30 lb./tree of G.L.

Sub-plot treatments :

4 times of applying M : M_0=No application, M_1=Every year, M_2=Once in 2 years and M_3=Once in 3 years.

M=50 lb./ac. of N+75 lb./ac. of P_2O_5+100 lb./ac. of K_2O per tree.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/replication ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) 12. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) *Phytopthola Areca*—sprayed 2% Bordeaux mixture twice in the year. (iii) Green and dry yield of arecanut. (iv) (a) 1954—1960. (b) Yes. (v) and (vi) Nil.

5. RESULTS :

(i) 17.89 lb./12 trees. (ii) (a) 2.63 lb./12 trees. (b) 4.58 lb./12 trees. (iii) None of the effects is significant. (iv) Av. yield of arecanut in lb./12 trees·

	M_0	M_1	M_2	M_3	Mean
B_0	18.13	16.36	17.87	18.94	17.82
B_1	20.80	17.20	16.58	17.09	17.92
B_2	14.04	17.31	18.10	18.10	16.89
B_3	21.69	18.92	17.69	17.37	18.92
Mean	18.66	17.45	17.56	17.88	17.89

S.E. of difference of two

1. B marginal means = 0.93 lb./12 trees.
2. M marginal means = 1.62 lb./12 trees
3. M means at the same level of B = 3.24 lb./12 trees.
4. B means at the same level of M = 2.95 lb./12 trees.

Crop :- Arecanut. **Ref :- Ms. 55(172).**

Site :- Reg. Arecanut Res. Stn., Thirthahally. **Type :- 'M'.**

Object : —To study the effect of organic and inorganic manures at different intervals of application.

1. BASAL CONDITIONS :

(i) N.A. (ii) (a) Laterite. (b) N.A. (iii) By sowing seednuts. (iv) *Areca Catechu.* (v) N.A. (vi) 2 to 3 years. (vii) Nil. (viii) Digging and weeding. (ix) Planking trees (x) Irrigated. (xi) 99.61". (xii) 10.11.1955 to 21.1.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(200) above.

4. GENERAL :

(i) Moderate. (ii) Nil. (iii) Green and dry yield of arecanut. (iv) (a) 1954—1960. (b) Yes. (v) and (vi) Nil.

5. RESULTS :

(i) 17.64 lb./12 trees. (ii) (a) 2.66 lb./12 trees. (b) 4.50 lb./12 trees. (iii) No effect is significant. (iv Av. yield of arecanut in lb./12 trees.

	M_0	M_1	M_2	M_3	Mean
B_0	18.27	16.47	18.01	19.36	18.03
B_1	20.89	17.20	16.72	17.20	18.00
B_2	14.09	17.31	18.52	17.42	16.84
B_3	19.81	18.86	16.93	15.20	17.70
Mean	18.26	17.46	17.54	17.30	17.64

S.E. of difference of two

1. B marginal means = 0.94 lb./12 trees.
2. M marginal means = 1.59 lb./12 trees.
3. M means at the same level of B = 3.18 lb./12 trees.
4. B means at the same level of M = 2.91 lb./12 trees.

Crop :- Arecanut. **Ref :- Ms. 56(126).**

Site :- Reg. Arecanut Res. Stn., Thirthahally. **Type :- 'M'.**

Object :—To study the effect of organic and inorganic manures of different intervals of application.

1. BASAL CONDITIONS :

(i) N.A. (ii) (a) Laterite. (b) N.A. (iii) By sowing seed nuts. (iv) *Areca catechu* (v) N.A. (vi) 2 to 3 years. (vii) Nil. (vii) Weeding and digging. (ix) Planking trees. (x) Irrigated. (xi) 139". (xii) Nov. 1956 to Jan. 1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(200) on page 855.

4. GENERAL :

(i) Moderate. (ii) Severe *koleroga* disease—Bordeaux mixture sprayed. (iii) Green and dry yield of arecanut. (iv) (a) 1954—1960. (b) Yes. (v) and (vi) Nil.

5. RESULTS :

(i) 17.57 lb./12 trees. (ii) (a) 6.62 lb./12 trees. (b) 3.05 lb./12 trees. (iii) No effect is significant. (iv) Av. yield of arecanut in lb./12 trees.

	M_0	M_1	M_2	M_3	Mean
B_0	13.41	17.61	20.17	15.63	16.71
B_1	17.41	18.04	15.81	20.25	17.88
B_2	14.68	16.25	18.59	18.03	16.89
B_3	17.89	19.76	19.07	18.45	18.79
Mean	15.85	17.92	18.41	18.09	17.57

S.E. of difference of two

1. B marginal means = 2.34 lb./12 trees.
2. M marginal means = 1.08 lb./12 trees.
3. M means at the same level of B = 1.58 lb./12 trees.
4. B means at the same level of M = 2.54 lb./12 trees.

Crop :- Arecanut. **Ref :- Ms. 57(111).**

Site :- Reg. Arecanut Res. Stn., Thirthahally. **Type :- 'M'.**

Object :—To study the effect of organic and inorganic manures at different intervals of application.

1. BASAL CONDITIONS :

(i) N.A. (ii) (a) Laterite. (b) N.A. (iii) By sowing seed nuts. (iv) *Areca catechu.* (v) N.A. (vi) 2 to 3 years. (vii) Nil. (viii) Weeding and digging. (ix) Planking trees. (x) Irrigated. (xi) 110.9". (xii) November 1957 to January 1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(200) on page 855.

4. GENERAL :

(i) Good. (ii) Mild *kolerogu* disease—Bordeaux mixture sprayed. (iii) Green and dry yield of arecanut. (iv) (a) 1954—1960. (b) Yes. (v) and (vi) Nil.

5. RESULTS :

(i) 17.13 lb./12 trees. (ii) (a) 3.08 lb./12 trees. (b) 3.85 lb /12 trees. (iii) No effect is significant. (iv) Av. yield of arecanut in lb /12 trees.

	M_0	M_1	M_2	M_3	Mean
B_0	16.79	15.47	20.76	15.07	17 02
B_1	17.65	17.50	16.37	18 74	17.56
B_2	14 30	19.36	20.56	17.48	17.92
B_3	15.02	20.83	15.34	12.79	16.00
Mean	15.94	18.29	18.26	16 02	17.13

S.E. of difference of two

1. B marginal means = 1.09 lb./12 trees.
2. M marginal means = 1.36 lb./12 trees.
3. M means at the same level of B = 2.72 lb./12 trees.
4. B means at the same level of M = 2.60 lb./12 trees.

Crop :- Arecanut. **Ref :- Ms. 58(84).**

Site :- Reg. Arecanut Res. Stn., Thirthahally. **Type :- 'M'.**

Object :—To study the effect of organic and inorganic manures at different intervals of application.

1. BASAL CONDITIONS :

(i) N.A. (ii) (a) Laterite. (b) N.A. (iii) By sowing seednuts. (iv) *Areca catechu.* (v) N.A. (vi) 2 to 3 years. (vii) Nil. (viii) Weeding and digging. (ix) Planking trees. (x) Irrigated. (xi) 141.7". (xii) November 1958 to January 1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(200) on page 855.

4. GENERAL :

(i) Good. (ii) *Koleroge* disease was mild. Bordeaux mixture was sprayed to control the disease. (iii) Green and dry yield of arecanut. (iv) (a) 1954—1960. (b) Yes. (v) and (vi) Nil.

5. RESULTS :

(i) 20.63 lb./12 trees. (ii) (a) 2.38 lb./12 trees. (b) 3.96 lb./12 trees. (iii) Main effect of M alone is significant. (iv) Av. yield of arecanut in lb./12 trees.

	M_0	M_1	M_2	M_3	Mean
B_0	16.75	21.12	17.16	22.54	19.39
B_1	19.30	21.52	20.30	26.31	21.86
B_2	20.44	20.66	20.57	22.68	21.09
B_3	17.46	22.90	22.23	18.17	20.19
Mean	18.49	21.55	20.06	22.42	20.63

S.E. of difference of two

1. B marginal means = 0.84 lb./12 trees.
2. M marginal means = 1.40 lb./12 trees.
3. M means at the same level of B = 2.80 lb./12 trees.
4. B means at the same level of M = 2.57 lb./12 trees.

Crop :- Arecanut. **Ref :- Ms. 59(182).**

Site :- Reg. Arecanut Res. Stn., Thirthahally. **Type :- 'M'.**

Object :—To study the effect of organic and inorganic manures at different intervals of application.

1. BASAL CONDITIONS :

(i) N.A. (ii) (a) Laterite. (b) N.A. (iii) Transplanting seedlings raised from seed nuts. (iv) *Areca catechu* (v) N.A. (vi) About 2½ years. (vii) Nil. (viii) Weeding. (ix) Banana (rarely only). (x) Irrigated. (xi) 176.6". (xii) September 1959 to January 1960.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(200) on page 855except that the amount of N is 20 lb./ac. in M_1 to M_3.

4. GENERAL :

(i) Normal. (ii) Nil ; usual spraying of Bordeaux mixture. (iii) Green and dry yield of arecanut. (iv) (a) 1954—1960. (b) Yes. (v) and (vi) Nil.

5. RESULTS :

(i) 12.50 lb./12 trees. (ii) (a) 2.88 lb./12 trees. (b) 3.56 lb./12 trees. (iii) No effect is significant. (iv) Av. yield of arecanut in lb./12 trees.

	M_0	M_1	M_2	M_3	Mean
B_0	10.05	12.53	13 58	12.82	12.24
B_1	12.94	14.36	12.72	13.08	13.28
B_2	7.53	11.78	12.37	13.18	11.22
B_3	12.98	14.97	12.20	12.92	13.27
Mean	10.88	13.41	12.72	13.00	12.50

S.E. of difference of two

1. B marginal means = 1.02 lb./12 trees.
2. M marginal means = 1.26 lb./12 trees.
3. M means at the same level of B = 2.52 lb./12 trees.
4. B means at the same level of M = 2.41 lb./12 trees.

Crop :- Arecanut. **Ref :- Ms. 54(202).**

Site :- Reg. Arecanut Res. Stn., Thirthahally. **Type :- 'M'.**

Object :—To find out the optimum requirements of N, P and K for Arecanut.

1. BASAL CONDITIONS :

(i) N.A. (ii) (a) Laterite. (b) N A. (iii) By sowing seednuts. (iv) *Areca catechu.* (v) and (vi) N.A. (vii) 30 lb./palm of F.Y M.+30 lb./palm of G.L. during December and January after application of artificials. (viii) Weeding and digging. (ix) Planking trees. (x) Irrigated. (xi) 116.54". (xii) N.A.

2. TREATMENTS :

All combinations of (1), (2) and (3)

(1) 3 levels of N as A/S and G.N.C. in 1 : 1 ratio : N_0=0, N_1=30 and N_2=60 lb./palm.

(2) 3 levels of P_2O_5 as Super : P_0=0, P_1=40 and P_2=80 lb./palm.

(3) 3 levels of K_2O as Mur. Pot. : K_0=0, K_1=50 and K_2=100 lb./palm.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/block ; 3 blocks/replicaition. (b) N.A. (iii) 4. (iv) 12. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Moderate. (ii) Nil. (iii) Yield of dry and green arecanut. (iv) (a) 1954—1959. (b) Yes. (v) and (vi) Nil.

5. RESULTS :

(i) 1.21 lb./tree. (ii) 0.30 lb./tree. (iii) None of the effects is significant. (iv) Av. yield of dry arecanut in lb /ac.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	1.14	1.24	1.28	1.22	1.31	1.18	1.17
N_1	1.30	1.10	1.27	1.22	1.25	1.25	1.17
N_2	1.20	1.22	1.15	1.19	1.20	1.32	1.06
Mean	1.21	1.19	1.23	1.21	1.25	1.25	1.13
K_0	1.28	1.26	1.23				
K_1	1.21	1.22	1.32				
K_2	1.15	1.09	1.15				

S.E. of any marginal mean = 0.05 lb./tree.
S.E. of body of any table = 0.09 lb./tree.

Crop :- Arecanut. **Ref :- Ms. 55(185).**

Site :- Reg. Arecanut Res. Stn., Thirthahally. **Type :- 'M'.**

Object :—To find out the optimum requirements of N, P and K for Arecanut.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. no. 54(202) on page 853. (xi) 99.6". (xii) 7.11.1955 to 22.1.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(202) on page 858.

5. RESULTS :

(i) 1.46 lb./tree. (ii) 0.39 lb./tree. (iii) None of the effects is significant. (iv) Av. yield of dry arecanut in lb./ac.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	1.53	1.28	1.53	1.45	1.60	1.44	1.30
N_1	1.42	1.34	1.50	1.42	1.47	1.47	1.33
N_2	1.61	1.42	1.50	1.51	1.63	1.44	1.46
Mean	1.52	1.35	1.51	1.46	1.57	1.45	1.36
K_0	1.54	1.55	1.60				
K_1	1.55	1.26	1.54				
K_2	1.48	1.23	1.39				

S.E. of any marginal mean = 0.07 lb./tree.
S.E. of body of any table = 0.11 lb./tree.

Crop :- Arecanut. **Ref :- Ms. 56(135).**

Site :- Reg. Arecanut Res. Stn., Thirthahally. **Type :- 'M'.**

Object :—To find out the optimum requirements of N, P and K for Arecanut.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. no. 54(202) on page 858. (xi) 103". (xii) November 1956 to January 1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(202) on page 858.

5. RESULTS :

(i) 1.59 lb /tree. (ii) 0.41 lb./tree. (iii) The main effect of N is significant. Other effects are not significant.
(iv) Av. yield of dry arecanut in lb./tree.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	1.47	1.42	1.42	1.44	1.53	1.37	1.41
N_1	1.65	1.57	1.69	1.64	1.65	1.64	1.62
N_2	1.66	1.68	1.71	1.68	1.68	1.66	1.70
Mean	1.60	1.56	1.61	1.59	1.62	1.55	1.58
K_0	1.54	1.61	1.72				
K_1	1 59	1.58	1.49				
K_2	1.65	1.48	1.61				

S.E. of any marginal mean = 0.07 lb./tree.
S.E. of body of any table = 0.12 lb./tree.

Crop :- Arecanut. **Ref :- Ms. 57(139).**

Site :- Reg. Arecanut Res. Stn., Thirthahally. **Type :- 'M'.**

Object :—To find out the optimum requirements of N, P and K for Arecanut.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. no. 54(202) on page 858. (xi) N.A. (xii) November, 1957 to January, 1958.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 54(202) on page 858.

4. GENERAL:
(i) Good. (ii) *Pytopthola Areca*. Sprayed 2% Bordeaux mixture twice in the year. (iii) Yield of dry and green arecanut (iv) (a) 1954—1959. (b) Yes. (v) and (vi) Nil.

5. RESULTS:
(i) 1.54 lb./tree. (ii) 0.40 lb./tree. (iii) None of the effects is significant. (iv) Av. yield of dry nut in lb./tree.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	1.47	1.35	1.45	1.42	1.54	1.41	1.31
N_1	1.62	1.43	1.81	1.62	1 64	1.62	1.60
N_2	1.60	1.54	1.58	1.57	1.57	1.66	1.49
Mean	1.56	1.44	1.61	1.54	1.58	1 56	1.47
K_0	1.66	1 51	1.59				
K_1	1.55	1.53	1.62				
K_2	1.48	1.28	1.63				

S.E. of any marginal mean = 0 07 lb./tree.
S.E. of body of any table = 0.12 lb./tree.

Crop :- Arecanut. **Ref :- Ms. 58(97).**

Site :- Reg. Arecanut Res. Stn., Thirthahally. **Type :- 'M'.**

Object :—To find out the optimum requirements of N, P and K for Arecanut.

1. BASAL CONDITIONS:
(i) to (x) Same as in expt. no. 54(202) on page 858. (xi) 74". (xii) November, 1958 to January, 1959.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 54(202) on page 858.

5. RESULTS:
(i) 2.69 lb /tree. (ii) 0.79 lb./tree. (iii) None of the effects is significant. (iv) Av. yield of dry arecanut in lb./tree.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	2.54	2.57	2.52	2.54	2.71	2.43	2.48
N_1	2.93	2.36	3.00	2.76	2.65	2.68	2.97
N_2	2.76	2.93	2.60	2.76	3.08	2.54	2.68
Mean	2.74	2.62	2.71	2.69	2.81	2.55	2.71
K_0	2 82	2.86	2.76				
K_1	2.58	2.50	2.57				
K_2	2.83	2.51	2.80				

S.E. of any marginal mean = 0.13 lb./tree.
S.E. of body of any table = 0.23 lb./tree.

Crop :- Arecanut. **Ref :- Ms. 59(108).**

Site :- Reg. Arecanut Res. Stn., Thirthahally. **Type :- 'M'.**

Object :—To find out the optimum requirements of N, P and K for Arecanut.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. no. 54(202) on page 858. (xi) 176.6". (xii) November, 1959 to January, 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(202) on page 858.

5. RESULTS :

(i) 1.62 lb./tree. (ii) 0.48 lb./tree. (iii) No effect is significant. (iv) Av. yield of arecanut in lb./tree.

	P_0	P_1	P_2	Mean	K_0	K_1	K_2
N_0	1.66	1.55	1.46	1.56	1.72	1.36	1.58
N_1	1.64	1.47	1.67	1.59	1.63	1.44	1.71
N_2	1.74	1.69	1.68	1.70	1.67	1.85	1.59
Mean	1.68	1.57	1.60	1.62	1.67	1.55	1.63
K_0	1.69	1.73	1.60				
K_1	1.62	1.52	1.51				
K_2	1.74	1.46	1.69				

S.E. of any marginal mean = 0.08 lb./tree.
S.E. of body of any table = 0.14 lb./tree.

Crop :- Arecanut. **Ref :- Ms. 54(201).**

Site :- Reg. Arecanut Res. Stn., Thirthahally. **Type :- 'M'.**

Object :—To find out the effect of application of lime with manures on the yield of Arecanut.

1. BASAL CONDITIONS :

(i) N.A. (ii) (a) Laterite. (b) N.A. (iii) By sowing of seed nuts. (iv) *Areca catechu.* (v) N.A. (vi) 2 to 3 years. (vii) Nil. (viii) Weeding. (ix) Pepper and Betelvine. (x) Irrigated. (xi) 116 5". (xii) November, 1954 to January, 1955.

2. TREATMENTS .

Main-plot treatments :

3 manurial treatments : M_1=30 lb./tree. of F.Y.M.+30 lb./tree. of G.L. applied once in 3 years, M_2=50 lb./tree. of N+75 lb./tree. of P_2O_5+100 lb./tree. of K_2O applied every year and $M_3=M_1+M_2$.

Sub-plot treatments :

2 levels of lime : L_0=No lime and L_1=400 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) 12. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) *Pytopthola Areca*—2% Bordeaux mixture sprayed twice in the year. (iii) Nil. (iv) (a) 1954—1959. (b) Yes. (v) and (vi) Nil.

5. RESULTS :

(i) 8.30 lb./12 trees. (ii) (a) 1.46 lb./12 trees. (b) 2.38 lb./12 trees. (iii) No effect is significant. (iv) Av. yield of arecanut in lb./12 trees.

	M_1	M_2	M_3	Mean
L_0	8.76	8.09	8.10	8.32
L_1	8.13	8.22	8.51	8.29
Mean	8.44	8.15	8.31	8.30

S.E. of difference of two

1. M marginal means = 0.73 lb./12 trees.
2. L marginal means = 0.97 lb./12 trees.
3. L means at the same level of M = 1.68 lb./12 trees.
4. M means at the same level of L = 1.40 lb./12 trees.

Crop :- Arecanut. **Ref Ms. 55(181).**

Site :- Reg. Arecanut Res. Stn., Thirthahally. **Type :- 'M'.**

Object :—To find out the effect of application of lime with manures on the yield of Arecenut.

1. BASAL CONDITIONS :

(i) N.A. (ii) (a) Laterite. (b) N.A. (iii) By sowing seed nuts. (iv) *Areca catechu*. (v) and (vi) N.A. (vii) Nil. (viii) Digging and weeding. (ix) Planking trees. (x) Irrigated. (xi) 99.61". (xii) 8.12.1956 to 25.1.1956.

2. TREATMENTS :

Main-plot treatments :

3 manures : M_1=30 lb./tree of F.Y.M.+30 lb./tree of G.L. applied once in 3 years, M_2=50 lb./ac. of N+75 lb./ac. of P_2O_5+100 lb./ac. of K_2O applied every year and $M_3=M_1+M_2$

Sub-plot treatments :

2 levels of lime : L_0=0 and 4=400 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) 12. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Moderate. (ii) Nil. (iii) Yield of arecanut. (iv) (a) 1954—1959. (b) Yes. (v) and (vi) Nil.

5. RESULTS :

(i) 14.42 lb./12trees. (ii) (a) 5.48 lb./12 trees. (b) 9.43 lb./12 trees. (iii) No effect is significant. (iv) Av. yield of arecanut in lb./12 trees.

	M_1	M_2	M_3	Mean
L_0	13.07	13.21	16.12	14.13
L_1	11.61	15.79	16.72	14.71
Mean	12.34	14.50	16.42	14.42

S.E. of difference of two

1. M marginal means = 2.74 lb./12 trees.
2. L marginal means = 3.85 lb./12 trees.
3. L mean at the same level of M = 6.67 lb./12 trees.
4. M means at the same level of M = 5.45 lb /12 trees.

Crop :- Arecanut. **Ref :- Ms. 56(125).**

Site :- Reg. Arecanut Res. Stn., Thirathahally. **Type :- 'M'.**

Object :—To find out the effect of application of lime with manures on the yield of Arecanut.

1. BASAL CONDITIONS:

(i) to (x) Same as in expt. no. 55 (181) on page 863. (xi) 139". (xii) Nov., 1956 to Jan., 1957.

2. TREATMENTS and 3. DESIGN:

Same as in expt. no. 55(181) on page 863.

4. GENERAL:

(i) Moderate. (ii) Severe *koleroga* disease—Bordeaux mixture sprayed. (iii) Yield of arecanut. (iv) (a) 1954—1959. (b) Yes. (v) and (vi) Nil.

5. RESULTS:

(i) 15.13 lb./12 trees. (ii) (a) 9.90 lb./12 trees. (b) 13.13 lb./12 trees. (iii) No effect is significant. (iv) Av. yield of arecanut in lb./12 trees.

	M_1	M_2	M_3	Mean
L_0	14.67	14.98	14.00	14.55
L_1	13.36	16.38	17.38	15.71
Mean	14.02	15.68	15.69	15 13

S E. of difference of two

1. M marginal means = 4.95 lb./12 trees.
2. L marginal means = 5.36 lb./12 trees.
3. L means at the same level of M = 9.28 lb./12 trees.
4. M means at the same level of L = 8.23 lb./12 trees.

Crop :- Arecanut. **Ref :- Ms. 57(110).**

Site :- Reg. Arecanut Res. Stn., Thirthahally. **Type :- 'M'.**

Object :—To find out the effect of application of lime with manures on the yield of Arecanut.

1. BASAL CONDITIONS:

(i) to (x) Same as in expt. no. 53(181) on page 863. (xi) 110.9". (xii) Nov., 1957 to Jan., 1958.

2. TREATMENTS and 3. DESIGN:

Same as in expt. no. 55(181) on page 863.

4. GENERAL:

(i) Moderate. (ii) Mild *koleroga* disease—Bordeaux mixture sprayed. (iii) Yield of arecanut. (iv) (a) 1954—1959. (b) Yes. (v) and (vi) Nil.

5. RESULTS:

(i) 15.02 lb./12 trees. (ii) (a) 22.22 lb./12 trees. (b) 3.87 lb./12 trees. (ii) No effect is significant. (iv) Av. yield of arecanut in lb./12 trees.

	M_1	M_2	M_3	Mean
L_0	12.32	14.42	15.46	14.07
L_1	12.54	16.96	18.40	15.97
Mean	12.43	15.69	16.93	15.02

S.E. of difference of two

1. M marginal means = 11.11 lb./12 trees.
2. L marginal means = 1.58 lb./12 trees.
3. L means at the same level of M = 2.74 lb /12 trees.
4. M means at the same level of L = 11.28 lb./12 trees.

Crop :- Arecanut. **Ref :- Ms. 58(67).**

Site :- Reg. Arecanut Res. Stn., Thirthahally. **Type :- 'M'.**

Object :—To find out the effect of application of lime with manures on the yield of Arecanut.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. 55(181) on page 863. (xi) 141.8". (xii) Nov., 1958 to Jan. 1959.

2. TREATMENTS to 863. 4. GENERAL :

Same as in expt. no. 55(181) on page 863.

5. RESULTS :

(i) 27.30 lb./12 trees. (ii) (a) 14.50 lb./12 trees. (b) 10.02 lb./12 trees. (iii) No effect is significant. (v) Av. yield of arecanut in lb./12 trees.

	M_1	M_2	M_3	Mean
L_0	24.03	26.86	25.21	25.37
L_1	25.74	30.08	31.86	29.23
Mean	24.88	28.47	28.54	27.30

S.E. of difference of two

1. M marginal means = 7.25 lb./12 trees.
2. L marginal means = 4.09 lb./12 trees.
3. L means at the same levels of M = 7.09 lb./12 trees.
4. M means at the same level of L = 8.81 lb./12 trees.

Crop :- Arecanut. **Ref :- Ms. 59(181).**

Site :- Reg. Arecanut Res. Stn., Thirthahally **Type :- 'M'.**

Object :—To find out the effect of application of lime with manures on the yield of Arecanut.

1. BASAL CONDITIONS :

(i) to (x) Same as in expt. 55(181) on page 863. (xi) 176.6". (xii) Nov., 1959 to Jan., 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(181) on page 863.

5. RESULTS :

(i) 16.77 lb./12 trees. (ii) (a) 6.08 lb./12 trees. (b) 2.23 lb./12 trees. (iii) No effect is significant, (iv) Av yield of arecaunt in lb./12 trees.

	M_1	M_2	M_3	Mean
L_0	12.78	21.98	15.81	16.86
L_1	12.96	18.23	18.87	16.69
Mean	12.89	20.10	17.34	16.77

S.E. of difference of two

1. M marginal means = 3.04 lb./12 trees.
2. L marginal means = 0.91 lb./12 trees.
3. L means at the same level of M = 1.58 lb./12 trees.
4. M means at the same level of L = 3.24 lb./12 trees.