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FIELD

EXPERIMENTS

VOL. 7 PART 2

MADRAS

1954-59



सत्यमेव जयते

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**INDIAN COUNCIL OF AGRICULTURAL RESEARCH
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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.

NEW DELHI,
March 26, 1965.

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

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.

NEW DELHI,
March 25, 1965.

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

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

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9. ORISSA (BHUBANESWAR)	L.B.S. SOMAYAZULU	SHRI B. MISRA, Deputy Director of Agriculture (Hq.) SHRI D. MISRA, Principal, Uttakal Krushi Mahavidyalaya, Bhubaneswar.
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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 | 9. M.—Madras |
| 2. As.—Assam | 10. Mh.—Maharashtra |
| 3. Bh.—Bihar | 11. Ms.—Mysore |
| 4. GJ.—Gujarat | 12. Or.—Orissa |
| 5. H.P.—Himachal Pradesh | 13. Pb.—Punjab |
| 6. J.K.—Jammu and Kashmir | 14. Rj.—Rajasthan |
| 7. K.—Kerala | 15. U.P.—Uttar Pradesh |
| 8. M.P.—Madhya Pradesh | 16. W.B.—West Bengal |

For the experiments conducted under the schemes sponsored by the Indian Council 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.—Nitrogen Phosphate	A/N—Ammonium Nitrate
Ammo. Phos.—Ammonium Phosphate	A/C—Ammonium Chloride
A/S—Ammonium Sulphate	C/N—Chilean Nitrate
A/S/N.—Ammonium Sulphate Nitrate	N—Nitrogen
C/A/N—Calcium Ammonium Nitrate	P—Phosphate

K.—Potash	F.M.—Fish Manure
B.M.—Bone meal	G.N.C.—Groundnut cake
Mur. Pot.—Muriate of Potash	M.C.—Municipal Compost
Pot. Sul.—Potassium Sulphate	T.C.—Town Compost
Super—Super Phosphate	lb.—Pounds
Zn. Sul.—Zinc Sulphate	Srs.—Seers
C/S—Copper Sulphate	B.D.—Basal dressing
G.M.—Green Manure	C.L.—Cart load
F.Y.M.—Farm Yard Manure	ac.—Acre
F.W.C.—Farm Waste Compost	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 occurrences, 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	Kaonada	Marathi	Gujarati	Hindi	Punjabi
1.	Paddy	<i>Oryza sativa</i> L.	Dhan	Dhan	Dhano	Vadlu ; Biyyamu	Nel	Nellu	Bhatta	Bhat	Dangar	Dhan ; Chawal	Chaul ; Dhan
2.	Jowar	<i>Andropogon Sorghum</i>	—	Jowar	Juara	Jonna	Cholam	Cholam	Jola	Jowari Jondhla	Jowari ; Juar	Jowar ; Jaur	Jowar
3.	Bajra	<i>Pennisetum typnoides</i>	—	Bajra	Bajra	Sajja	Kambu	Kambu	Sajje	Bajri	Bajri	Bajra	Bajra
4.	Ragi	<i>Eleusine coracana</i> Gaerine	—	Marwa	Mandia	Ragi ; Chodi	Keppai ; Ragi	Mathurai ; Ragi	Ragi	Nagli ; Nachni	Nagli ; Bavto	Ragi ; Mandika ; Marwah	Mandhuka ; Mandhal
5.	Tenai	<i>Setaria italica</i> Beauv	—	Kaon	Kanghu ; Kangam ; Kora	Korra	Tenai	Thena	Navane	Kang ; Rala	Kang	Kakum	Kangni
6.	Bhindi (Lady's finger)	<i>Hibiscus esculentus</i> ; <i>Abelmoschus esculentus</i> Moench.	Bhendi	Dhenrosh	Vendi	Benda	Bendai kai	Venda	Bende kayi	Bhendi	Bhida ; Bhinda	Bhindi	Bhindi ; Tori
7.	Brinjal ; Egg plant	<i>Solanum melongena</i> L.	Bengena	Begun	Baigan	Vankaya	Katharikai	Vazhuthana	Badane kayi	Vange	Vengan	Baingan	Bengan ; Bataun
8.	Bitter gourd	<i>Memordica charantia</i> L.	Tita Karela	Karala	Kalara	Kakarakaya	Pakarkai	Pavakka	Hagala kayi	Karla	Karela	Karela	Karela
9.	Radish	<i>Rapharus Sativus</i> L.	Mula	Mula	Mula	Mullangi	Mullangi	Mullanki	Mullangi	Mula	Mulo	Mooli	Muli
10.	Ribbed gourd	<i>Luffa acutangula</i> Roxb.	Jika	Jhinga	Janhi	Beera	Peerkankai	Peechanga	Heere kayi	Dodka	Turia	Tori	Kalitori
11.	Potato	<i>Solanum tuberosum</i> L.	Alooguti	Alu	Bilati Alu	Bangala- dumpa, Ulagadda	Urulai Kizhangu	Urala Kizangu	Alu gedde	Batata	Aloo ; Batata	Aaloo	Alu
12.	Sweet Potato	<i>Ipomoea batatas</i> Lam.	Mitha aloo	Misthi alu	Kandamula	Chilagada- dumpa	Seeni kilangu	Cheeni kizangu	Genasu.	Ratalu	Shakaria	Shakarkandi	Shakarkandi
13.	Tomato	<i>Lycopersicum esculentum</i>	Bilahi	Bilati bagun	Bilati baigan	Tomato	Thakkali	Thakkali	Tomato	Welwangi ; Tambati	Vilaiti wagan ; Tamata	Tamatter	Tamatar
14.	Tapioca	<i>Manihot utilissima</i> ; <i>Manihot esculenta</i> Crantz.	Simolu Aloo	Shimul alu	—	Karra Pendalamu	Maravalli Kizhangu ; Kuchi Kizhangu	Maracheeni	Maragenasu	Tapioca	—	Tapioca	Tapioca

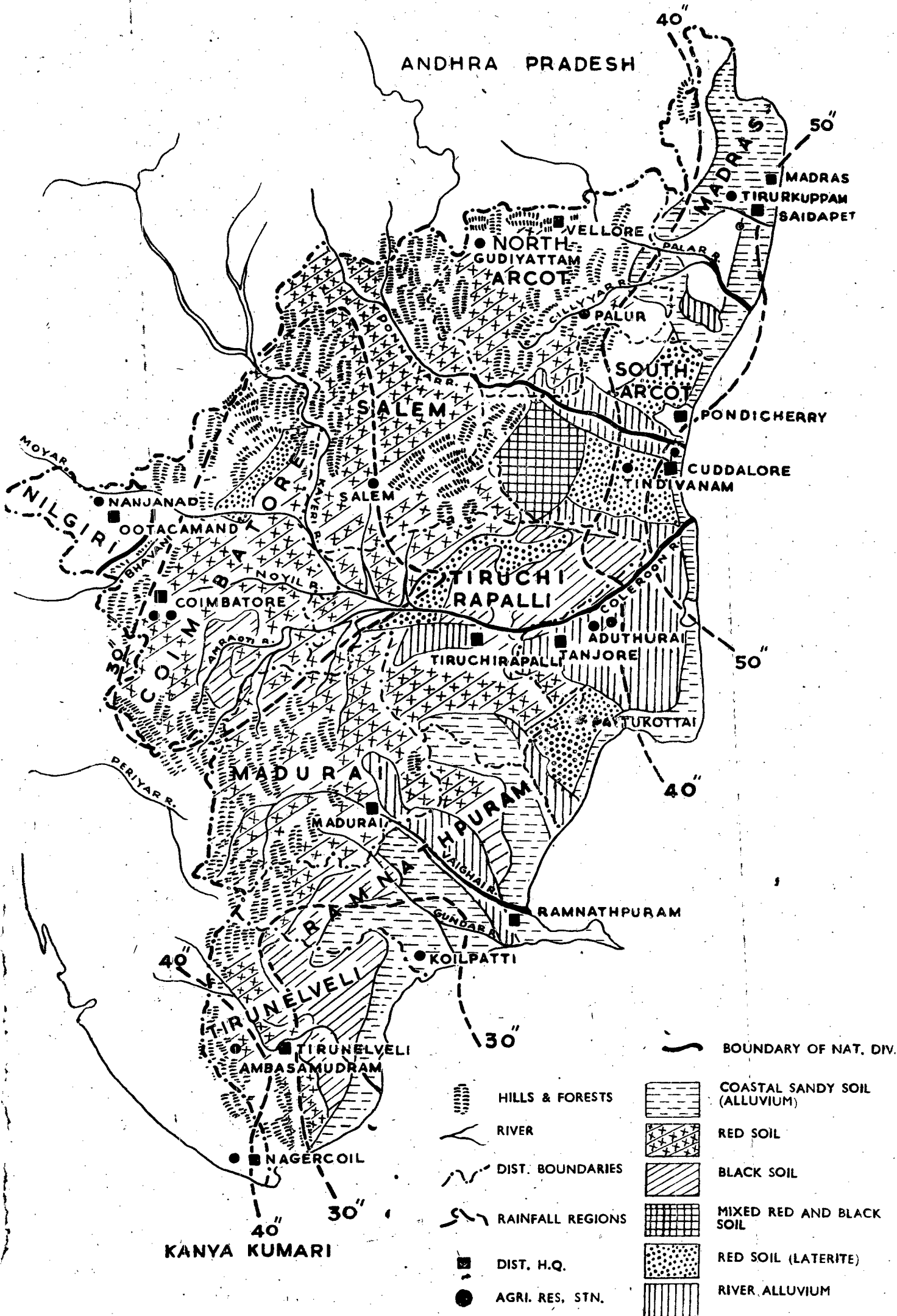
GLOSSARY OF VERNACULAR NAMES OF CROPS—contd.

Sl. No.	Name of Crop	Botanical Name	Assamese	Bengali	Oriya	Telugu	Tamil	Malayalam	Kannada	Marathi	Gujarati	Hindi	Punjabi
15.	Sugarcane	<i>Saccharum officinarum</i> L.	Kuhiar	Akh	—	Cheruku	Karumbu	Karimbu	Kabbu	Oos	Sherdi	Ganna; Kamad; Naishakars	Kamad; Ganna; Eakh
16.	Cotton	<i>Gossypium</i> spp.	Kapah	Karpas, Tula	Kapa	Pratti	Paruthi	Paruthi	Hatti	Kapus	Kapas	Kapas	Kapah
17.	Groundnut	<i>Arachis hypogaea</i> L.	China badam	Cheena badam	China badam	Nelashanaga	Nilakadalai	Nilakkadala	Kadala kayi	Bhuimug	Magafali	Mungphali	Mungfali
18.	Castor	<i>Ricinus Communis</i> L.	Eri	Rehri	Jada	Amudalu	Amanakku	Avanakku	Haralu	Erandi	Diveli; Erando	Rehri	Arind; Harind; Rind
19.	Gingelly	<i>Sesamum indicum</i> L. <i>Sesamum orientale</i> L.	Til	Til	Rasi	Nuvvulu	Ellu	Ellu	Yellu	Til, Tili	Tal	Til	Til
20.	Lucerne	<i>Mediticago Sativa</i> L.	Lucerne ghah	Lucern	Lusarna	Garam Masal	Kuthirai- masal	Lucerne	Kudure masale	Lasunghas; Vilaiti ghavat	Gadab Rajko	—	Lusan
21.	Banana	<i>Musa Paradisiaca</i> L.	Kol	Paka kala	Kadali	Arati	Vazhaipazam	Vazha	Bale	Kele	Kela	Kela	Kela

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



MADRAS

1. General :

The State of Madras forms the southernmost State in the Indian Union and has an area of 32,085 thousand acres. It is bounded in the north by Mysore and Andhra Pradesh, on the east by the Bay of Bengal, on the south by the Indian Ocean and on the west by Kerala.

The State has two natural divisions—the mountainous ranges of the Western Ghats and the plain tract east of the Western Ghats. For administrative purposes, the State has been divided into 13 districts. The land utilisation statistics for Madras State are given in the Table 1 below :

TABLE 1

Land utilisation statistics of Madras State (1958-59)

(Area in '000 acres.)

1. Professional survey	32,085
2. Village papers (reporting area)	32,021
3. Forests	4,387
4. Land put to non-agricultural uses	3,109
5. Barren and unculturable land	2,469
6. Permanent pastures and other grazing land	929
7. Land under misc. crops such as trees	637
8. Culturable waste	2,000
9. Fallow lands other than current fallows	1,649
10. Current fallows	2,515
11. Net area sown	14,326
12. Area sown more than once	2,771

2. Soil types and agro-climatic regions :

Depending upon the types of soil and the agro-climatic conditions prevailing, the State can be divided into 4 divisions which are described below :

1. *Carnatic* : The three eastern districts of Chingleput, North Arcot and South Arcot form the Carnatic region. The soils are predominantly red and sandy loam in texture. The soils are generally shallow having free drainage, the pH ranging from 6.5 to 8.0. In Chingleput, soils near the sea coast are high in salts especially sodium chloride. This region receives an annual rainfall between 800 and 1000 mm. in about 70 to 75 rainy days. The districts of Chingleput and South Arcot mainly receive rainfall from the north-east monsoon while the North Arcot district depends upon both the monsoons. The temperature varies between 24°C to 31°C.

2. *Central Districts* : This includes Salem and Coimbatore districts. The soils are of red and black type. In Coimbatore district, the soils are predominantly clay loam with good drainage. The rainfall varies between 500 to 750 mm. received in about 60 rainy days from both the monsoons.

3. *Southern Districts* : This region comprises the districts of Thanjavur, Tiruchirapalli, Ramanathapuram, Madurai, Tirunelveli and Kanyakumari. The soils are of alluvial type. Rainfall varies between 750 to 1000 mm. Thanjavur and Tiruchirapalli districts benefit more from the north-east monsoon than from the south-west monsoon and receive more rainfall than the other districts in this region. Kanyakumari receives more rain towards the western coast.

PARTICULARS OF RESEARCH STATIONS AND SOIL ANALYSIS

1. Regional Research Station, Aduthurai.

A. General information :

(i) Thanjavur district, two furlongs to the south of the Aduthurai Railway Station. The site is typical of the large Cauvery delta tract. During the initial lay out of the fields in blocks, gradients in both ways ranging from north to south and west to east have been provided for facilitating both easy irrigation and drainage. (ii) Represents the deltaic alluvial paddy tract with a climate somewhat hot in summer and moderately cold in winter. (iii) Established in 1922. (iv) Paddy after paddy followed by G.M or pulses is the normal cropping pattern. (v) Evolving improved strains of paddy and formulating improved techniques of cultivation for stepping up rice production are the main items in the programme of research.

B. Normal rainfall in mm.

June	July	Aug	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
41.7	58.9	83.6	125.2	183.6	250.2	146.1	40.9	8.4	7.5	35.9	73.4	1055.4

(Period on which the figures are based—N.A.).

C. Irrigation and drainage facilities.

(i) (a) Irrigation facilities are available since 1922 (b) Irrigated from Vinayakam channel and 4 filter points have been installed to facilitate summer cropping. (ii) Proper drainage system is available.

D. Soil type and soil analysis.

- (i) River Alluvium. Deep alluvial soil with brownish black to light brown colour.
(ii) Chemical analysis.

	Depth	
	0—6"	6"—12"
1. Moisture	5.15	5.37
2. Loss on ignition	6.93	4.69
3. Insolubles	69.66	69.68
4. Iron	9.03	8.80
5. Alumina	3.52	8.80
6. Total Nitrogen	0.066	0.076
7. Total P ₂ O ₅	0.056	0.068
8. Lime (CaO)	1.17	1.08
9. Magnesium (MgO)	0.59	0.73
10. Total Potash (K ₂ O)	0.47	0.61
11. Available Nitrogen in lb./ac.	196.00	182.00
12. Available P ₂ O ₅ in lb./ac.	4.40	2.80
13. pH	6.9	7.3
14. Electrical Conductivity	0.2	0.2
15. Organic Carbon	0.66	0.58
16. Total base exchange capacity	32.6	33.3
17. Exchangeable Calcium	18.0	18.5
18. Exchangeable magnesium.	1.64	1.58

Water Soluble salts

19. Total solids	0.08	9.10
20. Carbonates	0.009	0.015
21. Bicarbonates	0.01	0.014
(iii) Mechanical analysis.		
22. Clay	42.3	43.5
23. Silt	17.8	16.5
24. Fine sand	26.9	24.4
25. Coarse sand	12.7	15.4

(Figures 1 to 10 and 22 to 25 are expressed as % on moisture free basis. Rest on air dry basis).

E. No. of experiments :

Paddy—61, Cotton—8. Total=69.

2. Central Banana Research Station, Aduthurai.**A. General information :**

(i) Thanjavur District, one mile from Aduthurai Railway Station. The whole deltaic area is in the orbit of cyclonic tract and periodical cyclones have cut across the progress of research in the station. (ii) The *padugai* lands of the station represent the typical area of the silt deposited high level tract that is found all along the banks of the river Cauvery and its tributaries. (iii) Established in 1949. (iv) Perennial crop of banana is raised in the *padugai* lands and paddy or occasionally banana crop is raised in the wet lands. (v) Varietal collection, hybridization, study of plantation practices etc. are the main items of research.

B. Normal rainfall in mm.

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
41.66	58.93	83.57	125.22	183.64	250.19	146.05	40.89	8.38	7.62	35.81	73.41	1055.37

(Figures are based on the average for 10 years).

C. Irrigation and drainage facilities :

(i) (a) Irrigation facilities are available since 1953. (b) Two oil engines work during summer. (ii) No drainage facilities.

D. Soil type and soil analysis :

(i) Heavy alluvial clay soil to a depth of 5' to 6' with light brownish to black colour. (ii) Chemical analysis :

	Depth of the Soil		
	1'	2'	3'
Moisture %	4.56	5.06	4.25
Nitrogen %	0.056	0.060	0.043
Total P ₂ O ₅ %	0.112	0.105	0.074
Available P ₂ O ₅ %	0.025	0.012	0.009
Total K ₂ O %	0.041	0.0384	0.355
Available K ₂ O %	0.013	0.012	0.014
pH.	7.5		

(iii) Mechanical analysis—N.A.

E. No. of experiments :

Banana—6, Rotation expt.—1. Total=7.

3. Rice Research Station, Ambasamudram.*A. General information :*

(i) Tirunelvely district, 2½ miles from Ambasamudram Railway Station. Plain land sloping from west to east. (ii) Established Tambraparni delta. (iii) Established in 1937. (iv) Paddy after paddy is the cropping pattern. (v) Manurial and cultural trials are the main items of research.

B. Normal rainfall in mm :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
28.32	42.06	11.33	26.74	157.58	232.89	109.55	79.55	39.17	70.41	86.94	79.79	957.33

(The period on which the figures are based is—N.A.)

C. Information and drainage facilities :

(i) (a) Irrigation facilities are available since 1937. (b) Tambraparni river irrigation system is the source of irrigation. (ii) Drainage facilities are available.

D. Soil type and soil analysis :

(i) Alluvial loam soil to a depth of 2' and red in colour, (ii) Chemical and (iii) Mechanical analysis of the soil N.A.

E. No. of experiments :

Paddy—25. Total=25.

4. Agricultural Research Station, Bhavanisagar.*A. General information to D. Soil type and soil analysis :*

Details—N.A.

E. No. of experiments :

Bajra—16, Ragi—13, Tenai—4, Cotton—18, Groundnut—21 and Gingelly—8, Total=80.

5. Agricultural College and Research Institute, Coimbatore.*A. General information :*

(i) Coimbatore district, 3 miles from Coimbatore Junction. (ii) A typical wet land of the tract. (iii) Established in 1906. (iv) Paddy, millets and vegetables etc. are the principal crops. (v) All kinds of agronomic, mycological and entomological experiments are the main items of research.

B. Normal rainfall in mm :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
34.8	37.2	53.1	74.4	166.3	112.7	35.5	13.7	10.6	16.7	52.5	36.5	644.0

(The period on which the figures are based—N.A.)

C. Irrigation and drainage facilities :

(i) (a) Irrigation facilities are available since 1906. (b) Tank is the source of irrigation. (ii) Drainage facilities are available.

D. Soil type and soil analysis

(i) Clay loam to a depth of 4' and black in colour. (ii) Chemical and (iii) Mechanical analysis—N.A.

E. No. of experiments :

Paddy—23, Jowar—3, Ragi—2, Bhendi—10, Brinjal—8, Bittergauord—6, Radish—2, Ribbedgourd—3, Sweet Potato—27, Tomato—19, Tapioca—9, Cotton—4, Groundnut—1, Gingelly 1, Lucerne—1, Grass—3 and Glyricidia—1, Total=123.

6. Cotton Breeding Station, Coimbatore.**A. General information :**

(i) Coimbatore district, 3 miles from Coimbatore Junction. (ii) Level land without any undulations. A suitable tract for winter Combodia and unirrigated Karunganny cotton. (iii) Established in 1922. (iv) Karunganni cotton—Bengal gram or cholam is the normal cropping pattern. (v) Breeding trials, agronomic trails and other fundamental studies on cotton, are the main aspects of research.

B. Normal rainfall in mm. :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
41.14	45.97	33.78	56.13	142.24	119.89	42.93	12.45	9.14	24.77	55.88	54.86	639.1

(The period on which the figures are based is 39 years from 1922.)

C. Irrigation and drainage facilities :

(i) (a) Irrigation facilities are available since 1922. (b) Wells are the source of irrigation. (ii) There is proper drainage system.

D. Soil type and soil analysis :

(i) Red loam and black clayey soils 4' to 7' deep. (ii) Chemical analysis :

Particulars	Red soil	Black soil
	%	%
1. Loss on ignition (organic matter)	5.129	4.27
2. Insoluble mineral matter (sand etc.)	82.40	84.73
3. Iron	3.63	1.95
4. Alluminium	5.76	4.49
5. Lime	1.30	2.40
6. Magnesia	0.60	0.72
7. Potash	0.45	0.18
8. Soda	0.13	0.32
9. Carbondioxide	0.52	0.90
10. Phosphoric acid	0.065	0.03
11. Sulphuric acid	0.016	0.01
12. Nitrogen	0.07	0.032
13. Available Potash	0.021	0.014
14. Available P ₂ O ₅	0.030	0.009

(iii) Mechanical analysis :

Particulars	Red soil	Black soil
	%	%
1. Moisture	3.01	2.8
2. Fine gravel	8.0	9.5
3. Coarse sand	18.9	25.0
4. Fine sand	16.4	15.1
5. Silt	6.2	6.4
6. Clay	14.9	28.1

E. No. of experiments :

Cotton—17. Total=17.

7. Millet Breeding Station, Coimbatore.**A. General information :**

(i) Coimbatore District, 4 miles from Coimbatore Junction. Level land. (ii) Dry and garden lands of millet tracts. (iii) Established in 1923. (iv) Millets—pulses or cotton is the cropping pattern. (v) Breeding of millets is the programme of research.

B. Normal rainfall in mm.

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
30.7	31.5	38.9	42.7	156.5	129.5	33.4	16.0	3.8	16.0	67.6	46.0	612.6

(The period on which the figures are based is 1935—1947.)

C. Irrigation and drainage facilities :

(i) (a) Irrigation facilities are available since 1949. (b) Bore-wells are the source of irrigation. (ii) Drainage facilities are available.

D. Soil type and soil analysis :

(i) Loamy soil to a depth of 18" and brownish in colour. Sandy to clay, in different parts of the farm. (ii) Chemical analysis.

	0—6"	6"—12"
Total N %	0.053	0.033
Total P ₂ O ₅ %	0.070	0.066
Total K ₂ O %	0.740	0.700
pH	8.500	8.700

(iii) Mechanical analysis, -

	0—6"	6"—12"
Clay %	18.8	20.0
Silt %	5.0	5.0
Fine sand %	29.7	29.3
Coarse sand %	42.8	41.5
Acid solubles %	3.7	4.2
Organic carbon %	0.24	0.19

E. No. of experiments :

Jowar—5, Bajra—7, Ragi—4 and Mixed crop—3. Total=19.

8. Paddy Breeding Station, Coimbatore.**A. General information :**

(i) Coimbatore district, 4 miles from Coimbatore Railway Station. (ii) Central region (Salem, Coimbatore) type of tract. (iii) Established in 1913. (iv) Paddy—paddy—cotton or groundnut is the cropping pattern. (v) Crop improvement by pureline selection, hybridisation, manurial trials and cultural trials are the main items of research.

B. Normal rainfall in mm.

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
56.8	78.9	20.3	27.4	120.1	139.1	35.1	10.2	4.3	14.9	56.3	64.8	628.2

(The period on which the figures are based is 10 years from 1950).

C. Irrigation and drainage facilities :

(i) (a) Irrigation facilities are available. (b) Tank and bore-wells are the sources of irrigation. (ii) Drainage system is available.

D. Soil type and soil analysis :

(i) Clayey soil to a depth of 5' to 6" and black in colour. (ii) Chemical analysis :

Total Moisture%	5.843
Total Potash%	0.5728
P ₂ O ₅ %	0.0471
Nitrogen%	0.0758
Available Potash%	0.0193
Available P ₂ O ₅ %	0.0064

(ii) Mechanical analysis—N.A.

E. No. of experiments :

Paddy—32. Total=32.

9. Central Sugarcane Research Station, Cuddalore.**A. General information :**

(i) South Arcot district, 3 miles from Cuddalore N.T. Railway Station, situated on the northern side of Pennar and on the southern side of river Gadilam. (ii) Sandy alluvial soil near costal cyclonic belt area. (iii) Established in 1957. (iv) Sugarcane—ratoon—green manure crop—paddy is the cropping pattern with groundnut after ratoon sometimes. (v) Conducting agronomic, entomological, mycological trials on sugarcane is the programme of research.

B. Normal rainfall in mm. :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
51.1	83.1	124.5	81.7	318.7	188.7	112.0	17.0	4.6	10.4	24.4	72.9	1089.1

(The period on which the figures are based is 10 years from 1951.)

C. Irrigation and drainage facilities :

(i) (a) Irrigation facilities are available since 1957. (b) Lift irrigation. Two oil engines and eleven electric motors are used. (ii) Drainage facilities are available.

D. Soil type and soil analysis :

(i) Alluvial soil of great depth, brown in colour and with coarse grained structure. (ii) Chemical analysis :

pH	6.8 to 8.5
Total N %	0.035
Total P ₂ O ₅ %	0.045
Total K ₂ O %	0.500
Organic carbon %	0.230

(iii) Mechanical analysis :

Clay %	21.3
Silt %	13.7
Coarse sand %	47.0
Fine sand %	15.3

E. No. of experiments :

Sugarcane—22. Total=22.

10. Sugarcane Research Station, Gudiyattam.**A. General information :**

(i) North Arcot district, 1½ miles from Gudiyattam Railway Station with plain level fields. (ii) Garden land area with mostly sandy loam. (iii) Established in 1935. (iv) Sugarcane—paddy—G.M. crop is the cropping pattern. (v) Agronomic experiments on sugarcane is the programme of research.

B. Normal rainfall in mm. :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
99.1	126.5	122.7	112.3	176.5	98.8	61.2	35.3	32.3	17.5	36.3	78.5	997.0

(The period on which the figures are based is—N.A.)

C. Irrigation and drainage facilities :

(i) (a) Irrigation facilities are available since 1935. (b) Wells are the source of irrigation. (iii) Drainage facilities are available.

D. Soil type and soil analysis :

(i) Sandy loam soil. (ii) Chemical and (iii) Mechanical analysis—N.A.

E. No. of experiments :

Sugarcane—8. Total=8.

11. Regional Research Station, Koilpatti.**A. General information :**(i) Tirunelveli district, 1.05 Km. from Koilpatti Railway Station of level land. (ii) Rainfed black cotton tract. (iii) Established in 1901. (iv) Cotton—cumbu—cotton fodder *cholam* is the cropping pattern. (v) Agronomic research is the programme of research**B. Normal rainfall in mm. :**

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
11.4	11.7	36.6	78.7	167.9	178.3	86.4	27.4	12.7	40.6	94.7	62.5	808.9

(The period on which the figures are based is 10 years from 1947.)

C. Irrigation and drainage facilities :

(i) (a) and (b) No irrigation facilities. Only rainfed. (ii) Drainage facilities available.

D. Soil type and soil analysis :

(i) Black cotton soil to a depth of 5' to 8', black in colour and of clayey loam structure. (ii) Chemical analysis.

	%
Moisture	9.19
Loss on ignition	3.79
Nitrogen	0.022
CaO	4.03
Total P ₂ O ₅	0.095
Available P ₂ O ₅	0.018
Total K ₂ O	0.36
Available K ₂ O	0.019

(iii) Mechanical analysis—N.A.

E. No. of experiments :

Cotton—1, Mixed crop—1 and Rotation expt.—3. Total=5.

12. Paddy Farm, Nagercoil.**A. General information :**

(i) Kanyakumari district. (ii) to (v) N.A.

B. Normal rainfall in mm. :

Details—N.A.

C. Irrigation and drainage facilities :

(i) (a) Irrigation facilities available. (b) Tank irrigation. (ii) Drainage facilities available.

D. Soil type and soil analysis :

(i) Heavy clay alkaline in patches. (ii) Chemical and (iii) Mechanical analysis—N.A.

E. No. of experiments :

Paddy—5. Total=5.

13. Agricultural Research Station, Nanjanad.**A. General information :**

- (i) The Nilgiris district, 11 miles from Ootacamund Railway Station. Hilly region having an elevation of about 7028 ft. above mean sea level. (ii) Hilly tract of laterite soil type. (iii) Established in 1917. (iv) Potato-lupin or buck wheat is the cropping pattern. (v) All kinds of agronomic studies on potato are the main items of research.

B. Normal rainfall in mm.

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
84.8	198.1	69.5	57.9	71.4	52.1	20.0	4.5	5.8	13.0	32.6	79.0	688.7

(The period on which the figures are based is 5 years from 1958).

C. Irrigation and drainage facilities :

- (i) (a) Irrigation facilities are available. (b) Perennial rivers are the source of irrigation.
(ii) There is proper drainage system.

D. Soil type and soil analysis :

(i) Laterite soil. (ii) Chemical analysis as given below (Figures in %)

Moisture	4.70	Total Potash	0.13
Loss on ignition	14.04	Soda	0.41
Insolubles	55.22	Carbon dioxide	0.04
Iron	9.95	Total P ₂ O ₅	0.07
Alumina	14.62	Sulphuric acid	0.08
Lime	0.07	Nitrogen	0.02
Magnesia	0.10	pH.	4.63

(iii) Mechanical analysis :

Thin gravel	6.5	Fine silt	29.9
Coarse sand	7.5	Clay	16.9
Fine sand	16.5	Moisture etc.	6.2
Silt	16.5		

E. No. of experiments :

Potato—49. Total=49.

14. Agricultural Research Station, Palur.**A. General information :**

- (i) South Arcot district, 5 miles from Nellikuppam Railway Station. (ii) A typical tract of alluvial soil. (iii) Established in 1905. (iv) Paddy after paddy is the normal cropping pattern with G.M. crop in between. (v) Conducting agronomic trials is the programme of research.

B. Normal rainfall in mm. :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
69.6	88.4	141.2	90.9	221.7	164.8	132.8	22.4	5.6	8.6	14.7	86.1	1046.8

(The period on which the figures are based is 10 years from 1949)

C. Irrigation and drainage facilities :

- (i) (a) Irrigation facilities are available since 1905. (b) Gadilam river and wells are the source of irrigation. (ii) Drainage facilities are available.

D. Soil type and soil analysis :

- (i) Clay loam soil to a depth of 12", gray in colour. (ii) Chemical analysis as given below :

	0"–6" depth	6"–12" depth
pH	7.6	7.7
N	210.0 lb./ac.	210.0 lb./ac.
P ₂ O ₅	20.0 lb./ac.	20.0 lb./ac.
K ₂ O	408.0 lb./ac.	344. lb./ac.

(iii) Mechanical analysis—N.A.

E. No. of experiments :

Paddy—38, Bajra—2, Ragi—2, Cotton—6 and Mixed crop—4. Total=52.

15. Agricultural Research Station, Pattukottai.

A. General information :

(i) Tanjavur district. Plain land without much undulations. (ii) Sandy loam tract brought under cultivation about 30 years back. (iii) Established in 1935. (iv) Paddy after paddy is the normal cropping pattern. (v) Agronomic experiments are main items of research.

B. Normal rainfall in mm. :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
34.0	84.8	112.5	84.8	164.3	186.7	151.4	48.5	16.0	18.3	40.4	25.7	967.4

(Figures are based on 10 years data).

C. Irrigation and drainage facilities :

(i) (a) Irrigation facilities are available since 1937. (b) Cauvery Mettur project canal and wells are the source of irrigation. (ii) Drainage facilities are available.

D. Soil type and soil analysis :

(i) Sandy loam soil to a depth of 6' to 8', reddish in colour and sandy in structure. (ii) Chemical and (iii) Mechanical analysis—N.A.

E. No. of experiments :

Paddy—35, Tapioca—2, Cotton—3 and Groundnut—2. Total=42.

16. Agriculture Research Station, Satyamangalam.

A. General information :

(i) Coimbatore district. (ii) to (v) N.A.

B. Normal rainfall in mm. :

Details—N.A.

C. Irrigation and drainage facilities :

Details—N.A.

D. Type of soil and soil analysis :

(i) Gravelly soil, (ii) Chemical and (iii) Mechanical analysis—N.A.

E. No. of experiments :

Cotton—1, Total=1.

17. Regional Research Station, Tindivanam.

A. General information :

(i) South Arcot district, 2 miles from Tindivanam Railway Station. Sloping from west to east. (ii) Dry land tract with red loamy soils. (iii) Established in 1935. (iv) Groundnut after and groundnut, groundnut followed by millets or gingelly is the cropping pattern. (v) Crop improvement by adopting improved agronomic practices and breeding for improve dstrains of groundnut, gingelly and castor.

B. Normal rainfall in mm. :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
50.8	115.0	146.3	88.6	216.4	168.6	79.7	29.2	13.4	11.4	21.8	—	941.2

(The figures are based on 10 years data from 1953).

C. Irrigation and drainage facilities :

(i) (a) Irrigation facilities are available since 1948. (b) Wells and *Uttar kuttai* pond are the source of irrigation. (ii) Drainage facilities are available.

B. Soil type and soil analysis :

(i) Red sandy loam to a depth of 6" to 29", red in colour and light sandy loam in soil structure. (ii) Chemical analysis.

Available N	250 lb./ac.
Available P ₂ O ₅	25 lb./ac.
Electric conductivity	— 2
pH value	about 7.2

(iii) Mechanical analysis—N.A.

E. No. of experiments :

Groundnut—36, Castor—6, Gingelly—12 and Mixed crop—3. Total=57.

18. Regional Millet Station, Tirupathur.

A. General information to D. Soil type and soil analysis—N.A.

E. No. of experiments :

Mixed crop—3. Total=3.

19. Rice Research Station, Tirur.**A. General information :**

(i) Chingleput district, about a mile from Sevapet Road Railway Station. (ii) Avid and dry tract with sandy loam soil. A portion of the farm is garden land which is irrigated from well. (iii) Established in 1942. (iv) Paddy after Paddy is the cropping pattern. (v) Breeding and agronomic trials on paddy.

B. Normal rainfall in mm. :

June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
86.1	117.9	134.1	155.7	182.4	194.1	98.3	10.9	—	—	27.2	30.7	1037.4

(The figures are based on 8 years data from 1955).

C. Irrigation and drainage facilities :

(i) (a) Irrigation facilities available. (b) Tank and well are the source of irrigation. (ii) Drainage facilities are available.

D. Soil type and soil analysis :

(i) Sandy loam to a depth of 6" to 9", light gray in colour. (ii) Chemical analysis.

P ₂ O ₅	0.035 to 0.041
N	0.073 to 0.074
pH	7.00 to 8.75

(iii) Mechanical analysis—N.A.

E. No. of experiments :

Paddy—38. Total=38.

Crop :- Paddy (Samba).

Ref :- M. 56(35).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'M'.

Object :—To find out the relative merits of Urea, A/S and A/C as nitrogenous fertilizers for Paddy.

1. BASAL CONDITIONS :

(i) (a) Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 1.8.1956/19,20.9.1956. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) 5000 lb./ac. of G.L. + 30 lb./ac. of P₂O₅ as Super. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 29.24". (x) 4.2.1957.

2. TREATMENTS :

All combinations of (1) and (2) + a control

(1) 3 sources of N : S₁=A/S, S₂=A/C and S₃=Urea.

(2) 4 levels of N : N₁=15, N₂=30, N₃=45 and N₄=60 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 13. (b) N.A. (iii) 4. (iv) (a) 42'×10½'. (b) 41½'×10'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) (a) Pattukkottai and Tirur. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 3446 lb./ac. (ii) 303.6 lb./ac. (iii) Effect of N alone is significant. (iv) Av. yield of grain in lb./ac.

Control = 3449 lb./ac.

	N ₁	N ₂	N ₃	N ₄	Mean
S ₁	3784	3562	3358	3309	3503
S ₂	3627	3482	3286	3198	3399
S ₃	3562	3466	3449	3263	3435
Mean	3658	3503	3364	3257	3446

S.E. of S marginal mean = 75.9 lb./ac.

S.E. of N marginal mean = 87.6 lb./ac.

S.E. of body of table or control mean = 151.8 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 57(25).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'M'.

Object :—To find out the relative merits of Urea, A/S and A/C as nitrogenous fertilizers for Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 6.8.1957/22.9.1957. (iv) (a) Digging with *mummatty* and preparing experimental plots. (b) Transplanted. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) 5000 lb./ac. of G.L. + 30 lb./ac. of P₂O₅ as Super. (vi) CO—25 (late). (vii) Irrigated. (viii) Weeding twice. (ix) 28.78". (x) 10.2.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(35) above.

RESULTS :

(i) 3079 lb./ac. (ii) 221.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 2939 lb./ac.

	N ₁	N ₂	N ₃	N ₄	Mean
S ₁	3103	3200	3240	3049	3148
S ₂	3122	3004	3016	3010	3038
S ₃	3332	3082	3016	2912	3086
Mean	3186	3095	3091	2990	3091

S.E. of S marginal mean = 55.4 lb./ac.

S.E. of N marginal mean = 64.0 lb./ac.

S.E. of body of table or control mean = 110.8 lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 58(79).****Site :- Agri. Res. Stn., Aduthurai.****Type :- 'M'.**

Object :—To find out the relative merits of Urea, A/S and A/C as nitrogenous fertilizers for Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 24.7.1958 1.9.1958. (iv) 3 to 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6' × 6'. (e) N.A. (v) 5000 lb./ac. of G.L.+30 lb./ac. of P₂O₅ as Super. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 28.95%. (x) 31.1.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(35) on page 1.

5. RESULTS :

(i) 3932 lb./ac. (ii) 260.3 lb./ac. (iii) 'Control vs. others' alone is significant. (iv) Av. yield of grain in lb./ac.

Control = 3621 lb./ac.

	N ₁	N ₂	N ₃	N ₄	Mean
S ₁	4094	4133	4120	3962	4077
S ₂	4080	3661	3871	3844	3864
S ₃	3.62	4015	3989	3766	3933
Mean	4045	3936	3993	3857	3958

S.E. of N marginal mean = 75.1 lb./ac.

S.E. of S marginal mean = 65.1 lb./ac.

S.E. of body of table = 130.2 lb./ac.

Crop :- Paddy (Kuruwai).**Ref :- M. 54(78).****Site :- Agri. Res. Stn., Aduthurai.****Type :- 'M'.**

Object :—To find out the usefulness of sea weed compost as compared to other nitrogenous manures of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super applied at the time of planting and 150 lb./ac. of A S top-dressed. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 7.7 1954/31 7.1954. (iv) (a) Ploughed with mould board plough thrice and levelled with Burmese Settun. (b) N.A. (c) 30 lb./ac. (d) 6' × 6'. (e) N.A. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 13.03% (x) 17.10.1954.

2. TREATMENTS:

6 sources of 30 lb./ac. of N : S_0 =Nil, S_1 =Sea weed compost, S_2 =F.W.C., S_3 =C.M., S_4 =G.L. and S_5 =A/S. S_1 to S_4 were applied before transplanting and S_5 was given as top-dressing 6 weeks after planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 24'×12'. (b) 23½'×11½'. (v) 1 row of plants left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height measurement, tiller count and yield of grain. (iv) (a) to (c) No. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2602 lb./ac. (ii) 193.7 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
Av. yield	2384	2317	2478	3485	2814	3136

S.E./mean = 79.1 lb./ac.

Crop :- Paddy (Thaladi).

Ref :- M. 54(79).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'M'.

Object :—To find out the usefulness of sea weed compost as manure for Paddy as compared to other nitrogenous manures.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super applied at planting+150 lb./ac. of A/S top-dressed. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 14.10.1954/13.11.1954. (iv) (a) *Mummatty* digging after wetting the plots to get the required puddle. (b) N.A. (c) 30 lb./ac. (d) 6"×6". (e) N.A. (v) Nil. (vi) Adt. 25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 26.87". (x) 14.3.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(78) on page 2.

5. RESULTS :

(i) 1809 lb./ac. (ii) 184.1 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
Av. yield	1625	1638	1759	1813	1894	2122

S.E./mean = 75.2 lb./ac.

Crop :- Paddy (Kuruvai).

Ref :- M. 54(80).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'M'.

Object :—To compare the manurial value of sesbania leaf in green and dry forms for Paddy crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super applied at planting+150 lb./ac. of A/S top-dressed. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 19.6.1954/22.7.1954. (iv) (a) Ploughed with mould board plough thrice and levelled with Burmese Settun once. (b) N.A. (c) 30 lb./ac. (d) 6"×6". (e) N.A. (v) Nil. (vi) Adt.—20 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 13.03". (x) 4.10.19 4.

2. TREATMENTS :

1. No manure (control).
 2. *Sesbania* in green form at 5000 lb./ac.
 3. *Sesbania* in dry form equivalent to 5000 lb./ac. of G.L.
- The manures were applied and trampled in just before planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 18'×12'. (b) 17½'×11½'. (v) 1 row left as guard row. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) (a) *Soorai* and stem-borer were noticed in mild form. Dusted with B.H.C. 10%. (iii) Height measurement, tiller count and yield of grain. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3049 lb./ac. (ii) 157.5 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3
Av. yield	2836	3298	3013

S.E./mean = 55.7 lb./ac.

Crop :- Paddy (*Thaladi*).

Ref :- M. 54(81).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'M'.

Object :—To compare the manurial value of sesbania leaf in green and dry forms for Paddy crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+ 150 lb./ac. of Super applied at planting+150 lb./ac. of A/S top-dressed. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 6.9.1954/23.10.1954. (iv) a) *Mummatty* digging after wetting the plots to get the required puddle. (b) N.A. (c) 30 lb./ac. (d) 6"×6". (e) N.A. (v) Nil. (vi) Adt. 25 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 26.87". (x) 20.2.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54/80 on page 3.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height measurement, tiller count and yield of grain. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) (a) and N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2144 lb./ac. (ii) 114.3 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3
Av. yield	1970	2298	2164

S.E./mean = 40.4 lb./ac.

Crop :- Paddy (*Kuruwai*).

Ref :- M. 59(108).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'M'.

Object :—To find out the effect of the application of P direct to Paddy and through G.M. crop preceding Paddy.

1. BASAL CONDITIONS :

(i) (a) to (c) As per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Aduthurai. (iii) 6.7.1959/29.7.1959. (iv) (a) 3 ploughings. (b) N.A. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) As per treatments. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 14.10.1959.

2. TREATMENTS :

Treatments in one direction :

6 sources of P₂O₅ each at 45 lb./ac. : P₀=No P₂O₅, P₁=Super, P₂=Dical. Phos., P₃=Rock Phos., P₄=Hyper Phos. and P₅=B.M.

Treatments in orthogonal direction :

4 green manures : M_0 = No G.M., M_1 = *Sezbania*, M_2 = *Kolinji*, and M_3 = *Pillipesara*.
 P_2O_5 applied to G.M. crop under M_1 , M_2 and M_3 and to Paddy crop under M_0 .

3. DESIGN :

(i) Strip-plot. (ii) (a) 24. (b) N.A. (iii) 5. (iv) (a) and (b) 20' × 12'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1959—1960. (b) No. (c) Nil. (v) (a) Coimbatore and Tirur. (b) N.A. (vi) Nil. (vii) Expt. was conducted by Agronomist, Coimbatore.

5. RESULTS :

(i) 2351 lb./ac. (ii) (a) 729.8 lb./ac. (b) 508.3 lb./ac. (c) 293.4 lb./ac. (iii) Main effect of P is highly significant and of M is significant. Interaction P × M is not significant. (iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	P_3	P_4	P_5	Mean
M_0	2313	2492	2490	2879	2230	2561	2494
M_1	2566	2146	2380	2815	2118	2541	2428
M_2	3034	2323	2730	3174	2545	2696	2750
M_3	2474	2146	2370	2830	2253	2637	2452
Mean	2597	2277	2493	2925	2287	2609	2531

S.E. of difference of two

1. P marginal means = 188.4 lb./ac.
2. M marginal means = 160.7 lb./ac.
3. P means at the same level of M = 281.2 lb./ac.
4. M means at the same level of P = 214.3 lb./ac.

Crop :- Paddy (*Kuruwai*).

Ref :- M. 58(80).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'M'.

Object :—To determine the efficacy of applying A/S in fractional doses at different phases of crop growth of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Alluvial loamy. (b) Refer soil analysis, Aduthurai. (iii) 21.7.1958/12.8.1958. (iv) (a) 3 to 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 10" × 4". (e) 2. (v) 150 lb./ac. of Super+5000 lb./ac. of G.L. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 18.55". (x) 25.10.1958.

2. TREATMENTS :

1. 30 lb./ac. of N applied 30 days after planting.
 2. 15 lb./ac. of N at planting+15 lb./ac. of N 30 days after planting.
 3. 15 lb./ac. of N at planting+15 lb./ac. of N a week prior to flowering.
 4. 10 lb./ac. of N at planting+10 lb./ac. of N 15 days after planting+10 lb./ac. of N 30 days after planting.
 5. 10 lb./ac. of N at planting+10 lb./ac. of N 15 days after planting+10 lb./ac. of N a week prior to flowering.
- N applied as A/S.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 12' × 30'. (b) 10' 8" × 28' 4". (v) One row left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1958—1960. (b) No. (c) Nil. (v) (a) Coimbatore, Palur, Ambasamudram, Tirur and Pattukkottai. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2763 lb./ac. (ii) 168.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4	5
Av. yield	2733	2781	2999	2763	2739

S.E./mean = 68.6 lb./ac.

Crop :- Paddy (Thaladi).

Ref :- M. 58(81).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'M'.

Object :—To determine the efficacy of applying A/S in fractional doses at different phases of crop growth of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 24.9.1958/1.11.1958. (iv) (a) 3 to 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 10"×5". (e) 2. (v) Basal dressing of 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) CO—25 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 26.32". (x) 24.2.1959.

2. TREATMENTS :

1. 30 lb./ac. of N applied 60 days after planting.
 2. 15 lb./ac. of N applied at planting+15 lb./ac. of N applied 60 days after planting.
 3. 15 lb./ac. of N at planting+15 lb./ac. of N a week prior to flowering.
 4. 10 lb./ac. of N at planting+10 lb./ac. of N 30 days after planting+10 lb./ac. of N 60 days after planting
 5. 10 lb./ac. of N at planting+10 lb./ac. of N 30 days after planting+10 lb./ac. of N a week prior to flowering.
- N applied as A/S.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 30'×12'6". (b) 29'2"×12'1". (v) One row left. (vi) Yes.

4. GENERAL :

Same as in expt. no. 58(80) on page 5.

5. RESULTS :

(i) 3104 lb./ac. (ii) 267.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4	5
Av. yield	3072	3152	3171	3081	3042

S.E./mean = 109.2 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 58(82).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'M'.

Object :—To determine the efficacy of applying A/S in fractional doses at different phases of crop growth of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 26.7.1958/5.9.1958. (iv) (a) 3 to 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 10"×15". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 28.95". (x) 5.2.1959.

2. TREATMENTS :

Same as in expt. no. 58(81) above.

3. DESIGN :

(i) R B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 15'×30'. (b) 14'7"×29'2". (v) One row left (vi) Yes.

4. GENERAL

Same as in expt. no. 58(80) on page 5.

5. RESULTS :

(i) 3335 lb./ac. (ii) 197.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4	5
Av. yield	3397	3311	3269	3388	3311

S.E./mean = 80.54 lb./ac.

Crop :- Paddy (*Kuruwai*).

Ref :- M. 59(65).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'M'.

Object :—To determine the efficacy of applying A/S in fractional doses at different phases of crop growth of Paddy.

1. BASAL CONDITIONS

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 8.7.1959/9.8.1959. (iv) (a) 3 to 4 ploughings. (b) Transplanted. (c) 20 lb./ac. (d) 10"×4". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 17.55". (x) 14.10.1959.

2. TREATMENTS to 4. GENERAL

Same as in expt. no. 58(80) on page 5.

5. RESULTS :

(i) 2895 lb./ac. (ii) 598.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4	5
Av. yield	2634	2934	2997	2955	2955

S.E./mean = 244.2 lb./ac.

Crop :- Paddy (*Thaladi*).

Ref :- M. 59(63).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'M'.

Object :—To determine the efficacy of applying A/S in fractional doses at different phases of crop growth of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 21.9.1959./12.11.1959. (iv) (a) 3 to 4 ploughings. (b) Transplanted. (c) 25 lb./ac. (d) 10"×5". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) CO—25 (late). (vii) Irrigated. (viii) 1 weeding. (ix) N.A. (x) 29.6.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58 (81) on page 6.

5. RESULTS :

(i) 2755 lb./ac. (ii) 192.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4	5
Av. yield	2799	2777	2758	2681	2758

S.E./mean = 78.4 lb./ac.

Crop :- Paddy (Samba).
Site :- Agri. Res. Stn., Aduthurai.

Ref :- M. 59(64).
Type :- 'M'.

Object :—To determine the efficacy of applying A/S in fractional doses at different phases of crop growth of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 1.8.1959/12.9.1959. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) 25 lb./ac. (d) 10" x 5". (e) 2. (v) 5000 lb./ac. of G.L. + 150 lb./ac. of Super.. (vi) CO—25 (late). (vii) Irrigated. (viii) 1 weeding. (ix) N.A. (x) 30.1.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. on 58(81) on page 6

5. RESULTS.

(i) 4128 lb./ac. (ii) 243.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4	5
Av. yield	4315	4120	4068	4058	4079

S.E./mean = 99.2 lb./ac.

Crop :- Paddy (Navarai).

Site :- Agri. Res. Stn., Aduthurai.

Ref :- M. 54(106).

Type :- 'M'.

Object :—To find out the effect of trace elements on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 150 lb./ac. of A/S, 150 lb./ac. of Super over a basal dressing of G.L. at 5000 lb./ac. (ii) (a) Clay loam. (b) Refer soil analysis, Aduthurai. (iii) N.A. 4.11.1954. (iv) (a) 4 puddlings. (b) Incorporating the leaf and transplanting. (c) 3 to 4 lb./ac. (d) and (e) N.A. (v) As per treatments. (vi) Adt. 25 (early). (vii) Irrigated. (viii) 3 weedings. (ix) N.A. (x) 22.2.1955.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 manurial treatments : M_0 =No manure, M_1 =G.L. at 5000 lb./ac. and M_2 =G.L. at 5000 lb./ac. + 45 lb./ac. of N as A/S + 60 lb./ac. of P_2O_5 as Super.

(2) 4 trace elements : T_0 =Nil, T_1 =Trace elements applied before planting, T_2 =Trace elements sprayed one month after planting and T_3 = T_2 +Urèa sprayed one month after planting.

T_1 =20 lb./ac. of C/S + 10 lb./ac. of Mn. Sul. + 10 lb./ac. of Zn. Sul. + 40 lb./ac. of Fe. Sul. + 40 lb./ac. of Mg. Sul. while T_2 =5 lb./ac. of C/S + 5 lb./ac. of Mg. Sul. + 5 lb./ac. of Zn. Sul. + 10 lb./ac. of Fe. Sul. + 10 lb./ac. of Mg. Sul. Urea applied at 10 lb./ac. of N.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) and (b) 1/151.51 lb./ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) No lodging. (ii) N.A. (iii) Height, tiller count, weight of sheaves and grain. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) The expt. was conducted by Systematic Botanist, Coimbatore.

5. RESULTS :

(i) 3333 lb./ac. (ii) 272.3 lb./ac. (iii) Main effects of M and T are highly significant. (iv) Av. yield of grain in lb./ac.

	T_0	T_1	T_2	T_3	Mean
M_0	2917	3011	2386	3144	2865
M_1	3428	3277	3371	3220	3324
M_2	3864	3769	3712	3902	3812
Mean	3403	3352	3156	3422	3333

S.E. of M marginal mean	= 68.08 lb./ac.
S.E. of T marginal mean	= 78.61 lb./ac.
S.E. of body of table	= 136.1 lb./ac.

Crop :- Paddy (*Kuruwai*).

Ref :- M. 54(107).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'M'.

Object :—To find out the effect of trace elements on the yield of Paddy.

1. BASAL CONDITIONS :

(i) Paddy—Paddy. (b) Paddy. (c) 150 lb./ac. of A/S, 150 lb./ac. of Super over a basal dressing of G.L. at 5000 lb./ac. (ii) (a) Clay loa m. (b) Refer soil analysis, Aduthurai. (iii) N.A./13.7.1954. (iv) (a) 4 puddlings. (b) Incorporating the leaf and transplanting. (c) 3 to 4 lb./ac. (d) and (e) N.A. (v) As per treatments. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 3 weedings. (ix) N.A. (x) 3.10.1954.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(106) on page 8.

4. GENERAL :

(i) and (ii) N.A. (iii) Yield of grain and straw. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) The expt. was conducted by Systematic Botanist, Coimbatore.

3. RESULTS :

(i) 3585 lb./ac. (ii) 232.1 lb./ac. (iii) Main effects of M and T and interaction M×T are highly significant (iv) Av. yield of of grain in lb./ac.

	T ₀	T ₁	T ₂	T ₃	Mean ¹
M ₀	3258	3523	3248	3504	3383
M ₁	3599	3608	3447	3390	3511
M ₂	4110	3712	3703	3916	3860
Mean	3656	3614	3466	3603	3585

S.E. of M marginal mean	= 58.02 lb./ac.
S.E. of T marginal mean	= 67.00 lb./ac.
S.E. of body of table	= 116.06 lb./ac.

Crop :- Paddy (*Navarai*).

Ref :- M. 54(108).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'M'.

Object :—To find out the effect of trace elements on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—paddy. (b) Paddy. (c) 150 lb./ac. of A/S and 150 lb./ac. of Super over a basal dressing of 5000 lb./ac. of G.L. (ii) (a) Clay loam. (b) Refer soil analysis, Aduthurai. (iii) 20.2.1954/23.3.1954. (iv) (a) Puddling the field 4 times and incorporating the leaf. (b) Transplanting. (c) —. (d) and (e) N.A. (v) As per treatments. (vi) CO—13 (early). (vii) Irrigated. (viii) and (ix) N.A. (x) 13.6.1954.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 manurial treatments : M₀=No manure, M₁=G.M. at 5000 lb./ac. and M₂=G.M.+60 lb./ac. of P₂O₅ as Super+45 lb./ac. of N as A/S.

(2) 3 trace elements : T₁=Trace elements applied to soil, T₂=Trace elements as spray and T₃=Trace elements+Urea as spray.

Amount of traces elements and urea applied is N.A.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 9. (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) 1954—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) The expt. was conducted by Systematic Botanist, Coimbatore.

5. RESULTS :

(i) 580 lb./ac. (ii) 218 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

	T ₁	T ₂	T ₃	Mean
M ₀	402	458	496	452
M ₁	537	410	570	506
M ₂	934	709	702	782
Mean	624	526	589	580

S.E. of marginal mean of M or T = 62.9 lb./ac.
S.E. of body of table = 109.0 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 55(40).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'M'.

Object :—To study the residual effect of cotton grown in rice fallows in summer on the succeeding Paddy crop.

1. BASAL CONDITIONS :

(i) (a) and (b) As per treatments. (c) Nil. (ii) (a) Clay. (b) Refer soil analysis, Aduthurai. (iii) 27.7.1955/3.9.1955. (iv) (a) 4 ploughings. (b) N.A. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 26.87". (x) 28.1.1956.

2. TREATMENTS :

Main-plot treatments :

3 previous crops : C₁=Summer fallow, C₂=Green gram in rice fallow and C₃=Cotton in rice fallow.

Sub-plot treatments :

4 manures : M₀=No manure, M₁=5000 lb./ac. of G.L., M₂=150 lb./ac. of A/S+150 lb./ac. of Super and M₃=5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 4 sub-plots/main-plot. (b) 47'×166'. (iii) 4. (iv) (a) 47'×13'. (b) 46½'×12½'. (v) 6' left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 4729 lb./ac. (ii) (a) 548.8 lb./ac. (b) 409.8 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	Mean
C ₁	4513	4636	4883	4467	4625
C ₂	4582	4776	5010	5051	4855
C ₃	4620	4584	4615	5007	4707
Mean	4572	4666	4836	4842	4729

S.E. of difference of two

1. C marginal means	= 194.0 lb./ac.
2. M marginal means	= 167.3 lb./ac.
3. M means at the same level of C	= 289.8 lb./ac.
4. C means at the same level of M	= 317.2 lb./ac.

Crop :- Paddy (*Kuruwai*).**Ref :- M. 54(54).****Site :- Agri. Res. Stn., Aduthurai.****Type :- 'M'.**

Object :—To find out a suitable manurial dose to check the incidence of stem-rot on Paddy.

1. BASAL CONDITIONS

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.M.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Aduthurai. (iii) 26.6.1954/23.7.1954. (iv) (a) 2 ploughings after watering the field. G.L. applied and trampled and allowed to decompose ; ploughed again and levelled. (b) Transplanting. (c) —. (d) and (e) N.A. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 1 weeding. (ix) 14.11". (x) 13.10.1954.

2. TREATMENTS :

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

(1) 3 levels of N as A/S : $N_0=0$, $N_1=40$ and $N_2=80$ lb./ac.(2) 3 levels of P_2O_5 as Super : $P_0=0$, $P_1=24$ and $P_2=48$ lb./ac.(3) 3 levels of K_2O as Pot. Sul. : $K_0=0$, $K_1=52$ and $K_2=104$ lb./ac.except the combinations P_1K_1 , P_1K_2 , P_2K_1 and P_2K_2 .**3. DESIGN :**

(i) R.B.D. (ii) (a) 23. (b) N.A. (iii) 4. (iv) (a) and (b) 6'×20'. (v) Nil. (vi) Yes.

GENERAL :

(i) Good. (ii) Incidence of stem-rot noticed. No control measures taken. (iii) Observations on the incidence of stem-rot, percentage of stem-rot, infected tillers and grain yield. (iv) (a) to (c) No. (v) (a) and (b) No. (vi) Nil. (vii) This expt. was conducted by the Myologist, Coimbatore.

5. RESULTS :

(i) 2569 lb./ac. (ii) 389.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	$N_1P_0K_0$	$N_2P_0K_0$	$N_0P_1K_0$	$N_0P_2K_0$	$N_0P_0K_1$	$N_0P_0K_2$
Av. yield	2223	2704	2532	2405	2305	2632
Treatment	$N_1P_1K_0$	$N_1P_2K_0$	$N_1P_0K_1$	$N_1P_0K_2$	$N_1P_1K_1$	$N_1P_1K_2$
Av. yield	2505	2704	2668	2732	2695	2777
Treatment	$N_1P_2K_1$	$N_1P_2K_2$	$N_2P_1K_0$	$N_2P_2K_0$	$N_2P_0K_1$	$N_2P_0K_2$
Av. yield	2459	2686	2804	2369	2623	2532
Treatment	$N_2P_1K_1$	$N_2P_2K_2$	$N_2P_2K_1$	$N_2P_1K_2$	$N_0P_0K_0$	
Av. yield	2468	2605	2668	2759	2242	

S.E./mean = 194.7 lb./ac.

Crop :- Paddy (*Samba*).**Ref :- M. 57(24).****Site :- Agri. Res. Stn., Aduthurai.****Type :- 'M'.**

Object :—To find out the effect of different levels and sources of P at different levels of N on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Alluvial loam. (b) Refer soil analysis, Aduthurai. (iii) 6.8.1957/23 and 24.9.1957. (iv) (a) Digging with *mummatty* and preparing the plots. (b) N.A. (c) 30 lb./ac. (d) 6'×6'. (e) 2. (v) 5000 lb./ac. of G.L. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 28.78°. (x) 11, 12.2.1958.

2. TREATMENTS :

All combinations of (1), (2) and (3) +3 extra treatments.

(1) 4 levels of P_2O_5 : $P_1=15$, $P_2=30$, $P_3=45$ and $P_4=60$ lb./ac.

(2) 3 sources of P_2O_5 : $S_1=$ Super, $S_2=$ Dical. Phos. and $S_3=$ Hyper Phos.

(3) 3 levels of N as A/S : $N_1=30$, $N_2=45$ and $N_3=60$ lb./ac.

Extra treatments : $T_1=30$, $T_2=45$ and $T_3=60$ lb./ac. of N as A/S.

3. DESIGN :

(i) R.B.D. (ii) (a) 39. (b) N.A. (iii) 4. (iv) (a) $10\frac{1}{2}'\times 28'$. (b) $10'\times 27\frac{1}{2}'$. (v) One row left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1957—1958. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2869 lb./ac. (ii) 269.6 lb./ac. (iii) Main effect of P alone is significant. (iv) Av. yield of grain in lb./ac.

Extra treatments : $T_1=2762$, $T_2=3030$ and $T_3=3149$ lb./ac.

	P_1	P_2	P_3	P_4	Mean	S_1	S_2	S_3
N_1	2958	2802	2882	2805	2848	2889	2861	2795
N_2	2901	2817	2934	2891	2886	2866	2836	29.5
N_3	2958	2709	2782	2927	2844	2856	2919	2758
Mean	2939	2776	2848	2874	2859	2870	2872	2836
S_1	3018	2815	2795	2854				
S_2	2878	2734	2934	2941				
S_3	2921	2779	2815	2848				

S.E. of N or S marginal mean = 38.9 lb./ac.
 S.E. of P marginal mean = 44.9 lb./ac.
 S.E. of body of $N\times P$ or $S\times P$ table = 77.8 lb./ac.
 S.E. of body of $N\times S$ table = 67.4 lb./ac.

Crop :- Paddy (Samba).

Site :- Agri. Res. Stn., Aduthurai.

Ref :- M. 58(98).

Type :- 'M'.

Object :—To find out the effect of different levels and sources of P at different levels of N on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Alluvial loam. (b) Refer soil analysis, Aduthurai. (iii) 24.7.1958/30, 31.8.1958. (iv) (a) 3 to 4 ploughings. (b) N.A. (c) 25 lb./ac. (d) 6'×6'. (e) 2. (v) 5000 lb./ac. of G.L. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 31.75°. (x) 31.1.1959 and 1.2.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(24) on page 11.

5. RESULTS :

(i) 3691 lb./ac. (ii) 289 lb./ac. (iii) Main effects of N and P and their interaction are significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

Extra treatments : $T_1=3762$, $T_2=4079$ and $T_3=3623$ lb./ac.

	P ₁	P ₂	P ₃	P	Mean	S ₁	S ₂	S ₃
N ₁	3894	3960	3524	3742	3780	3688	3831	3821
N ₂	3770	3498	3664	3644	3644	3683	3609	3640
N ₃	3703	337	3597	3531	3617	3570	3669	3613
Mean	3789	3698	3595	3639	3680	3647	3703	3691
S ₁	3856	3630	3538	3564				
S ₂	3709	3782	3544	3776				
S ₃	3802	3683	3703	3577				

S.E. of N or S marginal mean = 42 lb./ac.
 S.E. of P marginal mean = 48 lb./ac.
 S.E. of body of N×P or S×P table = 83 lb./ac.
 S.E. of body of N×S table = 72 lb./ac.

Crop :- Paddy (Kurwai).

Ref :- M. 54(82).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'M'.

Object :—To find out the comparative merits of different organic manures when applied alone and in combination with P, K and lime on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy after paddy. (b) Paddy. (c) As per treatments. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 26.6.1954/24.7.1954. (iv) (a) *Mummatty* digging after wetting the plots to get the required puddle. (b) Transplanted. (c) 30 lb./ac. (d) 6"×6". (e) N.A. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 13.03". (x) 10.10.1954.

2. TREATMENTS :

Main-plot treatments :

5 sources of 60 lb./ac. of N applied as basal dressing : M_0 =No nitrogen, M_1 =A/S, M_2 =Compost, M_3 =F.Y.M. and M_4 =G.L.

Sub-plot treatments :

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

(1) 2 levels of P_2O_5 as Super : $P_0=0$ and $P_1=60$ lb./ac.

(2) 2 levels of K_2O as Pot. Sul : $K_0=0$ and $K_1=60$ lb./ac.

(3) 2 levels of slaked lime : $L_0=0$ and $L_1=1500$ lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 5 main-plots/block and 8 sub-plots/main-plot. (b) 90'×150'. (iii) 4. (iv) (a) 45'×7½'. (b) 44½'×7'. (v) 1 row left as guard row. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height measurements, tiller count and grain yield. (iv) (a) 1952—contd. (b) No. (c) Yes. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3072 lb./ac. (ii) (a) 413.0 lb./ac. (b) 170.8 lb./ac. (iii) No main effect or interaction is significant. (iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	M ₂	M ₃	M ₄	K ₀	K ₁	L ₀	L ₁	Mean
P ₀	2823	3363	2850	3118	3109	3026	3078	3061	3044	3052
P ₁	2853	3287	2945	3194	3177	3062	3120	3064	3118	3091
Mean	2838	3325	2898	3156	3143	3044	3099	3062	3081	3072
L ₀	2834	3326	2854	3179	3120	3027	3078			
L ₁	2842	3324	2942	3133	3166	3061	3101			
K ₀	2770	3341	2876	3105	3131					
K ₁	2906	3309	2920	3207	3155					

S.E. of difference of two

1. M marginal means = 103.2 lb./ac.
 2. P, K or L marginal means = 27.0 lb./ac.
 3. P, K or L means at the same level of M = 60.4 lb./ac.
 4. M means at the same level of P, K or L = 111.7 lb./ac.
- S.E. of body of P×K, K×L or P×L table = 27.0 lb./ac.

Crop :- Paddy (Thaladi).

Ref :- M. 54(83).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'M'.

Object :—To find out the comparative merits of different organic manures when applied alone and in combination with P, K and lime on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 16.9.1954/11.11.1954. (iv) (a) *Mummy* digging after wetting the plots to get the required puddle. (b) Transplanted. (c) 30 lb./ac. (d) 6"×6". (e) N.A. (v) Nil. (vi) Adt. 25 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 26.87". (x) 26.2.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(82) on page 13.

5. RESULTS :

(i) 2857 lb./ac. (ii) (a) 380.4 lb./ac. (b) 573.6 lb./ac. (iii) Main effect of M alone is highly significant. (iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	M ₂	M ₃	M ₄	K ₀	K ₁	L ₀	L ₁	Mean
P ₀	2021	3756	2317	2730	2880	2731	2750	2728	2753	2741
P ₁	2246	4090	2483	2790	3254	2979	2966	3025	2921	2973
Mean	2133	3923	2400	2760	3067	2855	2878	2877	2837	2857
L ₀	2120	3936	2409	2819	3099	2813	2941			
L ₁	2146	3910	2391	2701	3035	2898	2776			
K ₀	2136	3862	2446	2765	3064					
K ₁	2130	3984	2354	2755	3070					

S.E. of difference of two

1. M marginal means = 95.1 lb./ac.
 2. P, K or L marginal means = 90.7 lb./ac.
 3. P, K or L means at the same level of M = 202.8 lb./ac.
 4. M means at the same level of P, K or L = 177.1 lb./ac.
- S.E. of body of P×K, K×L or L×P table = 90.7 lb./ac.

Crop :- Paddy (Thaladi).**Ref :- M. 55(43).****Site :- Agri. Res. Stn., Aduthurai.****Type :- 'M'.**

Object :—To find out the comparative merits of different organic manures when applied alone and in combination with P, K and lime on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 12.9.1955/8 and 9.11.1955. (iv) (a) 2 diggings with *mummatty* and preparing the plots. (b) Transplanted. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 26.87". (x) 13 and 14.3.1956.

2. TREATMENTS to 4. GENERAL

Same as in expt. no. 54(82) on page 13.

5. RESULTS :

(i) 2552 lb./ac. (ii) (a) 536.2 lb./ac. (b) 213.4 lb./ac. (iii) M effect is highly significant and effect of K is significant. Others are not significant. (iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	M ₂	M ₃	M ₄	K ₀	K ₁	L ₀	L ₁	Mean
P ₀	1721	3217	2270	2175	3504	2424	2731	2586	2569	2577
P ₁	1726	3093	2189	2229	3399	2393	2662	2526	2528	2527
Mean	1723	3150	2230	2202	3452	2408	2696	2556	2544	2552
L ₀	1711	3198	2247	2229	3382	2461	2650			
L ₁	1735	3112	2213	2175	3510	2355	2743			
K ₀	1532	2929	2115	2067	3396					
K ₁	1914	3381	2344	2336	3506					

S.E. of difference of two

- | | |
|---|-----------------|
| 1. M marginal means | = 134.5 lb./ac. |
| 2. P, K or L marginal means | = 33.7 lb./ac. |
| 3. P, K or L means at the same level of M | = 75.4 lb./ac. |
| 4. M means at the same level of P, K or L | = 144.2 lb./ac. |
| S.E. of body of P×K, P×L or K×L table | = 33.7 lb./ac. |

Crop :- Paddy (Kuruwai).**Ref :- M. 56(39).****Site :- Agri. Res. Stn., Aduthurai.****Type :- 'M'.**

Object :—To find out the comparative merits of different organic manures when applied alone and in combination with P, K and lime on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Fallow—Paddy—Paddy. (b) Fallow. (c) Nil. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 4.7.1956/30 and 31.7.1956. (iv) (a) Digging with *mummatty* and preparing the experimental plots. (b) N.A. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 18.38". (x) 24 to 26.10.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(82) on page 13.

Lime and organic manure were applied a week before planting, phosphate and potash at the time of planting and A/S a month after planting.

5. RESULTS :

(i) 3368 lb./ac. (ii) (a) 554.3 lb./ac. (b) 221.8 lb./ac. (iii) Main effects of M and K and interaction M×K are highly significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	M ₂	M ₃	M ₄	K ₀	K ₁	L ₀	L ₁	Mean
P ₀	3192	2823	3526	3818	3512	3312	3436	3358	3391	3374
P ₁	3131	2819	3695	3679	3483	3295	3428	3373	3350	3362
Mean	3161	2821	3611	3748	3498	3304	3432	3365	3371	3368
L ₀	3179	2771	3615	3792	3470	3302	3428			
L ₁	3144	2871	3606	3705	3525	3305	3436			
K ₀	2995	2 46	3460	3644	3486					
K ₁	3328	2696	3772	3853	3509					

S.E. of difference of two

1. M marginal means = 138.6 lb./ac.
 2. P, K or L marginal means = 35.1 lb./ac.
 3. P, K or L means at the same level of M = 102.1 lb./ac.
 4. M means at the same level of P, K or L = 159.2 lb./ac.
- S.E. of body of P×L, P×K or K×L table = 35.1 lb./ac.

Crop :- Paddy (Thaladi).

Ref :- M. 56(38).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'M'.

Object :—To find out the comparative merits of different organic manures when applied alone and in combination with P, K and lime on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 17.9.1956/21 and 22.11.1956. (iv) (a) Digging with *mummatty* and preparing experimental plots. (b) Transplanted. (c) 30 lb./ac. (d) 6'×6'. (e) 2. (v) Nil. (vi) CO—25 (late; (vii) Irrigated. (viii) 2 weedings. (ix) 29.24". (x) 13, 14.3.1957.

2. TREATMENTS :

Same as in expt. no. 54(82), on page 13.

3. DESIGN :

(i) Split-plot. (ii) (a) 5 main-plots/block ; 8 sub-plots, main-plot. (b) 90'×150'. (iii) 4. (iv) (a) 45'×7½' . (b) 44'×6½'. (v) 6' left around the net plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1952—contd. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2800 lb./ac. (ii) (a) 423.1 lb./ac. (b) 315.3 lb./ac. (iii) Main effects of M, P, L and K are highly significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	M ₂	M ₃	M ₄	K ₀	K ₁	L ₀	L ₁	Mean
P ₀	2100	3709	2287	2472	3649	2714	2973	2802	2884	2843
P ₁	2058	3617	2165	2445	3500	2646	2867	2799	2715	2757
Mean	2079	3663	2226	2458	3574	2680	2920	2801	2799	2800
L ₀	2117	3574	2228	2457	3628	2671	2931			
L ₁	2041	3752	2224	2460	3521	2689	2910			
K ₀	1886	3548	2140	2309	3518					
K ₁	2272	3778	2312	2608	3631					

S.E. of difference of two

1. M marginal means = 105.8 lb./ac.
 2. P, K or L marginal means = 49.9 lb./ac.
 3. P, K or L means at the same level of M = 111.5 lb./ac.
 4. M means at the same level of P, K or L = 131.9 lb./ac.
- S.E. of body of P×K, P×L or K×L table = 49.9 lb./ac.

Crop :- Paddy (*Kuruwai*).

Ref :- M. 57(29).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'M'.

Object :—To find out the comparative merits of different organic manures when applied alone and in combination with P, K and lime on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Fallow—Paddy—Paddy. (b) Fallow. (c) Nil. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 26.6.1957/15 and 16.7.1957. (iv) (a) Digging with *mummatty* and preparing the experimental plots. (b) Transplanting. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 18.84". (x) 12.10.1957.

2. TREATMENTS :

Same as in expt. no. 54(82) on page 13.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 56(38) on page 16.

5. RESULTS :

(i) 3370 lb./ac. (ii) (a) 444 lb./ac. (b) 305.3 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	K ₀	K ₁	L ₀	L ₁	Mean
P ₀	3102	3151	3448	3404	3360	3265	3321	3295	3291	3293
P ₁	3438	3369	3544	3474	3412	3459	3436	3445	3449	3447
Mean	3270	3260	3496	3439	3386	3362	3378	3370	3368	3370
L ₀	3295	3308	3466	3452	3330	3368	3372			
L ₁	3245	3212	3526	3426	3442	3356	3385			
K ₀	3282	3146	3531	3330	3412					
K ₁	3258	3264	3461	3548	3360					

S.E. of difference of two

1. M marginal means	= 111.0 lb./ac.
2. P, K or L marginal means	= 48.3 lb./ac.
3. P, K or L means at the same level of M	= 107.9 lb./ac.
4. M means at the same level of P, K or L	= 134.7 lb./ac.
S.E. of body of P×L, P×K or K×L table	= 48.3 lb./ac.

Crop :- Paddy (Kuruwai).

Ref :- M. 58(100).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'M'.

Object :—To find out the comparative merits of different organic manures when applied alone and in combination with P, K and lime on the yield of Paddy.

1. BASAL CONDITIONS :

(i) Fallow—Paddy—Paddy. (b) Fallow. (c) Nil. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 9, 10.7.1958/10, 11.8.1958. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 4'×4'. (e) 2. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 16.35". (x) 19, 20.10.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(82) on page 13.

5. RESULTS :

(i) 2083 lb./ac. (ii) (a) 468.7 lb./ac. (b) 268.3 lb./ac. (iii) Main effects of M and P and interaction M×P are highly significant. Others are not significant. (iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	M ₂	M ₃	M ₄	K ₀	K ₁	L ₀	L ₁	Mean
P ₀	1601	1942	2161	2294	2133	2023	2029	1994	2136	2065
P ₁	2039	1932	2255	2294	2181	2089	2191	2058	2144	2101
Mean	1820	1937	2208	2294	2157	2056	2110	2026	2140	2083
L ₀	1805	1973	2154	2248	2146	2045	2067			
L ₁	1835	1901	2262	2340	2168	2085	2135			
K ₀	1748	1925	2253	2268	2087					
K ₁	1892	1949	2163	2320	2227					

S.E. of difference of two

1. M marginal means	= 117.2 lb./ac.
2. P, K or L marginal means	= 42.4 lb./ac.
3. P, K or L means at the same level of M	= 94.8 lb./ac.
4. M means at the same level of P, K or L	= 135.4 lb./ac.
S.E. of body of P×L, P×K or L×K table	= 42.4 lb./ac.

Crop :- Paddy (Thaladi).

Ref :- M. 58(99).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'M'.

Object :—To find out the comparative merits of different organic manures when applied alone and in combination with P, K and lime on the yield of Paddy.

BASAL CONDITIONS :

(i) Fallow—Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 13.9.1958./5 to 7.11.1958. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 4"×4". (e) 2. (v) Nil. (vi) CO-25 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 29.50". (x) 11 and 12.3.2959.

2. TREATMENTS to 4. GENERAL :

Same as expt. no. 54(82) on page 13.

5. RESULTS :

(i) 2192 lb./ac. (ii) (a) 353.6 lb./ac. (b) 174.8 lb./ac. (iii) Main effects of M and P and interactions P×K, P×M and L×M are highly significant. Others are not significant. (iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	M ₂	M ₃	M ₄	K ₀	K ₁	L ₀	L ₁	Mean
P ₀	1414	2265	2178	2159	2265	2026	2086	2073	2039	2056
P ₁	1835	2521	2242	2347	2695	2386	2269	2326	2330	2328
Mean	1624	2393	2210	2253	2480	2206	2177	2199	2185	2192
L ₀	1629	2315	2315	2274	2466	2234	2165			
L ₁	1620	2471	2105	2233	2493	2178	2191			
K ₀	1620	2397	2169	2283	2562					
K ₁	1629	2388	2251	2223	2397					

S.E. of difference of two

- | | |
|---|-----------------|
| 1. M marginal means | = 88.40 lb./ac. |
| 2. P, K or L marginal means | = 27.63 lb./ac. |
| 3. P, K or L means at the same level of M | = 61.80 lb./ac. |
| 4. M means at the same level of P, K or L | = 98.61 lb./ac. |
| S.E. of body of P×K, P×L or K×L table | = 27.63 lb./ac. |

Crop :- Paddy (Kuruvai).

Site :- Agri. Res. Stn., Aduthurai

Ref :- M.59(72).

Type :- 'M'.

Object:—To find out the comparative merits of different organic manures when applied alone and in combination with P, K and lime on the yield of Paddy.

1. BASAL CONDITIONS :

(i) Fallow—Paddy—Paddy. (b) Fallow. (c) Nil. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 20.7.1959/ 6 to 8.8.1959. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 4"×4". (e) 2. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 19 and 20.10.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(82) on page 13.

5. RESULTS :

(i) 3823 lb./ac. (ii) (a) 356.7 lb./ac. (b) 203.2 lb./ac. (iii) Main effects of M and P are highly significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	M ₂	M ₃	M ₄	K ₀	K ₁	L ₀	L ₁	Mean
P ₀	3352	3778	3754	3944	3918	3770	3728	3705	3793	3749
P ₁	3664	3864	3893	4112	3940	3882	3910	3879	3913	3896
Mean	3508	3821	3826	4028	3929	3826	3819	3792	3853	3823
L ₀	3461	3815	3736	4012	3937	3785	3867			
L ₁	3555	3827	3916	4044	3921	3799	3839			
K ₀	3555	3826	3769	4020	3959					
K ₁	3461	3816	3883	4036	3899					

S.E. of difference of two

- | | |
|---|-----------------|
| 1. M marginal means | = 89.2 lb./ac. |
| 2. P, K or L marginal means | = 32.1 lb./ac. |
| 3. P, K or L means at the same level of M | = 71.8 lb./ac. |
| 4. M means at the same level of P, K or L | = 102.6 lb./ac. |
| S.E. of body of P×L, K×L or P×K table | = 32.1 lb./ac. |

Crop :- Paddy (Thaladi).

Ref :- M. 59(71).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'M'.

Object:—To find out the comparative merits of different organic manures when applied alone and in combination with P, K and lime on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Fallow—Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Alluvial clay. (b) Refer soil analysis. Aduthurai. (iii) 24.9.1959/11,12.11.1959. (iv) (a) 3 and 4 ploughings. (b) Transplanted. (c) 25 lb./ac. (d) 6'×6'. (e) 2. (v) Nil. (vi) CO—25 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 12 and 13.3.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no 54(82) on page 13.

5. RESULTS :

(i) 1735 lb./ac. (ii) (a) 472.5 lb./ac. (b) 288.7 lb./ac. (iii) Main effects of M, P and interaction P×K×L are highly significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	M ₂	M ₃	M ₄	K ₀	K ₁	L ₀	L ₁	Mean
P ₀	880	2260	1251	1509	2436	1832	1504	1855	1481	1668
P ₁	1080	2494	1409	1571	2456	1642	1962	1617	987	1802
Mean	982	2377	1330	1540	2446	1737	1733	1736	1694	1735
L ₀	979	2378	1391	1519	2412	1852	1620			
L ₁	985	2376	1269	1561	2480	1622	1846			
K ₀	943	2315	1391	1577	2459					
K ₁	1021	2439	1269	1503	2433					

S.E. of difference of two

1. M marginal means	= 118.1 lb./ac.
2. P, K or L marginal means	= 45.6 lb./ac.
3. P, K or L means at the same level of M	= 102.1 lb./ac.
4. M means at the same level of P, K or L	= 138.4 lb./ac.
S.E. of body of P×L, and P×K K×L table	= 45.6 lb./ac.

Crop :- Paddy (Pishanam).**Ref :- M. 58(7).****Site :- Rice Res. Stn., Ambasamudram.****Type :- 'M'.**

Object :- To find out the suitable time of application of A/S to Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 18.9.1958/3.11.1958. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) CO—25. (vii) Irrigated. (viii) 2 weedings. (ix) 18.33". (x) 7 3.1959.

2. TREATMENTS :

5 times of application of 30 lb./ac. of N as A/S : T₁=Two months after planting, T₂=½ at planting+½ two months after planting, T₃=½ at planting+½ a week prior to flowering, T₄=½ at planting+½ one month after planting+½ two months after planting and T₅=½ at planting+½ one month after planting+½ a week prior to flowering.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) 20'×55'. (iii) 6. (iv) (a) 20'×11'. (b) 19'×10'. (v) One row around. (vi) Yes

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—1960. (b) Yes. (c) Nil. (v) (a) Coimbatore, Aduthurai, Palur, Tirur and Pattukkottai. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 3637 lb./ac. (ii) 424.2 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
Av. yield	3842	3555	3400	3718	3671

S.E./mean = 173.3 lb./ac.

Crop :- Paddy (Pishanam).**Ref :- M. 59(8).****Site :- Rice Res. Stn., Ambasamudram.****Type :- 'M'.**

Object :- To find out the suitable time of application of A/S to Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+30 lb./ac. of N as A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 14.9.1959/30.10.1959. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) CO—25. (vii) Irrigated. (viii) 2 weedings. (ix) 24.56". (x) 17.3.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(7) above.

5. RESULTS :

(i) 2545 lb./ac. (ii) 303 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	2789	2560	2445	2369	2560

S.E./mean = 123.7 lb./ac.

Crop :- Paddy (Kar).

Ref :- M. 58(8).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'M'.

Object :—To find out the suitable time of application of A/S to Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. +150 lb./ac. of Super+150 lb./ac. of A/S (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 22.6.1958/26.7.1958. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 4"×4". (e) 1. (v) 5000 lb./ac. of G.L.—150 lb./ac. of Super. (vi) ASD—I. (vii) Irrigated. (viii) 1 weeding. (ix) 4.06". (x) 19.10.1958.

2. TREATMENTS :

5 times of application of 30 lb./ac. of N as A/S : T₁=One month after planting, T₂=½ at planting+½ one month after planting, T₃=½ at planting+½ a week prior to flowering, T₄=½ at planting+½ a fortnight after planting +½ one month after planting and T₅=½ at planting+½ a fortnight after planting+½ a week prior to flowering.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) 20'×55'. (iii) 6. (iv) (a) 20'×11'. (b) 19'4"×10'4". (v) One row around. (vi) Yes.

4. GENERAL :

Same as in expt. no. 58(7) on page 21.

5. RESULTS :

(i) 4295 lb./ac. (ii) 248.6 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	4252	4324	4179	4324	4397

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

Crop :- Paddy (Kar).

Ref :- M. 59(7).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'M'.

Object :—To find out the suitable time of application of A/S to Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+30 lb./ac. of N as A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 1.6.1959/23.6.1959. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 4"×4". (e) 1. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) ASD—I. (vii) Irrigated. (viii) 1 weeding. (ix) 3.00". (x) 26.9.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(8) above.

5. RESULTS :

(i) 3335 lb./ac. (ii) 99.91 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	3405	3314	3294	3282	3378

S.E./mean = 40.79 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 57(47).

Site :- Agri. College and Res. Instt., Coimbatore.

Type :- 'M'.

Object :—To find out the effect of different levels and methods of application of phosphate on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. (ii) (a) Black clayey. (b) Refer soil analysis, Coimbatore. (iii) N.A./9.8.1957. (iv) (a) Puddled 4 times with mould board plough and 3 times with country plough. (b) Transplanted in lines. (c) 30 lb./ac. (d) 8'×6". (e) 2. (v) 5000 lb./ac. of G.L. applied 10 days prior to planting+100 lb./ac. of A/S applied 35 days after planting. (vi) Culture no. 6538 (medium). (vii) Irrigated. (viii) 1 weeding. (ix) 27.21". (x) 23.12.1957.

2. TREATMENTS :

All combinations of (1) and (2)+a control

(1) 2 levels of P₂O₅ as Super : P₁=30 lb./ac. and P₂=60 lb./ac.

(2) 3 methods of application of P₂O₅ : M₁=Broadcast at planting, M₂=Mixed with cowdung and granulated and broadcast at planting and M₃=Mixed with cowdung and applied in pellet form at planting by placement at a depth of 3" on both the sides of paddy seedlings.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 6. (iv) (a) 8'×54'. (b) 7'×52' 8". (v) One row left on all sides. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height, tiller count and yield of grain. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) This expt. was conducted by Agronomist.

5. RESULTS :

(i) 1256 lb./ac. (ii) 230.1 lb./ac. (iii) Main effects and interaction are not significant. (iv) Av. yield of grain in lb./ac.

Control = 1393 lb./ac.

	M ₁	M ₂	M ₃	Mean
P ₁	1265	1295	1246	1269
P ₂	1251	1241	1098	1197
Mean	1258	1268	1172	1233

S.E. of P marginal mean = 54.2 lb./ac.

S.E. of M marginal mean = 66.4 lb./ac.

S.E. of body of table or control mean = 93.9 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 58(44).

Site :- Agri. College and Res. Instt., Coimbatore.

Type :- 'M'.

Object :—To find out the effect of different fertilizers as foliar spray to Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 150 lb./ac. of A/S+150 lb./ac. of Super over a R.B.D. of 5000 lb./ac. of G.L. (ii) (a) Clay loam. (b) Refer soil analysis, Coimbatore. (iii) 21.7.1958/12.9.1958. (iv) (a) 2 ploughings. (b) Transplanting. (c) 3 to 4 lb./ac. (d) and (e) N.A. (v) 5000 lb./ac. of G.L. (vi) ASD—5 (medium). (vii) Irrigated. (viii) 3 weedings. (ix) 17.71". (x) 7,8.1.1959.

2. TREATMENTS :

All combinations of (1) and (2)+2 extra treatments

(1) 6 fertilizers as foliar spray : F_1 =Urea, F_2 =A/S, F_3 =A/N, F_4 =Pot. Sul., F_5 =Pot. Nitrate and F_6 =Super each at 10 lb./ac. in 100 gallons of water.

(2) 2 times of application : T_1 =Once and T_2 =Twice.

Extra treatments : C_0 =No spray and C_1 =Water spray once.

3. DESIGN :

(i) R.B.D. (ii) (a) 14. (b) N.A. (iii) 4. (iv) (a) and (b) 9.24'×26.4'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) No lodging. (ii) Incidence of stem-borer. BHC dusting was given. (iii) Tiller count, height measurement, fresh and dry weight of straw and grain. (iv) (a) and (b) No. (c) Nil. (v) (a, and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Systematic Botanist.

5. RESULTS :

(i) 4423 lb./ac. (ii) 332.1 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

C_0 = 4375 and C_1 = 4330 lb./ac.

	F_1	F_2	F_3	F_4	F_5	F_6	Mean
T_1	4419	4464	4285	4464	4643	4330	4334
T_2	4464	4241	4553	4241	4509	4598	4434
Mean	4442	4353	4419	4353	4576	4464	4434

S.E. of F marginal mean = 117.5 lb./ac.

S.E. of T marginal mean = 67.8 lb./ac.

S.E. of body of table or control mean = 166.1 lb./ac.

Crop :- Paddy (Navarai).

Ref :- M. 59(37).

Site :- Agri. College and Res. Instt., Coimbatore.

Type :- 'M'.

Object :—To find out the effect of fertilizers as foliar spray to Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S and Super each. (ii) (a) Clay loam. (b) Refer soil analysis, Coimbatore. (iii) 11.1.1959/17 to 19.2.1959. (iv) (a) 2 ploughings. (b) Transplanting. (c) 3 to 4 lb./ac. (d) and (e) N.A. (v) 5000 lb./ac. of G.L. (vi) CO.—13 early (vii) Irrigated. (viii) 1 weeding. (ix) 3.93". (x) 21.5.1959.

2. TREATMENTS :

All combinations of (1) and (2)+3 extra treatments

(1) 3 fertilizers : F_1 =Urea, F_2 =Super and F_3 =Calcium glycerophosphate.

(2) 3 times of application : T_1 =Once, T_2 =Twice and T_3 =Thrice.

Extra treatments : C_0 =No spray, C_1 =Water spray once and C_2 =Urea+Sucrose spray once.

3. DESIGN :

(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 7. (iv) (a) and (b) 0.35 cent. (v) Nil. (vi) Yes.

4. GENERAL :

(i) No lodging. (ii) Nil. (iii) Tiller count, height, and yield of grain. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Systematic Botanist.

5. RESULTS :

(i) 4062 lb./ac. (ii) 485.7 lb./ac. (iii) Main effects and interaction are not significant. (iv) Av. yield of grain in lb./ac.

$$C_0 = 3837, C_1 = 3919 \text{ and } C_2 = 3960 \text{ lb./ac.}$$

	T ₁	T ₂	T ₃	Mean
F ₁	3755	4245	4123	4041
F ₂	4449	4368	4082	4300
F ₃	4082	3837	4082	4000
Mean	4095	4150	4096	4114

S.E. of F or T marginal mean = 106.0 lb./ac.
S.E. of body of table = 183.6 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 59(36).

Site :- Agri. College and Res. Instt., Coimbatore.

Type :- 'M'.

Object :—To find out the effect of fertilizers as foliar spray.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S +150 lb./ac. of Super. (ii) Clay loam. (b) Refer soil analysis, Coimbatore. (iii) 10.6.1959/22, 24.7.1959. (iv) 2 ploughings, puddling and levelling. (b) Transplanting. (c) 3 to 4 lb./ac. (d) and (e) N.A. (v) 5000 lb./ac. of G.L. (vi) GEB—24 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 29.17". (x) 14, 15.12.1959.

2. TREATMENTS :

10 foliar spray treatments : F₀=Control (no spray), F₁=Water, F₂=Urea 1% thrice, F₃=Super 1% thrice, F₄=Ammono. Phos. thrice, F₅=Urea 1% twice+Super 1% once, F₆=Ammono. Phos. twice+Super 1% once, F₇=Urea 1% once+Ammono. Phos. twice, F₈=Pot. Phos. 1% thrice and F₉=Urea 1% twice+Pot. Phos. 1% once.

Actual quantities of different chemicals N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 8. (iv) (a) and (b) 0.42 cents. (v) Nil. (vi) Yes.

4. GENERAL :

(i) No lodging. (ii) Nil. (iii) Tiller count, height measurement, fresh and dry weight of straw and grain (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Systematic Botanist.

5. RESULTS :

(i) 2884 lb./ac. (ii) 302.4 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	F ₅	F ₆	F ₇	F ₈	F ₉
Av. yield	2708	2738	3006	2946	2976	3006	2946	2827	2946	2738

S.E./mean = 106.9 lb./ac.

Crop :- Paddy (Navarai).

Ref :- M. 54(104).

Site :- Agri. College and Res. Instt., Coimbatore.

Type :- 'M'.

Object :—To find out the effect of spraying trace elements on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 150 lb./ac. of A/S+150 lb./ac. of Super+B.D. of 5000 lb./ac. of G.L. (ii) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) 16.2.1954/18.3.1954. (iv) (a) Puddling the soil 4 times. (b) Transplanting in lines. (c) 3 to 4 lb./ac. (d) and (e) N.A. (v) As per treatments. (vi) CO—13. (vii) Irrigated. (viii) 2 weedings. (ix) 10.85". (x) 4, 5.6.1954.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 levels of B.D. : B_0 =Nil, B_1 =G.L. at 5000 lb./ac. and B_2 =G.L. at 5000 lb./ac.+45 lb./ac. of N as A/S+60 lb./ac. of P_2O_5 as Super.

(2) 4 methods of application of trace elements : M_0 =No trace elements, M_1 =Soil application of trace elements, M_2 =Trace elements sprayed one month after planting and M_3 =Trace elements and Urea sprayed one month after planting.

Trace elements are : (i) Cu. Sul.=20, (ii) Mn. Sul.=10, (iii) Zn. Sul.=10, (iv) Fer. Sul.=40 and (v) Mg. Sul.=40 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) and (b) 0.68 cent. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height of plants and yield of grain. (iv) (a) and (b) No. (c) Nil. (v) (a) Aduthurai. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 507 lb./ac. (ii) 196.4 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

	M_0	M_1	M_2	M_3	Mean
B_0	577	673	535	634	605
B_1	623	561	450	354	497
B_2	414	478	379	409	420
Mean	538	571	455	466	507

S.E. of M marginal mean = 56.7 lb./ac.
 S.E. of B marginal mean = 49.1 lb./ac.
 S.E. of body of table = 98.2 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 54(105).

Site :- Agri. College and Res. Instt., Coimbatore.

Type :- 'M'.

Object :- To find out the effect of trace elements on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 150 lb./ac. of A/S+150 lb./ac. of Super+B.D. of 5000 lb./ac. of G.L. (ii) (a) Clay loam. (b) Refer soil analysis, Coimbatore. (iii) N.A./6.8.1954. (iv) (a) Puddling 4 times. (b) Transplanting. (c) 3 to 4 lb./ac. (d) and (e) N.A. (v) As per treatments. (vi) CO—1. (vii) Irrigated. (viii) 2 weedings and 1 ridging. (ix) 13.84". (x) 17.12.1954.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(104) on page 25.

5. RESULTS :

(i) 2326 lb./ac. (ii) 214.7 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	Mean
B ₀	2377	2549	2328	2230	2394
B ₁	2279	2157	2230	2340	2252
B ₂	2328	2377	2402	2405	2378
Mean	2328	2361	2320	2325	2344

S.E. of M marginal mean = 50.62 lb./ac.
 S.E. of B marginal mean = 43.84 lb./ac.
 S.E. of body of table = 87.67 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 58(150).

Site :- Agri. College and Res. Instt., Coimbatore.

Type :- 'M'.

Object :—To study the uptake of phosphates by the common G.M. crops from different forms of phosphates applied and their availability to Paddy crop.

1. BASAL CONDITIONS :

(i) (a) to (c) As per treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) 17.7.1958/4, 7.9.1958. (iv) (a) 4 ploughings. (b) Transplanting in lines. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) As per treatments. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 19.1.1959 to 23.1.1959.

2. TREATMENTS :

Strips in one direction :

4 G.M. crops : G₀=Control, G₁=*Sesbania*, G₂=*Dhaincha* and G₃=*Pillipesara*.

Strips in orthogonal direction :

6 sources of P₂O₅ at 40 lb./ac. : S₀=Control, S₁=Dical. Phos., S₂=Rock Phos., S₃=Super, S₄=Hyper Phos. and S₅=B.M.

P₂O₅ applied to G.M. crops and G.M. is ploughed in as manure to the succeeding paddy crop. In case of G₀, P₂O₅ is applied to paddy crop directly.

3. DESIGN :

(i) Strip-plot. (ii) (a) 24. (b) N.A. (iii) 5. (iv) (a) 26'×12'. (b) 24'×10'. (v) 1'×1'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1958 to 1960. (b) No. (c) Nil. (v) (a) Tirur and Aduthurai. (b) N.A. (vi) Nil. (vii) Experiment was conducted by Agronomist.

5. RESULTS :

(i) 3224 lb./ac. (ii) (a) 121.8 lb./ac. (b) 102.0 lb./ac. (c) 54.0 lb./ac. (iii) G effect is highly significant and S effect is significant. Interaction G×S is not significant. (iv) Av. yield of grain in lb./ac.

	S ₀	S ₁	S ₂	S ₃	S ₄	S ₅	Mean
G ₀	2450	2360	1815	2450	2069	2632	2296
G ₁	3539	3449	3194	3449	3412	3793	3473
G ₂	3449	3557	3376	3467	3332	3757	3490
G ₃	3594	3666	3340	3594	3739	3902	3639
Mean	3258	3258	2931	3240	3138	3521	3224

S.E. of difference of two

1. G marginal means = 31.4 lb./ac.
 2. S marginal means = 32.3 lb./ac.
 3. S means at the same level of G = 44.2 lb./ac.
 4. G means at the same level of S = 43.7 lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 59(109).****Site :- Agri. College and Res. Instt., Coimbatore.****Type :- 'M'.**

Object :—To study the uptake of phosphates by the common G.M. crops from different forms of phosphates applied and their availability to Paddy.

1. BASAL CONDITIONS :

(i) (a) to (c) As per treatments. (ii) (a) Clay loam. (b) Refer soil analysis, Coimbatore. (iii) N.A./September 1959. (iv) (a) 4 ploughings. (b) Transplanted in lines. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) As per treatments. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) Feb. 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(150) on page 27.

5. RESULTS :

(i) 3088 lb./ac. (ii) (a) 631.6 lb./ac. (b) 336.1 lb./ac. (c) 252.8 lb./ac. (iii) G effect is highly significant, S effect is significant. Interaction is not significant. (iv) Av. yield of grain in lb./ac.

	S ₀	S ₁	S ₂	S ₃	S ₄	S ₅	Mean
G ₀	2659	2723	2296	2741	2441	2723	2597
G ₁	3430	3303	2904	3149	3076	3467	3222
G ₂	3213	3122	3058	3267	3376	3376	3235
G ₃	3394	3086	3222	3358	3249	3485	3259
Mean	3174	3058	2870	3129	3035	3263	3088

S.E. of difference of two

1. C marginal means = 163.1 lb./ac.
2. S marginal means = 106.3 lb./ac.
3. S means at the same level of C = 174.6 lb./ac.
4. C means at the same level of S = 218.9 lb./ac.

Crop :- Paddy.**Ref :- M. 54(91).****Site :- Paddy Breeding Stn., Coimbatore.****Type :- 'M'.**

Object :—To find out the effect of different methods of application of Super to Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clayey. (b) N.A. (iii) 18.8 1954/15.10.1954. (iv) (a) 3 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6"×6". (e) N.A. (v) 5000 lb./ac. of G.L. - 30 lb./ac. of N as A/S. (vi) CO—25 (late). (vii) Irrigated. (viii) Nil. (ix) 11.87". (x) 2.3.1955.

2. TREATMENTS :

3 methods of application of Super : M₁=Super spread on surface and puddled in, M₂=Dipping of seedlings in a paste of mud and Super before planting and M₃=Super broadcast at planting.

45 lb./ac. of P₂O₅ as Super was applied.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 10'×16'. (b) 9½'×15½'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height measurements, tiller count and yield of grain. (iv) (a) 1953—1954. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) (vii) Nil.

5. RESULTS :

(i) 3647 lb./ac. (ii) 348.9 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	3489	3730	3723

S.E./mean = 123.4 lb./ac.

Crop :- Paddy.

Ref :- M. 56(64).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'M'.

Object :—To find out the effect of different levels and sources of P₂O₅ at different levels of N, on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S.
(ii) (a) Clayey loam. (b) N.A. (iii) 14.9.1956/17.11.1956. (iv) (a) 3 to 4 ploughings. (b) Transplanted.
(c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) CO—25 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 15.05". (x) 4.4.1957.

2. TREATMENTS :

All combinations of (1), (2) and (3)+3 extra treatments.

(1) 3 levels of N as A/S : N₁=30, N₂=45 and N₃=60 lb./ac.

(2) 4 levels of P₂O₅ as Super : P₁=15, P₂=30, P₃=45 and P₄=60 lb./ac.

(3) 3 sources of P₂O₅ : S₁=Super, S₂=Dical. Phos. and S₃=Hyper Phos.

3 extra treatments : 3 levels of N as A/S without phosphate : T₁=30, T₂=45 and T₃=60 lb./ac.

Phosphate applied at planting and N top dressed one month after planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 39. (b) N.A. (iii) 4. (iv) (a) 21'×11'. (b) 20'×10'. (v) 6" left as border. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Av. yield of extra treatments is not available separately.

5. RESULTS :

(i) 3202 lb./ac. (ii) 133.5 lb./ac. (iii) Main effect of N and interactions N×S, P×S, N×P, N×P×S are highly significant. Main effect of S is significant. (iv) Av. yield of grain in lb./ac.

Extra treatments = 3442 lb./ac.

	N ₁	N ₂	N ₃	Mean	S ₁	S ₂	S ₃
P ₁	2967	3308	3316	3197	3402	3041	3148
P ₂	3124	2810	3668	3201	3031	3187	3384
P ₃	2957	3229	3187	3130	2935	3120	3335
P ₄	3003	3274	3322	3200	3368	3066	3166
Mean	3017	3155	3373	3182	3184	3104	3258
S ₁	3021	3243	3289				
S ₂	2937	3203	3171				
S ₃	3094	3020	3660				

S.E. of P marginal mean = 22.25 lb./ac.

S.E. of N or S marginal mean = 19.27 lb./ac.

S.E. of body of P×N or P×S table = 38.54 lb./ac.

S.E. of body of N×S table = 33.38 lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 57(59).****Site :- Paddy Breeding Stn., Coimbatore.****Type :- 'M'.**

Object :—To find out the effect of different levels and sources of P at different levels of N, on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) N.A. (iii) 12.9.1957/13.11.1957. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) 5000 lb./ac. of G.L. (vi) CO—25 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 18.75". (x) 31.3.1958.

2. TREATMENTS :

Same as in expt. no. 56(64) on page 29.

3. DESIGN :

(i) R.B.D. (ii) (a) 39. (b) N.A. (iii) 4. (iv) (a) 20½'×10½'. (b) 19½'×9½'. (v) 6" left as border. (vi) Yes

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) (a) Pattukkottai and Tirur. (b) N.A. (vi) Nil. (vii) Av. yields of extra treatments are not available separately.

5. RESULTS :

(i) 3259 lb./ac. (ii) 414.6 lb./ac. (iii) Only main effects of N and S are highly significant. (iv) Av. yield of grain in lb./ac.

Extra treatments = 3243 lb./ac.

	N ₁	N ₂	N ₃	Mean	S ₁	S ₂	S ₃
P ₁	2803	3351	3461	3305	3520	2960	3135
P ₂	2998	3212	3793	3334	3390	3361	3253
P ₃	3095	3293	3506	3228	3349	3105	3440
P ₄	3122	3125	3372	3206	3361	2998	3260
Mean	3004	3245	3533	3261	3405	3106	3272
S ₁	3100	3484	3631				
S ₂	2852	3108	3357				
S ₃	3061	3144	3611				

S.E. of P marginal mean = 69.1 lb./ac.

S.E. of N or S marginal mean = 59.8 lb./ac.

S.E. of body of P×N or P×S table = 119.7 lb./ac.

S.E. of body of N×S table = 103.6 lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 58(11).****Site :- Paddy Breeding Stn., Coimbatore.****Type :- 'M'.**

Object :—To find out the effect of different levels and sources of P at different levels of N, on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) N.A. (iii) 9.8.1958/13 to 16.10.1958. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) 5000 lb./ac. of G.L. (vi) CO—25 (late). (vii) Irrigated. (viii) Weeding twice. (ix) 22.4". (x) 5 to 8.2.1959.

2. TREATMENTS :

Same as in expt. no. 56(64) on page 29.

3. DESIGN and 4. GENERAL :

Same as in expt. no 57(59) on page 30.

5. RESULTS :

(i) 2983 lb./ac. (ii) 542 lb./ac. (iii) S effect alone is highly significant. (iv) Av. yield of grain in lb./ac.

	N ₁	N ₂	N ₃	Mean	S ₁	S ₂	S ₃
P ₁	2936	3068	2832	2945	3260	2593	2983
P ₂	2983	2687	3207	2959	3123	2946	3008
P ₃	3086	3189	2961	3079	3165	2979	3092
P ₄	3088	2940	3084	3037	3147	2774	3191
Mean	3023	2971	3021	3005	3174	2773	3068
S ₁	3131	3309	3081				
S ₂	2884	2716	2719				
S ₃	3053	2889	3263				

S.E. of P marginal mean = 90.3 lb./ac.

S.E. of N or S marginal mean = 78.2 lb./ac.

S.E. of body of P×N or P×S table = 156. lb./ac.

S.E. of body of N×S table = 135. lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 58(6).****Site :- Paddy Breeding Stn., Coimbatore.****Type :- 'M'.**

Object:—To find out the suitable time of application of A/S to Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+30 lb./ac. of N as A/S. (ii) (a) Clayey loam. (b) N.A. (iii) 16.8.1958/20.10.1958. (iv) (a) 4 ploughings. (b) Transplanted in lines. (c) 30 lb./ac. (d) 10"×6". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. Super. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 19.2.1959.

2. TREATMENTS :

5 times of application of 30 lb./ac. of N as A/S : T₁=Two months after planting, T₂=½ at planting+½ two months after planting, T₃=½ at planting+½ a week prior to flowering, T₄=½ at planting+½ one month after planting+½ two months after planting and T₅=½ at planting+½ one month after planting+½ a week prior to flowering.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 10'×17'6". (b) 8'4"×16'6". (v) 10"×6". (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1958—1960. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2865 lb./ac. (ii) 53.43 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	2664	2853	2981	2919	2906

S.E./mean = 21.81 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 59(5).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'M'.

Object :—To find out the suitable time of application of A/S to Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+30 lb./ac. of N as A/S +100 lb./ac. of Super. (ii) (a) Clayey loam. (b) N.A. (iii) 22.9.1959/29.11.1959. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 10"×6". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 7.4.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(6) on page 31.

5. RESULTS :

(i) 2418 lb./ac. (ii) 134.6 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	2354	2325	2378	2487	2369

S.E./mean = 54.94 lb./ac.

Crop :- Paddy (Navarai).

Ref :- M. 59(6).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'M'.

Object :—To find out the suitable time of application of A/S to Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of N as A/S. (ii) (a) Clayey loam. (b) N.A. (iii) 27.1.1959./27.2.1959. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 10"×4". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi, CO—1 (early). (vii) Irrigated. (viii) 1 weeding. (ix) N.A. (x) 11.6.1959.

2. TREATMENTS :

5 times of application of 30 lb./ac. of N as A/S : T₁=One month after planting, T₂= $\frac{1}{2}$ at planting + $\frac{1}{2}$ one month after planting, T₃= $\frac{1}{2}$ at planting + $\frac{1}{2}$ one week prior to flowering, T₄= $\frac{1}{2}$ at planting + $\frac{1}{2}$ two weeks after planting + $\frac{1}{2}$ one month after planting and T₅= $\frac{1}{2}$ at planting + $\frac{1}{2}$ two weeks after planting + $\frac{1}{2}$ a week prior to flowering.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 13'8"×15'4". (b) 12'×14'8". (v) 10"×4". (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1959—1960. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Yil.

5. RESULTS :

(i) 2298 lb./ac. (ii) 183.0 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	2349	2172	2355	2261	2355

S.E./mean = 74.7 lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 54(116).****Site :- Agri. College and Res. Inst., Coimbatore.****Type :- 'M'.**

Object :—To test the efficacy of phosphate application directly and indirectly through G.M. to Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) N.A./5.9.1954. (iv) (a) 4 ploughings. (b) Transplanted in lines. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) As per treatments. (vi) CO—25 (late). (vii) Irrigated. (viii) N.A. (ix) N.A. (x) 28.1.1955.

2. TREATMENTS :

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

(1) 2 G.M. crops preceding paddy : G_1 =*Daincha* and G_2 =Sannhemp.(2) 2 methods of application of Super : M_1 =Applied to G.M. crop and M_2 =Applied to paddy crop, 30 lb./ac. of P_2O_5 as Super applied to paddy crop without raising and ploughing in of G.M. crop preceding paddy crop.**3. DESIGN :**

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) and (b) 1/17.39 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) The expt. was conducted by Agri. chemist, Coimbatore.

5. RESULTS :

(i) 3670 lb./ac. (ii) 248.2 lb./ac. (iii) 'Control vs. rest' alone is highly significant. (iv) Av. yield of grain in lb./ac.

Control = 3044 lb./ac.

	G_1	G_2	Mean
M_1	4080	3800	3940
M_2	3908	3520	3714
Mean	3994	3660	3827

S.E. of G or M marginal mean = 71.4 lb./ac.

S.E. of body of table or control mean = 111.0 lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 55(81).****Site :- Agri. College and Res. Instt., Coimbatore.****Type :- 'M'.**

Object :—To test the efficacy of phosphate application directly and indirectly through G.M. to Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) N.A./10.9.1955. (iv) (a) 4 ploughings. (b) Transplanted in lines. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) As per treatments. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 24.1.1956 to 2.2.1956.

2. TREATMENTS to 4. GENERAL :Same as in expt. no. 54(116) above with *Sesbania* in the place of *Daincha*.**5. RESULTS :**

(i) 3691 lb./ac. (ii) 236.3 lb./ac. (iii) 'Control vs. rest' alone is highly significant. (iv) Av. yield of grain in lb./ac.

Control = 2946 lb./ac.

	G ₁	G ₂	Mean
M ₁	3892	3889	3891
M ₂	3924	3805	3865
Mean	3908	3847	3878

S.E. of G or M mean = 74.7 lb./ac.

S.E. of body of table or control mean = 105.7 lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 56(111).****Site :- Agri. College and Res. Instt., Coimbatore.****Type :- 'M'.**

Object :—To test the efficacy of phosphate application directly and indirectly through a G.M. to Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) N.A. (iii) N.A./8.9.1956. (iv) (a) 4 ploughings. (b) Transplanted in rows. (c) 30 lb./ac. (d) 6'×6'. (e) 2. (v) As per treatments. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 30.1.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(81) on page 33.

5. RESULTS :

(i) 3428 lb./ac. (ii) 161.9 lb./ac. (iii) 'Control vs. rest' alone is highly significant. (iv) Av. yield of grain in lb./ac.

Control = 2588 lb./ac.

	G ₁	G ₂	Mean
M ₁	3697	3572	3635
M ₂	3830	3450	3640
Mean	3764	3511	3637

S.E. of G or M mean = 51.2 lb./ac.

S.E. of body of table or control mean = 72.4 lb./ac.

Crop :- Paddy (Kharif).**Ref :- M. 54(3).****Site :- Agri. Res. Stn., Nagercoil.****Type :- 'M'.**

Object :—To study the effect of time of application of Super and A/S in split doses on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Heavy 'clay. Alkaline in patches. (b) Refer soil analysis, Nagercoil. (iii) 10.9.1954/14.10.1954. (iv) (a) The field was dug with *mummatty*. (b) Planting in lines. (c) 16 lb./ac. (d) 10'×10'. (e) 1. (v) 4000 lb./ac. of G.L. (vi) *Volsiramurdan* (late). (vii) Irrigated. (viii) 2 weedings and 2 intercultures. (ix) 20.4'. (x) 28.2.1955.

2. TREATMENTS :

16 treatments of different levels of A/S and Super applied at 4 different times.

Treatment no.	A/S (in lb./ac.)	Super (in lb./ac.)	Treatment no.	A/S (in lb./ac.)	Super in lb./ac.
1.	100t ₁	100t ₁	9.	100t ₁ +100t ₃	200t ₁
2.	100t ₁	200t ₁	10.	100t ₁ + 50t ₂ +50t ₄	100t ₁ +100t ₂
3.	100t ₃	100t ₁	11.	100t ₁ + 50t ₂ +50t ₄	200t ₁
4.	100t ₃	100t ₃	12.	100t ₂ +100t ₄	200t ₁
5.	150t ₂	150t ₂	13.	100t ₂ +100t ₄	100t ₁ +100t ₂
6.	150t ₂	100t ₁ +50t ₂	14.	100t ₂ +100t ₄	200t ₂
7.	100t ₁ +100t ₂	100t ₁ +100t ₂	15.	200t ₂	200t ₁
8.	100t ₁ +100t ₂	200t ₁	16.	200t ₃	200t ₁

4 times of application : t₁=one day before transplanting, t₂=3 weeks after transplanting, t₃=4½ weeks after transplanting, t₄=6 weeks after transplanting.

3. DESIGN :

(i) Completely balanced lattice. (ii) (a) 4 blocks of 4 plots each per replication. (b) 16. (iii) 5. (iv) (a) 52'×11'. (b) 50'×9'. (v) One foot bund between plots. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Number of tillers, height of plants and grain yield. (iv) (a) 1954—1956. (b) and (c) Yes. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 4445 lb./ac. (ii) 206.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4	5	6	7	8
Av. yield	4183	4020	4390	4267	4344	4524	4301	4492
Treatment	9	10	11	12	13	14	15	16
Av. yield	4378	4374	4517	4749	4851	4668	4469	4594

S.E/mean = 92.0 lb./ac.

Crop :- Paddy (Rabi)

Site :- Agri. Res. Stn., Nagercoil.

Ref :- M. 55(2).

Type :- 'M'.

Object :—To study the effect of different combinations and time of application of Super and A/S on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Heavy clay alkaline in patches. (b) Refer soil analysis Nagercoil. (iii) 18.5.1955/18.6.1955. (iv) (a) The field was dug with *mummatty*. (b) Transplanted in lines. (c) 16 lb./ac. (d) 6"×6". (e) 1. (v) 10,000 lb./ac. of compost manure. (vi) ASD. 1 (early). (vii) Irrigated. (viii) Two weedings and two intercultures. (ix) 8.4". (x) 10.9.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(3) on page 34.

5. RESULTS :

(i) 4336 lb./ac. (ii) 285 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4	5	6	7	8
Av. yield	4220	4161	3647	3996	4084	4452	4501	4462
Treatment	9	10	11	12	13	14	15	16
Av. yield	4472	4520	4540	4559	4326	4443	4578	4365

S.E/mean = 128.0 lb./ac.

Crop :- Paddy (Kharif).**Ref :- M. 55(4).****Site :- Paddy Farm, Nagercoil.****Type :- 'M'.**

Object :—To study the effect of time of application of Super and A/S in split doses of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Heavy clay—alkaline in patches. (b) Refer soil analysis, Nagercoil. (iii) 15.8.1955/24.10.1955. (iv) (a) *Mummatty* digging. (b) Transplanted. (c) 16 lb./ac. (d) 10" between lines. (e) 1. (v) 4000 lb./ac. of G.L. (vi) *Valsiramurdan*—(late). (vii) Irrigated. (viii) 2 weedings and 2 intercultures. (ix) 26.75". (x) 25.2.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(3) on page 34.

5. RESULTS :

(i) 4084 lb./ac. (ii) 195 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4	5	6	7	8
Av. yield	3861	3686	4026	3958	4103	4035	3802	3928
Treatment	9	10	11	12	13	14	15	16
Av. yield	4190	4249	4161	4414	4316	4297	4093	4278

S.E./mean = 87.0 lb./ac.

Crop :- Paddy (Kanni).**Ref :- M. 56(1).****Site :- Agri. Res. Stn., Nagercoil.****Type :- 'M'.**

Object :—To study the effect of time of application of Super and A/S in split doses on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Heavy clay. Alkaline in patches. (b) Refer soil analysis, Nagercoil. (iii) 5.6.1956/30.6.1956. (iv) (a) *Mummatty* digging. (b) Transplanted. (c) 16 lb./ac. (d) 6" x 6". (e) 1. (v) 10,000 lb./ac. of compost manure. (vi) ASD. 1 (early). (vii) Irrigated. (viii) 2 weedings (ix) 15 to 20". (x) 29.9.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(3) on page 34.

5. RESULTS :

(i) 4339 lb./ac. (ii) 306.3 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4	5	6	7	8
Av. yield	4126	4087	4158	3914	4600	4520	4309	4351
Treatment	9	10	11	12	13	14	15	16
Av. yield	4614	4384	4262	4571	4303	4238	4512	4471

S.E./mean = 137.0 lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 54(70).****Site :- Agri. Res. Stn., Palur.****Type :- 'M'.**

Object :—To study the residual effect of growing cotton in Rice fallows.

1 BASAL CONDITIONS :

(i) (a) to (c) As per treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) N.A./9.10.1954.

(iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) As per treatments. (vi) CO.19 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 32.38". (x) 19.2.1955.

2. TREATMENTS :

Main-plot treatments :

3 crops prior to Paddy : C_0 =Fallow, C_1 =Cotton and C_2 =G.M.

Sup-plot treatments :

3 manurial treatments : M_1 =No manure, 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 N as A/S+30 lb./ac. of P_2O_5 as Super+5000 lb./ac. of G.M.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 35'×20'. (b) 34'×19'. (v) 6" left as border (vi) Yes.

4. GENERAL :

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

5. RESULTS :

(i) 2269 lb./ac. (ii) (a) 258.8 lb./ac. (b) 296.9 lb./ac. (iii) Main effects of C and M are significant. Interaction is not significant. (iv) Av. yield of grain in lb./ac.

	C_0	C_1	C_2	Mean
M_1	1595	2187	1996	1926
M_2	2489	2435	2786	2570
M_3	2153	2341	2436	2310
Mean	2079	2321	2406	2269

S.E. of difference of two

1. C marginal means = 86.3 lb./ac.
2. M marginal means = 99.0 lb./ac.
3. M means at the same level of C = 171.4 lb./ac.
4. C means at the same level of M = 164.5 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 54(69).

Site :- Agri. Res. Stn., Palur.

Type :- 'M'.

Object :- To study the effect of G.M. crops manured with Super on succeeding Paddy crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 6.8.1954/15.11.1954. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) As per treatments. (vi) PLR-1 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 32.30". (x) 21.2.1955.

2. TREATMENTS :

Main-plot treatments :

5 G.M. crops preceding Paddy : G_1 =Wild Indigo, G_2 =Phillipesara. G_3 =Sannhemp, G_4 =Sesbania and G_5 =Dhaincha.

Sub-plot treatments :

3 manurial treatments : M_1 =No P_2O_5 , M_2 =45 lb./ac. of P_2O_5 as Super to previous G.M. crop and M_3 =45 lb./ac. of P_2O_5 as Super to paddy crop.

3. DESIGN :

(i) Split-plot. (ii) (a) 5 main-plots/block, 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 28'×18'. (b) 27'×17'. (v) 6"×6". (vi) Yes.

4. GENERAL :

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

5. RESULTS :

(i) 2905 lb./ac. (ii) (a) 583.7 lb./ac. (b) 743.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	G ₁	G ₂	G ₃	G ₄	G ₅	Mean
M ₁	2282	2640	2753	3142	3305	2824
M ₂	2390	2991	3049	2955	2735	2824
M ₃	2991	3067	3044	3189	3050	3068
Mean	2554	2899	2949	3095	3030	2905

S.E. of difference of two

- | | |
|-----------------------------------|-----------------|
| 1. G marginal means | = 238.2 lb./ac. |
| 2. M marginal means | = 235.1 lb./ac. |
| 3. M means at the same level of G | = 525.7 lb./ac. |
| 4. G means at the same level of M | = 491.0 lb./ac. |

Crop :- Paddy (Samba).

Ref :- M. 55(53).

Site :- Agri. Res. Stn., Palur.

Type :- 'M'.

Object :—To study the effect of G.M. crops manured with Super on succeeding Paddy crop.

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. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 9.8.1955/30.9.1955. (iv) (a) 4 to 5 ploughings (b) Transplanted. (c) 30 lb./ac. (d) 6'×6'. (e) 2. (v) Nil. (vi) PLR—1 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 24.49%. (x) 24.2.1956.

2. TREATMENTS :

Same as in expt. no. 54(69) on page 37.

3. DESIGN :

(i) Split-plot. (ii) (a) 5 main-plots/block ; 3 sub-plots/main-plot. (b) 80'×75'. (iii) 4. (iv) (a) 16'×25'. (b) 15½'×24½'. (v) N.A. (vi) Yes.

4. GENERAL :

Same as in expt. no. 54(69) on page 37.

5. RESULTS :

(i) 3080 lb./ac. (ii) (a) 202.6 lb./ac. (b) 318.0 lb./ac. (iii) Main effects of G, M and interaction G×M are highly significant. (iv) Av. yield of grain in lb./ac.

	G ₁	G ₂	G ₃	G ₄	G ₅	Mean
M ₁	2634	3268	3628	2912	3183	3125
M ₂	2917	2753	2780	2780	3215	2889
M ₃	3560	3106	3106	2972	3395	3228
Mean	3037	3042	3171	2888	3264	3081

S.E. of difference of two

1. G marginal means	=	82.7 lb./ac.
2. M marginal means	=	100.5 lb./ac.
3. M means at the same level of G	=	224.9 lb./ac.
4. G means at the same level of M	=	201.4 lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 56(51).****Site :- Agri. Res. Stn., Palur.****Type :- 'M'.**

Object:—To study the effect of G.M. crops manured with Super on succeeding Paddy crop.

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. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 30.7.1956/1.9.1956. (iv) (a) 4 to 5 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6"×6". (e).2. (v) Nil. (vi) PLR—1 (late). (vii) Irrigated. (viii) Weeding twice. (ix) 43.52". (x) 22.1.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(53) on page 38.

5. RESULTS :

(i) 2801 lb./ac. (ii) (a) 425.7 lb./ac. (b) 621.7 lb./ac. (iii) Main effect of G and interaction G×M are highly significant. (iv) Av. yield of grain in lb./ac.

	G ₁	G ₂	G ₃	G ₄	G ₅	Mean
M ₁	2852	3930	2640	2877	2460	2952
M ₂	3123	2523	3948	2064	2381	2808
M ₃	3082	2607	2636	2166	2727	2644
Mean	3019	3020	3075	2369	2523	2801

S.E. of difference of two

1. G marginal means	=	173.8 lb./ac.
2. M marginal means	=	196.6 lb./ac.
3. M means at the same level of G	=	439.7 lb./ac.
4. G means at the same level of M	=	398.8 lb./ac.

Crop :- Paddy (Samba).**Ref :-M. 57(42).****Site :- Agri. Res. Stn., Palur.****Type :- 'M'.**

Object:—To study the effect of G.M. crops manured with Super on succeeding Paddy crop.

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. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 23.8.1957/5.10.1957. (iv) (a) 4 to 5 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) PLR—1 (late). (vii) Irrigated. (viii) Weeding twice. (ix) 31.22". (x) 6.2.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(53) on page 38.

5. RESULTS :

(i) 2487 lb./ac. (ii) (a) 192.7 lb./ac. (b) 228.2 lb./ac. (iii) Only main effect of M is significant. (iv) Av. yield of grain in lb./ac.

	G ₁	G ₂	G ₃	G ₄	G ₅	Mean
M ₀	2302	2689	2657	2547	2460	2531
M ₁	2553	2441	2599	2675	2609	2575
M ₂	2389	2460	2191	2431	2310	2356
Mean	2415	2530	2482	2551	2560	2487

S.E. of difference of two

1. G marginal means = 78.7 lb./ac.
2. M marginal means = 72.2 lb./ac.
3. M means at the same level of G = 161.4 lb./ac.
4. G means at the same level of M = 153.4 lb./ac.

Crop :- Paddy (Navarai).

Ref :- M. 58(109).

Site :- Agri. Res. Stn., Palur.

Type :- 'M'.

Object :—To find out the suitable time of application of A/S to Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+30 lb./ac. of N as A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 24.12.1958/23.1.1959. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 10'×4'. (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) PLR-2. (vii) Irrigated. (ix) 8.5'. (x) 27.4.1959.

2. TREATMENTS :

T₁=One month after planting.

T₂=½ at planting+½ one month after planting.

T₃=½ at planting+½ a week prior to flowering.

T₄=½ at planting+½ fifteen days after planting+½ one month after planting.

T₅=½ at planting+½ fifteen days after planting+½ a week prior to flowering.

N applied at 30 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 23'×10'. (b) 22'8"×9'2". (iv) One row around. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—1960. (b) Yes. (c) Nil. (v) (a) and (b) Coimbatore, Tirur, Aduthurai, Pattukkottai, Ambasamudram. (vi) and (vii) Nil.

5. RESULTS

(i) 1933 lb./ac. (ii) 218.7 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	1933	1963	1887	1926	1955

S.E./mean = 89.28 lb./ac.

Crop :- Paddy (Sornavari).

Ref :- M. 59(90).

Site :- Agri. Res. Stn., Palur.

Type :- 'M'.

Object :—To find out the suitable time of application of A/S to Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. +150 lb./ac. of Super +30 lb./ac. of N as A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 25.5.1959/19.6.1959. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 10"×5". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) PLR-2 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 31.2". (x) 27.9.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(109) on page 40.

5. RESULTS :

(i) 3076 lb./ac. (ii) 302.4 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	2981	2987	2904	3171	3337

S.E./mean = 123.4 lb./ac.

Crop :- Paddy (Navarai).

Site :- Agri. Res. Stn., Palur.

Ref :- M. 59(96).

Type :- 'M'.

Object :-To find out the suitable time of application of A/S to Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+30 lb./ac. of N as A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 31.12.1959/31.1.1960. (iv) (a) 5 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 10"×4". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) PLR-2 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 6.5". (x) 25.4.1960.

2. TREATMENTS to 4. GENERAL

Same as in expt. no. 58(109) on page 40.

5. RESULTS :

(i) 1532 lb./ac. (ii) 167.1 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	1428	1590	1548	1537	1559

S.E./mean = 68.2 lb./ac.

Crop :- Paddy (Samba).

Site :- Agri. Res. Stn., Palur.

Ref :- M. 58(110).

Type :- 'M'.

Object :-To find out the suitable time of application of A/S to Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+30 lb./ac. of N as A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 2.9.1958/25.10.1958. (iv) (a) 5 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 10"×5". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 32.5". (x) 9.3.1959.

2. TREATMENTS :

5 times of application of 30 lb./ac. of N as A/S : T₁=2 months after planting, T₂= $\frac{1}{2}$ at the time of planting + $\frac{1}{2}$ two months after planting, T₃= $\frac{1}{2}$ at the time of planting + $\frac{1}{2}$ a week prior to flowering, T₄= $\frac{1}{2}$ at the time of planting + $\frac{1}{2}$ one month after planting + $\frac{1}{2}$ two months after planting and T₅= $\frac{1}{2}$ at the time of planting + $\frac{1}{2}$ one month after planting + $\frac{1}{2}$ a week prior to flowering.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 30'×7½'. (b) 29'7"×6'8". (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1958—1960. (b) Yes. (c) Nil. (v) (a) Coimbatore, Aduthurai, Ambasamudram and Tirur. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 3108 lb./ac. (ii) 506 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	3099	2937	3232	2945	3328

S.E./mean = 206.6 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 59(89).

Site :- Agri. Res. Stn., Palur.

Type :- 'M'.

Object :- To find out the suitable time of application of A/S to Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+30 lb./ac. of N as A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 15.9.1959/29.10.1959. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 10"×5". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 31.8". (x) 29.2.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(110) on page 41.

5. RESULTS :

(i) 3773 lb./ac. (ii) 332.4 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	3832	3747	3767	3724	3795

S.E./mean = 135.7 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 55(60).

Site :- Agri. Res. Stn., Palur.

Type :- 'M'.

Object :- To find out the direct manurial value of organic and inorganic manures and to find out the necessity of liming to Paddy soils for correcting acidity.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 31.7.1955/15.9.1955. (iv) (a) 5 ploughings. (b) Transplanting in rows. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 26.28". (x) 22.2.1956.

2. TREATMENTS :

Main-plot treatments :

5 sources of N at 60 lb./ac. as B.D. : B₀=No B.D., B₁=F.Y.M., B₂=Compost, B₃=G.M. and B₄=A/S.

Sub-plot treatments :

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

- (1) 2 levels of P₂O₅ as Super : P₀=0 and P₁=60 lb./ac.
- (2) 2 levels of K₂O as Pot. Sul. : K₀=0 and K₁=60 lb./ac.
- (3) 2 levels of lime : L₀=0 and L₁=1500 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 5 main-plots/block ; 8 sub-plots/main-plot. (b) 64'×250'. (iii) 4. (iv) (a) 16'×25'.
(b) 15½'×24½'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield, tiller and height observations. (iv) (a) 1952—contd. (b) Yes. (c) Nil.
(v) (a) Aduthurai. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3236 lb./ac. (ii) (a) 819.4 lb./ac. (b) 265.1 lb./ac. (iii) Main effect of K is highly significant. Effect of L is insignificant. No other effect is significant. (iv) Av. yield of grain in lb./ac.

	B ₀	B ₁	B ₂	B ₃	B ₄	L ₀	L ₁	K ₀	K ₁	Mean
P ₀	3198	3320	3584	3116	2900	3270	3178	3261	3187	3224
P ₁	3262	3334	3500	3215	2926	3285	3210	3307	3188	3248
Mean	3230	3327	3542	3165	2913	3277	3194	3284	3188	3236
K ₀	3333	3387	3594	3128	2978	3319	3249			
K ₁	3128	3266	3491	3203	2848	3236	3139			
L ₀	3304	3328	3656	3176	2924					
L ₁	3157	3326	3429	3155	2902					

S.E. of difference of of two

1. B marginal means = 204.8 lb./ac.
 2. P, K or L marginal means = 41.9 lb./ac.
 3. P, K or L means at the same level of B = 93.7 lb./ac.
 4. B means at the same level of P, K or L = 215.3 lb./ac.
- S.E. of body of P×K, P×L or K×L table = 41.9 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 56(107).

Site :- Agri. Res. Stn., Palur.

Type :- 'M'.

Object :—To find out the direct manurial value of organic and inorganic manures and to find out the necessity of liming to Paddy soils for correcting acidity.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 10.8.1956/22.9.1956. (iv) (a) 4 to 5 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) As per treatments. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 43.26". (x) 9.2.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(60) on page 42.

5. RESULTS :

(i) 2263 lb./ac. (ii) (a) 315.2 lb./ac. (b) 173.8 lb./ac. (iii) Main effect of N alone is highly significant. Interaction P×K×L is significant. (iv) Av. yield of grain in lb./ac.

	B ₀	B ₁	B ₂	B ₃	B ₄	L ₀	L ₁	K ₀	K ₁	Mean
P ₀	2196	2450	2428	2195	2082	22 6	2244	2276	2264	2270
P ₁	2243	2421	2375	2175	2063	2276	2236	2268	2242	2256
Mean	2220	2436	2401	2185	2072	2286	2240	2272	2253	2263
K ₀	2250	2439	2407	2167	2097	2296	2248			
K ₁	2189	2431	2396	2203	2048	2276	2232			
L ₀	2261	2489	2425	2162	2093					
L ₁	2178	2382	2379	2208	2051					

S.E. of difference of two

1. B marginal means = 78.8 lb./ac.
 2. P, K or L marginal means = 27.5 lb. ac.
 3. P, K or L means at the same level of B = 61.4 lb. ac.
 4. B means at the same level of P, K or L = 90.0 lb./ac.
- S.E. of body of P×K, P×L or K×L table = 27.5 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 57(112).

Site :- Agri. Res. Stn., Palur.

Type :- 'M'.

Object :- To find out the direct manurial value of organic and inorganic manures and to find out the necessity of liming to Paddy soils for correcting acidity.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 29.7.1957/10.9.1957. (iv) (a) 5 ploughings. (b) Transplanted. (c) 30 lb./ac. d) 6'×6'. (e) 2. (v) As per treatments. (vi) CO-25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 32.95°. (x) 24.1.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(60) on page 42.

5. RESULTS :

(i) 3544 lb./ac. (ii) (a) 619.2 lb./ac. (b) 236.6 lb./ac. (iii) Only N×L interaction is significant. (iv) Av. yield of grain in lb./ac.

	B ₀	B ₁	B ₂	B ₃	B ₄	L ₀	L ₁	K ₀	K ₁	Mean
P ₀	3603	3713	3612	3335	3503	3553	3552	3576	3529	3552
P ₁	3680	3566	3617	3334	3477	3499	3570	3547	3521	3535
Mean	3642	3640	3614	3334	3490	3526	3561	3562	3525	3544
1	3644	3649	3668	3360	3490	3536	3587			
K ₁	3639	3630	3560	3309	3490	3515	3535			
L ₀	3675	3619	3596	3207	3534					
L ₁	3609	3660	3632	3462	3446					

S.E. of difference of two

1. B marginal means = 154.8 lb./ac.
 2. P K or L marginal means = 37.4 lb. ac.
 3. P, K, or L means at the same level of B = 83.6 lb./ac.
 4. B means at the same level of P, K or L = 165.7 lb./ac.
- S.E. of body of P×K, P×L or K×L table = 37.4 lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 58(122).****Site :- Agri. Res. Stn., Palur.****Type :- 'M'.**

Object :—To find out the direct manurial value of organic and inorganic manures and to find out the necessity of liming to Paddy soils for correcting acidity.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 26.7.1958/19.9.1958. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 32.75". (x) 2.2.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(60) on page 42.

5. RESULTS :

(i) 3619 lb./ac. (ii) (a) 503.8 lb./ac. (b) 278.4 lb./ac. (iii) Main effect of N is highly significant. Interaction P×K×L is significant. (iv) Av. yield of grain in lb./ac.

	B ₀	B ₁	B ₂	B ₃	B ₄	L ₀	L ₁	K ₀	K ₁	Mean
P ₀	3512	3919	3881	3512	3331	3673	3589	3642	3620	3631
P ₁	3589	3875	3799	3478	3297	3640	3575	3628	3588	3608
Mean	3550	3897	3840	3495	3314	3656	3582	3635	3604	3619
K ₀	3600	3903	3850	3467	3353	3674	3596			
K ₁	3500	3891	3830	3523	3275	3640	3668			
L ₀	3619	3984	3875	3459	3347					
L ₁	3482	3809	3805	3532	3281					

S.E. of difference of two

- | | |
|---|-----------------|
| 1. B marginal means | = 125.9 lb./ac. |
| 2. P, K or L marginal means | = 44.0 lb./ac. |
| 3. P, K or L means at the same level of B | = 98.4 lb./ac. |
| 4. B mean at the same level of P, K or L | = 143.9 lb./ac. |
| S.E. of body of P×K, P×L or K×L table | = 44.0 lb./ac. |

Crop :- Paddy (Samba).**Ref :- M. 59(95).****Site :- Agri. Res. Stn., Palur.****Type :- 'M'.**

Object :—To find out the direct manurial value of organic and inorganic manures and to find out the necessity of liming to Paddy soil for correcting acidity.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 14.8.1959/1,2.10.1959. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 17.2.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(60) on page 42.

5. RESULTS :

(i) 3383 lb./ac. (ii) (a) 390.7 lb./ac. (b) 167.4 lb./ac. (iii) Main effects of N and L and interaction P×K, N×P, N×L, NPK, N×K×L, N×L×P and N×P×K×L are highly significant. (iv) Av. yield of grain in lb./ac.

	B ₀	B ₁	B ₂	B ₃	B ₄	L ₀	L ₁	K ₀	K ₁	Mean
P ₀	3122	3615	3524	3143	3547	3414	3367	3336	3445	3390
P ₁	3301	3537	3517	3059	3469	3447	3306	3434	3320	3377
Mean	3212	3576	3520	3101	3508	3430	3336	3385	3382	3383
K ₀	3250	3565	3564	3066	3479	3411	3358			
K ₁	3170	3588	3477	3137	3537	3450	3315			
L ₀	3314	3489	3618	3114	3617					
L ₁	3108	3664	3423	3088	3399					

S.E. of difference of two.

1. B marginal means = 97.7 lb./ac.
2. P, K or L marginal means = 26.5 lb./ac.
3. P, K or L means at the same level of B = 59.2 lb. ac.
4. B means at the same level of P, K or L = 106.2 lb./ac.
- S.E. of body of P×K, P×L or K×L table = 26.5 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 56(20).

Site :- Agri. Res. Stn., Pattukkottai.

Type :- 'M'.

Object :- To compare the effect of different levels and sources of N on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) 5000 lb./ac. of G.L.+100 lb. ac. of Super+100 lb./ac. of A.S. (ii) (a) Sandy loam. (b) N.A. (iii) 20.8.1956/25.9.1956. (iv) (a) 4 to 6 ploughings. (b) Transplanting in lines. (c) 30 lb./ac. (d) 6'×6'. (e) 2. (v) 5000 lb./ac. of G.L.+30 lb./ac. of P₂O₃ as Super. (vi) CO—25 (late). (vii) Irrigated. (viii) 1 weeding. (ix) 33.43%. (x) 22.2.1957.

2. TREATMENTS :

All combinations of (1) and (2) + a control

(1) 2 sources of N : S₁=A/S and S₂=A/C.

(2) 4 levels of N : N₁=15, N₂=30, N₃=45 and N₄=60 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 9. (b) 60'×42'. (iii) 5. (iv) (a) and (b) 20'×14'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 3298 lb./ac. (ii) 559 lb. ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

Control = 3120 lb./ac.

	N ₁	N ₂	N ₃	N ₄	Mean
S ₁	3407	3431	3221	3461	3380
S ₂	2676	3563	3509	3291	3260
Mean	3042	3497	3365	3376	3320

S.E. of marginal mean of N	= 176.9 lb./ac.
S.E. of marginal mean of S	= 125.0 lb./ac.
S.E. of body of table or control mean	= 250.0 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 57(32).

Site :- Agri. Res. Stn., Pattukkottai.

Type :- 'M'.

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

1. BASAL CONDITIONS :

(i) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 19.7.1957/31.8.1957. (iv) (a) 4 to 6 ploughings. (b) Transplanting in lines. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) Weeding. (ix) 41.44". (x) 7.2.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(20) on page 46.

5. RESULTS :

(i) 1245 lb./ac. (ii) 378.0 lb./ac. (iii) Main effect of S and interaction S×N are significant. (iv) Av. yield of grain in lb./ac.

Control = 1552 lb./ac.

	N ₁	N ₂	N ₃	N ₄	Mean
S ₁	1276	1260	1095	539	1043
S ₂	1478	1618	1210	1174	1370
Mean	1377	1439	1153	857	1207

S.E. of N marginal mean	= 119.5 lb./ac.
S.E. of S marginal mean	= 84.5 lb./ac.
S.E. of body of table or control mean	= 169.0 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 58(74).

Site :- Agri. Res. Stn., Pattukkottai.

Type :- 'M'.

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

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 8.8.1958/3.9.1958. (iv) (a) 3 to 4 ploughings. (b) Transplanting in lines. (c) 25 lb./ac. (d) 6"×6". (e) 2. (v) 5000 lb./ac. of G.L.+30 lb./ac. of P₂O₅ as Super. (vi) CO—25 (late). (vii) Irrigated. (viii) 1 weeding. (ix) N.A. (x) 28.1.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(20) on page 46.

5. RESULTS :

i) 3946 lb./ac. (ii) 453.9 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

Control = 4050 lb./ac.

	N ₁	N ₂	N ₃	N ₄	Mean
S ₁	3949	4011	4006	3649	3904
S ₂	3773	4115	4148	3813	3962
Mean	3861	4063	4077	3731	3933

S.E. of N marginal mean = 143.6 lb./ac.

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

S.E. of body of table or control mean = 203.0 lb./ac.

Crop :- Paddy (Kuruvai).**Ref :- M. 58(77).****Site :- Agri. Res. Stn., Pattukkottai.****Type :- 'M'.**

Object :—To find out the suitable time of application of A/S to Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb. ac. of A.S.
(ii) (a) Sandy loam. (b) N.A. (iii) 12.7.1958/15.8.1958. (iv) (a) 3 to 4 ploughings. (b) Transplanting in lines. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 23.10.1958.

2. TREATMENTS :

5 times of application of 30 lb./ac. of N as A/S : T₁=One month after planting, T₂=½ at planting+½ one month after planting, T₃=½ at planting+½ a week prior to flowering, T₄=½ at planting+½ half month after planting+½ one month after planting and T₅ ½ at planting+½ half month after planting+½ a week prior to flowering.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 15'×12'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2091 lb./ac. (ii) 147 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	2052	2097	2193	2017	2097

S.E./mean = 60 lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 58(72).****Site :- Agri. Res. Stn., Pattukkottai.****Type :- 'M'.**

Object :—To find out the suitable time of application of A/S.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb. ac. of A.S.
(ii) (a) Sandy loam. (b) N.A. (iii) 8.8.1958/4.9.1958. (iv) (a) 3 to 4 ploughings. (b) Transplanting in lines. (c) 25 lb./ac. (d) 6"×6". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 2.2.1959.

2. TREATMENTS :

5 times of application of 30 lb./ac. of N as A/S : T_1 =Two months after planting, T_2 = $\frac{1}{2}$ at planting+ $\frac{1}{2}$ two months after planting, T_3 = $\frac{1}{2}$ at planting+ $\frac{1}{2}$ a week prior to flowering, T_4 = $\frac{1}{2}$ at planting+ $\frac{1}{2}$ one month after planting+ $\frac{1}{2}$ two months after planting and T_5 = $\frac{1}{2}$ at planting+ $\frac{1}{2}$ one month after planting+ $\frac{1}{2}$ a week prior to flowering.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 58(77) on page 48.

5. RESULTS :

(i) 3653 lb./ac. (ii) 441 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	3706	3510	3620	3697	3732

S.E./mean = 180 lb./ac.

Crop :- Paddy (Thaladi).

Site :- Agri. Res. Stn., Pattukkottai.

Ref :- M. 58(71).

Type :- 'M'.

Object :-To find out the suitable time of application of A/S.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Sandy loam. (b) N.A. (iii) 13.9.1958/2.11.1958. (iv) (a) 3 to 4 ploughings. (b) Transplanting in lines. (c) 25 lb./ac. (d) 10"×5". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 24.2.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(72) on page 48.

5. RESULTS :

(i) 2605 lb./ac. (ii) 237.7 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	2480	2758	2632	2677	2476

S.E./mean = 97.0 lb./ac.

Crop :- Paddy (Kurwai).

Site :- Agri. Res. Stn., Pattukkottai.

Ref :- M. 59(59).

Type :- 'M'.

Object :-To find out the suitable time of application of A/S.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 4.7.1959/29.30.8.1959. (iv) (a) 3 to 4 ploughings. (b) Transplanted in lines. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 1 weeding. (ix) N.A. (x) 10.10.1959

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(77) on page 48.

5. RESULTS :

(i) 2166 lb./ac. (ii) 144.6 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	2118	2302	2159	2126	2127

S.E./mean = 59.0 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 59(60).

Site :- Agri. Res. Stn., Pattukkottai.

Type :- 'M'.

Object :—To find out the suitable time of application of A/S.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 1.8.1959/31.8.1959. (iv) (a) 3 to 4 ploughings. (b) Transplanted in lines. (c) 25 lb./ac. (d) 6"×6". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) CO—25 (late). (vii) Irrigated. (viii) 1 weeding. (ix) N.A. (x) 5.2.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(72) on page 48.

5. RESULTS :

(i) 3278 lb./ac. (ii) 205.8 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	3235	3317	3205	3179	3452

S.E./mean = 84.0 lb./ac.

Crop :- Paddy (Thaladi).

Ref :- M. 59(61).

Site :- Agri. Res. Stn., Pattukkottai.

Type :- 'M'.

Object :—To find out the suitable time of application of A/S to Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 23.9.1959/3.11.1959. (iv) (a) 3 to 4 ploughings. (b) Transplanted in lines. (c) 25 lb./ac. (d) 6"×6". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) CO—25 (late). (vii) Irrigated. (viii) 1 weeding. (ix) N.A. (x) 3.3.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(72) on page 48.

5. RESULTS :

(i) 1878 lb./ac. (ii) 245 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	1909	1925	1724	2048	1784

S.E./mean = 100 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 54(87).

Site :- Agri. Res. Stn., Pattukkottai.

Type :- 'M'.

Object :—To find out the optimum dose of manures for Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 5.8.1954/15, 16.9.1954. (iv) (a) 4 ploughings with Cooper II plough. (b) Transplanting in lines. (c) 25 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) Adt. 8 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 30.82%. (x) 15, 16.1.1955.

2. TREATMENTS :

6 manurial treatments.

T₁ = 2,000 lb./ac. of G.L.

T₂ = 5,000 lb./ac. of G.L.+150 lb./ac. of Super+ 150 lb./ac. of A/S.

T₃ = 10,000 lb./ac. of G.L.+300 lb./ac. of Super.

T₄ = 10,000 lb./ac. of G.L.+300 lb./ac. of Super+ 100 lb./ac. of A/S.

T₅ = 10,000 lb./ac. of G.L.+300 lb./ac. of Super+1000 lb./ac. of lime.

T₆ = 10,000 lb./ac. of G.L.+300 lb./ac. of Super+1000 lb./ac. of lime+100 lb./ac. of A/S.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) 87'×150'. (iii) 4. (iv) (a) and (b) 87'×25'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Mild incidence of stem-borer. (iii) Height, tiller count and grain yield. (iv) (a) 1953—1957 (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1749 lb./ac. (ii) 127.0 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	T ₆
Av. yield	2493	2933	2768	2749	2635	2915

S.E./mean = 63.5 lb./ac.

Crop :- Paddy (Samba).

Site :- Agri. Res. Stn., Pattukkottai.

Ref :- M. 55(30).

Type :- 'M'.

Object :- To find out the optimum dose of manures for Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Fallow—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 14.8.1955/17 and 19.9.1955. (iv) (a) 4 to 6 ploughings. (b) Transplanting in lines. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) Adt. 8 (late). (vii) Irrigated. (viii) 1 weeding. (ix) 39.52%. (x) 25 to 27.1.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(87) on page 50.

5. RESULTS :

(i) 3857 lb./ac. (ii) 544 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
Av. yield	4130	3663	3868	3864	3990	3628

S.E./mean = 272 lb./ac.

Crop :- Paddy (Samba).

Site :- Agri. Res. Stn., Pattukkottai.

Ref :- M. 56(23).

Type :- 'M'.

Object :- To find out the optimum dose of manures for Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 25.8.1956/27 and 28.9.1956. (iv) (a) 4 to 6 ploughings. (b) Transplanting in lines. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) Adt. 8 (late). (vii) Irrigated. (viii) 1 weeding. (ix) 31.44%. (x) 13 to 15.2.1957-

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(87) on page 50.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1953—1957. (b) Yes. (c) Nil. (v) (a, and (b) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2460 lb./ac. (ii) 294 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
Av. yield	2090	2540	2515	2410	2540	2670

S.E./mean = 147 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 57(22).

Site :- Agri. Res. Stn., Pattukkottai.

Type :- 'M'.

Object :—To find out the optimum dose of manures for Paddy crop.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 25.7.1957/8 and 10.9.1957. (iv) (a) 4 to 6 ploughings. (b) N.A. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) Adt. 8 (late). (vii) Irrigated. (viii) 1 wedding. (ix) 39.61". (x) 10.2.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(87) on page 50.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1953—1957. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1708 lb./ac. (ii) 188 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	T ₆
Av. yield	2210	1913	1581	1457	1733	1355

S.E./mean = 94.0 lb./ac.

Crop :- Paddy (Thaladi).

Ref :- M. 54(89).

Site :- Agri. Res. Stn., Pattukkottai.

Type :- 'M'.

Object :—To find out the optimum dose of manures for Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 15.9.1954/31.10.1954. (iv) (a) 4 ploughings with Cooper II plough in puddle. (b) Transplanting in lines. (c) 25 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 28.09". (x) 22.2.1955.

2. TREATMENTS :

6 manurial treatments.

T₁=No manure.

T₂= 3000 lb./ac. of G.L.+ 300 lb./ac. of Super+300 lb./ac. of A/S.

T₃=10000 lb./ac. of G.L.+ 300 lb./ac. of Super.

$T_4 = 10000 \text{ lb./ac. of G.L.} + 300 \text{ lb./ac. of Super} + 100 \text{ lb./ac. of A/S.}$

$T_5 = 10000 \text{ lb./ac. of G.L.} + 300 \text{ lb./ac. of Super} + 1000 \text{ lb./ac. of lime.}$

$T_6 = 10000 \text{ lb./ac. of G.L.} + 300 \text{ lb./ac. of Super} + 1000 \text{ lb./ac. of lime} + 100 \text{ lb./ac. of A/S.}$

G.L. applied at the time of last ploughing, $\frac{1}{2}$ N and P applied at the time of planting and $\frac{1}{2}$ N one month after planting.

3. DESIGN :

Same as in expt. no. 54(87) on page 50.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height, tiller count and grain yield. (iv) 1954—1957. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2052 lb./ac. (ii) 176 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	T_6
Av. yield	1008	2435	2430	1810	2076	2010

S.E./mean = 88.0 lb./ac.

Crop :- Paddy (Thaladi).

Site :- Agri. Res. Stn., Pattukkottai.

Ref :- M. 55(29).

Type :- 'M'.

Object :- To find out the optimum dose of manures for Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Follow. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N. A. (iii) 22.9.1955./22 to 24.10.1955. (iv) (a) 4 to 6 ploughings. (b) Transplanting in lines. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) 1 weeding. (ix) 32.95". (x) 29.2.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(89) on page 52.

5. RESULTS :

(i) 3373 lb./ac. (ii) 350 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	2273	3621	3010	3521	3764	4049

S.E./mean = 175 lb./ac.

Crop :- Paddy (Thaladi)

Site :- Agri. Res. Stn., Pattukkottai.

Ref :- M. 56(22).

Type :- 'M'.

Object :- To find out the optimum dose of manures for Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 10.9.1956./15, 16.10.1956. (iv) (a) 4 to 6 ploughings. (b) Transplanting in lines. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) 1 weeding. (ix) 36.04". (x) 15.1.1957.

TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(89) on page 52.

5. RESULTS :

(i) 2355 lb./ac. (ii) 252 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	T ₆
Av. yield	1605	2765	2345	2565	2315	2630

S.E./mean = 126 lb./ac.

Crop :- Paddy (Thaladi).

Ref :- M. 57(23).

Site :- Agri. Res. Stn., Pattukkottai.

Type :- 'M'.

Object :—To find out the optimum dose of manures for Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 23.8.1957/29.9.1957. (iv) (a) 4 to 6 ploughings. (b) Transplanting in lines. (c) 30 lb./ac. (d) 6" × 6". (e) 2. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) 1 weeding. (ix) 38.01". (x) 27.2.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(89) on page 52.

5. RESULTS :

(i) 2115 lb./ac. (ii) 240 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	T ₆
Av. yield	1387	2459	1969	1996	2383	2500

S.E./mean = 120 lb./ac.

Crop :- Paddy (Kuruvai).

Ref :- M. 55(31).

Site :- Agri. Res. Stn., Pattukkottai.

Type :- 'M'.

Object :—To find out the optimum dose of manures for Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 8.7.1955/1 and 2.8.1955. (iv) (a) 4 to 6 ploughings. (b) Transplanting in lines. (c) 30 lb./ac. (d) 6" × 6". (e) 2. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 1 hand weeding. (ix) 11.55". (x) 10, 11.10.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(87) on page 50.

5. RESULTS :

(i) 3731 lb./ac. (ii) 1228 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
Av. yield	3637	4108	3554	3498	3796	3789

S.E./mean = 614 lb./ac.

Crop :- Paddy (Kuruvai).

Ref :- M. 56(24).

Site :- Agri. Res. Stn., Pattukkottai.

Type :- 'M'.

Object :—To find out the optimum dose of manures for Paddy.

1. BASAL CONDITIONS:

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 4.6.1956/16 to 18.7.1956. (iv) (a) 4 to 6 ploughings. (b) Transplanting in lines. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 1 weeding. (ix) 18.60". (x) 1.10.1956.

2. TREATMENTS to 4. GENERAL:

Same as in expt. no. 54(87) on page 50.

5. RESULTS:

(i) 2031 lb./ac. (ii) 221.8 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	T ₆
Av. yield	1976	2232	1952	1903	2062	2061

S.E./mean = 110.9 lb./ac.

Crop :- Paddy (*Kuruwai*).

Ref :- M. 57(21).

Site :- Agri. Res. Stn., Pattukkottai.

Type :- 'M'.

Object :—To find out the optimum dose of manures for Paddy.

1. BASAL CONDITIONS:

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 7.6.1959/26 to 30.6.1957. (iv) (a) 4 to 6 ploughings. (b) Transplanting in lines. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 1 weeding. (ix) 10.14". (x) 20.9.1957.

2. TREATMENTS to 4. GENERAL:

Same as in expt. no. 54(87) on page 50.

5. RESULTS:

(i) 2677 lb./ac. (ii) 190 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	T ₆
Av. yield	2235	2905	2205	2845	2875	2995

S.E./mean = 95.0 lb./ac.

Crop :- Paddy (*Samba*).

Ref :- M. 56(85).

Site :- Agri. Res. Stn., Pattukkottai.

Type :- 'M'.

Object :—To find out the effect of different levels and sources of P at different levels of N on the yield of Paddy.

1. BASAL CONDITIONS:

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+100 lb./ac. of Super+100 lb./ac. of A/S. (ii) (a) Sandy loam. (b) N.A. (iii) 20.8.1956/23.9.1956. (iv) (a) 4 to 6 ploughings. (b) Transplanting in lines. (c) 25 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) 1 weeding. (ix) 34.3". (x) 19.2.1957.

2. TREATMENTS:

All combinations of (1), (2) and (3)+3 extra treatments

(1) 3 levels of N as A/S : N₁=30, N₂=45 and N₃=60 lb./ac.

(2) 4 levels of P₂O₅ : P₁=15, P₂=30, P₃=45 and P₄=60 lb./ac.

(3) 3 sources of P₂O₅ : S₁=Super, S₂=Hyper Phos. and S₃=Dical. Phos.

Extra treatments : T₁=30, T₂=45 and T₃=60 lb./ac. of N as A/S.

3. DESIGN:

(i) R.B.D. (ii) (a) 39. (b) N.A. (iii) 4. (iv) (a) and (b) 14'×10½'. (v) No. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 3265 lb./ac. (ii) 356.8 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

$$T_1 = 3297, T_2 = 3222 \text{ and } T_3 = 3352 \text{ lb./ac.}$$

	P ₁	P ₂	P ₃	P ₄	Mean	S ₁	S ₂	S ₃
N ₁	3247	3145	3148	3192	3183	3225	3162	3162
N ₂	3241	3235	3278	3346	3275	3195	3287	3343
N ₃	3216	3420	3408	3284	3332	3477	3250	3269
Mean	3235	3267	3278	3274	3263	3299	3233	3258
S ₁	3352	3145	3358	3340				
S ₂	3118	3358	3210	3247				
S ₃	3235	3297	3266	3235				

S.E. of N or S marginal mean	= 51.5 lb./ac.
S.E. of P marginal mean	= 59.5 lb./ac.
S.E. of body of N×P or S×P table	= 103.0 lb./ac.
S.E. of body of N×S table	= 89.2 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 57(82).

Site :- Agri. Res. Stn., Pattukkottai.

Type :- 'M'.

Object :—To find out the effect of different levels and sources of P at different levels of N on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) Sandy loam. (b) N.A. (iii) 19.7.1957. 3.9.1957. (iv) (a) 4 to 6 ploughings. (b) Transplanting in lines. (c) 25 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) 1 weeding. (ix) 28.9". (x) 18.3.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(85) on page 55.

5. RESULTS :

(i) 1902 lb./ac. (ii) 327.7 lb./ac. (iii) P effect alone is significant. (iv) Av. yield of grain in lb./ac.

$$T_1 = 1926, T_2 = 1704 \text{ and } T_3 = 1843 \text{ lb./ac.}$$

	P ₁	P ₂	P ₃	P ₄	Mean	S ₁	S ₂	S ₃
N ₁	2082	2074	1858	1914	1982	1993	2140	1813
N ₂	1954	1983	1852	1819	1902	1786	1938	1982
N ₃	1784	2000	1880	1697	1840	1869	1822	1828
Mean	1940	2019	1863	1810	1908	1883	1967	1874
S ₁	1960	2025	1753	1794				
S ₂	1906	2097	1905	1960				
S ₃	1954	1935	1931	1676				

S.E. of S or N marginal mean	= 47.3 lb./ac.
S.E. of P marginal mean	= 54.6 lb./ac.
S.E. of body of S×P or N×P table	= 94.6 lb./ac.
S.E. of body of S×N table	= 82.0 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 58(73).

Site :- Agri. Res. Stn., Pattukkottai.

Type :- 'M'.

Object :—To find out the effect of different levels and sources of P at different levels 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) 8.8.1958/31.8.1958. (iv) (a) 3 to 4 ploughings. (b) Transplanting in lines. (c) 25 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 30.2". (x) 1.2.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(85) on page 55.

5. RESULTS :

(i) 3436 lb./ac. (ii) 341.8 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

$$T_1 = 3408, T_2 = 3408 \text{ and } T_3 = 3287 \text{ lb./ac.}$$

	P ₁	P ₂	P ₃	P ₄	Mean	N ₁	N ₂	N ₃
S ₁	3281	3460	3581	3587	3477	3512	3368	3551
S ₂	3365	3392	3454	3562	3443	3445	3463	3422
S ₃	3362	3417	3559	3287	3406	3429	3530	3260
Mean	3336	3423	3531	3479	3442	3462	3454	3411
N ₁	3454	3476	3519	3399				
N ₂	3334	3405	3568	3510				
N ₃	3220	3389	3507	3528				

S.E. of S or N marginal mean	= 49.3 lb./ac.
S.E. of P marginal mean	= 57.0 lb./ac.
S.E. of body of N×P or S×P table	= 98.6 lb./ac.
S.E. of body of N×S table	= 85.4 lb./ac.

Crop :- Paddy.

Ref :- M. 56(21).

Site :- Agri. Res. Stn., Pattukkottai.

Type :- 'M'.

Object :—To test the efficacy of fish manure as a manure for Paddy.

1. BASAL CONDITIONS :

(i) Paddy—Paddy—Fallow. (b) Paddy. (c) 5000 lb./ac. of G.L.+100 lb./ac. of Super+100 lb./ac. of A/S. (ii) (a) Sandy loam. (b) N.A. (iii) 20.8.1956/21.9.1956. (iv) 4 to 6 ploughings. (b) N.A. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) 1 weeding. (ix) 30.78". (x) 21.2.1957.

2. TREATMENTS :

6 manurial treatments : M₁=No manure, M₂=F.M. at 30 lb./ac. of N, M₃=G.L. at 5000 lb./ac., M₄=G.L. at 5000 lb./ac.+F.M. at 30 lb./ac. of N+Super at 30 lb./ac. of P₂O₅, M₅=G.L.

at 5000 lb./ac. + A/S at 30 lb./ac. of N+Super at 30 lb./ac. of P_2O_5 and M_6 =G.L. at 5000 lb./ac. + F.M. at 15 lb./ac. of N+A/S at 15 lb./ac. of N+Super at 30 lb./ac. of P_2O_5 .

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) 40'×42'. (iii) 6. (iv) (a) and (b) 20'×14'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1936—1957. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 3029 lb./ac. (ii) 326 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	M_6
Av. yield	2698	3092	2923	3170	3112	3184

S.E./mean = 133 lb./ac.

Crop :- Paddy.

Site :- Agri. Res. Stn., Pattukkottai.

Ref :- M. 57(33).

Type :- 'M'.

Object:—To test the efficacy of fish manure as a manure to Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Fallow—Paddy. (b) Fallow. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 19.7.1957/6.9.1957. (iv) (a) 4 to 6 Ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) Weeding. (ix) 41.44". (x) 11.2.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(21) on page 57.

5. RESULTS :

(i) 1759 lb./ac. (ii) 333 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
Av. yield	1148	1822	1782	1977	2003	1822

S.E./mean = 136 lb./ac.

Crop :- Paddy.

Site :- Rice Res. Stn., Tirur.

Ref :- M. 56(45).

Type :- 'M'.

Object :—To find out the effect of different levels and sources of P with different levels of N on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 24.7.1956/22 to 25.9.1956. (iv) (a) Ploughing twice with iron plough and 3 times with country plough. (b) Transplanted. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) G.L. at 5000 lb./ac. (vi) ASD. 5 (medium). (vii) Irrigated. (viii) 1 weeding. (ix) 39.07". (x) 11.1.1957.

2. TREATMENTS :

All combinations of (1), (2) and (3)+3 extra treatments

(1) 3 levels of N as A/S : $N_1=30$, $N_2=45$ and $N_3=60$ lb./ac.

(2) 4 levels of P_2O_5 : $P_1=15$, $P_2=30$, $P_3=45$ and $P_4=60$ lb./ac.

(3) 3 sources of P_2O_5 : $S_1=$ Super, $S_2=$ Hyper Phos. and $S_3=$ Dical. Phos.

3 extra treatments : $T_1=30$, $T_2=45$ and $T_3=60$ lb./ac. of N as A/S.

3. DESIGN :

- (i) R.B.D. (ii) (a) 39. (b) N. A. (iii) 4. (iv) (a) 42'×6'. (b) 41½'×5½'. (v) 1 row on one side. (vi) Yes.

4. GENERAL :

- (i) Normal. (ii) Folidol was sprayed as a prophylactic measure against stem-borer. (iii) Grain yield. (iv) (a) 1956—contd. (b) and (c) No. (v) (a) Aduthurai, Pattukkottai and Coimbatore. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 3316 lb./ac. (ii) 252 lb./ac. (iii) Interaction N×S alone is significant. (iv) Av. yield of grain in lb./ac.

$$T_1 = 3224, T_2 = 3449 \text{ and } T_3 = 3093 \text{ lb./ac.}$$

	N ₁	N ₂	N ₃	Mean	S ₁	S ₂	S ₃
P ₁	3301	3218	3356	3292	3226	3375	3275
P ₂	3330	3443	3318	3364	3394	3368	3330
P ₃	3214	3400	3337	3317	3315	3318	3318
P ₄	3274	3387	3280	3313	3392	3199	3349
Mean	3280	3362	3323	3322	3332	3315	3318
S ₁	3407	3290	3299				
S ₂	3163	3370	3412				
S ₃	3271	3425	3257				

S.E. of N or S marginal mean	= 36.37 lb./ac.
S.E. of P marginal mean	= 42.00 lb./ac.
S.E. of body of P×N or P×S table	= 72.74 lb./ac.
S.E. of body of N×S table	= 63.00 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 59(30).

Site :- Rice. Res. Stn., Tirur.

Type :- 'M'.

Object :—To find out the effect of different levels and sources of P at different levels of N on the yield of Paddy.

1. BASAL CONDITIONS :

- (i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Light clayey. (b) Refer soil analysis, Tirur. (iii) 17.9.1959/23 to 26.9.1959. (iv) 3 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) G.L. at 5000 lb./ac. (vi) ASD. 5 (medium). (vii) Irrigated. (viii) Weedings and intercultivation one month after planting. (ix) 29.01". (x) 24.2.1960.

2. TREATMENTS :

Same as in expt. no. 56(45) on page 58.

3. DESIGN :

- (i) R.B.D. (ii) (a) 39. (b) N.A. (iii) 4. (iv) (a) 46'×5½'. (b) 45'×5'. (v) One row left. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Nil. (iv) 1956—contd. (b) No. (c) Nil. (v) (a) and (b) No. (vi) No. (vii) Expt. was not conducted during 1957 and 1958.

5. RESULTS :

- (i) 2236 lb./ac. (ii) 238.3 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

$T_1 = 2224, T_2 = 2347$ and $T_3 = 2266$ lb./ac.

	N_1	N_2	N_3	Mean	S_1	S_2	S_3
P_1	2202	2056	2189	2149	2024	2300	2123
P_2	2182	2224	2284	2230	2222	2205	2263
P_3	2228	2350	2256	2278	2271	2240	2323
P_4	2212	2278	2323	2271	2347	2243	2223
Mean	2206	2227	2263	2232	2216	2247	2233
S_1	2211	2223	2214				
S_2	2167	2304	2270				
S_3	2240	2154	2305				

S.E. of N or S marginal mean = 34.40 lb./ac.
 S.E. of P marginal mean = 39.72 lb./ac.
 S.E. of body of $N \times P$ or $S \times P$ table = 68.80 lb./ac.
 S.E. of body of $N \times S$ table = 59.58 lb./ac.

Crop :- Paddy.

Ref :- M. 56(6).

Site :- Rice Res. Stn., Tirur.

Type :- 'M'.

Object :—To compare the efficacy of A/C and A/S as nitrogenous fertilizers to Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 4.10.1956/14.11.1956. (iv) (a) 5 ploughings. (b) Transplanted in lines. (c) 30 lb./ac. (d) $6'' \times 6''$. (e) 2. (v) 5000 lb./ac. of G.L.+30 lb./ac. of P_2O_5 as Super. (vi) ASD. 5 (medium). (vii) Irrigated. (viii) 1 weeding. (ix) 19.39". (x) 19.3.1957.

2. TREATMENTS :

All combinations of (1) and (2) + a control (no nitrogen)

(1) 2 sources of N : $S_1 = A/S$ and $S_2 = A/C$.

(2) 4 levels of N : $N_1 = 15, N_2 = 30, N_3 = 45$ and $N_4 = 60$ lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a) $38' \times 12'$. (b) $37' \times 11'$. (v) 6" around. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) Aduthurai, Pattukkottai and Coimbatore. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2165 lb./ac. (ii) 188.7 lb./ac. (iii) 'Control vs. others' is highly significant and main effect of N is significant while other effects are not significant. (iv) Av. yield of grain in lb./ac.

Control = 1768 lb./ac.

	N_1	N_2	N_3	N_4	Mean
S_1	1990	2208	2309	2309	2204
S_2	2187	2096	2177	2440	2225
Mean	2089	2152	2243	2375	2215

S.E. of N marginal mean = 59.7 lb./ac.
 S.E. of S marginal mean = 42.2 lb./ac.
 S.E. of body of table = 84.4 lb./ac.

Crop :- Paddy.**Ref :- M. 57(12).****Site :- Rice Res. Stn., Tirur.****Type :- 'M'.**

Object :—To compare the efficacy of A/C and A/S as nitrogenous fertilizers to Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 31.8.1957/20.10.1957.
 (iv) (a) Ploughed twice with iron plough and 3 times with country plough till good puddle is obtained. (b) N.A. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) 5000 lb./ac. of G.L.+30 lb./ac. of P₂O₅ as Super. (vi) ASD. 5 (medium). (vii) Irrigated. (viii) Weeded once after planting. (ix) 19.06". (x) 4.2.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(6) on page 60.

5. RESULTS:

(i) 1695 lb./ac. (ii) 201.0 lb./ac. (iii) 'Control vs. rest' and main effect of N are highly significant while others are not significant. (iv) Av. yield of grain in lb./ac.

Control = 1366 lb./ac.

	N ₁	N ₂	N ₃	N ₄	Mean
S ₁	1435	1653	1832	2031	1738
S ₂	1441	1693	1774	2024	1733
Mean	1438	1673	1803	2028	1736

S.E. of N marginal mean = 63.6 lb./ac.

S.E. of S marginal mean = 44.9 lb./ac.

S.E. of body of table = 89.9 lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 58(32).****Site :- Rice Res. Stn., Tirur.****Type :- 'M'.**

Object :—To compare the efficacy of A/C and A/S as nitrogenous fertilizers to Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Fallow. (c) Nil. (ii) (a) Light clayey. (b) Refer soil analysis, Tirur. (iii) 26.9.1958/8.11.1958. (iv) (a) 3 ploughings. (b) Bulk planting. (c) 2½ to 3 lb./ac. (d) 6"×6". (e) 2. (v) 5000 lb./ac. of G L.+30 lb./ac. of P₂O₅ as Super. (vi) ASD. 5 (medium). (vii) Irrigated. (viii) Intercultivation and hand weeding. (ix) 30.75". (x) 26.2.1959.

2. TREATMENTS :

Same as in expt. no. 56(6) on page 60.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a) 31'×13'. (b) 30'×12'. (v) One row on each side. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Slight attack of stem-borer. (iii) Nil. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1780 lb./ac. (ii) 198.9 lb./ac. (iii) 'Control vs. rest' and main effect of N are highly significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

Control = 1350 lb./ac.

	N ₁	N ₂	N ₃	N ₄	Mean
S ₁	1540	1839	1822	2191	1848
S ₂	1538	1787	1864	2091	1820
Mean	1539	1813	1843	2191	1834

S.E. of N marginal mean = 62.91 lb./ac.

S.E. of S marginal mean = 44.48 lb./ac.

S.E. of body of table = 88.95 lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 58(37).****Site :- Rice Res. Stn., Tirur.****Type :- 'M'.**

Object :—To find out the effect of time of application of A/S on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) *Cholam*—Fodder—Paddy (b) Fodder—*Cholam*. (c) Nil. (ii) (a) Light clayey soil. (b) Refer soil analysis, Tirur. (iii) 20.9.1958, 5.11.1958. (iv) (a) 3 to 4 ploughings. (b) N. A. (c) 2½ to 3 lb./ac. (d) 6'×6'. (e) 2. (v) G.L. at 5000 lb./ac.+30 lb./ac. of P₂O₅ as Super. (vi) CO-25 (late). (vii) Irrigated. (viii) 1 weeding and intercultivation. (ix) 31.33". (x) 3.3.1959.

2. TREATMENTS :

5 times of application of N : T₁=two months after planting, T₂=½ at planting+½ two months after planting, T₃=½ at planting+½ a week prior to flowering, T₄ ½ at planting+½ one month after planting+½ two months after planting and T₅=½ at planting+½ one month after planting+½ a week prior to flowering.

N applied as A/S at 30 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 44½'×6'. (b) 43½'×5'. (v) One row left on either side. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) No. (iii) Grain yield. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) (a) and (b) No. (vi) and (vii) Nil.

5. RESULTS :

(i) 1017 lb./ac. (ii) 196.7 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	937	1049	998	1085	1015

S.E/mean = 80.3 lb./ac.

Crop :- Paddy (Navarai).**Ref :- M. 58(35).****Site :- Rice Res Stn., Tirur.****Type :- 'M'.**

Object :—To find out the effect of time of application of A/S on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—cotton. (b) Cotton. (c) N. A. (ii) Light clayey. (b) Refer soil analysis, Tirur (iii) 10.12.1958, 21.1.1959. (iv) (a) 3 ploughings. (b) N.A. (c) 3½ to 4 lb./ac. (d) 4'×4'. (e) 2 to 3. (v) 5000 lb./ac. of G.L.+30 lb./ac. of P₂O₅ as Super. (vi) TKM. 6 (medium). (vii) Irrigated. (viii) Weeding and intercultivations one month after plantings. (ix) 1.21". (x) 21.4.1959.

2. TREATMENTS :

5 times of application of N : T_1 = One month after planting, T_2 = $\frac{1}{2}$ at planting + $\frac{1}{2}$ one month after planting, T_3 = $\frac{1}{2}$ at planting + $\frac{1}{2}$ a week prior to flowering, T_4 = $\frac{1}{2}$ at planting + $\frac{1}{2}$ fifteen days after planting + $\frac{1}{2}$ one month after planting and T_5 = $\frac{1}{2}$ at planting + $\frac{1}{2}$ fifteen days after planting + $\frac{1}{2}$ a week prior to flowering.

N applied as A/S at 30 lb./ac.

3. DESIGN :

Same as in the expt. no. 58(37) on page 62.

4. GENERAL :

(i) Satisfactory. (ii) Slightly attacked by stem-borer. (iii) Nil. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2403 lb./ac. (ii) 349.3 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	2493	2376	2238	2431	2475

S.E./mean = 142.7 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 59(27).

Site :- Rice Res. Stn., Tirur.

Type :- 'M'.

Object :—To find out the effect of time of application of A/S on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+30 lb./ac. of P_2O_5 as Super. (ii) (a) Light clayey soil. (b) Refer soil analysis, Tirur. (iii) 17.9.1959/17.10.1959. (iv) (a) 3 to 4 ploughings. (b) Transplanted. (c) $2\frac{1}{2}$ to 3 lb./ac. (d) $6'' \times 6''$. (e) 2. (v) 5000 lb./ac. of G.L.+30 lb./ac. of P_2O_5 as Super. (vi) CO. 25 (late). (vii) Irrigated. (viii) Weeding twice and intercultivation one month after planting. (ix) 29.01". (x) 1.3.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(37) on page 62.

5. RESULTS :

(i) 2276 lb./ac. (ii) 189.6 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	2252	2326	2224	2310	2267

S.E./mean = 77.4 lb./ac.

Crop :- Paddy (Navarai).

Ref :- M. 59(28).

Site :- Rice Res. Stn., Tirur.

Type :- 'M'.

Object :—To find out the effect of time of application of A/S on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+30 lb./ac. of P_2O_5 as Super. (ii) (a) Light clayey. (b) Refer soil analysis, Tirur. (iii) 31.12.1959/1.2.1960 (iv) (a) 3 ploughings. (b) Transplanted in lines. (c) $3\frac{1}{2}$ lb./ac (d) $4'' \times 4''$. (e) 2. (v) 5000 lb./ac. of G.L.+30 lb./ac. of P_2O_5 as Super. (vi) TKM-6. (medium) (vii) Irrigated (viii) Intercultivation one month after planting and hand weeding as and when required. (ix) 1.21". (x) 11.5.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58,35, on page 62.

5. RESULTS :

(i) 2341 lb./ac. (ii) 130.3 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	2393	2318	2333	2325	2335

S.E./mean = 53.2 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 58(149).

Site :- Rice Res. Stn., Tirur.

Type :- 'M'.

Object :- To find out the effect of different sources of P applied directly to Paddy crop and indirectly through different G.M. crops preceding Paddy.

1. BASAL CONDITIONS :

(i) (a) to (c) As per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 26.9.1958/19.11.1958. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6" × 6". (e) 2. (v) As per treatments. (vi) ASD—5. (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 5.3.1959.

2. TREATMENTS :

Strips in one direction :

4 G.M. crops preceding paddy : G₀=Nil, G₁=*Sesbania*, G₂=*Dhaincha* and G₃=*Sannhemp*.

Strips in orthogonal direction :

6 sources of 45 lb./ac. of P₂O₅ : S₀=Nil, S₁=Dical. Phos., S₂=Rock Phos., S₃=Super, S₄=Hyper Phos. and S₅=B.M.

P₂O₅ was given to G₁, G₂ and G₃ and in the case of G₀ it was given to Paddy crop.

3. DESIGN :

(i) Strip-plot. (ii) (a) 24. (b) N.A. (iii) 5. (iv) (a) 51' × 8'. (b) 48' × 5'. (v) 1½' left around. (b) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1958—1960. (b) No. (c) Nil. (v) (a) Aduthurai and Coimbatore. (b) Nil. (vi) Nil. (vii) Expt. conducted by Agronomist, Coimbatore.

5. RESULTS :

(i) 884 lb./ac. (ii) (a) 158.3 lb./ac. (b) 145.2 lb./ac. (c) 77.0 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	S ₅	Mean
G ₀	795	1009	886	1060	810	791	891
G ₁	853	948	860	886	849	861	862
G ₂	824	1056	911	1042	864	853	926
G ₃	726	962	831	940	835	853	859
Mean	800	995	873	982	841	820	884

S.E. of difference of two

1. G marginal means	= 40.87 lb./ac.
2. S marginal means	= 45.91 lb./ac.
3. S means at the same level of G	= 62.35 lb./ac.
4. G means at the same level of S	= 60.39 lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 59(100).****Site :- Rice Res. Stn., Tirur.****Type :- 'M'.**

Object :—To find out the effect of different sources of P applied directly to Paddy crop and indirectly through different G.M. crops preceding Paddy.

1. BASAL CONDITIONS :

(i) (a) to (c) As per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 27.8.1959/1.10.1959. (iv) (a) 4 ploughings. (b) Transplanting. (c) 6"×6". (d) 30 lb./ac. (e) 2. (v) As per treatments. (vi) ASD. 5. (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 22 to 24.1.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(149) on page 64.

5. RESULTS :

(i) 2267 lb./ac. (ii) (a) 303.8 lb./ac. (b) 443.4 lb./ac. (c) 185.1 lb./ac. (iii) Main effect of G alone is highly significant. (iv) Av. yield of grain in lb./ac.

	S ₀	S ₁	S ₂	S ₃	S ₄	S ₅	Mean
G ₀	1552	1869	1730	1869	1625	1757	1734
G ₁	2347	2351	2532	2460	2541	2314	2423
G ₂	2123	2329	2296	2338	2460	2293	2307
G ₃	2378	2705	2486	2755	2705	2601	2604
Mean	2100	2314	2261	2352	2332	2241	2267

S.E. of difference of two

1. G marginal means = 78.4 lb./ac.
2. S marginal means = 140.2 lb./ac.
3. S means at the same level of G = 173.2 lb./ac.
4. G means at the same level of S = 132.6 lb./ac.

Crop :- Paddy (Navarai).**Ref :- M. 54(33).****Site :- Rice Res. Stn., Tirur.****Type :- 'M'.**

Object :—To find out the effect of application of P direct to paddy crop and through the G.M. crop preceding Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 8.10.1954/19.11.1954. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) CO—2 (medium). (vii) Irrigated. (viii) 1 weeding. (ix) 30.83". (x) 24.1.1955.

2. TREATMENTS :

Main-plot treatments :

3 G.M. crops preceding paddy crops : G₁=Sannhemp, G₂=Dhaincha, and G₃=Sesbania.

Sub-plot treatments :

3 applications of P₂O₅ : P₀=0, P₁=applied to G.M. and P₂=applied to Paddy.

P₂O₅ applied as Super at 45 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 75'×14'. (v) 6" around. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—1958. (b) and (c) Yes. (v) (a) Palur and Aduthurai. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1191 lb./ac. (ii) (a) 404.7 lb./ac. (b) 247.9 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	G ₁	G ₂	G ₃	Mean
P ₀	893	1370	1378	1214
P ₁	1034	991	1419	1149
P ₂	1121	1256	1246	1210
Mean	1018	1206	1348	1191

S.E. of difference of two

1. G marginal means = 165.2 lb./ac.
2. P marginal means = 101.2 lb./ac.
3. P means at the same level of G = 175.3 lb./ac.
4. G means at the same level of P = 218.6 lb./ac.

Crop :- Paddy (Navarai).

Ref :- M. 55(15).

Site :- Rice Res. Stn., Tirur.

Type :- 'M'.

Object :—To find out the effect of application of P direct to Paddy crop and through the G.M. crop preceding Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 11.9.1955/10.10.1955. (iv) (a) Ploughed twice with iron plough and thrice with country plough. (b) N.A. (c) 30 lb./ac. (d) 6" × 6". (e) 2. (v) Nil. (vi) CO—2 (medium). (vii) Irrigated. (viii) Weeded twice after planting. (ix) 21.65". (x) 27.1.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(33) on page 65.

5. RESULTS :

(i) 2849 lb./ac. (ii) (a) 207.5 lb./ac. (b) 138.2 lb./ac. (iii) Main effect of G alone is significant. (iv) Av. yield of grain in lb./ac.

	G ₁	G ₂	G ₃	Mean
P ₀	2531	2877	3083	2830
P ₁	2601	2908	3021	2843
P ₂	2528	2869	3229	2875
Mean	2553	2885	3111	2849

S.E. of difference of two

1. G marginal means = 84.7 lb./ac.
2. P marginal means = 56.4 lb./ac.
3. P means at the same level of G = 97.7 lb./ac.
4. G means at the same level of P = 116.4 lb./ac.

Crop :- Paddy (Navarai).

Ref :- M. 56(10).

Site :- Rice Res. Stn., Tirur.

Type :- 'M'.

Object :—To find out the effect of application of P direct to Paddy crop and through the G.M. crop preceding Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 13.9.1956/27.10.1956. (iv) (a) Ploughed twice with iron plough and thrice with country plough. (b) N.A. (c) 30 lb./ac.

(d) 6"×6". (e) 2. (v) Nil. (vi) CO—2 (medium). (vii) Irrigated. (viii) Weeded once after planting. (ix) 39.69". (x) 8.2.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(33) on page 65.

5. RESULTS :

(i) 2242 lb./ac. (ii) (a) 189 lb./ac. (b) 131 lb./ac. (iii) Main effect of G is highly significant. Main effect of P is significant. (iv) Av. yield of grain in lb./ac.

	G ₁	G ₂	G ₃	Mean
P ₀	1900	2471	2126	2166
P ₁	2002	2575	2170	2249
P ₂	2046	2468	2422	2312
Mean	1983	2505	2239	2242

S.E. of difference of two

1. G marginal means = 77.1 lb./ac.
2. P marginal means = 53.4 lb./ac.
3. P means at the same level of G = 92.6 lb./ac.
4. G means at the same level of P = 108.0 lb./ac.

Crop :- Paddy (Navarai).

Ref :- M. 58(29).

Site :- Rice Res. Stn., Tirur.

Type :- 'M'.

Object :—To find out the effect of application of P direct to Paddy crop and through G.M. crops preceding Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Fallow. (c) Nil. (ii) (a) Light clayey. (b) Refer soil analysis, Tirur. (iii) 10.12.1958/11, 12.1.1959. (iv) (a) 3 ploughings. (b) N.A. (c) 3½ lb./ac. (d) 6"×6". (e) 2. (v) As per treatments. (vi) TKM. 6 (medium). (vii) Irrigated. (viii) Intercultivation one month after planting, and hand weeding as and when required. (ix) 0.81". (x) 1 to 3.4.1959.

2. TREATMENTS and 3. DESIGN :

Same and as in expt. no. 54(33) on page 65.

4. GENERAL :

(i) to (vi) Same as in expt. no. 54(33) on page 65. (vii) Expt. failed during 1957.

5. RESULTS :

(i) 1742 lb./ac. (ii) (a) 245.9 lb./ac. (b) 194.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	G ₁	G ₂	G ₃	Mean
P ₀	1825	1712	1503	1680
P ₁	1650	1815	1794	1753
P ₂	1721	1846	1815	1794
Mean	1732	1791	1704	1742

S.E. of difference of two

1. G marginal means = 100.4 lb./ac.
2. P marginal means = 79.3 lb./ac.
3. P means at the same level of G = 137.4 lb./ac.
4. G means at the same level of P = 150.5 lb./ac.

Crop :- Paddy (Navarai).**Ref :- M. 56(4).****Site :- Rice Res. Stn., Tirur.****Type :- 'M'.**

Object :—To find out the effect of first manure on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 25.9.1956/15.11.1956. (iv) (a) Ploughing twice with iron plough and 3 times with country plough. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) 1 weeding. (ix, 20.66". (x) 2.4.1957.

2. TREATMENTS :

6 manurial treatments : M_0 =Nil, M_1 =F.M. to supply 30 lb./ac. of N+42.5 lb./ac. of P_2O_5 , M_2 =G.L. at 5000 lb./ac., M_3 = M_1 + M_2 , M_4 = M_2 +30 lb./ac. of N as A/S+42.5 lb./ac. of P_2O_5 as Super and M_5 = $\frac{1}{2}(M_3+M_4)$.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 35'×10'. (b) 34'×9'. (v) 6" around. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

(i) 1599 lb./ac. (ii) 211.4 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
Av. yield	1323	1484	1556	1872	1717	1639

S.E./mean = 86.3 lb./ac.

Crop :- Paddy.**Ref :- M. 54(TCM).****Site :- M.A.E. Farm, Aduthurai.****Type :- 'M'.**

Object :—Type I (a)—To find out the effect of levels and types of N and P on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Clayey loam. (b) N.A. (iii) 23.5.1954/20.7.1954. (iv) (a) 3 ploughings. (b) Transplanting. (c) 50 lb./ac. (d) 4"×4". (e) 2 to 3. (v) 4000 lb./ac. of G.L. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 27". (x) 3.10.1954.

2. TREATMENTS :

All combinations of (1), (2) and (3)+3 extra treatments per block.

(1) 3 levels of N : N_0 =0, N_1 =20 and N_2 =40 lb./ac.

(2) 3 sources of N : S_1 =A/S, S_2 =A/N and S_3 =Urea.

(3) 3 levels of P_2O_5 : P_0 =0, P_1 =20 and P_2 =40 lb./ac.

Extra treatments : T_1 =60 lb. of N as A/S+40 lb. of P_2O_5 as Triple Super.

T_2 =40 lb. of N as A/S+80 lb. of P_2O_5 as Triple Super.

T_3 =60 lb. of N as A/S+80 lb. of P_2O_5 as Triple Super.

3. DESIGN :

(i) 3³ confd. (ii) (a) 12. (b) N.A. (iii) 1. (iv) (a) 32'×14'. (b) 30'×12'. (v) 1'×1'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield and biometric observations. (iv) (a) 1954—1955. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3479 lb./ac. (ii) 229.9 lb./ac. (iii) Main effect of N is highly significant. Others are not significant. (iv) Av. yield of grain in lb./ac.

$$T_1 = 3629, T_2 = 3781 \text{ and } T_3 = 3196 \text{ lb./ac.}$$

	N ₀	N ₁	N ₂	Mean	S ₁	S ₂	S ₃
P ₀	2853	3488	3630	3324	3236	3388	3347
P ₁	3327	3408	3730	3488	3629	3458	3377
P ₂	3277	3741	3690	3569	3378	3499	3831
Mean	3152	3546	3683	3460	3414	3448	3518
S ₁	—	3579	3559				
S ₂	—	3529	3549				
S ₃	—	3529	3942				

S.E. of any marginal mean = 76.6 lb./ac.
 S.E. of body of N×P or S×P table = 132.7 lb./ac.

Crop :- Paddy.

Ref :- M. 54(TCM).

Site :- M.A.E. Farm, Aduthurai.

Type :- 'M'.

Object :—Type II—To study the best time of application of N to Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Clayey loam. (b) N.A. (iii) 21.6.1954/17.7.1954. (iv) (a) 4 ploughings and 2 weedings. (b) Transplanting. (c) to (e) N.A. (v) 4000 lb./ac. of G.L.+20 lb./ac. of P₂O₅ as Triple Super applied before laying out plots. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 27.00". (x) 1.10.1954.

2. TREATMENTS :

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

(1) 2 sources of 30 lb./ac. of N : S₁=A/S and S₂=Urea.

(2) 7 times of applying N : T₁=before planting, T₂=at planting, T₃=at tillering, T₄=½ before planting + ½ at tillering, T₅=½ at planting + ½ at tillering, T₆=½ before planting + ½ at tillering + ½ a week before flowering and T₇=½ at planting + ½ at tillering + ½ a week before flowering.

3. DESIGN :

(i) R.B.D. (ii) (a) 15. (b) N.A. (iii) 3. (iv) (a) 30'×26'. (b) 28'×24'. (v) 1'×1'. (vi) Yes.

4. GENERAL :

(i) No lodging. (ii) Incidence of stem-rot disease was in one of the replications. (iii) Grain yield. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2881 lb./ac. (ii) 191.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 2722 lb./ac.

	T ₁	T ₂	T ₃	T ₄	T ₅	T ₆	T ₇	Mean
S ₁	2916	3170	2938	2927	2781	2732	2684	2878
S ₂	2651	2711	3067	2938	2911	2992	3067	2905
Mean	2784	2940	3003	2932	2846	2862	2876	2892

S.E. of T marginal mean	=	78.1 lb./ac.
S.E. of S marginal mean,	=	41.7 lb./ac.
S.E. of body of table or control mean	=	110.4 lb./ac.

Crop :- Paddy (Kharif).

Ref :- M. 54(TCM).

Site :- M.A.E. Farm, Aduthurai.

Type :- 'M'.

Object :-Type VI—To find out the residual effect of P on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Clayey loam. (b) N.A. (iii) 23.6.1954/19.7.1954. (iv) (a) 4 ploughings. (b) Transplanting. (c) 50 lb./ac. (d) 4"×4". (e) 2 to 3. (v) 3000 lb./ac. of G.M.+20 lb./ac. of N as A/S excepting control plots. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 27 00". (x) 3.10.1954.

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 ₁	p ₁	p ₂
Second year	0	c	c	0	0	p ₁	p ₂	0	0	p ₁	p ₁	p ₂
Third year	0	c	c	0	0	0	0	p ₁	p ₂	p ₁	p ₁	p ₂

Treatments are three-course rotations with 11 distinct treatments. Plots under one treatment do not receive any fertilizer N or P. Plots under the other 10 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 : p₁ = 10 lb./ac., p₂ = 20 lb./ac. and p₃ = 40 lb./ac. of P₂O₅.

3. DESIGN :

(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) 54'×10'. (b) 52'×8'. (v) 1'×1'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield and biometric observations. (iv) (a) 1954—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3307 lb./ac. (ii) 407.4 lb./ac. (iii) Treatment difference are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	00	cc	p ₁ c	p ₂ c	cp ₁	cp ₂	p ₁ p ₁	p ₁ p ₂	p ₂ p ₂
Av. yield	3278	3338	3541	3109	3344	3174	3082	3599	3299

S.E./mean (cc) = 101.9 lb./ac.

S.E./mean (others) = 203.7 lb./ac.

Crop :- Paddy (Rabi).

Ref :- M. 54(TCM).

Site :- M.A.E. Farm, Aduthurai.

Type :- 'M'.

Object :-Type VI—To find out the residual effect of P on the yield of Paddy.

1. BASAL CONDITIONS :

(i) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) N.A. (iii) 12.9.1954/29.10.1954. (iv) (a) 3 diggings. (b) Transplanting. (c) 50 lb./ac. (d) N.A. (e) 2 to 3. (v) 4000 lb./ac. of G.L. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 28.5". (x) 2.3.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(TCM) Type VI above.

5. RESULTS :

(i) 3593 lb./ac. (ii) 91.09 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	000	ccc	p ₁ cc	p ₂ cc	cp ₁ c	cp ₂ c
Av. yield	3203	3586	3563	3432	3648	3583

Treatment	ccp ₁	ccp ₂	p ₁ p ₁ p ₂	p ₁ p ₁ p ₁	p ₂ p ₂ p ₂
Av. yield	3629	3753	3517	3648	3963

S.E./mean (cc) = 32.20 lb./ac.

S.E./mean (others) = 45.55 lb./ac.

Crop :- Paddy.

Ref :- M. 54(TCM).

Site :- M.A.E. Farm, Aduthurai.

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) Paddy—Paddy. (b) Paddy. (c) 3000 lb./ac. of G.L. (ii) (a) Clayey loam. (b) N.A. (iii) 23.6.1954/22.7.1954. (iv) (a) 4 ploughings. (b) Transplanting. (c) 50 lb./ac. (d) 4"×4". (e) 2. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) Weeding twice. (ix) 27". (x) 5.10.1954.

2. TREATMENTS :

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

(1) 3 levels of N as A/S : N₀=0, N₁=20 and N₂=40 lb./ac.

(2) 3 levels of P₂O₅ as triple Super : P₀=0, P₁=20 and P₂=40 lb./ac.

(3) 3 levels of compost : F₀=0, F₁=10 and F₂=20 C.L./ac.

3. DESIGN :

(i) 3³ confd. (ii) (a) 9 plots/block and 3 blocks/replication. (b) N.A. (iii) 1. (iv) (a) 40'×16'. (b) 38'×14'. (v) 1'×1'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2992 lb./ac. (ii) 325.9 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	N ₀	N ₁	N ₂	Mean	F ₀	F ₁	F ₂
P ₀	2757	2975	3091	2941	2941	2764	3119
P ₁	2674	3275	3289	3079	3214	3029	2995
P ₂	2798	2845	3221	2955	2688	2975	3201
Mean	2743	3032	3200	2992	2948	2923	3105
F ₀	2497	3139	3207				
F ₁	2879	2668	3221				
F ₂	2852	3289	3173				

S.E. of any marginal mean = 108.6 lb./ac.
S.E. of body of any table = 188.2 lb./ac.

Crop :- Paddy.**Ref :- M. 54(TCM).****Site :- M.A.E. Farm, Aduthurai.****Type :- 'M'.**

Object :— Type X—To test the efficiency of different nitrogenous fertilizers.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) 3000 lb./ac. of G.L. (ii) (a) Clayey loam. (b) N.A. (iii) 21.6.1954/16.7.1954. (iv) (a) 4 ploughings. (b) Transplanting. (c) to (e) N.A. (v) 20 lb./ac. of P_2O_5 as Triple Super. (vi) Adt. 3 (early). (vii) Irrigated. (viii) Two weedings. (ix) 27". (x) 30.9.1954.

2. TREATMENTS :

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

(1) 3 levels of N : $N_1=20$, $N_2=40$ and $N_3=60$ lb./ac.(2) 3 sources of N : $S_1=A/S$, $S_2=A/C$ and $S_3=A/S/N$.**3. DESIGN :**(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) $36' \times 12'$. (b) $34' \times 10'$. (v) $1' \times 1'$. (vi) Yes.**4. GENERAL :**

(i) Slight lodging but no serious damage done. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3078 lb./ac. (ii) 180 lb./ac. (iii) Main effect of S alone is significant. (iv) Av. yield of grain in lb./ac

Control = 2976 lb./ac.

	S_1	S_2	S_3	Mean
N_1	3072	3264	3048	3128
N_2	3112	3216	3024	3117
N_3	2912	3120	3032	3021
Mean	3032	3200	3035	3089

S.E. of any marginal mean = 51.9 lb./ac.

S.E. of body of table or control mean = 90.0 lb./ac.

Crop :- Paddy.**Ref :- M. 55(TCM).****Site :- M.A.E. Farm, Aduthurai.****Type :- 'M'.**

Object :—Type I(a)—To find out the effect of levels and types of N and P on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) 3000 lb./ac. of G.L. (ii) (a) Coastal alluvium—clayey loam. (b) N.A. (iii) 26.6.1955/23.7.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) to (e) N.A. (v) 3000 lb./ac. of *Sesbania leaf* incorporated by ploughing. (vi) Adt. 3 (early). (vii) Irrigated. (viii) Two weedings. (ix) 19.68". (x) 3.10.1955.

3. TREATMENTS :

Same as in expt. no. 54(TCM) Type I a on page 68.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 12 plots/block and 3 blocks/replication. (b) N.A. (iii) 1. (iv) (a) $30' \times 17'$. (b) $23' \times 15'$. (v) $1' \times 1'$. (vi) Yes.

4. GENERAL :

(i) Plots with heigher levels of N had good growth. (ii) Slight rat attack—baiting with zinc phosphate. (iii) Grain yield. (iv) (a) 1954—contd. (b) No. (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3079 lb./ac. (ii) 182.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

$$T_1 = 3381 \text{ lb./ac.}, T_2 = 3288 \text{ lb./ac. and } T_3 = 3211 \text{ lb./ac.}$$

	N ₀ .	N ₁	N ₂	Mean	S ₀	S ₁	S ₂
P ₀	2471	3176	3197	2948	2914	3057	2874
P ₁	2789	3111	3111	3004	2964	3075	2973
P ₂	2912	3111	3183	3069	3105	3025	3076
Mean	2724	3133	3164	3007	2994	3052	2974
S ₀	—	3159	3124				
S ₁	—	3168	3219				
S ₂	—	3072	3148				

S.E. of any marginal mean = 60.7 lb./ac.
S.E. of body of N×P or S×P table = 105.1 lb./ac.

Crop :- Paddy.

Ref :- M. 55(TCM).

Site :- M.A.E. Farm, Aduthurai.

Type :- 'M'.

Object :- Type II—To study the best time of application of N to Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) 5 C.L. of F.Y.M. (ii) (a) Coastal alluvium, Clayey loam. (b) N.A. (iii) 22.6.1955./20.7.1955. (iv) (a) N.A. (b) Transplanting. (c) to (e) N.A. (v) 3000 lb./ac. of G.L. and 20 lb./ac. of P₂O₅ as Triple Super incorporated at ploughing. (vi) Adt. 3 (early). (vii) Irrigated. (viii) Two weedings. (ix) 19.68". (x) 29.9.1955.

2. TREATMENTS :

Same as in expt. no. 54(TCM) Type II on page 69.

3. DESIGN :

(i) R.B.D. (ii) (a) 15. (b) N.A. (iii) 3. (iv) (a) 18'×15'. (b) 16'×13'. (v) 1'×1'. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

(i) 3.40 lb./ac. (ii) 167.0 lb./ac. (iii) T effect alone is highly significant. (iv) Av. yield of grain in lb./ac.

$$\text{Control} = 2320 \text{ lb./ac.}$$

	T ₁	T ₂	T ₃	T ₄	T ₅	T ₆	T ₇	Mean
S ₁	3163	3194	3570	3072	3033	3246	3138	3202
S ₂	3291	3142	3434	3133	3133	3171	3063	3195
Mean	3237	3168	3502	3103	3083	3208	3101	3199

S.E. of S marginal mean = 36.4 lb./ac.
S.E. of T marginal mean = 68.2 lb./ac.
S.E. of body of table or control mean = 96.4 lb./ac.

Crop :- Paddy.**Ref :- M. 55(TCM).****Site :- M.A.E. Farm, Aduthurai.****Type :- 'M'.**

Object :—Type IV—To study the effect of different sources of P and methods of placement on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) 5 C.L. of F.Y.M. (ii) (a) Coastal alluvium, Clayey loam. (b) N.A. (iii) 6.7.1955/5.8.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) Two weedings. (ix) 19.68". (x) 11.10.1955.

2. TREATMENTS :All combinations of (1), (2) and (3)+2 controls without P_2O_5 .(1) 2 sources of P_2O_5 : S_1 =Triple Super and S_2 =Ammono. Phos.(2) 2 levels of P_2O_5 : P_1 =20 lb./ac. and P_2 =40 lb./ac.(3) 3 methods of placement : M_1 =Broadcast at puddling, M_2 =Dipping the seedlings in mud slush and M_3 =Application in pellet form.

N equalised to 30 lb./ac. applied at planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 14. (b) N.A. (iii) 3. (iv) (a) 31'×14'. (b) 29'×12'. (v) 1'×1'. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

(i) 2711 lb./ac. (ii) 166.0 lb./ac. (iii) M effect alone is significant. (iv) Av. yield of grain in lb./ac.

Control = 2427 lb./ac.

	M_1	M_2	M_3	Mean	P_1	P_2
S_1	2579	2816	2825	2740	2760	2721
S_2	2611	2893	2825	2776	2724	2829
Mean	2595	2855	2825	2758	2741	2775
P_1	2604	2831	2790			
P_2	2585	2879	2861			

S.E. of M marginal mean = 47.92 lb./ac.
 S.E. of P or S marginal mean = 39.13 lb./ac.
 S.E. of body of P×S table = 55.33 lb./ac.
 S.E. of body of M×S or M×P table or control mean = 67.77 lb./ac.

Crop :- Paddy.**Ref .- M. 55(TCM).****Site :- M.A.E. Farm, Aduthurai.****Type :- 'M'.**

Object :—Type VI—To find out the residual effect of P on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Coastal alluvium. Clayey loam. (b) N.A. (iii) 11.7.1955/8.8.1955. (iv) (a) 3 diggings. (b) Transplanting. (c) to (e) N.A. (v) 3000 lb./ac. of G.L. incorporated by digging and 20 lb./ac. of N top-dressed 3 weeks after planting. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 19.68". (x) 15.10.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(TCM) Type VI on page 70.

5. RESULTS :

(i) 2669 lb./ac. (ii) 209.4 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	000	ccc	p ₁ cc	p ₂ cc	cp ₁ c	cp ₂ c
Av. yield	2236	2609	2615	2723	2706	2697
Treatment	ccp ₁	ccp ₂	p ₁ p ₁ p ₁	p ₁ p ₁ p ₁	p ₂ p ₂ p ₂	
Av. yield	2822	2757	2485	2788	2925	
		S.E./mean (ccc)	= 74.0 lb./ac.			
		S.E./mean (others)	= 52.4 lb./ac.			

Crop :- Paddy (Rabi).

Ref :- M. 55(TCM).

Site :- M.A.E. Farm, Aduthurai.

Type :- 'M'.

Object :- Type VI—To find out the residual effect of P on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) N.A. (iii) 25.9.1955/5.11.1955. (iv) (a) 3 diggings. (b) Transplanting. (c) 50 lb./ac. (d) 6"×6". (e) 2 to 3. (v) 3000 lb./ac. of G.L. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 28.25". (x) 13.3.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(TCM) Type VI on page 70.

5. RESULTS :

(i) 5269 lb./ac. (ii) 314.5 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	0000	cccc	ccp ₁ c	ccp ₂ c	cp ₁ cc	cp ₂ cc
Av. yield	4391	5072	5473	5462	5110	5210
Treatment	p ₁ ccp ₁	p ₂ ccp ₂	p ₁ p ₁ p ₁ p ₁	p ₁ p ₁ p ₁ p ₁	p ₂ p ₂ p ₂ p ₂	
Av. yield	5465	5494	5455	5581	5249	
		S.E./mean (others)	= 157.3 lb./ac.			
		S.E./mean (cccc)	= 111.2 lb./ac.			

Crop :- Paddy.

Ref :- M. 55(TCM).

Site :- M.A.E. Farm, Aduthurai.

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) Paddy—Paddy. (b) Paddy. (c) 3000 lb./ac. of G.M. (ii) (a) Clayey loam. (b) N.A. (iii) 26.6.1955/23.7.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) 50 lb./ac. (d) 4"×4". (e) 2. (v) Nil. (vii) Adt. 3 (early). (vii) Irrigated. (viii) N.A. (ix) 19.68". (x) 4.10.1955.

2. TREATMENTS :

Same as in expt. no. 54(TCM) Type IX on page 71.

3. DESIGN :

(i) 3³ confd. (ii) (a) 9 plots/block ; 3 blocks/replications. (b) N.A. (iii) 1. (iv) (a) 26'×17'. (b) 24'×15'. (v) 1'×1'. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

(i) 2703 lb./ac. (ii) 157.2 lb./ac. (iii) N effect alone is significant. (iv) Av. yield of grain in lb./ac.

	N ₀	N ₁	N ₂	Mean	F ₀	F ₁	F ₂
P ₀	2435	2607	2783	2608	2565	2586	2673
P ₁	2535	2743	2826	2701	2697	2700	2707
P ₂	2534	2851	3014	2800	2581	2740	3078
Mean	2501	2734	2875	2703	2614	2675	2819
F ₀	2296	2641	2906				
F ₁	2513	2692	2821				
F ₂	2695	2867	2896				

S.E. of any marginal mean = 52.4 lb./ac.
S.E. of body of any table = 90.8 lb./ac.

Crop :- Paddy.

Ref :- M. 55(TCM).

Site :- M.A.E. Farm, Aduthurai.

Type :- 'M'.

Object :—Type X—To study the efficiency of different nitrogenous fertilizers.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Clayey loam. (b) N.A. (iii) 26.6.1955/24.7.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) 50 lb./ac. (d) 4'×4'. (e) 2. (v) 20 lb./ac. of P₂O₅ as Triple Super. (vi) Adt. 3 (early). (vii) Irrigated. (viii) Weeding twice. (ix) 19.68°. (x) 4.10.1955.

2. TREATMENTS :

All combinations of (1) and (2)+2 controls (No N).

(1) 3 levels of N : N₁=20 lb./ac. of N, N₁=40 lb./ac. and N₃=60 lb./ac.

(2) 4 sources of N : S₁=A/S, S₂=A/C, S₃=A/S/N and S₄=Nitro-chalk.

3. DESIGN :

(i) R.B.D. (ii) (a) 14. (b) N.A. (iii) 4. (iv) (a) 46'×10'. (b) 44'×8'. (v) 1'×1'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) to (vii) N.L

5. RESULTS :

(i) 2656 lb./ac. (ii) 141.5 lb./ac. (iii) N effect and control vs. others are highly significant. Others are not ignificant. (iv) Av. yield of grain in lb./ac.

Control = 2269 lb./ac.

	S ₁	S ₂	S ₃	S ₄	Mean
N ₁	2645	2674	2678	2581	2645
N ₂	2682	2842	2845	2865	2809
N ₃	2666	2769	2783	2614	2708
Mean	2664	2762	2769	2687	2721

S.E. of N marginal mean = 35.4 lb./ac.
S.E. of S marginal mean = 40.8 lb./ac.
S.E. of body of table = 70.8 lb./ac.
S.E. of control mean = 50.1 lb./ac.

Crop :- Paddy.**Ref :- M. 56(MAE).****Site :- M.A.E. Farm, Aduthurai.****Type :- 'M'.**

Object :- Type II—To study the manurial requirements of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 3000 lb./ac. of G.L. (ii) (a) Coastal alluvium-clayey loam. (b) N.A. (iii) 25.7.1956/17.8.1956. (iv) (a) 4 ploughings. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) Two weedings. (ix) 27.71". (x) 3.11.56.

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 Triple 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.
 (4) 2 levels of organic manure : $F_0=0$ and $F_1=5000$ lb./ac.

Treatments applied in three phases : X—manuring every year; Y—manuring in alternate years starting from 1st year and Z—manuring in alternate years starting from 2nd year.

Nutrient contents of organic manure are N=0.65%, $P_2O_5=0.50\%$ and $K_2O=1.20\%$.

3. DESIGN :

(i) $3^3 \times 2$ confd. (ii) (a) 9 plots/block (each plot split for three phases of manuring). (b) N.A. (iii) 1. (iv) (a) $18' \times 16'$. (b) $16' \times 14'$. (v) $2' \times 2'$. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) to (c) —. (v) to (vii) Nil.

5. RESULTS :

(i) 2810 lb./ac. (ii) 76.53 lb./ac. (iii) Effect of N, P and $N \times K$ are highly significant. $P \times K$ and $F \times P$ effects are significant, while other effects are not significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	K_0	K_1	K_2	F_0	F_1	Mean
P_0	2501	2921	2715	2629	2765	2746	2749	2675	2712
P_1	2732	2946	2831	2781	2905	2822	2783	2889	2836
P_2	2732	3012	2905	2929	2822	2896	2867	2898	2882
Mean	2655	2960	2817	2780	2831	2822	2800	2821	2810
F_0	2632	2936	2832	2779	2798	2822			
F_1	2678	2985	2801	2781	2864	2822			
K_0	2625	2850	2864						
K_1	2600	3028	2864						
K_2	2740	3003	2724						

S.E. of N, P or K marginal mean = 18.04 lb./ac.

S.E. of F marginal mean = 14.73 lb./ac.

S.E. of body of $N \times K$, $N \times P$ or $P \times K$ table = 31.24 lb./ac.

S.E. of body of $F \times N$, $F \times P$ or $F \times K$ table = 25.51 lb./ac.

Crop :- Paddy.**Ref :- M. 56(MAE).****Site :- M.A.E. Farm, Aduthurai.****Type :- 'M'.**

Object :- Type V—To study the effect of time of application of N on Paddy.

1. BASAL CONDITIONS :

(i) Paddy—Paddy—Fallow. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Coastal alluvium—clayey loam. (b) N.A. (iii) 25.7.1956/13.3.1956. (iv) (a) 4 ploughings. (b) Transplanting. (c) to (e) N.A. (v) 5000 lb./ac. of F.Y.M. and 20 lb./ac. of P_2O_5 as Triple Super. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 27.71". (x) 30.10.1956.

2. TREATMENTS :

All combinations of (1) and (2)+a control

(1) 2 sources of 40 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 = $\frac{1}{2}$ before planting+ $\frac{1}{2}$ at tillering, T_5 = $\frac{1}{2}$ at planting+ $\frac{1}{2}$ at tillering, T_6 = $\frac{1}{2}$ before planting+ $\frac{1}{2}$ at tillering+ $\frac{1}{2}$ a week before flowering and T_7 = $\frac{1}{2}$ at planting+ $\frac{1}{2}$ at tillering+ $\frac{1}{2}$ a week before flowering.

3. DESIGN :

(i) R.B.D. (ii) (a) 15. (b) N.A. (iii) 3. (iv) (a) 30'×15'. (b) 28'×13'. (v) 1'×1'. (vi) Yes.

4. GENERAL :

(i) No lodging. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—contd. (b) and (c) —. (v) to (vii) Nil.

5. RESULTS :

(i) 2962 lb./ac. (ii) 152.8 lb./ac. (iii) 'Control vs. others' effect is highly significant. T effect is significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

Control = 2259 lb./ac.

	T_1	T_2	T_3	T_4	T_5	T_6	T_7	Mean
S_1	3116	2962	3067	2817	3096	2929	2905	2985
S_2	3416	2956	2982	2997	2957	2942	3019	3038
Mean	3266	2959	3025	2907	3026	2936	2962	3012

S.E. of T marginal mean = 62.4 lb./ac.

S.E. of S marginal mean = 33.3 lb./ac.

S.E. of body of table or control mean = 88.2 lb./ac.

Crop :- Paddy.

Site :- M.A.E. Farm, Aduthurai.

Ref :- M. 56(MAE).

Type :- 'M'.

Object :- Type VI (TCM)—To find out the residual value of P on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Coastal alluvium - clayey loam. (b) N.A. (iii) 27.7.1956/17.8.1956. (iv) (a) 3 diggings. (b) Transplanting. (c) to (e) N.A. (v) 3000 lb./ac. of G.L. incorporated by digging and 20 lb./ac. of N as A/S. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 27.71". (x) 4.11.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(TCM) Type VI on page 70.

5. RESULTS :

(i) 2888 lb./ac. (ii) 66.98 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	000	ccc	ccp ₁	ccp ₂	cp ₁ c	cp ₂ c
Av. yield	2214	2838	2996	3120	2829	2911

Treatment	p ₁ cc	p ₂ cc	p ₁ p ₁ p ₁	P ₁ P ₁ P ₁	P ₂ P ₂ P ₂
Av. yield	2826	2839	2832	3231	3127

S.E./mean (ccc) = 33.5 lb./ac.

S.E./mean (others) = 47.4 lb./ac.

Crop :- Paddy.

Ref :- M. 56(MAE).

Site :- M.A.E. Farm, Aduthurai.

Type :- 'M'.

Object :- Type VI TCM—To find out the residual value of P on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Coastal alluvium—clayey loam. (b) N.A. (iii) 30.9.1956/15.11.1956. (iv) (a) 3 diggings. (b) Transplanting (c) to (e) N.A. (v) 3000 lb./ac. of C.L. and 20 lb./ac. of N as A/S. (vi) CO—25 (late). (vii) Irrigated. (viii) Two weedings. (ix) 30.11". (x) 22.3.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(TCM) Type VI on page 70.

5. RESULTS :

(i) 4460 lb./ac. (ii) 107.7 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	000	ccc	ccp ₁	ccp ₂	cp ₁ c	cp ₂ c
Av. yield	3187	4239	4653	4755	4542	4483

Treatment	p ₁ cc	p ₂ cc	p ₁ p ₁ p ₁	P ₁ P ₁ P ₁	P ₂ P ₂ P ₂
Av. yield	4378	4323	4666	4892	4947

S.E./mean (ccc) = 53.8 lb./ac.

S.E./mean (others) = 76.2 lb./ac.

Crop :- Paddy.

Ref :- M. 56(MAE).

Site :- M.A.E. Farm, Aduthurai.

Type :- 'M'.

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

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) 3000 lb./ac. of G.L. (ii) (a) Coastal alluvium ; clayey loam. (b) N.A. (iii) 27.7.1956/18.8.1956. (iv) (a) 4 ploughings. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 27.7". (x) 4.11.1956.

2. TREATMENTS :

All combinations of (1), (2) and (3)+a control

(1) 2 levels of P₂O₅ : P₁=20 and P₂=40 lb./ac.

(2) 3 sources of P₂O₅ : S₁=Triple Super, S₂=Amm. Phos. and S₃=Dical. Phos.

(3) 3 methods of application : M₁=Broadcasting at puddling, M₂=Dipping the seedlings in mud slush mixed with fertilizer before transplanting and M₃=Applying in pellet form.

3. DESIGN :

(i) 3²×2 confd. (ii) (a) 7 plots/block ; 3 blocks/replication. (b) N.A. (iii) 4. (iv) (a) 22'×10'. (b) 20'×8'. (v) 1'×1'. (vi) Yes.

4. GENERAL :

(i) Better response to M_3 treatment. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—contd. (b) and (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3782 lb./ac. (ii) 183.7 lb./ac. (iii) M effect is highly significant. S effect is significant. Other effects are not significant. (iv) Av yield of grain in lb./ac.

Control = 2859 lb./ac.

	M_1	M_2	M_3	Mean	P_1	P_2
S_1	3678	3518	3936	3727	3700	3754
S_2	3612	3729	3931	3757	3714	3800
S_3	3660	3818	4107	3861	3839	3883
Mean	3650	3688	4008	3782	3751	3812
P_1	3605	3683	3965			
P_2	3693	3693	4050			

S.E. of M or T marginal mean = 37.5 lb./ac.

S.E. of P marginal mean = 30.6 lb./ac.

S.E. of body of T×M table = 64.9 lb./ac.

S.E. of body of T×P or M×P table = 53.0 lb./ac.

Crop :- Paddy (Kharif).

Ref :- M. 57(MAE).

Site :- M.A.E. Farm, Aduthurai.

Type :- 'M'.

Object :—Type II—To find out the manurial requirements of Paddy under irrigated condition.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) 3000 lb./ac. of G.L. (ii) (a) Coastal alluvium—clayey loam. (b) N.A. (iii) 5.7.1957; 29.7.1957. (iv) (a) 3 ploughings. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 29°. (x) 12.10.1957.

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 Triple 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.

(4) 2 levels of organic manure : $F_0=0$ and $F_1=5000$ lb./ac.

Contents of organic manure are : N=1.5%, $P_2O_5=0.84\%$ and $K_2O=3.28\%$.

3. DESIGN :

(i) $3^3 \times 2$ confd. (ii) (a) 9 plots/block ; 6 blocks/replication. (b) N.A. (iii) 1. (iv) (a) $32' \times 16'$. (b) $30' \times 14'$. (v) $1' \times 1'$. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—contd. (b) and (c) N.A. (v) to (vii) Nil.

5. RESULTS :

(i) 2095 lb./ac. (ii) 62.5 lb./ac. (iii) N, P, K and N×P effects are highly significant. P×K effect is significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

	N ₀	N ₁	N ₂	K ₀	K ₁	K ₂	F ₀	F ₁	Mean
P ₀	1822	2050	2116	1923	2025	2051	1958	2041	2000
P ₁	1941	2116	2260	2058	2173	2097	2027	2186	2106
P ₂	2117	2175	2246	2179	2143	2217	2113	2247	2179
Mean	1960	2117	2207	2053	2110	2121	2033	2157	2095
F ₀	1879	2061	2157	1988	2059	2051			
F ₁	2040	2172	2257	2120	2162	2191			
K ₀	1899	2073	2189						
K ₁	1971	2151	2209						
K ₂	2011	2128	2224						

S.E. of N, P or K marginal means	= 14.73 lb./ac.
S.E. of F marginal means	= 12.03 lb./ac.
S.E. of body of N×P, N×K or P×K table	= 25.51 lb./ac.
S.E. of body of F×P, F×N or F×K table	= 20.50 lb./ac.

Crop :- Paddy.

Ref :- M. 57(MAE)

Site :- M.A.E. Farm, Aduthurai.

Type :- 'M'.

Object :—Type II—To find out the manurial requirements of Paddy under irrigated condition.

1. BASAL CONDITIONS :

(i) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Coastal alluvium. Clayey loam. (b) N.A. (iii) 7.9.1957/3.11.1957. (iv) (a) 3 diggings. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 37.9%. (x) 26.2.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(MAE) Type II on page 80.

Manures applied to previous crop. Only residual effect is studied on the present crop.

5. RESULTS :

(i) 2700 lb./ac. (ii) 149.5 lb./ac. (iii) N,P,K, N×K and P×K effects are highly significant while other effects are not significant. (iv) Av. yield of grain in lb./ac.

	N ₀	N ₁	N ₂	K ₀	K ₁	K ₂	F ₀	F ₁	Mean
P ₀	2314	2641	2754	2122	2852	2735	2475	2665	2570
P ₁	2489	2635	2920	2570	2731	2743	2524	2838	2681
P ₂	2703	2867	2977	2759	2860	2929	2732	2966	2849
Mean	2502	2714	2884	2484	2814	2802	2577	2823	2700
F ₀	2387	2608	2735	2398	2706	2627			
F ₁	2616	2821	3032	2569	2923	2978			
K ₀	2131	2490	2829						
K ₁	2632	2901	2909						
K ₂	2742	2753	2913						

S.E. of N, P or K marginal mean	= 35.2 lb./ac.
S.E. of F marginal mean	= 28.8 lb./ac.
S.E. of body of N×P, N×K or P×K table	= 61.0 lb./ac.
S.E. of body of F×P, F×N or F×K table	= 49.8 lb./ac.

Crop :- Paddy.

Ref :- M. 57(MAE).

Site :- M.A.E. Farm, Aduthurai.

Type :- 'M'.

Object :-Type IV—To find out the residual effect of P applied to previous legume crop on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Clayey loam. (b) N.A. (iii) 24.6.1957/17.7.1957 legumes sown on 8.3.1957. (iv) (a) 4 ploughings. (b) Transplanting. (c) 50 lb./ac. (d) 6'×6'. (e) 2. (v) As per treatments. (vi) Adt.—3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 29°. (x) 2.10.1957.

2. TREATMENTS :

Main-plot treatments :

All combinations of (1) and (2) + a control (no G.M.).

(1) 2 legume crops preceding Paddy : $L_1 = \text{Kolinji}$ and $L_2 = \text{Phillipesara}$.

(2) 3 levels of P_2O_5 applied to legumes : $P_0 = 0$, $P_1 = 40$ and $P_2 = 80$ lb./ac.

Sub-plot treatments :

3 levels of N : $N_0 = 0$, $N_1 = 15$ and $N_2 = 30$ lb./ac.

N applied as A, S and P_2O_5 as Triple Super.

3. DESIGN :

(i) Split-plot. (ii) (a) 7 main-plots/block; 3 sub-plots/main-plots. (b) N.A. (iii) 3. (iv) (a) 30'×15'. (b) 28'×13'. (v) 2'×2'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2053 lb./ac. (ii) (a) 111.7 lb./ac. (b) 67.3 lb./ac. (iii) P, 'control vs. others' N, N×L, N×L×P and N×L×P effects are highly significant. L and LP effects are significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

$N_0 = 1703$, $N_1 = 2017$ and $N_2 = 1927$ lb./ac. in fallow plots.

	N_0	N_1	N_2	Mean	P_0	P_1	P_2
L_1	1912	2081	2141	2045	1902	2009	2223
L_2	1919	2128	2305	2117	1874	2228	2250
Mean	1915	2105	2223	2081	1888	2119	2236
P_0	1744	1912	2009				
P_1	1957	2162	2236				
P_2	2045	2240	2424				

S.E. of difference of two

1. LP marginal means	= 52.7 lb./ac.
2. N marginal means	= 20.8 lb./ac.
3. N means at the same level of LP	= 54.9 lb./ac.
4. LP means at the same level of N	= 69.2 lb./ac.

Crop :- Paddy (Kharif).**Ref :- M. 57(MAE).****Site :- M.A.E. Farm, Aduthurai.****Type :- 'M'.**

Object :- Type V—To study the effect of time of application of N to Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 3000 lb./ac. of G.L. (il) (a) Clayey loam. (b) N.A. (iii) 26.6.1957/19.7.1957. (iv) (a) 4 ploughings. (b) Transplanting. (c) 50 lb./ac. (d) 4"×4". (e) 2. (v) 5000 lb./ac. of G.L.+20 lb./ac. of P₂O₅ as Triple Super. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 29". (x) 5.10.1957.

2. TREATMENTS :

Same as in expt. no. 56(MAE) Type V on page 77.

3. DESIGN :

(i) R.B.D. (ii) (a) 15. (b) N.A. (iii) 3. (iv) (a) 28'×14'. (b) 26'×12'. (v) 1'×1'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2230 lb./ac. (ii) 119.8 lb./ac. (iii) 'Control vs. others' effect is highly significant. T effect is significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

Control = 1576 lb./ac.

	T ₁	T ₂	T ₃	T ₄	T ₅	T ₆	T ₇	Mean
S ₁	2353	2318	2339	2259	2228	2231	2272	2286
S ₂	2335	2237	2488	2315	2169	2054	2280	2268
Mean	2344	2278	2413	2287	2198	2143	2276	2277

S.E. of S marginal mean = 26.14 lb./ac.

S.E. of T marginal mean = 48.91 lb./ac.

S.E. of body of table = 69.17 lb./ac.

Crop :- Paddy.**Ref :- M. 57(MAE).****Site :- M.A.E. Farm, Aduthurai.****Type :- 'M'.**

Object :- Type VI(TCM)—To find out the residual value of P on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Coastal alluvium—clayey loam. (b) N.A. (iii) 5.7.1957/30.7.1957. (iv) (a) 3 diggings. (b) Transplanting. (c) to (e) N.A. (v) 3000 lb./ac. of G.L.+20 lb./ac. of N as A/S top-dressed. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 29". (x) 13.10.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(TCM) Type VI on page 70.

5. RESULTS :

(i) 1678 lb./ac. (ii) 91.65 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	000	ccc	cp ₁ c	cp ₂ c	ccp ₁	ccp ₂	P ₁ cc	P ₂ cc	P ₁ P ₁ P ₁	P ₁ P ₁ P ₁	P ₂ P ₂ P ₂
Av. yield	1440	1522	1588	1637	1761	1884	1654	1613	1679	1818	1868

S.E./mean (ccc) = 45.83 lb./ac.

S.E./mean (others) = 64.81 lb./ac.

Crop :- Paddy (Rabi).**Ref :- M. 57(MAE).****Site :- M.A.E. Farm, Aduthurai.****Type :- 'M'.**

Object :-Type VI (TCM)—To find out the residual value of P on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) N.A. (iii) 7.9.1957/5.11.1957. (iv) (a) 3 diggings. (b) Transplanting. (c) 50 lb./ac. (d) 6" × 6". (e) 2. (v) 3000 lb./ac. of G.L. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 37.9". (x) 28.2.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(TCM) Type VI on page 70.

5. RESULTS :

(i) 3090 lb./ac. (ii) 168.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	000	ccc	ccp ₁	ccp ₂	cp ₁ c	cp ₂ c
Av. yield	2182	3130	3409	3495	3049	2879

Treatment	p ₁ cc	p ₂ cc	p ₁ p ₂ p ₁	p ₁ p ₁ p ₁	p ₂ p ₂ p ₂
Av. yield	2994	2984	3134	3305	3429

S.E./mean (ccc) = 84.0 lb./ac.

S.E./mean (others) = 118.8 lb./ac.

Crop :- Paddy.**Ref :- M. 57(MAE).****Site :- M.A.E. Farm, Aduthurai.****Type :- 'M'.**

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

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) 3000 lb./ac. of G.L. (ii) (a) Coastal alluvium. Clayey loam. (b) N.A. (iii) 24.6.1957/18.7.1957. (iv) (a) 4 ploughings. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 29". (x) 4.10.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56 (MAE) Type VI on page 79.

N equalised to 30 lb./ac. by applying A/S at planting.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—contd. (b) No. (c) N.A. (v) to (vii) Nil.

5. RESULTS :

(i) 2526 lb./ac. (ii) 155.7 lb./ac. (iii) M, P and 'control vs. others' effects are highly significant. S effect is significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

Control = 1531 lb./ac.

	S ₁	S ₂	S ₃	Mean	M ₁	M ₂	M ₃
P ₁	2504	2408	2443	2452	2382	2435	2538
P ₂	2680	2605	2518	2601	2531	2610	2661
Mean	2592	2507	2480	2526	2456	2523	2600
M ₁	2507	2450	2412				
M ₂	2559	2520	2489				
M ₃	2710	2550	2540				

S.E. of M or S marginal mean	= 31.78 lb. ac.
S.E. of P marginal mean	= 25.95 lb./ac.
S.E. of body of P×S or P×M table or control mean	= 44.95 lb./ac.
S.E. of body of S×M table	= 55.05 lb./ac.

Crop :- Paddy (Kharif).

Ref :- M. 58(MAE).

Site :- M.A.E. Farm, Aduthurai.

Type :- 'M'.

Object :—Type II—To find out the direct, residual and cumulative effect of N, P, K and F.Y.M. on Paddy

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) N.A. (iii) 8.7.1958
30.7.1958. (iv) (a) 3 diggings. (b) Transplanting. (c) 50 lb./ac. (d) 4"×4". (e) 2 to 3. (v) Nil. (vi)
Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 5.30". (x) 11.10.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(MAE) Type II on page 77.

5. RESULTS :

(i) 3056 lb./ac. (ii) 131.2 lb./ac. (iii) Main effect of N, P and K are highly significant. (iv) Av. yield of
grain in lb./ac.

	N ₀	N ₁	N ₂	K ₀	K ₁	K ₂	F ₀	F ₁	Mean
P ₀	2683	2988	3032	2724	3041	2938	2774	3029	2901
P ₁	3014	3258	3104	3057	3214	3105	3055	3195	3125
P ₂	3053	3174	3203	3145	3135	3150	3060	3226	3143
Mean	2917	3140	3113	2975	3130	3064	2963	3150	3056
F ₀	2829	3022	3038	2885	3042	2961			
F ₁	3005	3258	3188	3066	3218	3167			
K ₀	2752	3098	3076						
K ₁	2986	3254	3150						
K ₂	3012	3068	3113						

S.E. of the marginal mean of N, P and K = 30.9 b./ac.
S.E. of body of table = 53.61 b. ac.

Crop :- Paddy (Rabi).

Ref :- M. 58(MAE).

Site :- M.A.E. Farm, Aduthurai.

Type :- 'M'.

Object :—Type II—To find out the residual and cumulative effect of N, P, K and F.Y.M. on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) N.A. (iii) 8.9.1958/
18.10.1958. (iv) (a) 3 diggings. (b) Transplanting. (c) 50 lb./ac. (d) 5"×5". (e) 2 to 3. (v) Nil. (vi)
CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 18.9". (x) 1.3.1959.

2. TREATMENTS :

Same as in expt. no. 57(MAE) Type II on page 80.

3. DESIGN :

(i) $3^3 \times 2$ confd. (ii) (a) 9 plots/blocks, 6 block/replication. (b) $104' \times 56'$. (iii) 1. (iv) (a) $32' \times 16'$. (b) $30' \times 14'$. (v) 3 rows on all sides. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Slight incidence of stem-borer—controlled by Folidol spray. (iii) Yield, tillers and height of plants. (iv) (a) 1956—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2291 lb./ac. (ii) 93.5 lb./ac. (iii) N, P, $N \times P \times K$ and $F \times N$ effects are highly significant. $P \times K$ effect is significant while other effects are not significant. (iv) Av. yield of grain in lb./ac.

	N ₀	N ₁	N ₂	K ₀	K ₁	K ₂	F ₀	F ₁	Mean
P ₀	2065	2279	2213	2106	2230	2222	2139	2233	2186
P ₁	2222	2304	2320	2337	2197	2312	2246	2318	2282
P ₂	2238	2526	2452	2469	2403	2345	2386	2425	2406
Mean	2175	2370	2328	2304	2277	2293	2257	2325	2291
F ₀	2106	2303	2362	2263	2238	2271			
F ₁	2244	2436	2296	2345	2316	2315			
K ₀	2180	2394	2337						
K ₁	2164	2329	2337						
K ₂	2181	2386	2312						

S.E. of marginal mean of N, P and K = 22.03 lb./ac.
 S.E. of body of $N \times P$ or $P \times K$ or $N \times K$ table = 38.18 lb./ac.
 S.E. of body of $F \times N$ or $F \times K$ table = 31.16 lb./ac.
 S.E. of F marginal mean = 27.01 lb./ac.

Crop :- Paddy.

Ref :- M. 58(MAE).

Site :- M.A.E. Farm, Aduthurai.

Type :- 'M'.

Object :—Type IV—To find out the effect of application of P to legume on the succeeding Paddy crop.

1. BASAL CONDITIONS :

(i) (a) G.M.—Paddy—Paddy. (b) Paddy. (c) N.A. (ii) (a) Clayey loam. (b) N.A. (iii) 23.7.1958/15.8.1958. (iv) (a) 2 ploughings and puddling. (b) Transplanted. (c) 50 lb./ac. (d) $4' \times 4'$. (e) 2 to 3. (v) As per treatments. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 13.5". (x) 29.10.1958.

2. TREATMENTS :

Same as in expt. no. 57(MAE) Type IV on page 82.

3. DESIGN :

(i) Split-plot. (ii) (a) 7 main-plots/replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) (a) $28' \times 14'$, (b) $26' \times 12'$. (v) 3 rows on all sides. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1731 lb./ac. (ii) (a) 199.7 lb./ac. (b) 138.7 lb./ac. (iii) P, 'control vs. LP' and N effects are highly significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

	L ₀ P ₀	L ₁ P ₀	L ₂ P ₀	L ₁ P ₁	L ₂ P ₁	L ₁ P ₂	L ₂ P ₂	Mean
N ₀	1005	1605	1474	1661	1759	1875	1950	1619
N ₁	1126	1680	1610	1768	1833	1978	2015	1716
N ₂	1294	1805	1726	1950	1857	2196	2182	1859
Mean	1142	1697	1604	1793	1817	2016	2049	1731

S.E. of difference of two

1. LP marginal mean = 94.14 lb./ac.
2. N marginal mean = 42.80 lb./ac.
3. N means at a level of LP = 80.08 lb./ac.
4. LP means at a level of N = 132.00 lb./ac.

Crop :- Paddy (Rabi).

Ref :- M. 58(MAE)

Site :- M.A.E. Farm, Aduthurai.

Type :- 'M'.

Object :—Type V—To find out the best time of application of N to Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) N.A. (ii) (a) Clayey loam. (b) N.A. (iii) 30.8.1958/13.10.1958.
(iv) (a) 4 ploughings. (b) Transplanting. (c) 50 lb./ac. (d) 5"×5". (e) 2 to 3. (v) 5000 lb./ac. of F.Y.M.
+20 lb./ac. of P₂O₅. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 18.9". (x) 21.2.1959.

2. TREATMENTS :

Same as in expt. no. 56(MAE) Type V on page 77.

3. DESIGN :

(i) R.B.D. (ii) (a) 15. (b) N.A. (iii) 3. (iv) (a) 30'×15'. (b) 28'×13'. (v) 3 rows on all sides. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2011 lb./ac. (ii) 74.72 lb./ac. (iii) S, T and control vs. other effects are highly significant. Interaction is not significant. (iv) Av. yield of grain in lb./ac.

Control = 1654 lb./ac.

	T ₁	T ₂	T ₃	T ₄	T ₅	T ₆	T ₇	Mean
S ₁	1967	2049	2369	1950	2073	2032	2107	2078
S ₂	1967	1917	2411	1867	1967	1901	1941	1996
Mean	1967	1983	2390	1909	2020	1967	2024	2037

- S.E. of S marginal mean = 14.65 lb./ac.
S.E. of T marginal mean = 30.50 lb./ac.
S.E. of body of table or control mean = 43.14 lb./ac.

Crop :- Paddy (Kharif).

Ref :- M. 58(MAE).

Site :- M.A.E. Farm, Aduthurai.

Type :- 'M'.

Object :—Type VI(TCM)—To find out the residual value of P on the yield of Paddy crop.

BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) N.A. (iii) 14.7.1958; 7.8.1958. (iv) (a) 3 diggings. (b) Transplanted. (c) 50 lb./ac. (d) 4" × 4". (e) 2 to 3. (v) Nil. (vi) Adt. 3 (early). (viii) 2 weedings. (ix) 9.0". (x) 19.10.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(TCM) Type VI on page 70.

5. RESULTS :

(i) 2853 lb./ac. (ii) 116.5 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	000	ccc	ccp ₁	ccp ₂	cp ₁ c	cp ₂ c	p ₁ cc	p ₂ cc	p ₁ p ₁ p ₁	p ₁ p ₁ p ₁	p ₂ p ₂ p ₂
Av. yield	2143	2760	3033	3148	2784	2605	2673	2840	2810	3265	3228

S.E./mean (ccc) = 58.3 lb./ac.

S.E./mean (others) = 82.4 lb./ac.

Crop :- Paddy (Rabi).

Ref :- M. 58(MAE).

Site :- M.A.E. Farm, Aduthurai.

Type :- 'M'.

Object :—Type VI (TCM)—To find out the residual value of P on the yield of Paddy crop.

1 BASAL CONDITIONS :

(i) (a) G.M.—Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) N.A. (iii) 25.9.1958/5.11.1958. (iv) (a) 3 diggings. (b) Transplanted. (c) 50 lb./ac. (d) Spacing bulk planting. (e) 2 to 3. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 10.4". (x) 7.3.1959.

2 TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(TCM) Type VI on page 70.

5. RESULTS :

(i) 3459 lb./ac. (ii) 107.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	000	ccc	ccp ₁	ccp ₂	cp ₁ c	cp ₂ c	p ₁ cc	p ₂ cc	p ₁ p ₁ p ₁	p ₁ p ₁ p ₁	p ₂ p ₂ p ₂
Av. yield	2487	3465	3364	3403	3328	3485	3940	3632	3468	3671	3809

S.E./mean (ccc) = 53.9 lb./ac.

S.E./mean (others) = 76.3 lb./ac.

Crop :- Paddy (Rabi).

Ref :- M. 58(MAE).

Site :- M.A.E. Farm, Aduthurai.

Type :- 'M'.

Object :—Type VI—To find out the residual effect of P applied to previous legume crops on the yield of Paddy.

BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) N.A. (ii) (a) Clayey loam. (b) N.A. (iii) 30.8.1958/12.10.1958. (iv) (a) 4 ploughings. (b) Transplanted. (c) 50 lb./ac. (d) 5" × 5". (e) 2 to 3. (v) N.I. (vi) CO—25 late. (vii) Irrigated. (viii) 2 weedings. (ix) 18.9". (x) 20.2.1959.

2 TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(MAE) Type VI on page 79.

4. GENERAL :

(i) Satisfactory. (ii) Severe incidence of Helminthosporium in early stages and stem-borer in the flowering stage. Spraying Micop and Dolidol. (iii) Grain yield. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

- (i) 2060 lb./ac. (ii) 495.7 lb./ac. (iii) 'Control vs. others' effect is highly significant. P effect is significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.
Control = 1753 lb./ac.

	S ₁	S ₂	S ₃	Mean	M ₁	M ₂	M ₃
P ₁	2021	2043	2085	2050	1928	2079	2142
P ₂	2120	2233	2164	2172	2244	2052	2222
Mean	2071	2138	2124	2111	2086	2065	2182
M ₁	2131	2012	2115				
M ₂	2041	2057	2098				
M ₃	2041	2345	2160				

S.E. of S or M marginal means	= 101.2 lb./ac.
S.E. of P marginal means	= 82.6 lb./ac.
S.E. of body of P×S or P×M table or control mean	= 143.1 lb./ac.
S.E. of body of S×M table	= 175.3 lb./ac.

Crop :- Paddy (Kharif).

Site :- M.A.E. Farm, Aduthurai.

Ref :- M. 59(MAE).

Type :- 'M'.

Object :- Type II—To find out the direct, residual and cumulative effects of N, P and K and F.Y.M. on Paddy.

1. BASAL CONDITIONS :

- (i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) N.A. (iii) *Kharif*: 29.6.1959/19.7.1959. *Rabi*: 6.9.1959/19.10.1959. (iv) (a) 3 diggings. (b) Transplanting. (c) 50 lb./ac. (d) *Kharif*: 4"×4", *Rabi*: 5"×5". (e) 2 to 3. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) *Kharif*: 4.01", and *Rabi*: 26.39". (x) *Kharif*: 7.10.1959 and *Rabi*: 20.2.1960.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56 (MAE) Type II on page 70.

4. GENERAL :

- (i) Satisfactory. During *Kharif* lodging in all plots except control plot due to heavy rains at the time of ripening. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956. (b) Yes. (c) Nil. (v) Nil. (vi) Heavy rains at the time of harvest. (vii) The expt. was conducted by Agronomist.

5. RESULTS :

Direct effect (*Kharif*)

- (i) 3175 lb./ac. (ii) 111.0 lb./ac. (iii) N and P effects are highly significant. Interactions N×P and P×K are significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

	N ₀	N ₁	N ₂	K ₀	K ₁	K ₂	F ₀	F ₁	Mean
P ₀	2556	3527	3231	2999	3021	2994	2928	3082	3005
P ₁	2905	3394	3243	3054	3285	3204	3099	3262	3181
P ₂	3083	3492	3441	3383	3276	3356	3257	3420	3339
Mean	2848	3371	3305	3145	3194	3185	3095	3255	3175
F ₀	2736	3282	3266	3075	3142	3067			
F ₁	2960	3460	3344	3216	3246	3302			
K ₀	2750	3368	3318						
K ₁	2935	3387	3260						
K ₂	2859	3357	3338						

S.E. of marginal mean of N, P or K = 26.06 lb./ac.
 S.E. of body of N×P, N×K or P×K table = 37.65 lb./ac.

Residual effect (Rabi)

(i) 2415 lb./ac. (ii) 113.4 lb./ac. (iii) P effect is highly significant. K effect and interaction N×P are significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

	N ₀	N ₁	N ₂	K ₀	K ₁	K ₂	F ₀	F ₁	Mean
P ₀	2214	2465	2379	2237	2363	2458	2242	2463	2353
P ₁	2396	2384	2420	2392	2412	2396	2380	2420	2400
P ₂	2503	2542	2432	2433	2539	2505	2435	2550	2492
Mean	2371	2464	2410	2354	2438	2453	2352	2478	2415
F ₀	2306	2364	2387	2320	2365	2371			
F ₁	2436	2564	2433	2388	2511	2535			
K ₀	2316	2368	2378						
K ₁	2386	2483	2444						
K ₂	2410	2540	2409						

S.E. of marginal mean of N, P or K = 26.73 lb./ac.
 S.E. of body of N×P, N×K or P×K table = 46.30 lb./ac.

Crop :- Paddy (Kharif).

Ref :- M. 59 (MAE).

Site :- M.A.E. Farm, Aduthurai.

Type :- 'M'.

Object :- Type IV—To find out the effect of application of phosphates to Paddy through legumes.

1. BASAL CONDITIONS :

(i) (a) G.M.—Paddy—Paddy. (b) Paddy. (c) N.A. (ii) (a) Clayey loam. (b) N.A. (iii) 6.7.1959/30.7.1959. (iv) (a) 3 diggings. (b) Transplanting. (c) 50 lb./ac. (d) 4"×4". (e) 2 to 3. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 3.85". (x) 16.10.1959.

2. TREATMENTS :

Same as in expt. no. 57 (MAE) Type IV on page 82.

3. DESIGN :

(i) Split-plot. (ii) (a) 7 main-plots/block ; 3 sub-plots/main-plot. (b) 28'×44'. (iii) 3. (iv) (a) 24'×12' (b) 22'×10'. (v) 3 rows on all sides. (vi) yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) to (vii) Nil

5. RESULTS :

(i) 2799 lb./ac. (ii) (a) 163.5 lb./ac. (b) 139.4 lb./ac. (iii) 'Control vs. LP,' P and N effects are highly significant. Interaction L×P is significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

$N_0 = 1838$ lb./ac. $N_1 = 1860$ lb./ac. and $N_2 = 2096$ lb./ac.

	N_0	N_1	N_2	Mean	P_0	P_1	P_2
L_1	2608	2972	3148	2909	2497	3003	3228
L_2	2798	2981	3152	2977	2765	2957	3209
Mean	2703	2976	3150	2943	2631	2980	3218
P_0	2362	2708	2822				
P_1	2764	2987	3188				
P_2	2983	3234	3440				

S.E. of difference of two

- | | | | |
|-----------------------------------|----------------|-----------------------------------|-----------------|
| 1. L marginal means | = 44.5 lb./ac. | 5. P means at the same level of N | = 120.7 lb./ac. |
| 2. P marginal means | = 54.5 lb./ac. | 6. N means at the same level of L | = 65.7 lb./ac. |
| 3. N marginal means | = 43.0 lb./ac. | 7. L means at the same level of N | = 124.1 lb./ac. |
| 4. N means at the same level of P | = 80.5 lb./ac. | 8. Means of body of P×L table | = 77.1 lb./ac. |

Crop :- Paddy (Kharif).

Ref :- M. 59(MAE).

Site :- M.A.E. Farm, Aduthurai.

Type :- 'M'.

Object :- Type V—To find out the best time of application of 'N' to Paddy and the comparative efficacy of different nitrogenous fertilizers either in single or split doses.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) N.A. (ii) (a) Clayey loam. (b) N.A. (iii) 8.9.1959/23.10.1959. (iv) (a) 3 ploughings. (b) 50 lb./ac. (c) 2 to 3. (d) 5"×5". (e) —. (v) 5000 lb./ac. of F.Y.M.+20 lb./ac. of P_2O_5 . (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 25.54". (x) 23.2.1960.

2. TREATMENTS :

Same as in expt. no. 56(MAE) Type V on page 77.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 58 (MAE) Type V on page 87.

5. RESULTS :-

(i) 2934 lb./ac. (ii) 246.4 lb./ac. (iii) Only 'control vs. others' effect is highly significant. (iv) Av. yield of grain in lb./ac.

Control = 2356 lb./ac.

	T_1	T_2	T_3	T_4	T_5	T_6	T_7	Mean
S_1	2736	2798	3094	3131	3088	2855	3019	2960
S_2	2748	2911	3238	3081	2880	3175	2893	2989
Mean	2742	2854	3166	3106	2984	3015	2956	2975

S.E. of marginal mean of S = 53.8 lb./ac.
 S.E. of marginal mean of T = 100.6 lb./ac.
 S.E. of body of table or control mean = 142.3 lb./ac.

Crop :- Paddy (Rabi).**Ref :- M. 59(MAE).****Site :- M.A.E. Farm, Aduthurai.****Type :- 'M'.**

Object :—Type VI—To find out the best method of placement of phosphatic fertilizers to Paddy and to find out the comparative efficacy of different phosphates.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) N.A. (ii) (a) Clayey loam. (b) N.A. (iii) 8.9.1959, 24.10.1959. (iv) (a) 4 ploughings. (b) Transplanting. (c) 50 lb./ac. (d) 5"×5". (e) 2 to 3. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 25.5". (x) 24.2.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56 (MAE) Type VI on page 79.

5. RESULTS :

(i) 3263 lb./ac. (ii) 213.9 lb./ac. (iii) 'Control vs. others' and M effect are highly significant. S effect and interaction S×P are significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

Control = 2844 lb./ac.

	M ₁	M ₂	M ₃	Mean	P ₁	P ₂
S ₁	3476	3342	3458	3425	3327	3523
S ₂	3278	3150	3400	3276	3202	3351
S ₃	3408	3121	3367	3299	3360	3238
Mean	3387	3204	3408	3333	3296	3371
P ₁	3362	3167	3359			
P ₂	3413	3241	3457			

S.E. of M or S marginal mean	= 43.7 lb./ac.
S.E. of P marginal mean	= 35.7 lb./ac.
S.E. of body of M×S table	= 75.6 lb./ac.
S.E. of body of M×P or S×P table	= 61.8 lb./ac.
S.E. of control mean	= 61.8 lb./ac.

Crop :- Paddy (Kharif and Rabi).**Ref :- M. 59(MAE).****Site :- M.A.E. Farm, Aduthurai.****Type :- 'M'.**

Object :—Type VI (TCM)—To find out the residual value of phosphate in the same site.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) N.A. (iii) Kharif: 1.7.1959, 23.7.1959, Rabi: 10.9.1959/23.10.1959. (iv) (a) 3 diggings. (b) Transplanting. (c) 50 lb./ac. (d) 4"×4". (e) 2 to 3. (v) Nil. (vi) Kharif: Adt. 3 (early) and Rabi: CO—25 (late). (vii) Irrigated (viii) 2 weedings. (ix) Kharif: 3.85"; Rabi: 25.15". (x) Kharif 10.10.1959 and Rabi: 24.2.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(TCM) Type VI on page 70.

5. RESULTS :**Kharif**

(i) 3544 lb./ac. (ii) 178.2 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	000	ccc	ccp ₁	ccp ₂	cp ₁ c	cp ₂ c	p ₁ cc	p ₂ cc	p ₁ p ₁ p ₁	p ₁ p ₁ p ₁	p ₂ p ₂ p ₂
Av. yield	2748	3481	3777	3818	3423	3472	3571	3505	3489	3974	3785

S.E./mean other than ccc = 126.0 lb./ac. ; S.E./mean for ccc = 89.1 lb./ac.

Rabi

(i) 3144 lb./ac. (ii) 181.1 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	000	ccc	p ₁ cc	p ₂ cc	cp ₁ c	cp ₂ c	ccp ₁	ccp ₂	p ₁ p ₁ p ₁	p ₁ p ₁ p ₁	p ₂ p ₂ p ₂
Av. yield	2186	3230	3082	3194	3216	3226	2971	3308	3446	3033	3606

S.E./mean other than ccc = 128.1 lb./ac. and S.E./mean for ccc = 90.6 lb./ac.

Crop :- Paddy (Kharif).

Ref :- M. 59(SFT).

Centre :- Coimbatore (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 medium black. (iii) Nil. (iv) Sept. to Oct. 1959. (v) (a) 3 to 6 ploughings. (b) Transplanting. (c) —. (d) and (e) N.A. (vi) Different varieties in each trial. (vii) Irrigated. (viii) N.A. (ix) N.A. (x) Feb. 1960.

2. TREATMENTS :

0 = Control (no manure).

n = 20 lb./ac. of N as A/S.

p = 20 lb./ac. of P₂O₅ as Super.

np = 20 lb./ac. of N as A/S + 20 lb./ac. of P₂O₅ as Super.

k = 20 lb./ac. of K₂O as Pot. Sul.

nk = 20 lb./ac. of N as A/S + 20 lb./ac. of K₂O as Pot. Sul.

pk = 20 lb./ac. of P₂O₅ as Super + 20 lb./ac. of K₂O as Pot. Sul.

npk = 20 lb./ac. of N as A/S + 20 lb./ac. of P₂O₅ as Super + 20 lb./ac. of K₂O as Pot. Sul.

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 a *kharif* cereal, 8 on a *rabi* cereal, 8 on a cash crop, 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) 1/40 ac. (b) 1/80 ac. (iv) Yes.

4. GENERAL :

(i) Normal. (ii) N.A. (iii) Grain yield. (iv) (a) 1959—contd. (b) No. (c) Nil. (v) (a) and (b) As per design. (vi) and (vii) Nil.

5. RESULTS :

Treatment	0	n	p	np	k	nk	pk	npk
Av. yield	2080	2552	2384	2432	2336	2520	2400	2512

G.M. = 2402 lb./ac. ; S.E./mean = 84.7 lb./ac. and no. of trials = 5.

Crop :- Paddy.

Ref :- M. 59 (SFT).

Centre :- Salem (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) N.A. (iv) Oct. 1959. (v) (a) 4 to 7 ploughings and plankings. (b) Transplanting. (c), (d) and (e) N.A. (vi) Different varieties in each soil. (vii) Irrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) Feb. 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59 (SFT) Type A on page 93 conducted at Coimbatore.

5. RESULTS :

Treatment	0	n	p	np	k	nk	pk	npk
Av. yield	3014	3188	3172	3132	3330	3224	3536	3606

G.M.=3275 lb./ac ; S.E./mean=174.0 lb./ac. and no. of trials=4.

Crop :- Paddy (Kharif and Rabi).

Ref. :- M. 59 (SFT).

Centre :- South Arcot (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 (e) N.A. (ii) Red soil and coastal alluvium. (iii) N.A. (iv) *Kharif* : Oct. 1959 and *Rabi* April 1960. (v) (a) 3 to 6 ploughings and planking. (b) Transplanting. (c), (d) and (e) N.A. (vi) Different varieties in each trial. (vii) Irrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) *Kharif* : Jan.-Feb. 1960 and *Rabi* : July 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59 (SFT) Type A on page 93 conducted at Coimbatore.

5. RESULTS :

		Kharif						
Treatment	0	n	p	np	k	nk	pk	npk
Av. yield	2285	2795	2612	2930	2460	2817	2565	2970

G.M.=2679 lb./ac. ; S.E./mean=116.55 lb./ac, and no. of trials=8.

		Rabi						
Treatment	0	n	p	np	k	nk	pk	npk
Av. yield	2480	2832	2960	3352	2638	3008	2920	3272

G.M.=2929 lb./ac. ; S.E./mean=123.5 lb./ac. and no. of trials= 8.

Crop :- Paddy.

Ref :- M. 59 (SFT).

Centre :- Tanjore (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 and coastal alluvium. (iii) N.A. (iv) Oct.—Nov., 1959. (v) (a) 4 to 7 ploughings. (b) Transplanting. (c), (d) and (e) N.A. (vi) Different varieties in each trial. (vii) Irrigated. (viii) N.A. (ix) N.A. (x) Feb. 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. No. 59 (SFT) Type A on page 93 conducted at Coimbatore.

5. RESULTS :

Treatment	0	n	p	np	k	nk	pk	npk
Av. yield	1800	1912	1888	2112	1768	1936	1944	2096

G.M.=1932 lb./ac. ; S.E./mean=47.4 lb./ac. and no. of trials=16.

Crop :- Paddy.**Ref. :- M. 59 (SFT).****Centre :- Trichirapalli (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) N.A. (iv) Oct.-Nov. 1959. (v) (a) 4 to 8 ploughings. (b) Transplanting. (c) to (e) N.A. (vi) Different varieties in each trial. (vii) Irrigated. (viii) Nil. (ix) N.A. (x) Jan.-Feb. 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59 (SFT) Type A on page 93 conducted at Coimbatore.

5. RESULTS :

Treatment	0	n	p	np	k	nk	pk	npk
Av. yield	2136	2344	2320	2456	2320	2496	2488	2632

G.M.=2399 lb./ac. ; S.E./mean=47.64 lb./ac. and no. of trials=15.

Crop :- Paddy (Kharif).**Ref :- M. 59(SFT).****Centre :- Coimbatore (c.f.).****Type :- 'M'.**

Object:—Type B—To investigate the relative efficiency of different nitrogenous fertilizers applied at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red and black. (iii) Nil. (iv) Early Nov. 1959. (v) (a) 4 to 8 ploughings with *desi* plough. (b) Transplanting. (c) to (e) N.A. (vi) N.A. (vii) Irrigated. (viii) N.A. (ix) N.A. (x) Feb. 1960.

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 :

(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 a *kharif* cereal, 8 on a *rabi* cereal, 8 on cash crop, 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) and (b) N.A. (iv) Yes.

4. GENERAL :

(i) Normal. (ii) N.A. (iii) Grain yield. (iv) (a) 1959—contd. (b) and (c) No. (v) (a) and (b) As per design. (vi) and (vii) N.A.

5. RESULTS :

Treatment	0	n_1	n_2	n_1'	n_2'	n_1'''	n_2'''
Av. yield	2304	2921	3563	2946	2905	2962	3365

G.M.=2995 lb./ac. ; S.E./mean = 187.9 lb./ac. and no. of trials = 8.

Crop :- Paddy (Kharif and Rabi).

Ref :- M. 59(SFT).

Centre :- Salem (c.f.).

Type :- 'M'.

Object :—Type B—To investigate the relative efficiency of different nitrogenous fertilizers applied at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red. (iii) N.A. (iv) (a) *kharif* Sept., Oct., *Rabi* Nov-Dec. 1959. (v) (a) 4 to 7 ploughings. (b) Transplanting. (c) to (e) N.A. (vi) Different varieties in the centres. (vii) Irrigated. (viii) N.A. (ix) N.A. (x) *Kharif* Feb. 1960, and April 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt, no. 59(SFT) Type B on page 95 conducted at Coimbatore.

5. RESULTS :

		Kharif					
Treatment	0	n_1	n_2	n_1'	n_2'	n_1'''	n_2'''
Av. yield	2748	2872	2913	3094	2896	2995	3028

G.M = 2935 lb./ac. ; S.E./mean = 150.43 lb./ac. and no. of trials = 5.

		Rabi					
Treatment	0	n_1	n_2	n_1'	n_2'	n_1'''	n_2'''
Av. yield	2979	3653	3555	3119	3374	3349	3670

G.M. = 3386 lb./ac. ; S.E./mean = 101.7 lb./ac. and no. of trials = 4.

Crop :- Paddy (Kharif).

Ref :- M. 59(SFT).

Centre :- South Arcot (c.f.).

Type :- 'M'.

Object :—Type B—To investigate the relative efficiency of different nitrogenous fertilizers applied at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red. (iii) N.A. (iv) Oct.-Nov. 1959. (v) (a) 4 to 6 ploughings. (b) Transplanting. (c) to (e) N.A. (vi) N.A. (vii) Irrigated. (viii) N.A. (ix) N.A. (x) Feb. 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59(SFT) Type B on page 95 conducted at Coimbatore.

5. RESULTS :

Treatment	0	n_1	n_2	n_1'	n_2'	n_1'''	n_2'''
Av. yield	2304	2839	3003	3127	3259	2518	2650

G.M. = 2814 lb./ac. ; S.E./mean = 103.0 lb./ac. and no. of trials = 6.

Crop :- Paddy (Kharif).

Ref :- M. 59(SFT).

Centre :- Tanjore (c.f.).

Type :- 'M'.

Object :—Type B—To investigate the relative efficiency of different nitrogenous fertilizers applied at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red. (iii) Nil. (iv) Oct.-Nov. 59. (v) (a) 4 to 7 ploughings and planking. (b) Transplanting. (c) to (e) N.A. (vi) Different varieties in each trial. (vii) Irrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) Feb.-March '60.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59(SFT) Type B on page 95 conducted at Coimbatore.

5. RESULTS :

Treatment	0	n_1	n_2	n_1'	n_2'	n_1'''	n_2'''
Av. yield	1605	1827	2065	1868	2189	1777	1991

G.M. = 1903 lb./ac. ; S.E./mean = 48.49 lb./ac. and no. of trials = 19.

Crop :- Paddy (Kharif).

Ref :- M. 59(SFT).

Centre :- Tirunelvely (c.f.).

Type :- 'M'.

Object :—Type B—To investigate the relative efficiency of different nitrogenous fertilizers applied at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red. (iii) N.A. (iv) Oct. 1959. (v) (a) 4 to 7 ploughings and plankings. (b) Transplanting. (c) to (e) N.A. (vi) Different variety in each field. (vii) Irrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) March 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59 (SFT) Type B on page 95 conducted at Coimbatore.

RESULTS :

Treatment	0	n_1	n_2	n_1'	n_2'	n_1'''	n_2'''
Av. yield	913	1136	1399	1259	1415	1086	1292

G.M. = 1214 lb./ac ; S.E./mean = 134.3 lb./ac. and no. of trials = 2.

Crop :- Paddy (Kharif).

Ref :- M. 59(SFT).

Centre :- Trichirapalli (c.f.).

Type :- 'M'.

Object :—Type B—To investigate the relative efficiency of different nitrogenous fertilizers applied at different doses.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red. (iii) N.A. (iv) Oct. 1959. (v) (a) 3 to 7 ploughings and plankings. (b) Transplanting. (c) to (e) N.A. (vi) Different variety in each trial. (vii) Irrigated. (viii) 2 to 3 weedings in some trials. (ix) N.A. (x) March 1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 59(SFT) Type B on page 95 conducted at Coimbatore.

5. RESULTS :

Treatment	0	n_1	n_2	n_1'	n_2'	n_1'''	n_2'''
Av. yield	2000	2082	2403	2131	2452	2098	2395

G.M. = 2223 lb./ac ; S.E./mean = 71.28 lb./ac. and no. of trials = 18.

Crop :- Paddy.

Ref :- M. 54 (76).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'M'.

Object :—To find out the suitable combination of A/S and Super for different varieties of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 12.6.1954/4.7.1954. (iv) (a) *Mummatty* digging after wetting the plots. (b) Transplanting to get the required puddle. (c) 30 lb./ac. (d) 6"×6". (e) N.A. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 13.03". (x) 27.9.1954.

2. TREATMENTS :

Main-plot treatments :

2 varieties : V₁=Adt. 3 and V₂=Adt. 20.

Sub-plot treatments :

All combinations of (1) and (2)

(1) 4 levels of N as A/S : N₀=0, N₁=30, N₂=45 and N₃=60 lb./ac.

(2) 4 levels of P₂O₅ as Super : P₀=0, P₁=30, P₂=45 and P₃=60 lb./ac.

Super applied as B.D. before transplanting and A/S top-dressed 3 weeks after transplanting.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 16 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 22'×9'. (b) 21½'×8½'. (v) N.A. (vi) yes.

4. GENERAL :

(i) Crop lodged a fortnight before harvest. (ii) There was a mild attack of Fulgorids and jassids and controlled by dusting with BHC 10 %. (iii) Height measurement, tiller count and grain yield. (iv) (a) 1952—1957. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2563 lb./ac. (ii) (a) 147.0 lb./ac. (b) 174.9 lb./ac. (iii) Main effects of V, N and P are highly significant. Interaction N×P is significant. Others are not significant. (iv) Av. yield of grain in lb./ac.

	N ₀	N ₁	N ₂	N ₃	Mean	P ₀	P ₁	P ₂	P ₃
V ₁	2128	2482	2575	2602	2447	2299	2521	2425	2542
V ₂	2432	2782	2707	2796	2679	2490	2714	2804	2709
Mean	2280	2632	2641	2699	2563	2394	2618	2614	2626
P ₀	2017	2420	2465	2676					
P ₁	2336	2724	2729	2683					
P ₂	2390	2691	2638	2739					
P ₃	2377	2694	2733	2700					

S.E. of difference of two.

1. V marginal means	= 26.0 lb./ac.
2. N or P marginal means	= 43.7 lb./ac.
3. N or P means at the same level of V	= 61.8 lb./ac.
4. V means at the same level of N or P	= 59.5 lb./ac.
S.E. of body of N×P table	= 61.8 lb./ac.

Crop :- Paddy. (*Kuruvai*).

Ref. :- M. 55(41).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'MV'.

Object :- To find out the suitable combination of A/S and Super for different varieties of Paddy.

1. BASAL CONDITIONS.

(i) (a) Fallow—Paddy—Paddy. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 1.7.1955./31.7.1955. (iv) (a) Digging with *mummatty* and preparing land. (b) Transplanting.

(c) 30 lb./ac. (d) 6"×6". (e) 2. (v) 5000 lb./ac. of G.L. as B.D. applied 10 days before planting. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 10.30". (x) 20.10.1955.

2. TREATMENTS :

Same as in expt. no. 54(76) on page 97.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block; 16 sub-plots/main-plot (b) 40'×160'. (iii) 4. (iv) (a) 10'×20'. (b) 9½'×19½'. (v) One row of 6" left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1952-1957. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS.

(i) 2491 lb./ac. (ii) (a) 544.8 lb./ac. (b) 449.7 lb./ac. (iii) Interaction N×V alone is highly significant. (iv) Av. yield of grain in lb./ac.

	N ₀	N ₁	N ₂	N ₃	Mean	P ₀	P ₁	P ₂	P ₃
V ₁	2102	2413	2349	2575	2360	2539	2349	2281	2270
V ₂	2868	2871	2377	2375	2623	2718	2328	2589	2858
Mean	2485	2642	2363	2475	2491	2628	2338	2435	2564
P ₀	2535	2821	2506	2650					
P ₁	2571	2528	2034	2220					
P ₂	2377	2663	2227	2473					
P ₃	2457	2556	2685	2558					

S.E. of difference of two

1. V marginal means	= 96.3 lb./ac.
2. N or P marginal means	= 112.4 lb./ac.
3. N or P means at the same level of V	= 159.0 lb./ac.
4. V means at the same level of N or P	= 168.0 lb./ac.
S.E. of body of N×P table	= 159.0 lb./ac.

Crop. :- Paddy (Kuruvai).

Ref. :- M. 56(33).

Site. :- Agri. Res. Stn., Aduthurai.

Type :- 'MV'.

Object :- To find out the suitable combination of A/S and Super for different varieties of Paddy.

1. BASAL CONDITIONS :

(i) (a) Fallow-Paddy-Paddy. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 15.7.1956/5.8.1956. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) 5000 lb./ac. of G.L. (vi) As per treatments. (vii) Irrigated. (viii) Two weedings. (ix) 18.38". (x) 27 and 28.10.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no 55(41) on page 98.

5. RESULTS :

(i) 4096 lb./ac. (ii) (a) 272.4 lb./ac. (b) 296.0 lb./ac. (iii) Main effect of V alone is highly significant. (iv) Av. yield of grain in lb./ac.

	N ₀	N ₁	N ₂	N ₃	Mean	P ₀	P ₁	P ₂	P ₃
V ₁	3947	4303	4255	4240	4186	4207	4137	4181	4219
V ₂	4156	4060	3928	3884	4007	4027	3840	4112	4049
Mean	4052	4182	4091	4062	4096	4117	3989	4146	4134
P ₀	4057	4159	4233	4020					
P ₁	4152	4013	3909	3880					
P ₂	3932	4380	4010	4262					
P ₃	4066	4174	4211	4086					

S.E. of difference of two

1. V marginal means = 48.2 lb./ac.
 2. N or P marginal means = 74.0 lb./ac.
 3. N or P means at the same level of V = 104.7 lb./ac.
 4. V means at the same level of N or P = 102.6 lb./ac.
- S.E. of body of N×P table = 104.7 lb./ac.

Crop :- Paddy (*Kurwai*).

Ref :- M. 57(27).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'MV'.

Object :—To find out the suitable combination of A/S and Super for different varieties of Paddy.

1. BASAL CONDITIONS :

- (i) (a) Fallow—Paddy—Paddy. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) N.A. (iii) 22.6.1957/12.7.1957.
 (iv) (a) Digging with *mummaty* and preparing the plot. (b) Transplanting. (c) 30 lb./ac. (d) 6'×6'. (e)
 2. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 18.84'. (x) 5.10.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(41) on page 98.

5. RESULTS :

- (i) 3344 lb./ac. (ii) (a) 224.8 lb./ac. (b) 472.3 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	P ₀	P ₁	P ₂	P ₃
V ₁	3296	3367	3303	3404	3342	3230	3448	3402	3252
V ₂	3535	3456	3222	3165	3345	3317	3328	3346	3386
Mean	3416	3412	3263	3285	3344	3273	3388	3374	3339
P ₀	3389	3405	3162	3139					
P ₁	3452	3499	3235	3367					
P ₂	3495	3261	3312	3427					
P ₃	3328	3481	3342	3206					

S.E. of difference of two

1. V marginal means = 39.7 lb./ac.
 2. N or P marginal means = 118.1 lb./ac.
 3. N or P means at the same level of V = 167.0 lb./ac.
 4. V means at the same level of N or P = 150.0 lb./ac.
- S.E. of body of N×P table = 167.0 lb./ac.

Crop :- Paddy (Thaladi).**Ref :- M. 55(42).****Site :- Agri. Res. Stn., Aduthurai.****Type :- 'MV'.**

Object :—To find out the relative response of two varieties of Paddy to different doses of N and P.

1. BASAL CONDITIONS :

(i) (a) Fallow—Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 21.9.1955/12.11.1955. (iv) (a) Digging with *mummatty* and preparing the plots. (b) Transplanting. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) 5000 lb./ac. of G.L. applied about 10 days before planting. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 26.87". (x) 16.3.1956.

2. TREATMENTS :**Main-plot treatments :**2 long duration varieties : $V_1 = \text{CO-25}$ and $V_2 = \text{Adt. 25}$.**Sub-plot treatments :**

Same as in expt. no. 54(76) on page 97.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 55(41) on page 98.

5. RESULTS :

(i) 2900 lb./ac. (ii) (a) 604.8 lb./ac. (b) 452.2 lb./ac. (iii) Effect of V is significant and effect of N is highly significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	N_3	P_0	P_1	P_2	P_3	Mean
V_1	2505	3016	3377	3721	2987	2982	3365	3285	3155
V_2	2120	2487	2910	3068	2462	2730	2696	2697	2646
Mean	2312	2751	3143	3394	2724	2856	3030	2991	2900
P_0	2035	2491	3079	3292					
P_1	2425	2608	3027	3364					
P_2	2373	2938	3329	3482					
P_3	2417	2969	3138	3438					

S.E. of difference of two

- | | |
|--|-----------------|
| 1. V marginal means | = 106.9 lb./ac. |
| 2. N or P marginal means | = 113.0 lb./ac. |
| 3. N or P means at the same level of V | = 159.9 lb./ac. |
| 4. V means at the same level of N or P | = 174.9 lb./ac. |
| S.E. of body of $N \times P$ table | = 159.9 lb./ac. |

Crop :- Paddy (Thaladi).**Ref :- M. 56(32).****Site :- Agri. Res. Stn., Aduthurai.****Type :- 'MV'.**

Object :—To find out the relative response of two varieties of Paddy to different doses of N and P.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 24.9.1956/16.11.1956. (iv) (a) Digging with *mummatty* and preparing the plot. (b) Transplanting. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) 5000 lb./ac. of G.L. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 29.24". (x) 16.3.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(42) above.

5. RESULTS :

(i) 3279 lb./ac. (ii) (a) 812.8 lb./ac. (b) 278.3 lb./ac. (iii) Main effect of N only is highly significant. (iv) Av. yield of grain in lb./ac.

	N ₀	N ₁	N ₂	N ₃	P ₀	P ₁	P ₂	P ₃	Mean
V ₁	3529	3457	3593	3602	2643	3696	3782	4059	3545
V ₂	2974	2922	3031	3127	2223	3191	3205	3435	3013
Mean	3251	3189	3312	3364	2433	3443	3494	3747	3279
P ₀	2241	3436	3512	3817					
P ₁	2476	3343	3413	3526					
P ₂	2437	3516	3476	3821					
P ₃	2579	3479	3575	3825					

S.E. of difference of two

1. V marginal means = 143.7 lb./ac.
 2. N or P marginal means = 69.6 lb./ac.
 3. N or P means at the same level of V = 98.4 lb./ac.
 4. V means at the same level of N or P = 167.0 lb./ac.
- S.E. of body of N×P table = 98.4 lb./ac.

Crop :- Paddy (Thaladi).

Ref :- M. 57(26).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'MV'.

Object :—To study the relative response of two varieties of Paddy to different doses of N and P.

1. BASAL CONDITIONS :

(i) (a) Fallow—Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 1.9.1957/11, 12.11.1957. (iv) (a) Digging with *mummatty* and preparing plots. (b) Transplanting. (c) 30 lb./ac. (d) 6'×6'. (e) 2. (v) 5000 lb./ac. of G.L. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 28.78". (x) 4.3.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(42) on page 101.

5. RESULTS :

(i) 1665 lb./ac. (ii) (a) 742.4 lb./ac. (b) 379.5 lb./ac. (iii) Main effects of N and P are highly significant and effect of V is significant. (iv) Av. yield of grain in lb./ac.

	N ₀	N ₁	N ₂	N ₃	P ₀	P ₁	P ₂	P ₃	Mean
V ₁	1517	2088	1975	2240	1921	1900	1964	2034	1955
V ₂	1064	1435	1442	1553	1211	1201	1438	1645	1374
Mean	1290	1762	1709	1897	1566	1551	1701	1840	1665
P ₀	1152	1535	1660	1917					
P ₁	1299	1671	1527	1705					
P ₂	1249	1784	1797	1976					
P ₃	1462	2057	1851	1990					

S.E. of difference of two

1. V marginal means	= 131.2 lb./ac.
2. N or P marginal means	= 94.9 lb./ac.
3. N or P means at the same level of V	= 134.2 lb./ac.
4. V means at the same level of N or P	= 175.3 lb./ac.
S.E. of body of N×P table	= 134.2 lb./ac.

Crop :- Paddy (*Kuruvai*).**Ref :- M. 58(103).****Site :- Agri. Res. Stn., Aduthurai.****Type :- 'MV'.**

Object :—To find out the relative response of different varieties of Paddy to application of N and K.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 27.6.1958/ 5 to 8.8.1958. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10"×4". (e) 3. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 18.55". (x) For V₁ and V₅: 14.10.1958; for others : 2.11.1958.

2. TREATMENTS :**Strips in one direction :**6 varieties : V₁=Adt. 3, V₂=Adt. 9, V₃=Adt. 16, V₄=Adt. 18, V₅=Adt. 20 and V₆=Adt. 23.**Strips in perpendicular direction :**

All combinations of (1) and (2)

(1) 5 levels of N as A/S : N₀=0, N₁=15, N₂=30, N₃=45 and N₄=60 lb./ac.(2) 2 levels of K₂O as Pot. Sul. : K₀=0 and K₁=30 lb./ac.**3. DESIGN :**

(i) Strip-plot. (ii) (a) 60. (b) N.A. (iii) 4. (iv) (a) 15×15'. (b) 14'2"×14'8". (v) One row left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) (a) Tirur, Palur, Coimbatore and Ambasamudram. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2111 lb./ac. (ii) (a) 513.8 lb./ac. (b) 352.7 lb./ac. (c) 259.2 lb./ac. (iii) Main effect of V and interaction V×N are highly significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	V ₃	V ₄	V ₅	V ₆	Mean	K ₀	K ₁
N ₀	2085	2069	2568	1808	2738	1638	2151	2106	2196
N ₁	2116	2194	2188	1834	2935	1599	2144	2152	2137
N ₂	2221	2223	1940	1756	2818	1664	2104	2129	2078
N ₃	2282	2293	2227	1664	2961	1533	2161	2121	2199
N ₄	2232	2111	1834	1572	2529	1690	1995	2029	1960
Mean	2187	2178	2151	1727	2796	1625	2111	2108	2114
K ₀	2232	2142	2123	1683	2847	1620			
K ₁	2143	2213	2180	1771	2746	1630			

S.E. of difference of two

1. V marginal means	= 114.9 lb./ac.	5. V means at the same level of N	= 163.2 lb./ac.
2. N marginal means	= 72.0 lb./ac.	6. K means at the same level of V	= 87.6 lb./ac.
3. K marginal means	= 45.5 lb./ac.	7. V means at the same level of K	= 128.7 lb./ac.
4. N means at the same level of V	= 138.4 lb./ac.	S.E. of body of N×K table	= 72.0 lb./ac.

Crop :- Paddy (Kurwai).**Ref :- M. 59(75).****Site :- Agri. Res. Stn., Aduthurai.****Type :- 'MV'.**

Object :- To find out the relative response of different varieties of Paddy to application of N and K.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 14, 17 and 21.7.1959/18 to 21.8.1959. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10" × 4". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 17.55". (x) 5, 14, 17 and 20.11.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(103) on page 103.

5. RESULTS :

(i) 1838 lb./ac. (ii) (a) 530.4 lb./ac. (b) 353.2 lb./ac. (c) 231.4 lb./ac. (iii) Main effects of V and N and interaction V × N are highly significant. Interactions V × K and V × N × K are significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	V ₃	V ₄	V ₅	V ₆	Mean	K ₀	K ₁
N ₀	1854	2015	1363	2144	1587	1371	1722	1682	1762
N ₁	1877	1705	1536	2201	1459	1333	1685	1623	1747
N ₂	1941	2238	1812	2275	1686	1350	1884	1837	1931
N ₃	1998	2256	1674	2387	1808	1455	1930	1917	1943
N ₄	2110	2262	2038	2131	1831	1435	1968	1913	2023
Mean	1956	2095	1685	2228	1674	1389	1838	1794	1881
K ₀	1956	2008	1560	2161	1675	1405			
K ₁	1956	2182	1809	2295	1674	1372			

S.E. of difference of two

- | | | | |
|-----------------------------------|-----------------|-----------------------------------|-----------------|
| 1. V marginal means | = 118.6 lb./ac. | 5. V means at the same level of N | = 157.4 lb./ac. |
| 2. N marginal means | = 72.1 lb./ac. | 6. K means at the same level of V | = 78.7 lb./ac. |
| 3. K marginal means | = 45.6 lb./ac. | 7. V means at the same level of K | = 74.7 lb./ac. |
| 4. N means at the same level of V | = 127.9 lb./ac. | S.E. of body of N × K table | = 72.0 lb./ac. |

Crop :- Paddy (Samba).**Ref :- M. 58(101).****Site :- Agri. Res. Stn., Aduthurai.****Type :- 'MV'.**

Object :- To find out the relative response of different varieties of Paddy to application of N and K.

1. BASAL CONDITIONS :

(i) (a) Paddy after Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Alluvial loam. (b) Refer soil analysis, Aduthurai. (iii) 1.8.1958/11 to 14.9.1958. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10" × 5". (e) 3. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 28.95". (x) 28,29.1.1959.

2. TREATMENTS :**Strips in one direction :**4 varieties : V₁=Adt. 1, V₂=Adt. 2, V₃=Adt. 10 and V₄=Adt.25.**Strips in perpendicular direction :**

All combinations of (1) and (2)

(1) 5 levels of N as A/S : N₀=0, N₁=15, N₂=30, N₃=45 and N₄=60 lb./ac.(2) 2 levels of K₂O as Pot. Sul. : K₀=0 and K₁=30 lb./ac.

3. DESIGN :

(i) Strip-plot. (ii) (a) 40. (b) N.A. (iii) 6. (iv) (a) 15'×15'. (b) 14' 2"×14' 7". (v) one row left as border. (vi) yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) yield of grain. (iv) (a) 1958—contd. (b) yes. (c) Nil. (v) (a) Tirur, Coimbatore, Palur and Ambasamudram. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2870 lb./ac. (ii) (a) 309.4 lb./ac. (b) 272.5 lb./ac. (c) 166.7 lb./ac. (iii) Effect of V and N and interaction V×N are highly significant. Interaction V×N×K is significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	V ₃	V ₄	K ₀	K ₁	Mean
N ₀	3488	2644	3338	2811	3040	3101	3070
N ₁	3453	2530	3101	2697	2952	2938	2945
N ₂	3180	2469	3040	2662	2864	2812	2838
N ₃	3286	2425	2961	2767	2886	2834	2860
N ₄	3013	2354	2723	2451	2684	2586	2635
Mean	3284	2484	3033	2678	2885	2854	2870
K ₀	3300	2470	3064	2706			
K ₁	3268	2498	3002	2650			

S.E. of difference of two.

- | | | | |
|-----------------------------------|----------------|-----------------------------------|----------------|
| 1. V marginal means | = 56.5 lb./ac. | 5. V means at the same level of N | = 83.0 lb./ac. |
| 2. N marginal means | = 55.6 lb./ac. | 6. K means at the same level of V | = 51.3 lb./ac. |
| 3. K marginal means | = 35.2 lb./ac. | 7. V means at the same level of K | = 64.2 lb./ac. |
| 4. N means at the same level of V | = 81.0 lb./ac. | S.E. of body of N×K table | = 55.6 lb./ac. |

Crop :- Paddy (Thaladi).

Ref :- M. 58(102)

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'MV'.

Object :—To find out the relative response of different varieties of Paddy to applications of N and K.

1. BASAL CONDITIONS :

(a) Paddy—Paddy—Fallow. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (ii) (a) Alluvial loam. (b) Refer soil analysis, Aduthurai. (iii) 24.9.1958/3 to 6.11.1958. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10"×5". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 26.32". (x) 5, 6.3.1959.

2. TREATMENTS :

Strips in one direction :

6 varieties : V₁=Adt. 8, V₂=Adt. 21, V₃=Adt. 22, V₄=Adt. 24, V₅=Adt. 25 and V₆=Culture 6538.

Strips in perpendicular direction :

All combinations of (1) and (2)

(1) 5 levels of N as A/S : N₀=0, N₁=15, N₂=30, N₃=45 and N₄=60 lb./ac.

(2) 2 levels of K₂O as Pot. Sul. : K₀=0 and K₁=30 lb./ac.

3. DESIGN :

(i) Strip-plot. (ii) (a) 60. (b) N.A. (iii) 4. (iv) (a) 15'×15'. (b) 14' 2"×14' 7". (v) One row left. (vi) yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—contd. (b) yes. (c) Nil. (v) (a) Tirur, Palur, Coimbatore and Ambasamudram. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1503 lb./ac. (ii) (a) 471.8 lb./ac. (b) 226.8 lb./ac. (c) 200.8 lb./ac. (iii) Main effects of V and N are highly significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	V ₃	V ₄	V ₅	V ₆	Mean	K ₀	K ₁
N ₀	1094	1212	1179	1996	1347	1558	1398	1353	1443
N ₁	1041	1357	1278	2181	1331	1634	1470	1456	1484
N ₂	1127	1450	1390	2075	1334	1683	1510	1530	1490
N ₃	1199	1374	1397	2224	1430	1970	1599	1591	1607
N ₄	1209	1423	1324	2023	1469	1792	1540	1623	1457
Mean	1134	1363	1314	2100	1382	1727	1503	1511	1456
K ₀	1150	1351	1307	2076	1425	1755			
K ₁	1118	1375	1321	2124	1339	1699			

S.E. of difference of two.

- V marginal means = 105.5 lb./ac.
- N marginal means = 46.3 lb./ac.
- K marginal means = 29.3 lb./ac.
- N means at the same level of V = 102.9 lb./ac.
- V means at the same level of N = 138.7 lb./ac.
- K means at the same level of V = 65.1 lb./ac.
- V means at the same level of K = 114.7 lb./ac.
- S.E. of body of N×K table, = 46.4 lb./ac.

Crop. :- Paddy (Thaladi).

Ref. :- M. 59(74).

Site. :- Agri. Res. Stn. Aduthurai.

Type :- 'MV'.

Object :- To find out the relative response of different varieties of Paddy to application of 'N' and 'K'.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 8.10.1959/26 to 30.11.1959. (iv) (a) 4 ploughings. (b) Transplanting. (c) 215 lb./ac. (d) 10"×5". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 22.75". (x) 22 to 24.3.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(102) on page 105.

5. RESULTS :

(i) 2795 lb./ac. (ii) (a) 298.3 lb./ac. (b) 303.6 lb./ac. (c) 270.9 lb./ac. (iii) Main effects of V and N and interactions V×K and V×N×K are highly significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	V ₃	V ₄	V ₅	V ₆	Mean	K ₀	K ₁
N ₀	2767	1871	2346	2622	2794	2161	2427	2450	2404
N ₁	3018	2319	2280	2860	3044	2332	2642	2658	2626
N ₂	3110	2596	2477	3057	3110	2728	2846	2794	2898
N ₃	3321	2583	2701	3413	3255	2807	3013	3005	3021
N ₄	3360	2596	2741	3439	3374	2781	3049	3070	3028
Mean	3115	2393	2509	3078	3115	2562	2795	2795	2795
K ₀	2989	2393	2562	3179	3099	2551			
K ₁	3241	2393	2456	2977	3131	2573			

S.E. of difference of two

- | | | | |
|-----------------------------------|-----------------|-----------------------------------|-----------------|
| 1. V marginal means | = 66.7 lb./ac. | 5. V means at the same level of N | = 138.4 lb./ac. |
| 2. N marginal means | = 63.0 lb./ac. | 6. K means at the same level of V | = 87.8 lb./ac. |
| 3. K marginal means | = 39.8 lb./ac. | 7. V means at the same level of K | = 90.1 lb./ac. |
| 4. N means at the same level of V | = 138.8 lb./ac. | S.E. of body of N×K table | = 63.0 lb./ac. |

Crop:- Paddy (Samba).**Ref :- M. 59(73).****Site :- Agri. Res. Stn., Aduthurai.****Type:- 'M'.**

Object :- To find out the relative response of different varieties of Paddy to application of N and K.

1. BASAL CONDITIONS :

- (i) (a) Paddy after Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 6.8.1959/14 to 17.9.1959. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10"×5". (e) 2. (v) 5000 lb./ac. of G.L. + 150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 25.45%. (x) 12 to 14.2.1960.

2. TREATMENTS :

Strips in one direction :

- 6 varieties :
- V_1
- =Adt. 1,
- V_2
- =Adt. 2,
- V_3
- =Adt. 10,
- V_4
- =Adt. 25,
- V_5
- =C0-19 and
- V_6
- =C0-25.

Strips in perpendicular direction :

All combinations of (1) and (2).

- (1) 5 levels of N as A/S : $N_0=0$, $N_1=15$, $N_2=30$, $N_3=45$ and $N_4=60$ lb./ac.
 (2) 2 levels of K_2O as Pot. Sul. : $K_0=0$ and $K_1=30$ lb./ac.

3. DESIGN :

- (i) Strip-plot. (ii) (a) 60. (b) N.A. (iii) 4. (iv) (a) 15'×15. (b) 14' 2"×14' 7". (v) One row left as border. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1958-contd. (b) Yes. (c) Nil. (v) (a) Tirur, Palur, Coimbatore and Ambasamudram. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 3906 lb./ac. (ii) (a) 409.6 lb./ac. (b) 512.4 lb./ac. (c) 323.4 lb./ac. (iii) Main effect of V and N are highly significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	V_3	V_4	V_5	V_6	Mean	K_0	K_1
N_0	3980	3492	3861	3268	3729	4441	3795	3830	3760
N_1	3927	3598	3927	3308	3466	4217	3740	3628	3852
N_2	4046	3374	3980	3400	4072	4401	3879	4019	3739
N_3	4480	3637	4283	3729	4046	4915	4182	4270	4094
N_4	4243	3255	4059	3611	4006	4441	3936	4063	3809
Mean	4135	3471	4022	3463	3864	4483	3906	3962	3851
K_0	4238	3532	3985	3463	3916	4639			
K_1	4032	3410	4059	3463	3812	4327			

S.E. of difference two

- | | | | |
|-----------------------------------|-----------------|-----------------------------------|-----------------|
| 1. V marginal means | = 91.6 lb./ac. | 5. V means at the same level of N | = 171.1 lb./ac. |
| 2. N marginal means | = 104.6 lb./ac. | 6. K means at the same level of V | = 114.8 lb./ac. |
| 3. K marginal means | = 66.2 lb./ac. | 7. V means at the same level of K | = 116.7 lb./ac. |
| 4. N means at the same level of V | = 180.9 lb./ac. | S.E. of body of N×K table | = 104.6 lb./ac. |

Crop :- Paddy (Kar).**Ref :- M. 59(76).****Site :- Rice Res. Stn., Ambasamudram.****Type :- 'MV'.**

Object.—To find out the relative response of different varieties of Paddy to application of N and K.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 10.6.1959/12 to 15.7.1959. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10'×4'. (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 6.75". (x) 15.10.1959.

2. TREATMENTS :

Strips in one direction :

6 varieties : $V_1=ASD. 1, V_2=ASD. 2, V_3=ASD. 7, V_4=ASD. 8, V_5=ASD. 9$ and $V_6=TKM. 6$.

Strips in perpendicular direction :

All combinations of (1) and (2)

(1) 5 levels of N as A/S : $N_0=0, N_1=15, N_2=30, N_3=45$ and $N_4=60$ lb./ac.(2) 2 levels of K_2O as Pot. Sul. : $K_0=0$ and $K_1=30$ lb./ac.**3. DESIGN :**

(i) Strip-plot. (ii) (a) 60. (b) N.A. (iii) 4. (iv) (a) and (b) 20'×11'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) (a) Tirur, Palur, Coimbatore and Ambasamudram. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2517 lb./ac. (ii) (a) 887.7 lb./ac. (b) 574.2 lb./ac. (c) 234.4 lb./ac. (iii) Main effects of V and N are highly significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	V_3	V_4	V_5	V_6	Mean	K_0	K_1
N_0	2115	1880	2186	1527	2061	2919	2115	2053	2176
N_1	2303	2237	2198	1767	2177	3140	2304	2343	2265
N_2	2302	2302	2474	1904	2378	3174	2422	2477	2367
N_3	2735	2664	2882	2215	2571	3575	2774	2860	2588
N_4	2913	2956	3007	2546	2910	3502	2972	3014	2930
Mean	2474	2408	2549	1992	2419	3262	2517	2549	2485
K_0	2510	2432	2526	2028	2453	3346			
K_1	2438	2384	2572	1956	2385	3178			

S.E. of difference of two

1. V marginal means = 198.5 lb./ac. 5. V means at the same level of N = 224.6 lb./ac.
 2. N marginal means = 117.2 lb./ac. 6. K means at the same level of V = 100.4 lb./ac.
 3. K marginal means = 74.1 lb./ac. 7. V means at the same level of K = 205.3 lb./ac.
 4. N means at the same level of V = 158.8 lb./ac. S.E. of body of N×K table = 117.2 lb./ac.

Crop :- Paddy (Pishanam).**Ref :- M. 58(104).****Site :- Rice Res. Stn., Ambasamudram.****Type :- 'MV'.**

Object.—To find out the relative response of different varieties of Paddy to application of N and K.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 23.9.1958/5 to 9.11.1958. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6'×6". (e) Doubles. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 18.33". (x) 21.2.1959.

2. TREATMENTS :

Strips in one direction :

6 varieties : $V_1=ASD$, $V_2=ASD$, $V_3=ASD$, $V_4=CO-2$, $V_5=CO-19$ and $V_6=CO-25$.

Strips in perpendicular direction :

All combinations of (1) and (2)

(1) 5 levels of N as A/S : $N_1=0$, $N_2=15$, $N_3=30$, $N_4=45$ and $N_5=60$ lb./ac.

(2) 2 levels of K_2O as Pot. Sul. : $K_0=0$ and $K_1=30$ lb./ac.

3. DESIGN :

(i) Strip-plot. (ii) (a) 60. (b) N.A. (iii) 4. (iv) (a) and (b) $20' \times 11'$. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2298 lb./ac. (ii) (a) 1114 lb./ac. (b) 825 lb./ac. (c) 260.1 lb./ac. (iii) Effect of N and interaction $V \times N \times K$ are highly significant. Effect of V and interaction $V \times N$ are significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	V_3	V_4	V_5	V_6	Mean	K_0	K_1
N_0	1924	1411	1880	1507	1751	2170	1774	1570	1798
N_1	2432	1598	2580	1770	2361	2432	2196	2383	2008
N_2	2361	1825	2616	1863	2311	2574	2258	2138	2379
N_3	2512	2180	2604	2164	2707	3137	2551	2563	2539
N_4	2840	2401	2809	2266	2791	3159	2711	2557	2865
Mean	2414	1883	2498	1914	2384	2695	2298	2278	2318
K_0	2413	1830	2500	1941	2348	2635			
K_1	2415	1936	2496	1887	2420	2755			

S.E. of difference of two

- | | | | |
|-----------------------------------|-----------------|------------------------------------|-----------------|
| 1. V marginal means | = 249.2 lb./ac. | 5. V means at the same level of N | = 274.7 lb./ac. |
| 2. N marginal means | = 168.4 lb./ac. | 6. K means at the same level of V | = 130.0 lb./ac. |
| 3. K marginal means | = 106.5 lb./ac. | 7. V means at the same level of K | = 255.8 lb./ac. |
| 4. N means at the same level of V | = 205.6 lb./ac. | S.E. of body of $N \times K$ table | = 168.4 lb./ac. |

Crop :- Paddy (Pishanam).

Ref :- M. 59(77)

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'MV'.

Object :—To find out the relative response of different varieties of Paddy to applications of N and K.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 8.9.1959-30.10.1959. (iv) (a) 4 ploughings. (b) Transplanting (c) 30 lb./ac. (d) $6'' \times 6''$. (e) 2. (v) 5000 lb./ac. of G.L. + 150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 24.56%. (x) 8.3.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(104) on page 108.

5. RESULTS :

(i) 1563 lb./ac. (ii) (a) 471.8 lb./ac. (b) 435.5 lb./ac. (c) 203.6 lb./ac. (iii) Main effects of V and N and interactions $V \times N \times K$ are highly significant. Interactions $V \times N$ is significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	V ₃	V ₄	V ₅	V ₆	Mean	K ₀	K ₁
N ₀	869	1031	571	1032	1718	1554	1129	1182	1377
N ₁	1075	1211	841	1125	1887	1955	1349	1396	1302
N ₂	1461	1466	1170	1377	2088	2190	1625	1645	1605
N ₃	1455	1628	1241	1617	2259	2372	1762	1761	1763
N ₄	1472	1867	1414	1843	2317	2799	1952	1861	2043
Mean	1266	1441	1047	1399	2054	2174	1563	1569	1558
K ₀	1216	1459	1039	1434	2093	2171			
K ₁	1317	1422	1055	1364	2014	2176			

S.E. of different of two

1. V marginal means = 105.5 lb./ac. 5. V means at the same level of N = 139.2 lb./ac.
2. N marginal means = 88.9 lb./ac. 6. K means at the same level of V = 81.2 lb./ac.
3. K marginal means = 56.2 lb./ac. 7. V means at the same level of K = 114.9 lb./ac.
4. N means at the same level of V = 128.4 lb./ac. S.E. of body of N × K table = 88.9 lb./ac.

Crop :- Paddy (Kar).

Ref :- M.58 (105)

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'MV'.

Object :—To find out the relative response of different varieties of Paddy to applications of N and K.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 8.6.1958/11 to 14.7.1958. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10' × 4'. (e) Doubles. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weedings twice. (ix) 4.06". (x) 12.10.1958.

2. TREATMENTS :

Strips in one direction :

6 varieties : V₁=ASD.2, V₂=Asd. 6, V₃=ASD. 7, V₄=ASD. 8, V₅=ASD. 9 and V₆=TKM. 6.

Strips in perpendicular direction :

All combinations of (1) and (2) :

(1) 5 levels of N as A/S : N₀=0, N₁=15, N₂=30, N₃=45 and N₄=60 lb./ac.

(2) 2 levels of K₂O as Pot. Sul. : K₀=0 and K₁=30 lb./ac.

3. DESIGN :

(i) Strip-plot. (ii) (a) 60. (b) N.A. (iii) 4. (iv) (a) and (b) 20' × 11'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) (a) Tirur, Palur, Coimbatore and Ambasamudram. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3026 lb./ac. (ii) (a) 825.1 lb./ac. (b) 627.6 lb./ac. (c) 334.7 lb./ac. (iii) Main effects of V and N and interaction V × K are highly significant. Interaction V × N × K is significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	V ₃	V ₄	V ₅	V ₆	Mean	K ₀	K ₁
N ₀	3471	2727	2602	1702	2058	2483	2507	2455	2559
N ₁	3775	3044	3015	1889	2264	2666	2776	2752	2799
N ₂	3809	3397	3164	2046	2423	2799	2940	2893	2986
N ₃	4238	3764	3415	2460	2856	3319	3342	3433	3251
N ₄	4437	3843	3588	2799	3164	3558	3565	3582	3548
Mean	3946	3355	3156	2179	2553	2935	3026	3023	3029
K ₀	3839	3380	3087	2247	2607	2979			
K ₁	4053	3330	3225	2111	2499	2951			

S.E. of difference of two

- | | | | |
|-----------------------------------|-----------------|-----------------------------------|-----------------|
| 1. V marginal means | = 184.5 lb./ac. | 5. V means at the same level of N | = 237.5 lb./ac. |
| 2. N marginal means | = 128.1 lb./ac. | 6. K means at the same level of V | = 126.0 lb./ac. |
| 3. K marginal means | = 81.1 lb./ac. | 7. V means at the same level of K | = 199.3 lb./ac. |
| 4. N means at the same level of V | = 199.3 lb./ac. | S.E. of body of N×K table | = 128.1 lb./ac. |

Crop :- Paddy (Samba).**Ref. :- M. 58(147).****Site :- Agri. College and Res. Instt., Coimbatore.****Type :- 'MV'.**

Object :—To study the effect of different levels of N and K on resistance and susceptible varieties of Paddy to blast.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) N.A./19.9.1958. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10"×6". (e) 2. (v) 5000 lb./ac. of G.L.+45 lb./ac. of P₂O₅ as Super. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 11.49%. (x) 7.2.1959.

2. TREATMENTS :**Main-plot treatments :**

2 varieties : V₁=Adt. 10 (Blast susceptible) and V₂=CO—4 (Blast resistant).

Sub-plot treatments :

All combinations of (1) and (2).

(1) 3 levels of N as A/s : N₀=0, N₁=30 and N₂=60 lb./ac.

(2) 3 levels of K₂O as Pot. Sul. : K₀=0, K₁=30 and K₂=60 lb./ac.

3. DESIGN :

(i) Spit-plot. (ii) (a) 2 main-plots/block ; 9 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) (a) and (b) 42'×10½'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) and (vi) Nil. (vii) Expt. wrs conducted by Agri. Chemist, Coimbatore.

5. RESULTS :

(i) 3531 lb./ac. (ii) (a) 356.0 lb./ac. (b) 521.5 lb./ac. (iii) N effect 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
V ₁	3277	3547	3963	3777	3533	3477	3596
V ₂	2853	3787	3757	3187	3500	3710	3466
Mean	3065	3667	3860	3482	3517	3593	3531
K ₀	2815	3650	3980				
K ₁	2965	3885	3700				
K ₂	3415	3465	3900				

S.E. of difference of two

- | | |
|--|-----------------|
| 1. V marginal means | = 96.9 lb./ac. |
| 2. N or K marginal means | = 173.8 lb./ac. |
| 3. N or K means as the same level of V | = 245.8 lb./ac. |
| 4. V means as the same level of N or K | = 219.0 lb./ac. |

Crop :- Paddy (Samba).**Ref. :- M. 59(107).****Site :- Agri. College and Res. Instt., Coimbatore.****Type :- 'MV'.**

Object :—To study the effect of different levels of N and K on varieties of Paddy resistant and susceptible to blast.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb. ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) N.A./15.9.1959. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10"×6". (e) 2. (v) 5000 lb./ac. of G.L.+45 lb./ac. of P₂O₅ as Super. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 14.4". (x) 7.2.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(147) on page 111.

5. RESULTS :

(i) 3563 lb./ac. (ii) (a) 0 lb./ac. (b) 343.0 lb./ac. (iii) V and N effects are highly significant. (iv) Av. yield of grain in lb./ac.

	N ₀	N ₁	N ₂	K ₀	K ₁	K ₂	Mean
V ₁	3233	3700	4022	3578	3678	3700	3652
V ₂	3222	3511	3689	3500	3244	3678	3474
Mean	3228	3606	3856	3539	3461	3689	3563
K ₀	3067	3617	3933				
K ₁	3167	3550	3667				
K ₂	3450	3650	3967				

S.E. of difference of two

1. V marginal means = 0 lb./ac.
2. N or K marginal means = 114.3 lb./ac.
3. N or K means of the same level of V = 161.6 lb./ac.
4. V means at the same level of N or K = 132.0 lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 58(148).****Site :- Agri. College and Res. Instt. Coimbatore.****Type :- 'MV'.**

Object :—To study the effect of different sources of N on varieties of Paddy resistant and susceptible to blast.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) August 1958/25.9.1958. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10"×6". (e) 2. (v) 5000 lb./ac. of G.L.+45 lb./ac. of P₂O₅ as Super+45 lb./ac. of K₂O as Pot. Sul. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 11.49". (x) 5.2.1959.

2. TREATMENTS :

All the combinations of (1) and (2).

(1) 7 sources of N at 45 lb./ac. : S₀=No Nitrogen, S₁=A/S, S₂=A/N, S₃=A/C, S₄=A/S,N, S₅=Urea and S₆=Sodium Nitrate.

(2) 2 varieties : V₁=Adt. 10 (blast susceptible) and V₂=CO—4 (blast resistant).

3. DESIGN :

(i) R.B.D. (ii) (a) 14. (b) N.A. (iii) 5. (iv) (a) and (b) 42'×10½'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) and (vi) Nil. (vii) Expt. was conducted by Agri. chemist, Coimbatore.

5. RESULTS :

(i) 3686 lb./ac. (ii) 594 lb./ac. (iii) No main effect or interaction is significant. (iv) Av. yield of grain in lb./ac.

	S ₀	S ₁	S ₂	S ₃	S ₄	S ₅	S ₆	Mean
V ₁	3320	3760	3740	3660	4120	3780	3420	3686
V ₂	3520	3940	3900	3680	3860	3480	3420	3686
Mean	3420	3850	3820	3670	3990	3630	3420	3686

S.E. of S marginal mean = 188.0 lb./ac.

S.E. of V marginal mean = 100.4 lb./ac.

S.E. of body of table = 266.0 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 59(106).

Site :- Agri. college and Res. Instt., Coimbatore.

Type :- 'MV'.

Object :- To study the effect of different sources of N on varieties of Paddy resistant and susceptible to blast.

1. BASAL CONDITIONS :

(i) (a) Paddy-Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) N.A/August 1959. (iv) (a) 4 ploughings; (b) Transplanting. (c) 30 lb./ac. (d) 10"×6". (e) 2. (v) 5000 lb./ac. of G.L.+45 lb./ac. of P₂O₅ as Super+45 lb./ac. of K₂O as Pot. Sul. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 14.40". (x) Feb. 1960.

2. TREATMENTS to 4. GENERAL :

Same as in the expt. no. 58(148) on page 112.

5. RESULTS :

(i) 3477 lb./ac. (ii) 335.4 lb./ac. (iii) No main effect or interaction is significant. (iv) Av. yield of grain in lb./ac.

	S ₀	S ₁	S ₂	S ₃	S ₄	S ₅	S ₆	Mean
V ₁	3280	3300	3920	3440	3560	3520	3240	3466
V ₂	3240	3620	3480	3720	3660	3460	3240	3489
Mean	3260	3460	3700	3580	3610	3490	3240	3477

S.E. of V marginal mean = 56.8 lb./ac.

S.E. of S marginal mean = 106.0 lb./ac.

S.E. of body of table = 150.1 lb./ac.

Crop :- Paddy.

Ref :- M. 54(95).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'MV'.

Object :- To find out the response of different varieties of Paddy to varying doses of A/S and Super.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clayey. (b) N.A. (iii) 13.9.1954/1.2.11.1954. (iv) (a) 3 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6"×6". (e) N.A. (v) 5000 lb./ac. of *Sesbania* as G.L. (vi) As per treatments. (vii) Irrigated. (viii) 1 weeding. (ix) 11.62". (x) 14, 24.2.1955.

2. TREATMENTS :

Main-plot treatments :2 varieties : V_1 =CO-2 and V_2 =GEB-24.**Sub-plot treatments :**

All combinations of (1) and (2)

(1) 4 levels of N as A/S : $N_0=0$, $N_1=30$, $N_2=45$ and $N_3=60$ lb./ac.(2) 4 levels of P_2O_5 as Super : $P_0=0$, $P_1=30$, $P_2=45$ and $P_3=60$ lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 16 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) $12' \times 11'$. (b) $11\frac{1}{2}' \times 10\frac{1}{2}'$. (v) 1 row left as border. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height measurement, tiller count and yield of grain. (iv) (a) 1953—contd. (b) Yes. (c) N.A. (v) (a) Aduthurai. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2231 lb./ac. (ii) (a) 793.7 lb./ac. (b) 222.5 lb./ac. (iii) Main effects of N and P and interaction $N \times V$ are highly significant. Interaction $P \times V$ is significant. (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	N_3	Mean	P_0	P_1	P_2	P_3
V_1	2257	2586	2485	2149	2369	2244	2417	2456	2361
V_2	1597	2149	2294	2331	2093	1819	2131	2146	2275
Mean	1927	2368	2390	2240	2231	2032	2274	2301	2318
P_0	1673	2145	2212	2096					
P_1	2024	2364	2413	2295					
P_2	2070	2485	2452	2196					
P_3	1942	2477	2483	2372					

S.E. of difference of two

1. V marginal means = 140.3 lb./ac.

2. N or P marginal means = 55.6 lb./ac.

3. N or P means at the same level of V = 78.7 lb./ac.

4. V means at the same level of N or P = 156.0 lb./ac.

S.E. of body of $N \times P$ table = 78.7 lb./ac.**Crop :- Paddy.****Ref :- M. 55(45).****Site :- Paddy Breeding Stn , Coimbatore.****Type :- 'MV'.**

Object :—To find out the response of different varieties of Paddy to varying doses of A/S and Super.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clay loam. (b) N.A. (iii) 31.7.1955/21.8.1955. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) $6' \times 6'$. (e) 2. (v) 5000 lb./ac. of G.L. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 9.68". (x) 10.1.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(95) on page 113.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Grain yield. (iv) (a) 1953—1956. (b) No. (c) Nil. (v) (a) Aduthurai, Ambasamudram, Pattukkottai and Palur. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2384 lb./ac. (ii) (a) 872.8 lb./ac. (b) 248.3 lb./ac. (iii) Main effects of V, N and P are highly significant. Interactions $N \times P$, $V \times N$ and $V \times P$ are significant. (iv) Av. yield of grain in lb./ac.

	N ₀	N ₁	N ₂	N ₃	Mean	P ₀	P ₁	P ₂	P ₃
V ₁	1787	2833	3060	3128	2702	2352	2699	2899	2857
V ₂	1318	2140	2372	2438	2067	1876	2054	2076	2261
Mean	1552	2486	2716	2783	2384	2114	2377	2488	2559
P ₀	1241	2311	2514	2390					
P ₁	1506	2351	2758	2890					
P ₂	1757	2525	2826	2843					
P ₃	1706	2758	2764	3007					

S.E. of difference of two

- | | |
|--|-----------------|
| 1. V marginal means | = 154.3 lb./ac. |
| 2. N or P marginal means | = 62.1 lb./ac. |
| 3. N or P means at the same level of V | = 87.8 lb./ac. |
| 4. V means at the same level of N or P | = 172.0 lb./ac. |
| S.E. of body of N×P table | = 87.8 lb./ac. |

Crop :- Paddy.

Ref :- M. 56(43).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'MV'.

Object :—To find out the response of different varieties of Paddy to varying doses of A/S and Super.

BASAL CONDITION :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac of A/S.
(ii) (a) Clay loam. (b) N.A. (iii) 20.7.1956/11.9.1956. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) 5000 lb./ac. G.L. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 15.05". (x) 4.1.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(95) on page 113.

4. GENERAL :

Same as in expt. no. 55 (45) on page 114.

5. RESULTS :

(i) 5006 lb./ac. (ii) (a) 602 lb./ac. (b) 251.3 lb./ac. (iii) Main effects of V, N and P and interaction N×P are significant. (iv) Av. yield of grain in lb./ac.

	N ₀	N ₁	N ₂	N ₃	Mean	P ₀	P ₁	P ₂	P ₃
V ₁	4074	6076	6639	6938	5932	5649	6099	6526	5453
V ₂	2880	3854	4681	4906	4080	3961	3939	4010	4411
Mean	3477	4965	5660	5922	5006	4805	5019	5268	4932
P ₀	3196	4862	5222	5940					
P ₁	3422	4636	5716	6302					
P ₂	3736	5411	5670	6256					
P ₃	3556	4950	6032	5189					

S.E. of difference of two

1. V marginal means	= 106.4 lb./ac.
2. N or P marginal means	= 62.8 lb./ac.
3. N or P means at the same level of V	= 88.8 lb./ac.
4. V means at the same level of N or P	= 131.3 lb./ac.
S.E. of body of N×P table	= 88.8 lb./ac.

Crop :- Paddy.**Ref :- M. 58(140).****Site :- Paddy Breeding Stn., Coimbatore.****Type :- 'MV'.**

Object :—To study the effect of N and K on different varieties of Paddy.

1. BASAL CONDITIONS :

(a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) Clay loam. (b) N.A. (iii) 23.8.1958/16, 17.10.1958. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10"×6". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 22.4". (x) 2 to 4.3.1959.

2. TREATMENTS :

Strips in one direction :

4 varieties : $V_1=CO-4$, $V_2=CO-12$, $V_3=CO-19$ and $V_4=CO-25$.

Strips in perpendicular direction :

All combinations of (1) and (2)

(1) 5 levels of N : $N_0=0$, $N_1=15$, $N_2=30$, $N_3=45$ and $N_4=60$ lb./ac.(2) 2 levels of K_2O : $K_0=0$ and $K_1=60$ lb./ac.

3. DESIGN :

(i) Strip-plot. (ii) (a) 40. (b) N.A. (iii) 6. (iv) (a) 17'6"×6'6". (b) 15'10"×5'6". (v) 10"×6". (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of paddy. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2386 lb./ac. (ii) (a) 373.2 lb./ac. (b) 515.0 lb./ac. (c) 375.2 lb./ac. (iii) Main effects of V and N are highly significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	V_3	V_4	Mean	K_0	K_1
N_0	1676	2073	1881	1923	1888	1881	1975
N_1	1986	2239	2168	2061	2114	2034	2194
N_2	2136	2582	2600	2440	2439	2582	2297
N_3	2235	2878	2592	2704	2602	2539	2666
N_4	2663	3053	2890	2935	2885	2868	2903
Mean	2139	2564	2426	2413	2386	2365	2407
K_0	2094	2561	2389	2414			
K_1	2184	2569	2463	2411			

S.E. of difference of two

1. V marginal means	= 68.1 lb./ac.	5. V means at the same level of N	= 96.6 lb./ac.
2. N marginal means	= 105.1 lb./ac.	6. K means at the same level of V	= 107.0 lb./ac.
3. K marginal means	= 66.5 lb./ac.	7. V means at the same level of K	= 153.0 lb./ac.
4. N means at the same level of V	= 169.3 lb./ac.	S.E. of body of N×K table	= 105.1 lb./ac.

Crop :- Paddy.**Ref. :- M. 59(1).****Site :- Paddy Breedign Stn., Coimbatore.****Type :- 'MV'.**

Object :- To study the effect of N and K on different varieties of Paddy.

1. BASAL CONDITIONS :

- (i) (a) Paddy-Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super.
 (ii) (a) Clay loam. (b) N.A. (iii) 1.10.1959/26.11.1959. (iv) (a) 4 ploughings. (b) Transplanting.
 (c) 30 lb./ac. (d) 10"×6". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) As per treatments.
 (vii) Irrigated. (viii) Weeding twice. (ix) N.A. (x) 20.3.1960.

2. TREATMENTS :

Strips in one direction :

4 varieties : $V_1=CO-4$, $V_2=CO-12$, $V_3=CO-19$ and $V_4=CO-25$.

Strips in perpendicular direction :

All combinations of (1) and (2)

- (1) 5 levels of N : $N_0=0$, $N_1=15$, $N_2=30$, $N_3=45$ and $N_4=60$ lb./ac.
 (2) 2 levels of K_2O : $K_0=0$ and $K_1=30$ lb./ac.

3. DESIGN :

- (i) Strip-plot. (ii) (a) 40. (b) N.A. (iii) 6. (iv) (a) 18'4"×6'6". (b) 16'8"×5'6". (v) 10"×6" left as border. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—contd. (modified in 1959). (b) No. (c) Nil.
 (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1750 lb./ac. (ii) (a) 885.4 lb./ac. (b) 827.9 lb./ac. (c) N.A. (iii) Main effects of V and N are highly significant. Others are not significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	V_3	V_4	Mean	K_0	K_1
N_0	1283	1711	1073	1809	1469	1470	1468
N_1	1183	1749	1194	1633	1440	1592	1290
N_2	1380	1924	1491	1824	1655	1698	1612
N_3	1747	2269	1731	2391	2034	2077	1991
N_4	1507	2435	2013	2649	2151	2095	2206
Mean	1420	2018	1501	2061	1750	1786	1714
K_0	1488	2056	1509	2093			
K_1	1352	1980	1493	2029			

S.E. of V marginal mean = 114.2 lb./ac.

S.E. of N marginal mean = 119.5 lb./ac.

S.E. of K marginal mean = 75.6 lb./ac.

Crop :- Paddy.**Ref. :- M. 58(138).****Site :- Paddy Breeding Stn., Coimbatore.****Type :- 'MV'.**

Object :- To find out the response of different varieties to application of N and K.

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. (ii) (a) Clayey loam. (b) N.A. (iii) 3.8.1958/17 to 23.9.1958. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10"×4". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding once. (ix) 22.4" (x) 3 to 5.1.1959.

2. TREATMENTS :

Strips in one direction :

6 varieties : $V_1=CO-10$, $V_2=CO-13$, $V_3=CO-18$, $V_4=CO-23$, $V_5=TKM-6$ and $V_6=Culture-6522$.

Strips in perpendicular direction :

All combinations of (1) and (2).

(1) 5 levels of N as A/S : $N_0=0$, $N_1=15$, $N_2=30$, $N_3=45$ and $N_4=60$ lb./ac.

(2) 2 levels of K_2O as Pot. Sul. : $K_0=0$ and $K_1=60$ lb./ac.

3. DESIGN :

(i) Strip-plot. (ii) (a) 60. (b) N.A. (iii) 4. (iv) (a) $19' \times 11'$. (b) $17'4'' \times 9'8''$. (v) $10' \times 8'$ left as border. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

(i) 1925 lb./ac. (ii) (a) 738.8 lb./ac. (b) 553.4 lb./ac. (c) 319.9 lb./ac. (iii) N and $N \times V$ effects are highly significant while effect of V is significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	V_3	V_4	V_5	V_6	Mean	K_0	K_1
N_0	1321	1441	1894	1882	1416	1343	1550	1498	1680
N_1	1487	1718	1923	2077	1742	1604	1758	1112	1705
N_2	1601	1852	2461	2323	1991	1909	2023	2084	1962
N_3	1785	2006	2405	2569	2104	2334	2200	2125	2276
N_4	1576	1899	2077	2283	2158	2563	2093	2116	2069
Mean	1554	1783	2152	2227	1882	1951	1925	1927	1923
K_0	1555	1774	2140	2277	1901	1916			
K_1	1553	1792	2164	2176	1864	1986			

S E. of difference of two

- | | | | |
|-----------------------------------|-----------------|------------------------------------|-----------------|
| 1. V marginal means | = 165.2 lb./ac. | 5. V means at the same level of N | = 180.0 lb./ac. |
| 2. N marginal means | = 113.0 lb./ac. | 6. K means at the same level of V | = 116.8 lb./ac. |
| 3. K marginal means | = 71.4 lb./ac. | 7. V means at the same level of K | = 218.5 lb./ac. |
| 4. N means at the same level of V | = 184.6 lb./ac. | S.E. of body of $N \times K$ table | = 113.0 lb./ac. |

Crop :- Paddy.

Ref :- M. 59(3).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'MV'.

Object :- To find out the response of different varieties to application of N and K.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clay loam. (b) N.A. (iii) 22.7.1959/30, 31.8.1959. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) $10' \times 4'$. (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding once. (ix) N.A. (x) 18 to 21.12.1959.

2. TREATMENTS :

Strips in one direction :

6 varieties : $V_1=CO-10$, $V_2=CO-13$, $V_3=CO-18$, $V_4=CO-23$, $V_5=TKM.6$ and $V_6=Culture-6522$.

Strips in perpendicular direction :

(1) 5 levels of N : $N_0=0$, $N_1=15$, $N_2=30$, $N_3=45$ and $N_4=60$ lb./ac.

(2) 2 levels of K_2O : $K_0=0$ and $K_1=30$ lb./ac.

3. DESIGN :

(i) Strip-plot. (ii) (a) 60. (b) N.A. (iii) 4. (iv) (a) 16'2"×9'6". (b) 14'6"×8'10". (v) 10'×4" left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—contd. (modified in 1959). (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1623 lb./ac. (ii) (a) 283.9 lb./ac. (b) 477.3 lb./ac. (c) N.A. (iii) Main effect of V alone is significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	V ₃	V ₄	V ₅	V ₆	Mean	K ₀	K ₁
N ₀	1279	1279	1618	1815	1327	1267	1431	1591	1271
N ₁	1427	1370	1851	2087	1364	1115	1536	1545	1526
N ₂	1538	1535	1870	2123	1470	1473	1668	1572	1764
N ₃	1557	1405	1956	2190	1596	1641	1728	1846	1601
N ₄	1489	1457	1938	2475	1480	1712	1758	1845	1672
Mean	1458	1409	1846	2138	1447	1442	1623	1680	1567
K ₀	1509	1474	1928	2142	1508	1516			
K ₁	1407	1344	1764	2133	1386	1368			

S.E. of V marginal mean = 44.9 lb./ac.

S.E. of N marginal mean = 68.9 lb./ac.

S.E. of K marginal mean = 43.6 lb./ac.

Crop :- Paddy.

Site :- Paddy Breeding Stn., Coimbatore.

Ref :- M. 58(139).

Type :- 'MV'.

Object :- To find out the response of different varieties to application of N and K.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) N.A. (iii) 22.8.1958/7 to 10.10.1958. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10"×5". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) N.A. (ix) 22.4". (x) 19 to 22.2.1959.

2. TREATMENTS :

Strips in one direction :

6 varieties : V₁=GEB.24, V₂=CO-1, V₃=CO-2, V₄=ASD.5, V₅=ASD.11 and V₆=Culture-6538.

Strips in perpendicular direction :

All combinations of (1) and (2)

(1) 5 levels of N : N₀=0, N₁=15, N₂=30, N₃=45 and N₄=60 lb./ac.

(2) 2 levels of K₂O : K₀=0 and K₁=60 lb./ac.

3. DESIGN :

(i) Strip-plot. (ii) (a) 60. (b) N.A. (iii) 4. (iv) (a) 17'6"×10'6". (b) 15'10"×9'8". (v) One row left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

	V ₁	V ₂	V ₃	V ₄	V ₅	V ₆	Mean	K ₀	K ₁
N ₀	2466	2546	2484	2478	2577	2909	2572	2652	2500
N ₁	2723	2876	2605	2250	2774	3155	2730	2682	2778
N ₂	2610	2839	2628	3199	2647	2999	2820	2832	2808
N ₃	2887	2859	2544	2206	2684	3130	2718	2586	2850
N ₄	2869	2416	2434	2952	2698	2934	2717	2741	2693
Mean	2711	2707	2539	2617	2676	3025	2712	2699	2726 ^a
K ₀	2674	2635	2550	2614	2626	3094			
K ₁	2747	2780	2528	2620	2726	2956			

S.E. of difference of two

1. V marginal means = 189.3 lb./ac. 5. V means at the same level of N = 292.0 lb./ac.
2. N marginal means = 69.7 lb./ac. 6. K means at the same level of V = 150.2 lb./ac.
3. K marginal means = 44.1 lb./ac. 7. V means at the same level of K = 219.5 lb./ac.
4. N means at the same level of V = 237.4 lb./ac. S.E. of body of N × K table = 69.7 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 58(126).

Site :- Agri. Res. Stn., Pattukkottai.

Type :- 'MV'.

Object :- To study the effect of N and K on different varieties of Paddy.

1. BASAL CONDITIONS :

- (i) (a) Paddy—Fallow—Paddy. (b) Fallow. (c) Nil. (ii) Sandy loam. (b) N.A. (iii) 26.8.1958/21.9.1958.
 (iv) (a) 4 ploughings. (b) Transplanting. (c) 25 lb./ac. (d) 10' × 5'. (e) 2. (v) 5000 lb./ac. of G.L. + 150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) N.A. (x) 23.1.1959 to 5.2.1959.

2. TREATMENTS :

Strips in one direction :

4 Varieties : V₁=Adt. 1, V₂=Adt. 2, V₃=Adt. 10 and V₄=Adt. 25.

Strips in perpendicular direction :

All combinations of (1) and (2)

(1) 5 levels of N as A/S : N₀=0, N₁=15, N₂=30, N₃=45 and N₄=60 lb./ac.

(2) 2 levels of K₂O as Pot. Sul. : K₀=0 and K₁=60 lb./ac.

3. DESIGN :

- (i) Strip-plot. (ii) (a) 40. (b) N.A. (iii) 6. (iv) (a) and (b) 6'8" × 14'. (v) Nil. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) (a) Coimbatore, Aduthurai, Palur, Tirur, and Ambasamudram. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2533 lb./ac. (ii) (a) 609.1 lb./ac. (b) 488.0 lb./ac. (c) 342.2 lb./ac. (iii) Main effect of V is highly significant. Effect of N and interaction N × V are significant. (iv) Av. yield of grain in lb./ac.

	V ₀	V ₁	V ₂	V ₃	V ₄	Mean	K ₀	K ₁
V ₁	2382	2655	2805	2878	2795	2703	2730	2672
V ₂	2062	2227	2090	2406	1940	2145	2145	2145
V ₃	2810	2772	2966	2874	3048	2894	2964	2824
V ₄	2134	2202	2534	2634	2456	2392	2425	2359
Mean	2347	2464	2598	2698	2560	2533	2566	2500
K ₀	2280	2422	2691	2727	2710			
K ₁	2414	2506	2504	2668	2410			

S.E. of difference of two

1. V marginal means	= 111.2 lb./ac.	5. V means at the same level of N	= 167.3 lb./ac.
2. N marginal means	= 99.6 lb./ac.	6. K means at the same level of V	= 59.1 lb./ac.
3. K marginal means	= 63.0 lb./ac.	7. V means at the same level of K	= 127.6 lb./ac.
4. N means at the same level of V	= 156.7 lb./ac.	S.E. of body of N×K table	= 99.6 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 59(78).

Site :- Agri. Res. Stn., Pattukkottai.

Type :- 'MV'.

Object :- To study the effect of N and K on different varieties of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) N.A. (iii) 15.8:1959/7, 8.9.1959. (iv) (a) 4 Ploughings. (b) Transplanting. (c) 25 lb./ac. (d) 6"×6". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) N.A. (x) 7 to 10.2.1960.

2. TREATMENTS :

Strips in one direction :

4 varieties : V_1 =Adt. 1, V_2 =Adt. 2, V_3 =Adt. 10 and V_4 =Adt. 25.

Strips in perpendicular direction :

All combinations of (i) and (2) .

(1) 5 levels of N : $N_0=0$, $N_1=15$, $N_2=30$, $N_3=45$ and $N_4=60$ lb./ac.

(2) 2 levels of K_2O : $K_0=0$ and $K_1=30$ lb./ac.

3. DESIGN :

(i) Strip-plot. (ii) (a) 40. (b) N.A. (iii) 6. (iv) (a) and (b) 7'×14', (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) (a) Coimbatore, Aduthurai, Tirur, Ambasamudram and Palur. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1934 lb./ac. (ii) (a) 566.9 lb./ac. (b) 261.1 lb./ac. (c) 200.5 lb./ac. (iii) Main effect of V and interaction $V \times N$ are highly significant. Interaction $V \times K$ is significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	V_3	V_4	Mean	K_0	K_1
N_0	2156	1684	2168	1670	1920	1850	1989
N_1	2096	1577	2198	1806	1919	1959	1879
N_2	1984	1507	2339	1852	1921	1894	1948
N_3	1908	1729	2236	1874	1937	1947	1927
N_4	1966	1643	2357	1926	1973	2046	1900
Mean	2022	1628	2260	1826	1934	1939	1929
K_0	2014	1669	2303	1770			
K_1	2030	1587	2217	1882			

S.E. of difference of two

1. V marginal means	= 103.5 lb./ac.	5. V means at the same level of K	= 126.8 lb./ac.
2. N marginal means	= 53.3 lb./ac.	6. K means at the same level of V	= 56.1 lb./ac.
3. K marginal means	= 33.7 lb./ac.	7. V means at the same level of N	= 109.8 lb./ac.
4. N means at the same level of V	= 88.7 lb./ac.	S.E. of body of N×K table	= 53.3 lb./ac.

Crop :- Paddy (Thaladi).**Ref :- M. 58(106).****Site :- Agri. Res. Stn., Pattukkottai.****Type :- 'MV'.**

Object :—To study the effect of N and K on different varieties of Paddy.

1. BASAL CONDITIONS:

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 19.10.1958/26.11.1958. (iv) (a) 4 ploughings. (b) Transplanting. (c) 25 lb./ac. (d) 10' × 5'. (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) N.A. (x) 12 to 15.3.1959.

2. TREATMENTS :**Strips in one direction :**6 varieties : V_1 =Culture. 6538, V_2 =Adt. 8, V_3 =Adt. 21, V_4 =Adt. 22, V_5 =Adt. 24 and V_6 =Adt. 25.**Strips in perpendicular direction :**

All combinations of (1) and (2)

(1) 5 levels of N : $N_0=0$, $N_1=15$, $N_2=30$, $N_3=45$ and $N_4=60$ lb./ac.(2) 2 levels of K_2O : $K_0=0$ and $K_1=30$ lb./ac.**3. DESIGN:**

(i) Strip-plot. (ii) (a) 60. (b) N.A. (iii) 4. (iv) (a) and (b) 10' × 10'. (v) Nil. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) (a) Coimbatore, Aduthurai, Tirur, Palur and Ambasamudram. (b) N.A. (vi) and (vii) Nil.

RESULTS :(i) 1670 lb./ac. (ii) (a) 522.3 lb./ac. (b) 310.1 lb./ac. (c) 191.3 lb./ac. (iii) Main effects of V and N and interaction $V \times N \times K$ are highly significant. Interaction $V \times N$ is significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	V_3	V_4	V_5	V_6	Mean	K_0	K_1
N_0	1947	1565	1599	1436	1395	1334	1546	1527	1565
N_1	2028	1742	1654	1484	1708	1674	1715	1672	1758
N_2	1906	1620	1525	1470	1661	1402	1597	1609	1785
N_3	2083	1695	1974	1565	1790	1538	1774	1774	1774
N_4	2232	1658	1620	1525	1702	1565	1717	1767	1667
Mean	2039	1656	1674	1496	1651	1503	1670	1670	1670
K_0	1998	1633	1734	1476	1652	1525			
K_1	2080	1679	1614	1516	1650	1481			

S.E. of difference of two

- | | | | |
|-----------------------------------|-----------------|------------------------------------|-----------------|
| 1. V marginal means | = 116.8 lb./ac. | 5. V means at the same level of N | = 144.8 lb./ac. |
| 2. N marginal means | = 63.3 lb./ac. | 6. K means at the same level of V | = 68.2 lb./ac. |
| 3. K marginal means | = 40.0 lb./ac. | 7. V means at the same level of K | = 124.4 lb./ac. |
| 4. N means at the same level of V | = 107.8 lb./ac. | S.E. of body of $N \times K$ table | = 63.3 lb./ac. |

Crop :- Paddy (Thaladi).**Ref :- M. 59(79).****Site :- Agri. Res. Stn., Pattukkottai.****Type :- 'MV'.**

Object :—To study the effect of N and K on different varieties of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 12.10.1959/19.11.1959. (iv) (a) 4 ploughings. (b) Transplanting. (c) 25 lb./ac. (d) 6' × 6'. (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigate. (viii) Weeding twice. (ix) N.A. (x) 11 to 14.3.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(106) on page 126.

5. RESULTS :

(i) 5631 lb./ac. (ii) (a) 3815 lb./ac. (b) 1546 lb./ac. (c) 1027 lb./ac. (iii) Main effect of N is highly significant and effect of V and interaction $V \times K$ are significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	V ₃	V ₄	V ₅	V ₆	Mean	K ₀	K ₁
N ₀	6139	4067	3604	6857	4346	4798	4968	4928	5008
N ₁	6102	4948	3822	6517	5251	4686	5221	5243	5199
N ₂	5979	5067	5084	7453	5880	5543	5834	5908	5761
N ₃	6626	5999	4026	7456	5462	5683	5875	5824	5926
N ₄	7905	5224	4315	8113	6313	5680	6258	6323	6194
Means	6550	5061	4170	7279	5450	5278	5631	5645	5618
K ₀	6652	5265	4337	7115	5020	5480			
K ₁	6448	4857	4003	7443	5880	5076			

S.E. of difference of two

- | | | | |
|-----------------------------------|---------------|------------------------------------|-----------------|
| 1. V marginal means | = 853 lb./ac. | 5. V means at the same level of N | = 969 lb./ac. |
| 2. N marginal means | = 316 lb./ac. | 6. K means at the same level of V | = 357 lb./ac. |
| 3. K marginal means | = 199 lb./ac. | 7. V means at the same level of K | = 883 lb./ac. |
| 4. N means at the same level of V | = 565 lb./ac. | S.E. of body of $N \times K$ table | = 316.0 lb./ac. |

Crop:- Paddy (Samba).**Ref :- M. 58(38).****Site :- Rice Res. Stn., Tirur.****Type :- 'MV'.**

Object :- To study the effect of N and K on different varieties of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (ii) (a) Light clayey. (b) Refer soil analysis, Tirur. (iii) 1.9.1958/1, 2.11.1958. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) 2½ to 3 lb./ac. (d) 10"×5". (e) 3. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice and intercultivation one month after planting. (ix) 32-17". (x) 20.1.1959 and 2, 13, 17.2.1959.

2. TREATMENTS :

Strips in one direction :6 varieties : V₁=GEB-24, V₂=CO-5, V₃=CC-19, V₄=CO-25, V₅=A dt. 22 and V₆=ASD. 5.**Strips in perpendicular direction.**

All combinations of (1) and (2)

(1) 5 levels of N : N₀=0, N₁=15, N₂=30, N₃=45 and N₄=60 lb./ac.(2) 2 levels of K₂O : K₀=0 and K₁=30 lb./ac.

3. DESIGN :

(i) Strip-plot. (ii) (a) 60. (b) N.A. (iii) 4. (iv) (a) 23½'×6¼'. (b) 21½'×5'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) No. (iii) Grain yield. (iv) 1958—contd. (b) Yes. (c) Nil. (v) (a) Aduthurai, and Ambasamudram. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 3282 lb./ac. (ii) (a) 521.4 lb./ac. (b) 273.3 lb./ac. (c) 299.9 lb./ac. (iii) Main effects of V and N are highly significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	V ₃	V ₄	V ₅	V ₆	Mean	K ₀	K ₁
N ₀	1967	3397	3529	3877	2932	2916	3103	3124	3082
N ₁	1933	3459	3655	4079	3038	3024	3198	3168	3228
N ₂	2048	3646	3984	4417	3463	3058	3436	3401	3471
N ₃	2123	3494	3718	4197	3332	3206	3345	3396	3294
N ₄	2154	3419	3754	4270	3255	3116	3328	3426	3230
Mean	2045	3483	3728	4168	3204	3064	3282	3303	3261
K ₀	2064	3487	3704	4276	3169	3118			
K ₁	2026	3479	3752	4060	3239	3010			

S.E. of difference of two

- V marginal means = 116.6 lb./ac.
- N marginal means = 55.8 lb./ac.
- K marginal means = 35.3 lb./ac.
- N means at the same level of V = 147.8 lb./ac.
- V means at the same level of N = 177.7 lb./ac.
- K means at the same level of V = 93.5 lb./ac.
- V means at the same level of K = 134.5 lb./ac.
- S.E. of body of N×K table = 55.8 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 59(29).

Site :- Rice Res. Stn., Tirur.

Type :- 'MV'.

Object :- To study the effect of N and K on different varieties of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (ii) (a) Light clayey soil. (b) Refer soil analysis, Tirur. (iii) 15.7.1959/26, 28.8.1959. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) 2½ to 3 lb./ac. (d) 10"×5". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weedings and intercultivation one month after planting. (ix) 39.40". (x) 2, 30.12.1959 and 18.1.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(38) on page 127.

5. RESULTS :

(i) 1442 lb./ac. (ii) (a) 642.2 lb./ac. (b) 294.8 lb./ac. (c) 330.9 lb./ac. (iii) Main effect of V is highly significant and effect of N is significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	V ₃	V ₄	V ₅	V ₆	Mean	K ₀	K ₁
N ₀	1945	1121	1790	1983	1506	1267	1602	1572	1632
N	1813	1065	1786	1862	1428	1220	1529	1522	1536
N ₂	1750	702	1719	1740	1400	1055	1396	1376	1416
N ₃	1547	915	1701	1708	1188	1101	1360	1375	1345
N ₄	1510	682	1709	1627	1243	1167	1323	1325	1321
Mean	1713	897	1741	1784	1353	1164	1442	1434	1450
K ₀	1725	891	1711	1816	1351	1110			
K ₁	1701	903	1772	1752	1355	1218			

S.E. of difference of two

- V marginal means = 143.6 lb./ac.
- N marginal means = 60.2 lb./ac.
- K marginal means = 38.1 lb./ac.
- N means at the same level of V = 162.6 lb./ac.
- V means at the same level of N = 206.2 lb./ac.
- K means at the same level of V = 102.8 lb./ac.
- V means at the same level of K = 161.5 lb./ac.
- S.E. of body of N×K table = 60.2 lb./ac.

Crop :- Paddy.**Ref :- M. 54(TCM).****Site :- M.A.E. Farm, Aduthurai.****Type :- 'MV'.**

Object :—Type VIII—To study the response of different varieties of Paddy to N and P.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 3000 lb./ac. of G.L. (ii) (a) Clayey loam. (b) N.A. (iii) 19.6.1954
15.7.1954. (iv) (a) 4 ploughings. (b) Transplanting. (c) 50 lb./ac. (d) 4"×4". (e) 2. (v) 3000 lb./ac.
of G.L. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 27.00%. (x) 30.9.1954.

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 Triple Super : $P_0=0$, $P_1=20$ and $P_2=40$ lb./ac.(3) 3 varieties : $V_1=Adt. 3$, $V_2=Adt. 4$ and $V_3=Adt. 20$.**3. DESIGN :**

(i) 3^3 confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 1. (iv) (a) 36'×18'. (b) 34'×16'.
(v) 2'×2'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield and other biometric observations. (iv) (a) 1954—contd. (b) No.
(c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 357.0 lb./ac. (ii) 121.0 lb./ac. (iii) Main effect of N, P and V and interactions $N \times V$ and $P \times V$ are
significant. Interaction $N \times P$ is not significant. (iv) Av. yield \bar{c} grain in lb./ac.

	N_0	N_1	N_2	Mean	V_1	V_2	V_3
P_0	3550	3456	3376	3461	3443	3430	3510
P_1	3683	3597	3517	3599	3683	3443	3671
P_2	3797	3490	3663	3650	3350	3670	3930
Mean	3677	3514	3519	3570	3492	3514	3703
V_1	3496	3563	3417				
V_2	3570	3496	3477				
V_3	3964	3483	3663				

S.E. of any marginal mean

= 40.3 lb./ac.

S.E. of body of any table

= 70.0 lb./ac.

Crop :- Paddy.**Ref :- M. 55(TCM).****Site :- M.A.E. Farm, Aduthurai.****Type :- 'MV'.**

Object :—Type VIII—To study the response of different varieties of Paddy to N and P.

1. BASAL CONDITIONS :

(i) Paddy—Paddy. (b) Paddy. (c) 3000 lb./ac. of G.L. (ii) (a) Clayey loam. (b) N.A. (iii) 22.6.1955/
20.7.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) 50 lb./ac. (d) 4"×4". (e) 2. (v) 5000 lb./ac. of
G.L. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 19.68%. (x) 28.9.1955 and
3.10.1955. |

2. TREATMENTS :

Same as in expt. no. 54(TCM) Type VIII above.

3. DESIGN :

(i) 3^3 confd. (ii) (a) 9 plots/blocks ; 3 blocks/replication. (b) N.A. (iii) 1. (iv) (a) 29'×15'. (b) 27'×13'.
(v) 2'×2'. (vi) Yes.

4. GENERAL :

Same as in expt. no. 54(TCM) on page 129.

5. RESULTS :

(i) 2853 lb./ac. (ii) 150.6 lb./ac. (iii) Main effects of N, P and V are significant and others are not significant. (iv) Av. yield of grain in lb./ac.

	N ₀	N ₁	N ₂	Mean	V ₁	V ₂	V ₃
P ₀	2422	2753	2885	2687	2631	2634	2795
P ₁	2789	2882	3038	2903	2929	2701	3079
P ₂	2836	2909	3160	2968	2846	2929	3128
Mean	2682	2848	3028	2853	2802	2755	3001
V ₁	2645	2746	3017				
V ₂	2634	2753	2878				
V ₃	2769	3046	3188				

S.E. of any marginal mean = 50.2 lb./ac.
S.E. of body of any table = 86.9 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 56(37).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'C'.

Object :—To compare the wave shaped method of rice cultivation with the Japanese and farm methods.

1. BASAL CONDITIONS :

(i) (a) Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 10.8.1956/29.9.1956. (iv) (a) 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) As per treatments. (e) N.A. (v) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (vi) Adt. 1 (late). (vii) Irrigated. (viii) 2 weedings, 4 intercultivations and earthing up. (ix) 29.24". (x) 28.1.1957.

2. TREATMENTS :

6 methods of planting : M₁=Farm method ; M₂=Local method ; M₃=Wave-shape method of planting with 1'6"×4" spacing, M₄=Wave-shape method of planting with 2"—6"×2½ spacing, M₅=Wave-shape method of planting with 10"×5" spacing, and M₆=Japanese method of planting with 10"×5" spacing,

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 8. (iv) (a) 40'×7½'. (b) 39'6"×7', 39'8"×6', 39'9½"×5' and 39'7"×6'8" for treatments M₁, M₂, M₃, M₄, M₅ and M₆ respectively. (v) One row left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) Coimbatore and Ambasamudram. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3810 lb./ac. (ii) 279.4 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	M ₆
Av. yield	3694	3659	3954	3667	3668	3917

S.E./mean = 98.8 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 57(30).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'C'.

Object :—To compare the wave-shape method of rice cultivation with the Japanese and farm method.

1. BASAL CONDITIONS :

(i) (a) Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 10.8.1957/21.9.1957. (iv) (a) 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) As per treatments. (e) —. (v) G.L. at 5000 lb./ac. + 150 lb./ac. of Super as basal dressing + 150 lb./ac. of A/S as top-dressing one month after planting. (vi) Adt. I (late). (vii) Irrigated. (viii) 2 weedings. (ix) 28.78". (x) 2.2.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(37) on page 130.

5. RESULTS :

(i) 1781 lb./ac. (ii) 261.9 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	M ₆
Av. yield	1836	1714	1867	2067	1646	1558

S.E./mean = 92.6 lb./ac.

Crop :- Paddy (*Kuruwai*).

Ref :- M. 58(89).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'C'.

Object :—To compare the wave shaped method of rice cultivation with the Japanese and farm methods.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (c) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S + 150 lb./ac. of Super. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 14.7.1958/11.8.1958. (iv) (a) 3 to 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) As per treatments. (e) N.A. (v) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S + 150 lb./ac. of Super. (vi) Adt. 3. (early). (vii) Irrigated. (viii) One weeding. (ix) 20.25". (x) 23.10.1958.

2. TREATMENTS to 4. GENERAL.

Same as in expt. no. 56(37) on page 130.

5. RESULTS :

(i) 1618 lb./ac. (ii) 149.1 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	M ₅	M ₆
Av. yield	1524	1539	1853	1308	1759	1725

S.E./mean = 52.71 lb./ac.

Crop :- Paddy (*Samba*).

Ref :- M. 58(90).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'C'.

Object :—To compare the wave-shape method of rice cultivation with the Japanese and farm methods.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S + 150 lb./ac. of Super. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 26.7.1958/6.9.1958. (iv) (a) 3 to 4 ploughings. (b) As per treatments. (c) 25 lb./ac. (d) As per treatments. (e) N.A. (v) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S + 150 lb./ac. of Super. (vi) CO—25. (vii) Irrigated. (viii) 2 weedings. (ix) 26.57". (x) 5.2.1959.

2. TREATMENTS to 4. GENERAL

Same as in expt. no. 56(37) on page 130.

5. RESULTS :

(i) 3539 lb./ac. (ii) 206.3 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	M ₆
Av. yield	3660	3660	3512	3356	3539	3508

S.E./mean = 73.0 lb./ac.

Crop :- Paddy (Kar).

Ref :- M. 56(66).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'C'.

Object :—To find the effect of different methods of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clay loam. (b) Refer soil analysis, Ambasamudram. (iii) 25.6.1956/28.7.1956. (iv) (a) 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) As per treatments. (e) N.A. (v) As under (i, c) above. (vi) ASD.1 (vii) Irrigated. (viii) One weeding. (ix) 2.28". (x) 25.10.1956.

2. TREATMENTS :

6 methods of planting : M₁=Farm method of planting with 4"×4" spacing, M₂=Local method of planting (bulk planting), M₃=Wave-shape method of planting with 1½"×4" spacing, M₄=Wave-shape method of planting with 2½"×2½" spacing, M₅=Wave-shape method of planting with 10"×5" spacing and M₆=Japanese method of planting 10"×5" spacing.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) 30'×45'. (iii) 8. (iv) (a) 30'×7½'. (b) Varies as per treatments. (v) One row left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 4474 lb./ac. (ii) 192.3 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
Av. yield	4865	4485	4441	3749	4843	4463

S.E./mean = 68.0 lb./ac.

Crop :- Paddy (Kar).

Ref :- M. 57(60).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'C'.

Object :—To find out the effect of different methods of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S. 150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 23.6.1957/22.7.1957. (iv) (a) 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) As per treatments. (e) N.A. (v) As under (i) (c) above. (vi) ASD. 1. (vii) Irrigated. (viii) Weeding once. (ix) 2.00". (x) 13.10.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(66) above.

5. RESULTS :

(i) 4212 lb./ac. (ii) 282.5 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
Av. yield	4618	4443	4106	3392	4463	4248

S.E./mean = 99.9 lb./ac.

Crop :- Paddy (Kar).

Ref :- M. 58(10).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'C'.

Object :- To find out the effect of different methods of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 19.6.1958/22.7.1958. (vi) (a) 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) As per treatments. (e) —. (v) As under (i) (c) above. (vi) ASD. 1. (vii) Irrigated. (viii) Weedings once. (ix) 4.02". (x) 14.10.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(66) on page 132.

5. RESULTS :

(i) 3715 lb./ac. (ii) 186.1 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	M ₅	M ₆
Av. yield	4124	3749	3715	3196	3945	3560

S.E./mean = 65.8 lb./ac.

Crop :- Paddy (Pishanam).

Ref :- M. 58(9).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'C'.

Object :- To find the effect of different methods of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 16.9.1958/1.11.1958. (iv) (a) 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) As per treatments. (e) N.A. (v) As under (i) (c) above. (vi) CO—19. (vii) Irrigated. (viii) 2 weedings. (ix) 18.33". (x) 3.3.1959.

2. TREATMENTS :

6 methods of planting : M₁=Farm method of planting with 6"×6" spacing, M₂=Local method of planting (Bulk), M₃=Wave-shape method of planting with 1½'×4" spacing, M₄=Wave-shape method of planting with 2½'×2½" spacing, M₅=Wave shaped method of planting with 10"×6" spacing and M₆=Japanese method of planting with 10"×6" spacing.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) 30'×45'. (iii) 8. (iv) (a) 30'×7½'. (b) Varying as per treatments. (v) One row left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 5520 lb./ac. (ii) 505.2 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	M ₆
Av. yield	5342	5323	5384	5930	5428	5713
S.E./mean = 178.6 lb./ac.						

Crop :- Paddy (*Samba*).

Ref :- M. 56(55).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'C'.

Object :—To compare the wave-shape method of Paddy cultivation with the modified Japanese and local methods.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) N.A. (iii) 1.9.1956/15.10.1956. (iv) (a) 3 to 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) As per treatments. (e) N.A. (v) As under (i) (c) above. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 15.05". (x) 3.3.1957.

2. TREATMENTS :

6 methods of planting : M₁=Modified Japanese method (farm method) with 10"×5" spacing, M₂=Local method (bulk planting) with 10"×5" spacing, M₃=Wave-shape method of planting with 18"×4" spacing, M₄=Wave-shape method of planting with 30"×2½" spacing, M₅=Wave-shape method of planting with 10"×5" spacing and M₆=Japanese method of planting with 10"×5" spacing.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 8. (iv) (a) Nil. (b) 8'×25½'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—contd. (b) Yes. (c) Nil. (v) (a) Pattukkottai, Ambasamudram and Palur. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2988 lb./ac. (ii) 236.7 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
Av. yield	3258	2999	2961	2706	3114	2889
S.E./mean = 83.7 lb./ac.						

Crop :- Paddy (*Samba*)

Ref :- M. 57 (45).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'C'

Object :—To compare the wave-shape method of Paddy cultivation with farm method and local method.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) N.A. (iii) 5.8.1957/29.9.1957. (iv) (a) 3 to 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) As per treatments. (e) N.A. (v) As under (i) (c) above. (vi) CO—25 (late) (vii) Irrigated. (viii) 2 weedings. (ix) 18.75". (x) 10.2.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(55) above.

5. RESULTS :

(i) 6230 lb./ac. (ii) 329.9 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
Av. yield	6626	6696	5937	5211	6544	6366
S.E./mean = 116.6 lb./ac.						

Crop :- Paddy.

Site :- Paddy Breeding Stn., Coimbatore.

Ref :- M. 58(5).

Type :- 'C'.

Object :- To find the effect of different methods of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clay loam. (b) N.A. (iii) 20.8.1958/21 and 22.10.1958. (iv) (a) 4 ploughings (b) to (d) As per treatments. (e) N.A. (v) As under (i) (c) above. (vi) CO—25 (medium). (vii) Irrigated. (viii) N.A. (ix) N.A. (x) 21.2.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(55) on page 134.

4. GENERAL

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 3740 lb./ac. (ii) 201.3 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
Av. yield	3910	3636	3827	3509	3779	3780

S.E./mean = 71.2 lb./ac.

Crop :- Paddy.

Site :- Paddy Breeding Stn., Coimbatore.

Ref :- M. 54(94).

Type :- 'C'.

Object :- To find the optimum spacings and number of seedlings per hole.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey. (b) N.A. (iii) 18.8.1954/11, 12.10.1954. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) As under (i) (c) above. (vi) CO—25 (late). (vii) Irrigated. (viii) Nil. (ix) 11.87". (x) 26, 27.2.1955.

2. TREATMENTS :

Main-plot treatments :

2 seed rates : R₁=2 and R₂=4 seedlings/hole.

Sub-plot treatments :

6 spacings : S₁=6"×6", S₂=3"×12", S₃=4"×9", S₄=18"×4", S₅=12"×6" and S₆=9"×8".

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 12'×24'. (b) 11½'×23½'. (v) One row left. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Tiller count and height measurements. (iv) (a) 1952—contd. (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 4065 lb./ac. (ii) (a) 2496 lb./ac. (b) 321 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
R ₁	4121	4121	3705	4197	4387	4046	4096
R ₂	4387	4159	4311	3592	3932	3819	4033
Mean	4254	4140	4008	3895	4159	3393	4065

S.E. of difference of two

1. R marginal means = 720.5 lb./ac.
2. S marginal means = 160.5 lb./ac.
3. S means at the same level of R = 226.9 lb./ac.
4. R means at the same level of S = 749.7 lb./ac.

Crop :- Paddy.

Ref :- M. 54(59).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'C'.

Object :—To test whether ridging has got any beneficial effect on the yield of Paddy crop.

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. (ii) (a) Clay loam. (b) N.A. (iii) 11.9.1954; 30.10.1954. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) As per treatments. (e) 2. (v) As under (i) (c) above. (vi) CO-25 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 15.43". (x) 15.3.1955.

2. TREATMENTS

All combinations of (1) and (2)

(1) R₀=No ridging and R₁=Ridging.

(2) 3 spacings : S₁=6"×6", S₂=9"×4" and S₃=12"×4".

Ridging was done 30 days after planting and rectified 3 times at an interval of 15 days.

3. DESIGN :

(i) R.B.D. Fact. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) and (b) 9'×20'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Yield of grain. (iv) (a) 1954—1956. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) The details are received from the Res. Stn.

5. RESULTS :

(i) 3692 lb./ac. (ii) 298.4 lb./ac. (iii) Main effects and interaction are not significant. (iv) Av. yield of grain in lb./ac.

	S ₁	S ₂	S ₃	Mean
R ₀	5754	3660	3604	3673
R ₁	3727	3751	3654	3711
Mean	3741	3706	3629	3692

- S.E. of S marginal mean = 86.14 lb./ac.
 S.E. of R marginal mean = 70.33 lb./ac.
 S.E. of body of table = 121.82 lb./ac.

Crop :- Paddy.**Ref :- M. 55(59).****Site :- Paddy Breeding Stn., Coimbatore.****Type :- 'C'.**

Object :—To test whether ridging has got any beneficial effect on the yield of Paddy crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. Super. (ii) (a) Clay loam. (b) N.A. (iii) 18.8.1955./28.10.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) As per treatments. (e) 2. (v) As under (i) (c) above. (vi) CO—25 (medium). (vii) Irrigated. (viii) Weeding twice. (ix) N.A. (x) 6.3.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(59) on page 136.

5. RESULTS :

(i) 2775 lb./ac. (ii) 254.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	S ₁	S ₂	S ₃	Mean
R ₀	2636	2746	2943	2775
R ₁	2724	2749	2850	2774
Mean	2680	2748	2897	2775

S.E. of S marginal mean = 73.4 lb./ac.
 S.E. of R marginal mean = 59.9 lb./ac.
 S.E. of body of table = 103.8 lb./ac.

Crop :- Paddy.**Ref :- M. 56(58).****Site :- Paddy Breeding Stn., Coimbatore.****Type :- 'C'.**

Object :—To test whether ridging has got any beneficial effect on the 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. (ii) (a) Clay loam. (b) N.A. (iii) 25.8.1956/19.9.1956. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) As per treatments. (e) 2. (v) As under (i) (c) above. (vi) CO—25 (medium). (vii) Irrigated. (viii) Weeding twice. (ix) N.A. (x) 17.2.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(59) on page 136.

5. RESULTS :

(i) 3369 lb./ac. (ii) 369 lb./ac. (iii) Effect of R is significant. Others are not significant. (iv) Av. yield of grain in lb./ac.

	S ₁	S ₂	S ₃	Mean
R ₀	3537	3489	3565	3530
R ₁	3001	3370	3254	3208
Mean	3269	3429	3410	3369

S.E. of S marginal mean = 106.5 lb./ac.
 S.E. of R marginal mean = 87.0 lb./ac.
 S.E. of body of table = 150.6 lb./ac.

Crop :- Paddy (Kharif).**Ref :- M. 55(3).****Site :- Agri. Res. Stn., Nagercoil.****Type :- 'C'.**

Object :—To compare transplanting with direct method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 2000 lb./ac. of G.L. (ii) (a) Heavy clay—alkaline in reaction. (b) N.A. (iii) 30.8.1955/20.10.1955. (iv) (a) 6 ploughings. (b) and (c) As per treatments. (d) 10' apart. e. 1. (v) 1200 lb./ac. of G.L. (vi) *Valsiramurdan* (late). (vii) Irrigated. (viii) 2 weedings and 2 intercultures. (ix) 26.75". (x) $T_1=2.2.1956$ and $T_2=17.2.1956$.

2. TREATMENTS :

2 cultural treatments : T_1 =Dibbling in lines—1080 sprouted seeds/plot. T_2 =Transplanting—1080 seedling/plot.

3. DESIGN :

(i) L. Sq. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) $10\frac{1}{2}' \times 102'$. (b) $8\frac{1}{2}' \times 100'$. (v) $1' \times 1'$. (vi) Yes.

4. GENERAL :

(i) Standard good ; lodged after setting grains. (ii) Nil. (iii) Grain and straw yield. (iv) (a) N.A. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 3444 lb./ac. (ii) 374.1 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	T_1	T_2
Av. yield	3121	3767

S.E./mean = 108 lb./ac.

Crop :- Paddy.**Ref :- M. 55(16).****Site :- Sugarcane Res. Stn., Gudiyathiam.****Type :- 'C'.**

Object :—To find out the merits of ridging and the optimum spacing required for ridging.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sugarcane. (c) Sannhemp at 2500 lb./ac. and A/S at 378 lb./ac. (ii) (a) Sandy loam. (b) N.A. (iii) 5.8.1955. (iv) (a) 2 ploughings. (b) Drilling. (c) 30 lb./ac. (d) As per treatments (e) 2. (v) 10 C.L. of F.Y.M. broadcast and ploughed a week before planting. (vi) Adt. 22 (medium). (vii) Irrigated. (viii) Hand hoeing and weeding. (ix) 21.45". (x) 11.1.1956.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 methods of planting : R_0 =No ridging and R_1 =Ridging.

(2) 3 spacings : $S_1=6'' \times 6''$, $S_2=9'' \times 4''$ and $S_3=12'' \times 4''$.

Seeds drilled and thinned out to the required spacing one month after sowing.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) and (b) $20' \times 15'$. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1066 lb./ac. (ii) 130.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb. ac.

	S_1	S_2	S_3	Mean
R_0	1064	1083	948	1032
R_1	1119	1101	1082	1101
Mean	1092	1092	1015	1066

S.E. of S marginal mean	= 37.7 lb./ac.
S.E. of R marginal mean	= 30.8 lb./ac.
S.E. of body of table	= 53.3 lb./ac.

Crop :- Paddy (Sornavari).

Ref :- M. 56(49).

Site :- Agri. Res. Stn., Palur.

Type :- 'C'.

Object :—To compare the wave-shape method with the modified Japanese and local methods of Paddy cultivation.

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. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 12.7.1956/5.8.1956. (iv) (a) 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) and (e) As per treatments. (v) As under (i) (c) above. (vi) TKM-6 (early). (vii) Irrigated. (viii) As per treatments. (ix) 25.65". (x) 26.10.1956.

2. TREATMENTS :

6 methods of planting : M_1 =Farm method of planting with 4"×4" spacing, M_2 =Local method of planting in 6"×6" spacing, M_3 =Wave-shape method of planting in 18"×4" spacing, M_4 =Wave-shape method of planting in 30"×2½" spacing, M_5 =Wave-shape method of planting in 10"×5" spacing and M_6 =Japanese method of planting in 10"×5" spacing.

Interculture operations : M_1 and M_2 : One weeding on 30 th day of planting, for M_3 to M_5 : 4 intercultivations by rotary weeder on 5th, 10th, 15th, and 30th days and 2 ridgings on 15th and 30th day after planting. and for M_6 : 2 intercultivations on 15th and 30th day after planting. No. of seedlings/hole is 6 for M_2 and 4 for other treatments.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 8. (iv) (a) 28'×8'. (b) 27½'×7½'. (v) One row left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height, tiller count and grain yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 3478 lb./ac. (ii) 155.9 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
Av. yield	3643	3181	3629	2992	3550	3875

S.E./mean = 55.1 lb./ac.

Crop :- Paddy (Samba).

Ref :- M.56(50).

Site :- Agri. Res. Stn., Palur.

Type :- 'C'.

Object :—To compare the wave-shape method with the modified Japanese and local methods of Paddy cultivation.

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. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 11.9.1956/23.10.1956. (iv) (a) 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) and (e) As per treatments. (v) As under (i) (c) above. (vi) CO-25 (late). (vii) Irrigated. (viii) As per treatments. (ix) 35.57". (x) 27.2.1957.

2. TREATMENTS :

6 methods of planting : M_1 =Farm method of planting at 6"×6" spacing, M_2 =Local method of planting bulk at 6"×6" spacing, M_3 =Wave-shape method of planting in lines of 18"×4" spacing, M_4 =Wave-shape method of planting in lines of 30"×2½" spacing, M_5 =Wave-shape method of planting in lines of 10"×5" spacing and M_6 =Japanese method of planting in lines of 10"×5" spacing.

Intercultural Operations for M_1 and M_2 : Weeding once on the 30th day, for M_3 , M_4 and M_5 : Intercultivations on 5th, 10th, 15th, 30th and 45 th day and ridging on the 15 th, 30th and 45th day after planting. and for M_6 : 2 intercultural operations on 15th and 30th day after planting. No. of seedlings/ho'e is 6 for M_2 and 4 for other treatments.

3. DESIGN :

Same as in expt. no. 56(49) on page 139.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height, tiller count and grain yield. (iv) (a) 1956—1958. (b) No. 'c' Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 4548 lb./ac. (ii) and (iii) N.A. (iv) Av. yield of grain in lb./ac.

Treatment	M_1	M_2	M_3	M_4	M_5	M_6
Av. yield	4823	4463	4721	4083	4558	4638

Crop :- Paddy (Sornavari).

Ref :- M. 57(106).

Site :- Agri. Res. Stn., Palur.

Type :- 'C'.

Object :—To find the effect of different methods of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 1.6.1957/3.7.1957. (iv) (a) 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) and (e) As per treatments. (v) As under (i) (c) above. (vi) TKM—6. (vii) Irrigated. (viii) 2 weedings. (ix) 15.50". (x) 22.9.1957.

2. TREATMENTS:

6 methods of planting : M_1 =Farm method of planting with 4"×4" spacing, M_2 =Local methods of planting with 6"×4" spacing, M_3 =Wave-shape method of planting with 18"×4" spacing. M_4 =Wave-shape method of planting with 30"×2" spacing, M_5 =Wave-shape method of planting with 10"×5" spacing and M_6 =Japanese method of planting with 10"×5" spacing.

3. DESIGN:

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 8. (iv) (a) 30'×6'. (b) 29 $\frac{3}{8}$ '×5 $\frac{3}{8}$ ', 29 $\frac{3}{8}$ '×5 $\frac{1}{2}$ ', 29 $\frac{3}{8}$ '×4 $\frac{1}{2}$ ', 29'10"×3 $\frac{1}{2}$ ', 29'7"×5'2" and 29'7"×5 $\frac{1}{2}$ ' for treatments M_1 to M_6 respectively. (v) One row left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3554 lb./ac. (ii) 200.6 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	M_6
Av. yield	3509	3845	3222	3486	3634	3630

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

Crop :- Paddy (Sornavari).

Ref :- M. 58(123).

Site :- Site :- Agri. Res. Stn., Palur.

Type :- 'C'.

Object :—To find the effect of different methods of Paddy cultivation.

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. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 28.5.1958/26.6.1958. (iv) (a) 4 ploughings. (b) As per treatments, (c) 30 lb./ac. (d) and (e) As per treatments. (v) As under (i) (c) above. (vi) TKM. 6 (short). (vii) Irrigated. (viii) 2 weedings. (ix) 16.5". (x) 19.9.1958.

2. TREATMENTS :

6 methods of planting : M_1 =Farm method of planting with 10"×4" spacing, M_2 =Local method of planting with 6"×6" spacing, M_3 =Wave-shape method of planting with 18"×4" spacing, M_4 =Wave-shape method of planting with 30"×2½", M_5 =Wave-shape method of planting with 10"×5" spacing and M_6 =Japanese method of planting with 10"×5" spacing.

No. of seedlings/hole is 2 for treatment M_1 , 6 for M_2 and 4 for others.

3. DESIGN :

(i) R.B.D. (ii) 6. (b) N.A. (iii) 8. (iv) (a) 30'×7½'. (b) 29½'×6'8", 29½'×7', 29½'×6', 29'9½'×5', 29'7"×6'8" and 29'7"×6'8" for M_1 to M_6 respectively. (v) One row left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) (a) Coimbatore, Tirur, Aduthurai, Ambasamudram and Pattukkottai. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2419 lb./ac. (ii) 201.3 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
Av. yield	2821	2494	2128	1817	2639	2617

S E./mean = 71.2 lb./ac.

Crop :- Paddy (Thaladi).

Ref :- M. 58(124).

Site :- Agri. Res. Stn., Palur.

Type :- 'C'.

Object :—To find the effect of different methods of Paddy cultivation.

1. BASAL CONDITIONS :

(a) (i) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clay loam. (b) Refer soil analysis, Palur. (iii) 16.8.1958/13, 14.9.1958. (iv) (a) 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) and (e) As per treatments. (v) As under (i) (c) above. (vi) CO—2 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 32.8". (x) 20.1.1959.

2. TREATMENTS :

6 methods of planting : M_1 =Farm method of planting with 6"×6" spacing, M_2 =Ryot's method of planting with 6"×6" spacing, M_3 =Wave-shape method of planting with 18"×4" spacing, M_4 =Wave-shape method of planting with 30"×2½" spacing, M_5 =Wave-shape method of planting with 10"×5" spacing and M_6 =Japanese method of planting with 10"×5" spacing.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 8. (iv) (a) 30'×7½'. (b) 29½'×7', 29½'×6', 29'9½'×5', 29'7"×6'8" and 29'7"×6'8" for M_1 to M_6 respectively. (v) One row left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1924 lb./ac. (ii) 287.9 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
Av. yield	1956	1696	1958	1671	2192	2062

S.E./mean = 101.8 lb./ac.

Crop :- Paddy (*Samba*).

Ref :- M. 58(125).

Site :- Agri. Res. Stn., Palur.

Type :- 'C'.

Object :—To find the effect of different methods of Paddy cultivation.

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. (ii) (a) Clay loam. (b) Refer soil analysis, Palur. (iii) 2.9.1958/31.10.1958. (iv) (a) 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) and (e) As per treatments. (v) As under (i) (c) above. (vi) CO—25. (vii) Irrigated. (viii) 2 weedings. (ix) 32.50". (x) 8.3.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(124) on page 141.

5. RESULTS :

(i) 2044 lb./ac. (ii) 459.3 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
Av. yield	2316	2328	1942	1261	2149	2267

S.E./mean = 162.4 lb./ac.

Crop :- Paddy (*Navarai*).

Ref :- M. 59(94).

Site :- Agri. Res. Stn., Palur.

Type :- 'C'.

Object :—To find the effect of different methods of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 10.1.1959/31.1.1959. (iv) (a) 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) and (e) As per treatments. (v) As under (i) (c) above. (vi) CO—2 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 7.8". (x) 29.4.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(124) on page 141.

5. RESULTS :

(i) 2360 lb./ac. (ii) 249.1 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	M ₅	M ₆
Av. yield	2766	2523	2342	1338	2481	2708

S.E./mean = 88.1 lb./ac.

Crop :- Paddy.

Ref :- M. 57(20).

Site :- Agri. Res. Stn., Pattukkottai.

Type :- 'C'.

Object :—To test the efficacy of the wave method of Paddy cultivation.

1. BASAL CONDITIONS :

- (i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) G.L. at 5000 lb./ac. + Super at 100 lb./ac. + A/S at 100 lb./ac.
 (ii) (a) Sandy loam. (b) N.A. (iii) 27.6.1957/20, 21.7.1957. (iv) (a) 4 to 6 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) As per treatments. (e) 2 seedlings/hole. (v) As under (i) (c) above. (vi) Adt. 20 (early). (vii) Irrigated. (viii) As per treatments. (ix) 5.01" (x) 13.10.1957.

2. TREATMENTS :

6 Methods of planting : M_1 = Modified Japanese (farm) method, M_2 = Local ryot's method, M_3 = Wave method with 18" × 4" spacing, M_4 = Wave method with 30" × 2½" spacing, M_5 = Wave method with 10" × 5" spacing and M_6 = Japanese method with 10" × 5" spacing.

Plots with wave method received two surface scrapings, one ridging after working with intercultivator. Plots with Japanese method received two interculture operations with the intercultivator.

3. DESIGN :

- (i) R.B.D. (ii) (a) 6. (b) 36' × 45'. (iii) 4. (iv) (a) and (b) 36' × 7'6". (v) Nil. (vi) Yes.

4. GENERAL :

- (i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2348 lb./ac. (ii) 240 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
Av. yield	2485	2243	2439	1888	2509	2519

S.E./mean = 120 lb./ac.

Crop :- Paddy (Kuruvai).

Ref :- M. 58(75).

Site :- Agri. Res. Stn., Pattukkottai.

Type :- 'C'.

Object :- To find the effect of different methods of Paddy cultivation.

1. BASAL CONDITIONS :

- (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of Super + 150 lb./ac. of A/S. (ii) (a) Sandy loam. (b) N.A. (iii) 24.6.1958/21, 22.7.1958. (iv) (a) 3 to 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) As per treatments. (e) 2. (v) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S + 150 lb./ac. of Super. (vi) Adt. 20. (vii) Irrigated. (viii) 1 weeding. (ix) N.A. (x) 3.10.1958.

2. TREATMENTS :

Same as in expt. no. 57(20) on page 142.

3. DESIGN :

- (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 8. (iv) (a) and (b) 15' × 15'. (v) Nil. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

- (i) 3382 lb./ac. (ii) 353.5 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
Av. yield	3613	3193	3459	3119	3321	3584

S.E./mean = 125 lb./ac.

Crop :- Paddy (Thaladi).

Ref :- M. 58(76).

Site :- Agri. Res. Stn., Pattukkottai.

Type :- 'C'.

Object :- To find the effect of different methods of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Sandy loam. (b) N.A. (iii) 9.9.1958/16.10.1958. (iv) (a) 3 to 4 ploughings. (b) As per treatments. (c) 25 lb./ac. (d) As per treatments. (e) 2. (v) As under (i) (c) above. (vi) CO—25. (vii) Irrigated. (viii) 1 Weeding. (ix) N.A. (x) 15.2.1959.

2. TREATMENTS :

6 methods of planting : M_1 =Farm method with 6"×6" spacing, M_2 =Local method with 6"×6" spacing, M_3 =Wave method with 18"×4" spacing, M_4 =Wave method with 30"×2½" spacing, M_5 =Wave method with 10"×5" spacing and M_6 =Japanese method with 10"×5" spacing.

3. DESIGN:

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 8. (iv) (a) and (b) 15'×12'. (v) Nil. (vi) Yes.

4. GENERAL :

Same as in expt. no. 58(75) on page 143.

5. RESULTS :

(i) 3240 lb./ac. (ii) 389.8 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
Av. yield	3399	3501	3131	2798	3301	3312

S.E./mean = 137.8 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 56(3).

Site :- Rice Res. Stn., Tirur.

Type :- 'C'.

Object :—To find out the merits of ridging and the optimum spacing required for ridging.

1. BASAL CONDITIONS :

(i) (a) No. (b) Sugarcane. (c) 500 lb./ac. of G.L.+A/S at 378 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 10.9.1956. (iv) (a) 2 ploughings. (b) Drilling. (c) 30 lb./ac. (d) As per treatments. (e) 1. (v) F.Y.M. at 10 C.L./ac. broadcast and ploughed a week before sowing. (vi) Adt. 22 (medium). (vii) Irrigated. (viii) Hand hoeing and weeding. (ix) N.A. (x) 11.2.1957.

2. TREATMENTS and 3. DESIGN:

Same as in expt. no. 55(16) on page 138.

4. GENERAL :

(i) Normal ; no lodging. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1442 lb./ac. (ii) 204.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	S_1	S_2	S_3	Mean
R_0	1390	1348	1280	1339
R_1	1546	1570	1518	1545
Mean	1468	1459	1399	1442

S.E. of R marginal mean = 48.3 lb./ac.

S.E. of S marginal mean = 59.1 lb./ac.

S.E. of body of table = 83.6 lb./ac.

Crop :- Paddy.**Ref :- M. 57(14).****Site :- Rice Res. Stn., Tirur.****Type :- 'C'.**

Object :—To find out the merits of ridging and the optimum spacing required for ridging.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Sugarcane. (c) 200 lb./ac. of N as castorcake and A/S in 2 : 1 ratio + 10 tons/ac. of F.Y.M.
 (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 18.8.1957. (iv) (a) 5 ploughings. (b) Drilling.
 (c) 30 lb./ac. (d) As per treatments. (e) 1. (v) F.Y.M. at 10 C.L./ac. (vi) Adt. 22 (medium). (vii) Irrigated.
 (viii) Hand hoeing and weeding. (ix) 17.99". (x) 30.1.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(16) on page 138.

4. GENERAL :

- (i) Yield is poor due to unfavourable seasonal conditions. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—contd.
 (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 662 lb./ac. (ii) 187.4 lb./ac. (iii) S effect is highly significant. No other effect is significant. (iv) Av. yield of grain in lb./ac.

	S ₁	S ₂	S ₃	Mean
R ₀	594	605	481	560
R ₁	733	780	778	764
Mean	663	693	630	662

S.E. of R marginal mean = 44.2 lb./ac.
 S.E. of S marginal mean = 54.1 lb./ac.
 S.E. of body of table = 76.5 lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 58(33).****Site :- Rice Res. Stn., Tirur.****Type :- 'C'.**

Object :—To find out the effect of ridging and the optimum spacing required for ridging.

1. BASAL CONDITIONS :

- (i) (a) Sugarcane—Paddy. (b) Sugarcane. (c) N.A. (ii) (a) Light clayey. (b) Refer soil analysis, Tirur. (iii) 25.9.1958. (iv) (a) 4 ploughings. (b) Drilling. (c) 25 to 30 lb./ac. (d) As per treatments. (e) N.A. (v) 10 C.L./ac. of F.Y.M. (vi) Adt. 22. (vii) Irrigated. (viii) 1 weeding and intercultivation one month after planting. (ix) 30.75". (x) 23.2.1959.

2. TREATMENTS :

Same as in expt. no. 55(16) on page 138.

3. DESIGN

- (i) Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 20' × 15'. (v) and (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) and (iii) Nil. (iv) (a) to (c) N.A. (v) to (vii) Nil.

5. RESULTS :

- (i) 398 lb./ac. (ii) 88.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

1. BASAL CONDITIONS :

(i) (a) Paddy—Cotton. (b) Cotton. (c) N.A. (ii) (a) Light clayey. (b) Refer soil analysis, Tirur. (iii) 10.12.1958/20.1.1959. (iv) (a) 3 to 4 ploughings. (b) As per treatments. (c) 35 to 40 lb./ac. (d) and (e) As per treatments. (v) G.L. at 5000 lb./ac.+Super at 30 lb./ac. of P_2O_5 +A/S at 150 lb./ac. (vi) TKM. 6. (vii) Irrigated. (viii) Weeding and intercultivation one month after planting. (ix) 0.81". (x) 11.4.1959.

2. TREATMENTS :

6 methods of planting : M_1 =Modified Japanese (farm) method with $10'' \times 4''$ spacing, M_2 =Local method with $4'' \times 4''$ spacing, M_3 =Wave-shape method with $18'' \times 4''$ spacing, M_4 =Wave-shape method with $30'' \times 2\frac{1}{2}''$ spacing, M_5 =Wave-shape method with $10'' \times 5''$ spacing and M_6 =Japanese method with $10'' \times 5''$ spacing.

No. of seedlings/hole : 2 to 3 for treatment M_2 and 4 for others.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 8. (iv) (a) N.A. (b) $40' \times 7\frac{1}{2}'$. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Slightly attacked by stem-borer. (iii) Grain yield. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1870 lb./ac. (ii) 193.8 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	M_6
Av. yield	2218	2404	1678	946	1969	2005

S.E./mean = 68.5 lb./ac.

Crop :- Paddy (*Sornavari*).

Ref :- M. 58(31).

Site :- Rice Res. Stn., Tirur.

Type :- 'C'.

Object :—To compare the wave-shape method of Paddy cultivation with the modified Japanese (farm) method and local methods.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy (*Samba*). (c) 5000 lb./ac. of G.L.+30 lb./ac. of P_2O_5 as Super+150 lb./ac. of A/S. (ii) (a) Light clayey. (b) Refer soil analysis, Tirur. (iii) 25.4.1958/25.5.1958. (iv) (a) 3 ploughings. (b) As per treatments. (c) 25 to 30 lb./ac. (d) and (e) As per treatments. (v) Same as under (i) (c) above. (vi) TKM. 3. (vii) Irrigated. (viii) 2 weedings, intercultivation one month after planting. (ix) 10.75". (x) 17.8.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 58(34) on page 147.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) N.A. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3522 lb./ac. (ii) 158.3 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
Av. yield	3800	3718	3564	2738	3536	3773

S.E./mean = 56.0 lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 58(30).****Site :- Rice Res. Stn., Tirur.****Type :- 'C'.**

Object :—To determine the optimum seed rate for the broadcast crop of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Sugarcane. (b) Sugarcane. (c) 10 C.L./ac. of F.Y.M. (ii) (a) Light clayey. (b) Refer soil analysis, Tirur. (iii) 26.9.1958. (iv) (a) 3 ploughings. (b) and (c) As per treatments. (d) and (e) —. (v) 10 C.L./ac. of F.Y.M. (vi) Adt. 22. (vii) Unirrigated. (viii) Working intercultivator and weeding. (ix) 30.75%. (x) 20.2.1959.

2. TREATMENTS:

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

(1) 4 seed rates : $R_1=20$, $R_2=40$, $R_3=60$ and $R_4=80$ lb./ac.(2) 3 methods of sowing : M_1 =Broadcast, M_2 =Sown behind the country plough and M_3 =drilled.(3) 2 types of seed : T_0 =Unsoaked and T_1 =Soaked.**3. DESIGN :**(i) Fact. in R.B.D. (ii) (a) 24. (b) N.A. (iii) 4. (iv) (a) N.A. (b) $24' \times 12\frac{1}{2}'$. (v) and (vi) Yes.**4. GENERAL :**

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 498 lb./ac. (ii) 90.82 lb./ac. (iii) Effect of R is significant and of M is highly significant. Others are not significant. (iv) Av. yield of grain in lb./ac.

	R_1	R_2	R_3	R_4	Mean	M_1	M_2	M_3
T_0	432	532	471	516	488	460	515	489
T_1	464	520	518	529	508	436	541	547
Mean	448	526	495	523	498	448	528	518
M_1	386	469	454	483				
M_2	460	602	526	524				
M_3	498	507	505	562				

S.E. of R marginal mean	= 18.6 lb./ac.
S.E. of T marginal mean	= 13.1 lb./ac.
S.E. of M marginal mean	= 16.1 lb./ac.
S.E. of body of $R \times T$ table	= 26.2 lb./ac.
S.E. of body of $M \times T$ table	= 22.7 lb./ac.
S.E. of body of $R \times M$ table	= 32.1 lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 59(31).****Site :- Rice Res. Stn., Tirur.****Type :- 'C'.**

Object :—To determine the optimum seed rate for broadcast crop of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5 tons/ac. of compost. (ii) (a) Light clayey. (b) Refer soil analysis, Tirur. (iii) 5.8.1958. (iv) (a) 3 to 4 ploughings. (b) and (c) As per treatments. (d) and (e) —. (v) 5 tons./ac. of compost. (vi) Adt. 22. (vii) Unirrigated. (viii) 2 weedings, intercultivation one month after planting. (ix) 34.53%. (x) 12.12.1959.

2. TREATMENTS :

Same as in expt. no. 58(30) above.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 24. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 24'×10'. (v) and (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 224 lb./ac. (ii) 111.6 lb./ac. (iii) Main effect of M is highly significant. Other effects and interactions are not significant. (iv) Av. yield of grain in lb./ac.

	R ₁	R ₂	R ₃	R ₄	Mean	M ₁	M ₂	M ₃
T ₀	212	223	223	240	225	156	265	251
T ₁	180	259	223	230	223	158	265	247
Mean	196	241	223	235	224	157	265	249
M ₁	127	193	184	124				
M ₂	237	286	255	288				
M ₃	230	244	230	293				

S.E. of R marginal mean = 22.8 lb./ac.

S.E. of T marginal mean = 16.1 lb./ac.

S.E. of M marginal mean = 19.7 lb./ac.

S.E. of body of R×T table = 32.2 lb./ac.

S.E. of body of M×T table = 27.9 lb./ac.

S.E. of body of R×M table = 39.4 lb./ac.

Crop :- Paddy (Thaladi).

Site :- Agri. Res. Stn., Aduthurai.

Ref :- M. 55(39).

Type :- 'CM'.

Object :—To find out whether different types of interculture contribute to higher yield under the Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) G.L. at 5000 lb./ac.+Super at 150 lb./ac.+A/S at 150 lb./ac. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 12.9.1955/2.11.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) —. (d) 10"×5". (e) N.A. (v) Nil. (vi) CO—25 (late) (vii) Irrigated. (viii) As per treatments. (ix) 26.87". (x) 4.3.1955.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of manuring : M₁=Japanese method—6000 lb./ac. of G.L.+5 C.L./ac. of F.Y.M. or compost+200 lb./ac. of A/S+200 lb./ac. of Super. (½ dose of A/S and Super given at planting time and ½ dose 1 month later) and M₂=Farm method—5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. A/S applied 1 month after planting.

(2) 5 cultural treatments : C₀=No intercultivation, C₁=Intercultivating with rotary weeder 15, 30 and 45 days after planting, C₂=Intercultivating by hand weeding 15, 30 and 45 days after planting, C₃=Two weedings 15 and 30 days after planting each followed by intercultivation with rotary weeder and C₄=2 hand weedings.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 20'×25'. (b) 19'2"×24'2". (v) One row left as border. (vi) yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (viii) Nil.

5. RESULTS :

(i) 3999 lb./ac. (ii) 240.4 lb./ac. (iii) Only M effect is highly significant. (iv) Av. yield of grain in lb./ac.

	C ₀	C ₁	C ₂	C ₃	C ₄	Mean
M ₁	4263	4233	4133	3902	4315	4169
M ₂	3692	3761	3898	3903	3887	3828
Mean	3978	3997	4016	3903	4101	3999

S.E. of M marginal mean = 53.8 lb./ac.

S.E. of C marginal mean = 85.0 lb./ac.

S.E. of body of table = 120.2 lb./ac.

Crop :- Paddy (Thaladi).

Site :- Agri. Res. Stn., Aduthurai.

Ref :- M. 56(34).

Type :- 'CM'.

Object :—To find out whether different types of interculture contribute to higher yield under the Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) G.L. at 5000 lb./ac.+Super at 150 lb./ac.+A/S at 150 lb./ac. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 17.9.1956/8.11.1956. (iv) (a) 4 ploughings. (b) Transplanting. (c) —. (d) 10"×5". (e) N.A. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) As per treatments. (ix) 29.24". (x) 8.3.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(39) on page 151.

5. RESULTS :

(i) 4297 lb./ac. (ii) 240.6 lb./ac. (iii) Only C effect is significant. (iv) Av. yield of grain in lb./ac.

	C ₀	C ₁	C ₂	C ₃	C ₄	Mean
M ₁	4097	4343	4628	4473	4293	4368
M ₂	4131	4249	4406	4282	4061	4226
Mean	4114	4296	4517	4378	4177	4297

S.E. of M marginal mean = 53.8 lb./ac.

S.E. of C marginal mean = 85.1 lb./ac.

S.E. of body of table = 120.3 lb./ac.

Crop :- Paddy (Samba).

Site :- Agri. Res. Stn., Aduthurai.

Ref :- M. 57(31).

Type :- 'CM'.

Object :—To find out whether different types of interculture contribute to higher yield under the Japanese method of Paddy cultivation.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 6.8.1957/24.9.1957. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6"×6". (e) 2 seedlings/hole. (v) Nil. (vi) CO—25. (late). (vii) Irrigated. (viii) As per treatments. (ix) 28.78". (x) 1.2.1958.

2. TREATMENTS :

Same as in expt. no. 55(39) on page 150.

3. DESIGN :

(i) Fact in R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 20'×25'. (b) 19'×24'. (v) One row left as border. (vi) Yes.

4. GENERAL :

Same as in expt. no. 55(39) on page 150.

5. RESULTS :

(i) 3083 lb./ac. (ii) 242.6 lb./ac. (iii) Main effects and interaction are not significant. (iv) Av. yield of grain in lb./ac.

	C ₀	C ₁	C ₂	C ₃	C ₄	Mean
M ₁	3107	3241	3152	3101	3142	3149
M ₂	3123	3074	2915	2973	3003	3018
Mean	3115	3158	3034	3037	3073	3083

S.E. of M marginal mean = 54.2 lb./ac.
 S.E. of C marginal mean = 85.8 lb./ac.
 S.E. of body of table = 121.3 lb./ac.

Crop :- Paddy.

Site :- Agri. Res. Stn., Aduthurai.

Ref :- M. 59(69).

Type :- 'CM'.

Object :- To compare the Chinese method of Paddy cultivation with the Japanese and farm methods.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac of Super. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 1, 5, 15.8.1959/10, 11.9.1959. (iv) (a) 3 to 4 ploughings. (b) As per treatments. (c) 25 lb./ac. (d) and (e) As per treatments. (v) As under (i) (c) above. (vi) CO—25. (vii) Irrigated. (viii) 1 weeding. (ix) 25.75". (x) 29.1.1960 and 3.2.1960.

2. TREATMENTS :

3 methods of cultivation : M₁=Farm method with 10"×6" spacing and 2 seedlings/hole, M₂=Japanese method with 10"×10" spacing and 4 seedlings/hole and M₃=Chinese method with 6"×6" spacing and 2 seedlings/hole.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 30'×30'. (b) 28½'×26½', 26½'×26½' and 28'×28' for M₁, M₂ and M₃ respectively. (v) 2 rows left on either side. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3757 lb./ac. (ii) 275.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3
Av. yield	3800	3573	3898

S.E./mean = 112.4 lb./ac.

Crop :- Paddy (2nd Crop).**Ref :- M. 54(41).****Site :- Rice Res. Stn., Ambasamudram.****Type :- 'CM'.**

Object :—To study the effect of spacing and interculture on the Japanese and the farm methods of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.L. at 5000 lb./ac.+A/S at 150 lb./ac.+Super at 150 lb./ac. (ii) (a) Clayey. (b) Refer soil analysis, Ambasamudram. (iii) 13.9.1954/21.10.1954. (iv) (a) 4 ploughings. (b) As per treatments. (c) N.A. (d) As per treatments. (e) N.A. (v) Nil. (vi) CO—19 (late). (vii) Irrigated. (viii) As per treatments. (ix) N.A. (x) 4.3.1955.

2. TREATMENTS :**Main-plot treatments :**

2 Methods of cultivation : M_1 =Japanese method of rice cultivation as practised at 'Kora kendra' and M_2 =Farm method.

Sub-plot treatments :

All combinations of (1) and (2)

(1) 2 spacings : $S_1=10'' \times 10''$ and $S_2=10'' \times 5''$.

(2) 3 cultural practices : C_1 =Planting in rows with interculture, C_2 =Planting in rows without interculture and C_3 =Planting in bulk with weeding.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 6 sub-plots/main-plot. (b) $86' \times 61'$. (iii) 4. (iv) (a) Main-plot $43' \times 61'$. (b) $43' \times 10'2''$ and $43' \times 9'2''$. (v) One row. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height, tiller count, length of earhead and yield of grain. (iv) (a) 1954—1956. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2776 lb./ac. (ii) (a) 959.7 lb./ac. (b) 399.6 lb./ac. (iii) Only C effect is significant. (iv) Av. yield of grain in lb./ac.

	M_1	M_2	Mean	C_1	C_2	C_3
S_1	2864	2854	2859	2997	2928	2652
S_2	2780	2606	2693	3080	2444	2555
Mean	2822	2730	2776	3038	2686	2604
C_1	3038	3038				
C_2	2928	2444				
C_3	2500	2707				

S.E. of difference of two

- | | |
|-----------------------------------|-----------------|
| 1. M marginal means | = 277.0 lb./ac. |
| 2. S marginal means | = 115.4 lb./ac. |
| 3. C marginal means | = 141.3 lb./ac. |
| 4. S means at the same level of M | = 163.1 lb./ac. |
| 5. C means at the same level of M | = 199.8 lb./ac. |
| 6. M means at the same level of S | = 392.4 lb./ac. |
| 7. M means at the same level of C | = 507.8 lb./ac. |

Crop :- Paddy (Kar).**Ref :- M. 54(50).****Site :- Rice Res. Stn., Ambasamudram.****Type :- 'CM'.**

Object :—To study the effect of spacing and interculture on the Japanese and the farm methods of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clayey. (b) Refer soil analysis, Ambasamudram. (iii) 3.6.1954/7, 8.7.1954. (iv) (a) 4 ploughings. (b) As per treatments. (c) N.A. (d) As per treatments. (e) N.A. (v) Nil. (vi) ASD. 1 (short). (vii) Irrigated. (viii) As per treatments. (ix) N.A. (x) 3.11.1954.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(41) on page 153.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height, tiller count, length of ear-head and grain yield. (iv) (a) 1954-1955. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 3568 lb./ac. (ii) (a) 320.3 lb./ac. (b) 224.7 lb./ac. (iii) M and S effects are highly significant. (iv) Av yield of grain in lb./ac.

	M ₁	M ₂	Mean	C ₁	C ₂	C ₃
S ₁	3884	2910	3397	3245	3397	3549
S ₂	4208	3268	3738	3743	3758	3715
Mean	4046	3089	3568	3494	3577	3632
C ₁	3950	3038				
C ₂	4115	3039				
C ₃	4074	3190				

S.E. of difference of two

1. M marginal means = 92.5 lb./ac.
2. S marginal means = 64.9 lb./ac.
3. C marginal means = 79.4 lb./ac.
4. S means at the same level of M = 91.7 lb./ac.
5. C means at the same level of M = 112.4 lb./ac.
6. M means at the same level of S = 157.3 lb./ac.
7. M means at the same level of C = 222.2 lb./ac.

Crop :- Paddy (Kar).

Ref :- M. 55(62).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'CM'.

Object :- To study the effect of spacing and interculture on the Japanese and the farm methods of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy-Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clay loam. (b) Refer soil analysis, Ambasamudram. (iii) 2.7.1955/8, 9.8.1955. (iv) (a) 4 ploughings. (b) As per treatments. (c) N.A. (d) As per treatments. (e) N.A. (v) As per treatments. (vi) ASD. 1 (short) (vii) Irrigated. (viii) As per treatments. (ix) 4.88". (x) 28.11.1955.

2. TREATMENTS :

Main-plot treatments :

Two methods of manuring : M₁=40,000 lb./ac. of M.+2000 lb./ac. of Compost+150 lb./ac. of Super+150 lb./ac. A/S at sowing. Raised seed beds with channels allround. Heavy seed selected by immersing in salt water. M₂=Sprouted seed, raised seed beds, 10,000 lb./ac. of Compost+50 lb./ac. A/S a week before lifting.

Sub-plot treatments :

All combinations of (1) and (2)

(1) 2 spacings : S₁=10"×10" and S₂=10"×5"

(2) 3 cultural practices : C₁=Planting in rows with interculture, C₂=Planting in rows without interculture and C₃=Bulk planting with hand weeding.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block; 6 sub-plots/main-plot. (b) 43'×128'. (iii) 4. (iv) (a) 43'×64' (main-plot) 43'×10' (sub-plot). (b) 42'4"×9'4". (v) 4"×4". (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3721 lb./ac. (ii) (a) 517 lb./ac. (b) 243 lb./ac. (iii) M effect is significant. S effect is highly significant. Other effects and interactions are not significant. (iv) Av. yield of grain in lb./ac.

	M ₁	M ₂	Mean	C ₁	C ₂	C ₃
S ₁	3895	3206	3551	3555	3528	3569
S ₂	4263	3519	3891	3887	3776	4010
Mean	4079	3362	3721	3721	3652	3790
C ₁	4094	3348				
C ₂	3969	3335				
C ₃	4176	3404				

S.E. of difference of of two

1. M marginal means = 149.2 lb./ac.
2. S marginal means = 70.1 lb./ac.
3. C marginal means = 85.9 lb./ac.
4. S means at the same level of M = 99.2 lb./ac.
5. C means at the same level of M = 121.5 lb./ac.
6. M means at the same level of S = 219.4 lb./ac.
7. M means at the same level of C = 289.5 lb./ac.

Crop :- Paddy (Pishanam).

Ref :- M. 55(64).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'CM'.

Object :- To study the effect of spacing and interculture on the Japanese and the farm methods of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S 150 lb./ac. of Super. (ii) (a) Clay loam. (b) Refer soil analysis, Ambasamudram. (iv) (a) 4 ploughings. (b) As per treatments. (c) N A. (d) As per treatments. (e) N.A. (iii) 15.9.1955/25.9.1955. (v) As per treatments. (vi) CO—19 (late). (vii) Irrigated. (viii) As per treatments. (ix) 23.08". (x) 5.3.1956.

2. TREATMENTS :

Same as in expt. no. 55(62) on page 154.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots ; 6 sub-plots/main-plot. (b) 43'×68'. (iii) 4. (iv) (a) and (b) 43'×34'. (main-plot), 43'×5', 42'×4'. (sub-plot). (v) One row left. (vi) Yes.

4. GENERAL :

Same as in expt. no. 55(62) on page 154.

5. RESULTS :

(i) 4629 lb./ac. (ii) (a) 959.4 lb./ac. (b) 378.6 lb./ac. (iii) (iv) Av. yield of grain in lb./ac.

	M ₁	M ₂	Mean	C ₁	C ₂	C ₃
S ₁	5121	4083	4602	4505	4505	4797
S ₂	5143	4171	4656	4667	4797	4505
Mean	5132	4127	4629	4586	4651	4651
C ₁	5121	4051				
C ₂	5218	4084				
C ₃	5056	4246				

S.E. of difference of two

1. M marginal means = 277.0 lb./ac.
2. S marginal means = 109.3 lb./ac.
3. C marginal means = 133.9 lb./ac.
4. S means at the same level of M = 154.6 lb./ac.
5. C means at the same level of M = 189.3 lb./ac.
6. M means at the same level of S = 386.2 lb./ac.
7. M means at the same level of C = 495.5 lb./ac.

Crop :- Paddy (Pishanam).**Ref :- M. 56(68).****Site :- Rice Res. Stn., Ambasamudram.****Type :- 'CM'.**

Object :—To study the effect of spacing and interculture on the Japanese and the farm methods of Paddy cultivation.

1. BASAL CONDITIONS :

- (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 27.9.1956/21.11.1956. (iv) (a) 4 ploughings. (b) As per treatments. (c) N.A. (d) As per treatments. (e) N.A. (v) As per treatments. (vi) CO—19 (late). (vii) Irrigated. (viii) As per treatments. (ix) 17.99". (x) 19.3.1957.

2. TREATMENTS :

Same as in expt. no. 55(62) on page 154.

3. DESIGN :

- (i) Split-plot. (ii) (a) 2 main-plots/block ; 6 sub-plots/main-plot. (b) 43'×128'. (iii) 4. (iv) (a) Main-plot 64'×43'. (b) Sub-plot 43'×10', 42'×9', 42'4"×9'4". (v) One row left. (vi) Yes.

4. GENERAL :

Same as in expt. no. 55(62) on page 154.

5. RESULTS :

- (i) 4809 lb./ac. (ii) (a) 204.0 lb./ac. (b) 175.2 lb./ac. (iii) Only M and C effects are highly significant. (iv) Av. yield of grain in lb./ac.

	M ₁	M ₂	Mean	C ₁	C ₂	C ₃
S ₁	5061	4600	4831	4955	4782	4754
S ₂	5051	4523	4787	4926	4797	4638
Mean	5056	4562	4809	4941	4790	4696
C ₁	5287	4595				
C ₂	5027	4552				
C ₃	4854	4538				

S.E. of difference of two

1. M marginal means	=	58.9 lb./ac.
2. S marginal means	=	50.6 lb./ac.
3. C marginal means	=	61.9 lb./ac.
4. S means at the same level of M	=	71.5 lb./ac.
5. C means at the same level of M	=	87.6 lb./ac.
6. M means at the same level of S	=	109.5 lb./ac.
7. M means at the same level of C	=	160.0 lb./ac.

Crop :- Paddy (Kar).**Ref :- M. 56(67).****Site :- Rice. Res. Stn., Ambasamudram.****Type :- 'CM'.**

Object :- To study the effect of spacing and interculture on the Japanese and the farm method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy-Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 25.6.1956/30.7.1956. (iv) (a) 4 ploughings. (b) As per treatments. (c) N.A. (d) As per treatments. (e) N.A. (v) As per treatments. (vi) ASD. 1. (vii) Irrigated. (viii) As per treatments. (ix) 2.28". (x) 26 10.1956.

2. TREATMENTS :

Same as expt. no. 55(62) on page 154.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 6 sub-plots/main-plots. (b) 43'×128'. (iii) 4. (iv) (a) Main-plot 64'×43'. (b) Sub-plot 43'×10', 42'4"×9'4". (v) One row left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1954-1956. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 4918 lb./ac. (ii) (a) 749.4 lb./ac. (b) 345.7 lb./ac. (iii) Only M and S effects are significant. (iv) Av. yield of grain in lb./ac.

	M ₁	M ₂	Mean	C ₁	C ₂	C ₃
S ₁	5173	4410	4791	4795	4603	4975
S ₂	5430	4658	5044	4906	5071	5154
Mean	5301	4534	4918	4851	4837	5065
C ₁	5292	4410				
C ₂	5250	4423				
C ₃	5360	4768				

S.E. of difference of two

1. M marginal means	=	216.3 lb./ac.
2. S marginal means	=	99.8 lb./ac.
3. C marginal means	=	122.2 lb./ac.
4. S means at the same level of M	=	141.1 lb./ac.
5. C means at the same level of M	=	172.8 lb./ac.
6. M means at the same level of S	=	316.1 lb./ac.
7. M means at the same level of C	=	415.9 lb./ac.

5. RESULTS :

- (i) 2872 lb./ac. (ii) (a) 146.9 lb./ac. (b) 309.9 lb./ac. (iii) Main effects and interaction are not significant. (iv) Av. yield of grain in lb./ac.

	M ₁	M ₂	M ₃	M ₄	M ₅	Mean
T ₁	3017	2754	3034	2879	2860	2909
T ₂	2813	2924	2705	2920	2818	2836
Mean	2915	2839	2869	2899	2839	2872

S.E. of difference of two

1. T marginal means = 46.5 lb./ac.
2. M marginal means = 154.9 lb./ac.
3. M means at the same level of T = 219.1 lb./ac.
4. T means at the same level of M = 201.4 lb./ac.

Crop :- Paddy.

Site :- Agri. College and Res. Instt., Coimbatore.

Ref :- M. 55(58).

Type :- 'CM'.

Object :—To study the combined effect of tillage and manures on Paddy.

1. BASAL CONDITIONS :

- (i) (a) G.M.—Paddy. (b) *Sesbania* (G.M.). (c) Nil. (ii) (a) Clay. (b) Refer soil analysis, Coimbatore. (iii) N.A./1.9.1955. (iv) As per treatments. (b) N.A. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) G.M. crop raised with plots and ploughed in after cutting. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 23.1.1956.

2. TREATMENTS :

Same as in expt. no. 54(100) on page 159.

3. DESIGN :

- (i) Split-plot. (ii) (a) 2 main plots/5 sub-plots/main-plot. (b) 80'×100'. (iii) 4. (iv) (a) 40'×20'. (b) 39'×19'. (v) 6"×6". (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Height, tiller counts and grain yield. (iv) (a) 1954—1956. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by the Agronomist, Coimbatore.

5. RESULTS :

- (i) 3603 lb./ac. (ii) (a) 82.1 lb./ac. (b) 379.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	M ₁	M ₂	M ₃	M ₄	M ₅	Mean
T ₁	3466	3208	3818	3749	3719	3592
T ₂	3315	3675	3859	3789	3432	3614
Mean	3391	3442	3838	3769	3575	3603

S.E. of difference of two

1. T marginal means = 26.0 lb./ac.
2. M marginal means = 186.5 lb./ac.
3. M means at the same level of T = 268.0 lb./ac.
4. T means at the same level of M = 241.1 lb./ac.

Crop :- Paddy.**Ref :- M. 56(57).****Site :- Agri. College and Res. Instt., Coimbatore.****Type :- 'CM'.**

Object :—To study the combined effect of tillage and manures on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—G.M. (b) *Sesbania* (G.M.). (c) Nil. (ii) (a) Clay. (b) Refer soil analysis, Coimbatore, (iii) N.A./7.9.1959. (iv) (a) As per treatments. (b) Transplanting. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) G.M. raised, cut and ploughed in. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 30.1.1957.

2. TREATMENTS:

Same as in expt. no. 54(100) on page 159.

3. DESIGN :

Same as in expt. no. 55(58) on page 160.

4. GENERAL :

(i) Satisfactory. (ii) Case worm attack was noticed and one dusting with 10% B.H.C. was given on 3, 4.11.1956. (iii) Height, tiller count and yield of grain. (iv) (a) 1954—1956. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by the Agronomist, Coimbatore.

5. RESULTS :

(i) 3455 lb./ac. (ii) (a) 212.2 lb./ac. (b) 258.5 lb./ac. (iii) Only S effect is highly significant. (iv) Av. yield of grain in lb./ac.

	M ₁	M ₂	M ₃	M ₄	M ₅	Mean
T ₁	3745	3745	3638	2995	3080	3441
T ₂	3668	3723	3660	3385	2911	3469
Mean	3706	3734	3649	3190	2995	3455

S.E. of difference of two

1. T marginal means = 67.1 lb./ac.
2. M marginal means = 129.2 lb./ac.
3. M means at the same level of T = 182.8 lb./ac.
4. T means at the same level of M = 176.7 lb./ac.

Crop :- Paddy.**Ref :- M. 57(48).****Site :- Agri. College and Res. Instt., Coimbatore.****Type :- 'CM'.**

Object :—To study the combined effect of tillage and manures on Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—G.M. (b) G.M. (c) Nil. (ii) (a) Clay. (b) Refer soil analysis, Coimbatore. (iii) N.A. 11.9.1957. (iv) (a) As per treatments. (b) Transplanting. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) G.M. crop raised, cut and ploughed in. (vi) CO—25. (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 28.1.1958.

2. TREATMENTS :**Main-plot treatments :**

2 methods of ploughing : T₁=Ploughing once with iron plough and thrice with wooden plough, T₂= Ploughing once with iron plough and 7 times with wooden plough.

Sub-plot treatments :

5 manurial treatments : M₀=No manure, M₁=30 lb./ac. of N+30 lb./ac. of P₂O₅, M₂=60 lb./ac. of N+60 lb./ac. of P₂O₅+60 lb./ac. of K₂O, M₃=60 lb./ac. of N+120 lb./ac. of P₂O₅+120 lb./ac. of K₂O and M₄=90 lb./ac. of N+120 lb./ac. of P₂O₅+120 lb./ac. of K₂O.

$\frac{1}{2}$ dose of N and K₂O (as A/S and Mur. Pot.) applied at transplanting and $\frac{1}{2}$ dose one month later. $\frac{1}{2}$ dose of P₂O₅ as Super to preceding G.M. crop and the rest at transplanting.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 5 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 54' × 13'. (b) 53' × 12'. (v) One row left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height, tiller counts and yield of grain. (iv) 1954—1959. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Agronomist, Coimbatore.

5. RESULTS :

(i) 3508 lb./ac. (ii) (a) 501.3 lb./ac. (b) 372.6 lb./ac. (iii) Only S effect is highly significant. (iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	M ₂	M ₃	M ₄	Mean
T ₁	3148	3303	3426	3600	3606	3417
T ₂	3122	3621	3790	3810	3652	3599
Mean	3135	3462	3608	3705	3629	3508

S.E. of difference of two

1. T marginal means = 158.5 lb./ac.
2. M marginal means = 186.3 lb./ac.
3. M means at the same level of T = 263.5 lb./ac.
4. T means at the same level of M = 284.0 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 59(4).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'CM'.

Object :—To test the superiority of the Chinese method of Paddy cultivation over the Japanese and the farm methods.

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. (ii) (a) Clay loam. (b) N.A. (iii) M₁=12.9.1959, M₂=15.9.1959 and M₃=1.10.1959/25.10.1959 (iv) (a) N.A. (b) Transplanting. (c) N.A. (d) and (e) As per treatments. (v) N.A. (vi) CO-25. (vii) Irrigated. (viii) and (ix) N.A. (x) M₁, M₂=12.3.1960 and M₃=30.3.1960.

2. TREATMENTS :

3 methods of planting : M₁=Farm method with 10" × 6" spacing and 2 seedlings/hole, M₂=Japanese method with 10" × 10" spacing and 4 seedlings/hole and M₃=Chinese method with 6" × 6" spacing and 2 seedlings/hole.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) M₁=28' × 26 $\frac{2}{3}$ ', M₂=26 $\frac{2}{3}$ ' × 26 $\frac{2}{3}$ ' and M₃=28' × 28'. (v) One row left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 3780 lb./ac. (ii) 637.2 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	3584	3866	3889

S.E./mean = 260.1 lb./ac.

Crop :- Paddy.**Ref :- M. 54(96).****Site :- Paddy Breeding Stn., Coimbatore.****Type :- 'CM'.**

Object :—To test the efficacy of deep placement of A/S to increase Paddy yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clayey. (b) N.A. (iii) 18.8.1954/9.10.1954. (iv) (a) 3 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6"×6". (e) N.A. (v) As per treatments. (vi) CO—25 (late). (vii) Irrigated. (viii) Weeding one month after planting. (ix) 11.87%. (x) 21, 22.2.1955.

2. TREATMENTS :**Main-plot treatments :**2 spacings : $S_1=6'' \times 6''$ and $S_2=10'' \times 10''$.**Sub-plot treatments :**

6 levels of manuring : M_0 =No manure, $M_1=5,600$ lb./ac. of G.L.+45 lb./ac. of P_2O_5 puddled in before planting, $M_2=M_1+20$ lb./ac. of N before planting+10 lb./ac. of N one month later by placement, $M_3=M_1+30$ lb./ac. of N before planting+15 lb./ac. of N one month later, $M_4=M_1+30$ lb./ac. of N broadcast one month after planting and $M_5=M_1+45$ lb./ac. of N broadcast one month after planting.

N applied as A/S and P_2O_5 as Super.**3. DESIGN :**

(i) Split-plot. (ii) (a) 2 main-plots/block ; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 10'×20'. (b) 9½'×19½'. (v) 1 row left. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height, tiller count and grain yield. (iv) (a) 1953—contd. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 5219 lb./ac. (ii) (a) 786.9 lb./ac. (b) 527.3 lb./ac. (iii) Effect of S alone is highly significant. (iv) Av. yield of grain in lb./ac.

	M_0	M_1	M_2	M_3	M_4	M_5	Mean
S_1	3560	4308	6065	6071	5322	5928	5209
S_2	3532	4069	5928	6806	5064	5976	5229
Mean	3546	4189	5997	6437	5193	5952	5219

S.E. of difference of two

1. S marginal means = 227.1 lb./ac.
2. M marginal means = 263.7 lb./ac.
3. M means at the same level of S = 372.6 lb./ac.
4. S means at the same level of M = 409.2 lb./ac.

Crop :- Paddy.**Ref :- M. 55(44).****Site :- Paddy Breeding Stn., Coimbatore.****Type :- 'CM'.**

Object :—To test the efficacy of deep placement of A/S to increase Paddy yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clay loam. (b) N.A. (iii) 21.9.1955/21.10.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) As per treatments. (e) 2. (v) Nil. (vi) CO—25. (late). (vii) Irrigated. (viii) 2 weedings. (ix) 9.68%. (x) 6.3.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(96) above.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1953—1955. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2597 lb./ac. (ii) (a) 263.6 lb./ac. (b) 257.1 lb./ac. (iii) Only M effect is highly significant. (iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	M ₂	M ₃	M ₄	M ₅	Mean
S ₁	1214	2280	2995	3160	2837	3017	2584
S ₂	1362	2380	3066	3239	2694	2920	2610
Mean	1288	2330	3031	3199	2766	2969	2597

S.E. of difference of two

1. S marginal means = 76.1 lb./ac.
2. M marginal means = 128.6 lb./ac.
3. M means at the same level of S = 181.8 lb./ac.
4. S means at the same level of M = 200.0 lb./ac.

Crop :- Paddy.

Ref. :- M. 54(99).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'CM'.

Object :- To find out the effect of intercultures as under the Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S top dressed one month after planting. (ii) (a) Clayey. (b) N.A. (iii) 11.2.1954/12.11.1954. (iv) (a) N.A. (b) Trans-planting. (c) N.A. (d) At per treatments. (e) N.A. (v) As per treatments. (vi) CO—25 (late). (vii) Irrigated. (viii) Nil. (ix) 11.62°. (x) 29.3.1955.

2. TREATMENTS :

Main-plot treatments :

2 methods of manuring : M₁=Japanese and M₂=Farm method.

Sub-plot treatments :

6 cultural treatments : C₁=10"×10" spacing and interculture, C₂=10"×10" spacing and no interculture, C₃=10"×10" spacing in bulk and no interculture, C₄=10"×5" spacing and interculture, C₅=10"×5" spacing and no interculture and C₆=10"×5" spacing in bulk and no interculture.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 20'×7'. (b) 19½'×6½'. (v) 1 row left. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Tiller count, height and grain yield. (iv) (a) 1954—contd. (b) Yes. (c) N.A. (v) (a) Aduthurai and Tirur. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 4548 lb./ac. (ii) (a) 691.3 lb./ac. (b) 445.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain lb./ac.

	C ₁	C ₂	C ₃	C ₄	C ₅	C ₆	Mean
M ₁	4160	4831	4909	4447	4452	4884	4614
M ₂	4476	4253	4418	4612	4641	4490	4482
Mean	4318	4542	4664	4530	4547	4687	4548

S.E. of difference of two

1. M marginal means	= 199.4 lb./ac.
2. C marginal means	= 222.6 lb./ac.
3. C means at the same level of M	= 314.7 lb./ac.
4. M means at the same level of C	= 349.7 lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 55(57).****Site :- Paddy Breeding Stn., Coimbatore.****Type :- 'CM'.**

Object :—To find out the effect of intercultures as under the Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super
(ii) (a) Clayey loam. (b) N.A. (iii) 15.10.1955/15.11.1959. (iv) (a) 4 ploughings. (b) Transplanting.
(c) 30 lb./ac. (d) 10"×10". (e) 2. (v) As per treatments. (vi) CO—25 (late). (vii) Irrigated. (viii) As
per treatments. (ix) 15.43". (x) 19.4.1956.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 methods of manuring : M_1 =Japanese method—10 tons/ac. of F.Y.M., 30 lb./ac. of N and 30 lb./ac. of P_2O_5 as B.D. ; top-dressed with 15 lb./ac. of N and 14 lb./ac. of P_2O_5 15 days and 30 days after planting and M_2 =Farm method 5000 lb./ac. of G.L. ; 30 lb./ac. of P_2O_5 and 15 lb./ac. of N as B.D. ; top-dressed with 15 lb./ac. of N of 30 days after planting.

(2) 5 intercultures : C_0 =No interculture, C_1 =Intercultures with rotary intercultivator 15, 30 and 45 days after planting, C_2 =3 intercultures with hand rake 15, 30 and 45 days after planting, C_3 =2 weeding followed by intercultivation with rotary intercultivator 15 and 30 days after weeding and C_4 =2 hand weeding.

N applied as A/S and P_2O_5 as Super.**3. DESIGN :**

(i) Fact. in R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 30'×15'. (b) 29'2"×14'2". (v) One row left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1955—1958. (b) Yes. (c) Nil. (v) (a) Aduthurai, Ambasamudram, Tirur and Palur. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3071 lb./ac. (ii) 249.8 lb./ac. (iii) Only M effect is highly significant. (iv) Av. yield of grain in lb./ac.

	C_0	C_1	C_2	C_3	C_4	Mean
M_1	3212	3283	3361	3309	3272	3287
M_2	2785	2932	2830	2720	3003	2854
Mean	2999	3108	3096	3014	3137	3071

S.E. of M marginal mean	= 55.8 lb./ac.
S.E. of C marginal mean	= 88.3 lb./ac.
S.E. of body of table	= 124.9 lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 56(56).****Site :- Paddy Breeding Stn., Coimbatore.****Type :- 'CM'.**

Object :—To find out the effect of intercultures as under the Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clay loam. (b) N.A. (iii) 25.8.1956/12.10.1956. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10"×10". (e) 2. (v) As per treatments. (vi) CO—25 (late). (vii) Irrigated. (viii) As per treatments. (ix) 19.85". (x) 24.2.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(57) on page 165.

5. RESULTS :

(i) 2593 lb./ac. (ii) 243.7 lb./ac. (iii) Only M effect is highly significant. (iv) Av. yield of grain in lb./ac.

	C ₀	C ₁	C ₂	C ₃	C ₄	Mean
M ₁	2498	2791	2746	2744	2737	2703
M ₂	2342	2376	2529	2521	2648	2484
Mean	2420	2583	2637	2634	2693	2593

S.E. of M marginal mean = 54.5 lb./ac.
 S.E. of C marginal mean = 86.2 lb./ac.
 S.E. of body of table = 121.8 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 57(46).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'CM'.

Object :—To find out the effect of intercultures as under the Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clay loam. (b) N.A. (iii) 5.8.1957/11.10.1957. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10"×10". (e) 2. (v) As per treatments. (vi) CO—25 (late). (vii) Irrigated. (viii) As per treatments. (ix) 20.53". (x) 28.2.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(57) on page 165.

5. RESULTS :

(i) 3602 lb./ac. (ii) 389 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	C ₀	C ₁	C ₂	C ₃	C ₄	Mean
M ₁	3424	3727	3582	3806	3545	3617
M ₂	3563	3509	3621	3510	3734	3587
Mean	3493	3618	3602	3658	3640	3602

S.E. of M marginal mean = 87.0 lb./ac.
 S.E. of C marginal mean = 137.5 lb./ac.
 S.E. of body of table = 194.5 lb./ac.

Crop :- Paddy.

Ref :- M. 54(68).

Site :- Agri. Res. Stn., Palur.

Type :- 'CM'.

Object :—To find the effect of intercultures and spacing on Japanese method and farm method of cultivation Paddy.

1. BASAL CONDITIONS :

(i) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S and 150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 28.8.1954/5.11.1954. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) As per treatments. (e) 2. (v) As per treatments. (vi) CO-25 (late). (vii) Irrigated. (viii) 2 weedings for C₂ and C₃ plots. (ix) 32.38%. (x) 25.2.1955.

2. TREATMENTS :

Same as in expt. no. 54(41) on page 153.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 6 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) 30'×12½' (b) 28'4"×10'10". (v) 10"×10". (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2507 lb./ac. (ii) (a) 320.3 lb./ac. (b) 329.1lb./ac. (iii) Only M effect is significant. (iv) Av. yield of grain in lb./ac.

	M ₁	M ₂	Mean	C ₁	C ₂	C ₃
S ₁	2383	2621	2502	2579	2481	2447
S ₂	2407	2617	2512	2558	2505	2472
Mean	2395	2619	2507	2568	2493	2459
C ₁	2479	2657				
C ₂	2388	2598				
C ₃	2318	2601				

S.E. of difference of two

- | | |
|-----------------------------------|-----------------|
| 1. M marginal means | = 75.5 lb./ac. |
| 2. S marginal means | = 77.6 lb./ac. |
| 3. C marginal means | = 95.0 lb./ac. |
| 4. S means at the same level of M | = 109.7 lb./ac. |
| 5. M means at the same level of S | = 108.2 lb./ac. |
| 6. C means at the same level of M | = 134.4 lb./ac. |
| 7. M means at the same level of C | = 133.2 lb./ac. |

Crop :- Paddy (2nd crop).

Site :- Agri. Res. Stn., Palur.

Ref :- M. 55(51).

Type :- 'CM'.

Object :- To find out if interculture contributes to higher yield under Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L., 150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 6.9.1955/23.9.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) As per treatments. (vi) Adt. 25 (late). (vii) Irrigated. (viii) As per treatments. (ix) 21.39%. (x) 17.2.1956.

2. TREATMENTS :

All combinations of (1) and (2)

- (1) 2 methods of manuring : M₁=Japanese method—6000 lb./ac. of G.L. and 2½ tons/ac. of F.Y.M. as B.D. ; 200 lb./ac. of A/S and 200 lb./ac. of Super ; ½ dose at planting and another ½ dose one month later and M₂=Local manuring | 5000 lb./ac. of G.L.+150 lb./ac. of Super as B.D ; 150 lb./ac. of N as A/S as top dressing.

- (2) 4 Interculture treatments : C_1 =Intercultivating by rotary weeder 15, 30 and 45 days after planting
 C_2 =Intercultivating by hand rake 15, 30 and 45 days after planting,
 C_3 =Two weedings 15 and 30 days after planting each followed by one intercultivation by rotary weeder and C_4 =2 weedings.

3. DESIGN :

- (i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 40'×16'. (b) 39'×15'. (v) One row. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Tiller count, height and grain yield. (iv) 1955-1957. (b) Yes. (c) Nil.
 (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 3623 lb./ac. (ii) 137.6 lb./ac. (iii) Main effect of M is significant. (iv) Av. yield of grain in lb./ac.

	C_1	C_2	C_3	C_4	Mean
M_1	3533	3892	3679	3710	3704
M_2	3555	3533	3533	3547	3542
Mean	3544	3714	3606	3628	3623

S.E. of C marginal mean = 48.6 lb./ac.
 S.E. of M marginal mean = 34.4 lb./ac.
 S.E. of body of table = 68.8 lb./ac.

Crop :-Paddy (2nd crop).

Ref :- M. 56(48).

Site :- Agri. Res. Stn., Palur.

Type :- 'CM'.

Object:—To find out if interculture contributes to higher yield under the Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A.S. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 7.9.1956/18.10.1956. (iv) (a) 4 ploughings. (b) Transplanting. c) 30 lb./ac. (d) 6'×6'. (e) 2. (v) Nil. (vi) Adt. 25 (late). (vii) Irrigated. (viii) As per treatments. (ix) 35.27". (x) 15.2.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(51) on page 167.

5. RESULTS :

- (i) 3471 lb./ac. (ii) 240 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

	C_1	C_2	C_3	C_4	Mean
M_1	3493	3659	3692	3518	3590
M_2	3370	3380	3441	3212	3351
Mean	3432	3519	3566	3365	3471

S.E. of M marginal mean = 60.0 lb./ac.
 S.E. of C marginal mean = 84.9 lb./ac.
 S.E. of body of table = 120.0 lb./ac.

Crop :- Paddy (2nd crop).**Ref :- M. 57(40).****Site :- Agri. Res. Stn., Palur.****Type :- 'CM'.**

Object :—To find out if interculture contributes to higher yield under the Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of Super + 150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 15.9.1957/16.10.1957. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6" × 6". (e) 2. (v) Nil. (vi) Adt. 25 (late). (vii) Irrigated. (viii) As per treatments. (ix) 27.26". (x) 16.2.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(51) on page 167.

5. RESULTS :

(i) 2516 lb./ac. (ii) 192.6 lb./ac. (iii) No effect is significant. (iv) Av. yield grain in lb./ac.

	C ₁	C ₂	C ₃	C ₄	Mean
M ₁	2498	2577	2536	2481	2523
M ₂	2615	2500	2498	2421	2509
Mean	2556	2539	2517	2451	2516

S.E. of M marginal mean = 49.0 lb./ac.

S.E. of C marginal mean = 69.4 lb./ac.

S.E. of body of table = 98.1 lb./ac.

Crop :- Paddy.**Ref :- M. 55(17).****Site :- Rice Res. Stn., Tirur.****Type :- 'CM'.**

Object :—To find out if interculture contributes to higher yield under the Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 11.9.1955/18.10.1955. (iv) (a) 2 ploughings with iron plough and thrice with country plough till good puddle is obtained. (b) Transplanting. (c) to (e) N.A. (v) As per treatments. (vi) CO-25 (late). (vii) Irrigated. (viii) As per treatments. (ix) 22.93". (x) 21.2.1956

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 methods of manuring : M₁ = Japanese method and M₂ = Local method.

(2) 5 methods of interculture : C₀ = No intercultivation, C₁ = Intercultivating with rotary weeder 15, 30 and 45 days after planting, C₂ = Intercultivating with hand rake 15, 30 and 45 days after planting, C₃ = 2 weedings 15, 30 days after planting each followed by intercultivation with rotary weeder and C₄ = 2 weedings.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 70' × 10'. (b) 69'2" × 9'2". (v) About 5" all round. (vi) Yes.

4. GENERAL :

(i) Normal, but crop lodged just before harvest. (ii) Nil. (iii) Height, tiller count and grain yield. (iv) (a) 1955—contd. (b) Yes. (c) N.A. (v) (a) Coimbatore, Aduthurai and Palur. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2203 lb./ac. (ii) 551 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

	C ₀	C ₁	C ₂	C ₃	C ₄	Mean
M ₁	2147	2354	2074	2568	2443	2317
M ₂	1980	2173	2392	1675	2224	2089
Mean	2063	2264	2233	2121	2334	2203

S.E. of M marginal mean = 123.2 lb./ac.

S.E. of C marginal mean = 194.8 lb./ac.

S.E. of body of table = 275.5 lb./ac.

Crop :- Paddy.

Ref :- M. 56(2).

Site :- Rice Res. Stn., Tirur.

Type :- 'CM'.

Object :—To find out if interculture contributes to higher yield under the Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 25.9.1956/13.11.1956. (iv) (a) 2 ploughings with iron plough and 3 times with country plough till good puddle is obtained. (b) Transplanting. (c) N.A. (d) 6' × 6'. (e) 2. (v) As per treatments. (vi) CO—25 (late). (vii) Irrigated. (viii) As per treatments. (ix) 20.65'. (x) 30.3.1957.

2. TREATMENTS :

Same as in expt. no. 55(17) on page 169.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 70' × 10'. (b) 69' × 9'. (v) 1 row around. (vi) Yes.

4. GENERAL :

Same as in expt. no 55(17) on page 169.

5. RESULTS :

(i) 2223 lb./ac. (ii) 223.2 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

	C ₀	C ₁	C ₂	C ₃	C ₄	Mean
M ₁	2147	2297	2374	2335	2327	2296
M ₂	2155	2099	2116	2044	2335	2150
Mean	2151	2198	2245	2190	2331	2223

S.E. of M marginal mean = 49.9 lb./ac.

S.E. of C marginal mean = 78.9 lb./ac.

S.E. of body of table = 111.6 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 59(26).

Site :- Rice Res. Stn., Tirur.

Type :- 'CM'.

Object :—To find out if interculture contributes to higher yield under the Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy—*Dhaincha*. (b) *Dhaincha*. (c) Nil. (ii) Light clayey. (b) Refer soil analysis, Tirur. (iii) 18.7.1959/5, 6.9.1959. (iv) 3 to 4 ploughings. (b) Transplanting. (c) 2½ to 3 lb./ac. (d) 10"×10", (e) 4. (v) As per treatments. (vi) CO-25. (vii) Irrigated. (viii) As per treatments. (ix) 39.68%. (x) 6.2.1959.

2. TREATMENTS :

All combinations of (1) and (2)

(1) Two methods of manuring : M_1 =Japanese method of manuring—6000 lb./ac. of G.L.+5 C.L. of F.Y.M. or compost+200 lb./ac. of A/S+200 lb./ac. of Super (½ dose of A/S and Super applied at planting and ½ dose one month later.), M_2 =Local method of manuring—5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. A/S applied one month after planting.

(2) 5 methods of interculture : C_0 =No intercultivation, C_1 =Intercultivating with rotary weeder 15, 30 and 45 days after planting, C_2 =Intercultivating with hand rake 15, 30 and 45 days after planting, C_3 =2 weedings 15, 30 days after planting each followed by intercultivation with rotary weeder and C_4 =2 weedings.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 70'×5'10". (b) 68'4"×4'2". (v) One row left. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—contd. (expt. was not conducted during 1957 and 1958). (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 3706 lb./ac. (ii) 303.8 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

	C_0	C_1	C_2	C_3	C_4	Mean
M_1	3505	3755	3731	3851	3473	3663
M_2	3870	3859	3895	3573	3543	3748
Mean	3688	3807	3813	3712	3508	3706

S.E. of M marginal mean = 67.9 lb./ac.

S.E. of C marginal mean = 107.4 lb./ac.

S.E. of body of table = 151.9 lb./ac.

Crop :- Paddy (1st crop).

Ref :- M. 54(73).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'CMV'.

Object :—To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra,' Bombay, with that of farm-method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super applied at planting+A/S at 150 lb./ac. top-dressed. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 22.6.1954/26.7.1954. (iv) (a) Ploughed thrice with mould board plough and levelled with Burmese settun once. (b) Transplanting. (c) 25 lb./ac. (d) 6"×6". (e) N.A. (v) As per treatments. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 13.03%. (x) 17.10.1954.

2. TREATMENTS :

Main-plot treatments :

2 varieties : V_1 =Adt. 3 and V_2 =Adt. 20 (early).

Sub-plot treatments :

2 methods of planting : C_1 =Japanese and C_2 =Farm methods.

Japanese method : Seed beds manured with F.Y.M. at 40 C.L./ac., ash at 2000 lb./ac. and sieved compost at 2000 lb./ac. A mixture of A/S and Super in 1 : 1 ratio applied at 2 lb. per 1 lb. of

seed at sowing. A second dose of A/S and Super mixture, equal to the first dose, applied 10 and 20 days after sowing to the short and long duration varieties respectively. Transplant fields was given a B.D. of F.Y.M. at 20 C.L./ac. 30 lb./ac. as of A/S and 30 lb. of P_2O_5 as Super were applied and plots were dug and levelled. A second dose of phosphate was applied 15 days after planting and another similar dose given 15 days after the second dose to the 1st crop. The chemical manures applied at intervals of one month in the case of *Samba* and *Thaladi* crops. The plots intercultivated with a Japanese rotary weeder once in fifteen days till two weeks before flowering of the crop.

Farm method : The nurseries were manured with 20 C.L./ac. of F.Y.M. during I crop and 10,000 lb./ac. of G.L. during II crop and single crop seasons. The transplanted fields received a B.D. of 5,000 lb. G.L. and 30 lb. P_2O_5 as Super and the manure dug in. 30 lb. of N as A/S applied 30 days after planting in the I crop and 40 days after planting in II crop and single crop seasons.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) and (b) 22' × 20'. (v) Nil. (vi) Yes.

4. GENERAL:

(i) Crop lodged just a fortnight before harvest. (ii) N.I. (iii) Height measurement, tiller counts and grain yield. (iv) (a) 1953—contd. (b) No. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3263 lb./ac. (ii) (a) 333.1 lb./ac. (b) 313.0 lb./ac. (iii) Main effect of V and interaction C × V are significant. C effect is not significant. (iv) Av. yield of grain in lb./ac.

	C ₁	C ₂	Mean
V ₁	3696	3285	3490
V ₂	2890	3183	3036
Mean	3293	3233	3263

S.E. of difference of two

1. V marginal means = 117.8 lb./ac.
2. C marginal means = 110.7 lb./ac.
3. C means at the same level of V = 156.5 lb./ac.
4. V means at the same level of C = 161.6 lb./ac.

Crop :- Paddy (Single crop).

Ref :- M. 54(75).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'CVM'.

Object :—To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra', Bombay, with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of Super applied at planting + 150 lb./ac. of A, S top dressed (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 5.8.1954/6.9.1954. (iv) (a) Ploughed thrice with mould board plough and levelled with Burmese settun once. (b) Transplanting. (c) 30 lb./ac. (p) 6" × 6". (e) N.A. (v) As per treatments. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 26.87". (x) 3.2.1955.

2. TREATMENTS:

Main-plot treatments :

2 varieties : V₁ = CO—25 and V₂ = CO—19.

Sub-plot treatments :

Same as in expt. no. 54(73) on page 171.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) and (b) 20' × 17½'. (vi) Nil. (vii) Yes.

4. GENERAL :

(i) Crop lodged just a fortnight before harvest. (ii) Nil. (iii) Height measurement, tiller count and grain yield. (iv) (a) 1953—contd. (b) and (c) No. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 4858 lb./ac. (ii) (a) 772.6 lb./ac. (b) 427.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	C ₁	C ₂	Mean
V ₁	4963	5009	4986
V ₂	4667	4792	4729
Mean	4815	4900	4858

S.E. of difference of two

1. V marginal means = 273.2 lb./ac.
2. C marginal means = 151.1 lb./ac.
3. C means at the same level of V = 213.7 lb./ac.
4. V means at the same level of C = 312.4 lb./ac.

Crop :- Paddy (*Kuruvai*).

Ref :- M. 55(37).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'CMV'.

Object :—To compare the merits of Japanese method as practised in 'Kora Gramodyog kendra' Bombay with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Fallow—Paddy—Paddy. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 4.7.1955/10.8.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) As per treatments. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 10.30". (x) 14.10.1955.

2. TREATMENTS :

Main-plot treatments :

2 varieties : V₁=Adt. 3 and V₂=Adt. 20.

Sub-plot treatments :

2 methods of planting : C₁=Japanese and C₂=Farm methods.

Japanese method : B.D. of 20 C.L./ac. of G.M.+30 lb./ac. of P₂O₅ as Super+30 lb./ac. of N as A/S and top-dressing of 15 lb./ac. of N as A/S on the 15th day and 30th day after planting.

Farm method : B.D. of G.L. at 5000 lb./ac.+30 lb./ac. of P₂O₅ as Super. Top-dressing of 30 lb./ac. of N as A/S 25 days after planting.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) 80'×20'. (iii) 8. (iv) (a) Main-plot : 40'×20' ; sub-plot : 20'×20'. (b) 19½'×19½'. (v) 6" left as border. (vi) Yes.

4. GENERAL

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1953—1956. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 3012 lb./ac. (ii) (a) 301.2 lb./ac. (b) 265.2 lb./ac. (iii) Only C effect is highly significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	Mean
C ₁	3356	3343	3350
C ₂	2573	2777	2675
Mean	2965	3060	3012

S.E. of difference of two

1. V marginal means	= 106.5 lb./ac.
2. C marginal means	= 93.8 lb./ac.
3. C means at the same level of V	= 132.6 lb./ac.
4. V means at the same level of C	= 141.9 lb./ac.

Crop :- Paddy (*Thaladi*).**Ref. :- M. 55(36).****Site :- Agri. Res. Stn., Aduthurai.****Type :- 'CMV'.**

Object :—To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra', Bombay with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Follow—Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S + 150 lb./ac. of Super. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 5.9.1955/29.10.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6' × 6'. (e) 2. (v) As per treatments. (vi) As per treatments. (vii) Irrigated. (viii) Two weedings. (ix) 26.87%. (x) 27.2.1956.

2. TREATMENTS :**Main-plot treatments :**2 varieties : $V_1 = CO-25$ and $V_2 = CO-19$.**Sub-plot treatments :**

Same as in expt. no. 55(37) on page 173.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 55(37) on page 173.

5. RESULTS :

(i) 4465 lb./ac. (ii) (a) 536.0 lb./ac. (b) 321.6 lb./ac. (iii) V effect is highly significant. C effect is significant while Interaction C × V is not significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	Mean
C_1	5046	4186	4616
C_2	4690	3936	4313
Mean	4868	4061	4465'

S.E. of difference of two

1. V marginal means	= 189.5 lb./ac.
2. C marginal means	= 113.7 lb./ac.
3. C means at the same level of V	= 160.8 lb./ac.
4. V means at the same level of C	= 221.0 lb./ac.

Crop :- Paddy (*Samba*).**Ref :- M. 55(38).****Site :- Agri. Res. Stn., Aduthurai.****Type :- 'CMV'.**

Object :—To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra', Bombay, with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 5.8.1955/10.9.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6' × 6'. (e) 2. (v) and (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice, (ix) 26.87%. (x) 31.1.1956.

2. TREATMENTS :

Same as in expt. no. 55(36) above.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) 20'×17½'. (b) 19½×17'. (v) 6" left as border. (vi) Yes.

4. GENERAL :

Same as in expt. no. 55(37) on page 173.

5. RESULTS :

(i) 3465 lb./ac. (ii) (a) 235.6 lb./ac. (b) 249.6 lb./ac. (iii) V effect alone is significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	Mean
C ₁	3813	2954	3383
C ₂	4003	3091	3547
Mean	3908	3022	3465

S.E. of difference of two

1. V marginal means = 83.3 lb./ac.
2. C marginal means = 88.5½ lb./ac.
3. C means at the same level of V = 124.8 lb./ac.
4. V means at the same level of C = 121.4 lb./ac.

Crop :- Paddy (*Kuruvai*).

Ref :- M. 56(31).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'CMV'.

Object :- To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra', Bombay, with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Fallow—Paddy—Paddy. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 11.7.1956/3.8.1956. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 18.38". (x) 22.10.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(37) on page 173.

5. RESULTS :

(i) 3758 lb./ac. (ii) (a) 270.4 lb./ac. (b) 60.0 lb./ac. (iii) C effect alone is highly significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	Mean
C ₁	4205	3836	4021
C ₂	3557	3435	3496
Mean	3881	3636	3758

S.E. of difference of two

1. V marginal means = 95.6 lb./ac.
2. C marginal means = 21.2 lb./ac.
3. C means at the same level of V = 30.0 lb./ac.
4. V means at the same level of C = 98.0 lb./ac.

Crop :- Paddy (Thaladi).**Ref. :- M. 56(30).****Site :- Agri. Res. Stn., Aduthurai.****Type :- 'CMV'.**

Object :—To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra', Bombay, with that of Farm method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Fallow—Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 24.9.1956/14.11.1956. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) Two weedings. (ix) 29.24". (x) 14.3.1957.

2. TREATMENTS :**Main-plot treatments :**2 varieties : $V_1=CO-25$ and $V_2=CO-19$.**Sub-plot treatments :**

Same as in expt. no. 55(37) on page 173.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 55(37) on page 173.

5. RESULTS :

(i) 4043 lb./ac. (ii) (a) 226.4 lb./ac. (b) 274.8 lb./ac. (iii) V effect is significant and interaction $C \times V$ is highly significant while C effect is not significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	Mean
C_1	4814	3467	4141
C_2	4372	3515	3944
Mean	4593	3491	4043

S.E. of difference of two

- | | |
|-----------------------------------|-----------------|
| 1. V marginal means | = 80.0 lb./ac. |
| 2. C marginal means | = 97.2 lb./ac. |
| 3. C means at the same level of V | = 137.4 lb./ac. |
| 4. V means at the same level of C | = 125.9 lb./ac. |

Crop :- Paddy (Samba).**Ref :- M. 56(29).****Site :- Agri. Res. Stn., Aduthurai.****Type :- 'CMV'.**

Object :—To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra', Bombay, with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 8.8.1956/14.9.1956. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 29.24". (x) 29.1.1957.

2. TREATMENTS :

Same as in expt. no. 55(36) on page 174.

3. DESIGN :

Same as in expt. 55(38) on page 174.

4. GENERAL :

Same as in expt. no. 55(37) on page 173.

5. RESULTS :

(i) 4434 lb./ac. (ii) (a) 390.0 lb./ac. (b) 230.4 lb./ac. (iii) C and V effects are highly significant. Interaction is not significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	Mean
C ₁	5118	4117	4618
C ₂	4682	3820	4251
Mean	4900	3969	4434

S.E. of difference of two

1. V marginal means = 137.9 lb./ac.
2. C marginal means = 81.5 lb./ac.
3. C means at the same level of V = 115.2 lb./ac.
4. V means at the same level of C = 160.1 lb./ac.

Crop :- Paddy (Kar).

Ref :- M. 54(39).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'CMV'.

Object :—To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra', Bombay, with that of farm method of Paddy cultivation.

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. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 8 to 10.6.1954/6.7.1954. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 4"×4" (for farm method). (e) 1. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) Nil. (x) 6.10.1954.

2. TREATMENTS :

Main-plot treatments :

2 methods of cultivation : C₁=Japanese method as practised in *Kora kendra* (Bombay) and C₂=Farm method.

Sub-plot treatments :

2 varieties : V₁=ASD. 1 and V₂=ASD. 2.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) 40'×44'. (iii) 8. (iv) (a) and (b) Main-plot : 40'×22', sub-plot : 40'×11'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height measurements, tiller count, panicle length and grain yield were recorded. (iv) (a) 1954-1956. (b) Yes. (c) Nil. (v) (a) Aduthurai, Pattukkottai, Tirur and Coimbatore. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 4007 lb./ac. (ii) (a) 253.6 lb./ac. (b) 277.6 lb./ac. (iii) C and V effects are highly significant while interaction C×V is significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	Mean
C ₁	4396	4165	4220
C ₂	4072	3397	3781
Mean	4234	3734	4007

S.E. of difference of two

1. C marginal means = 89.7 lb./ac.
2. V marginal means = 98.1 lb./ac.
3. V means at the same level of C = 138.8 lb./ac.
4. C means at the same level of V = 132.9 lb./ac.

Crop :- Paddy (2nd crop).**Ref. :- M. 54(40).****Site :- Rice Res. Stn., Ambasamudram.****Type :- 'CMV'.**

Object :—To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra', Bombay, with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 13.9.1954/19.10.1954. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6"×6" for farm method. (e) 2. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) Nil. (x) 10.3.1955.

2. TREATMENTS :**Main-plot treatments :**2 methods of cultivation : C₁=Japanese and C₂=Farm methods.**Sub-plot treatments :**2 varieties : V₁=CO—25 and V₂=CO—19.**3. DESIGN :**

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) 40'×44'. (iii) 8. (iv) (a) and (b) Main-plot : 40'×22' ; sub-plot : 40'×11'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height, tiller count, panicle length and grain yield. (iv) (a) 1954—1956. (b) Yes. (c) Nil. (v) (a) Aduthurai, Pattukkottai, Tirur and Coimbatore. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 3456 lb./ac. (ii) (a) 413.3 lb./ac. (b) 323.1 lb./ac. (iii) V effect is highly significant while C and C×V effects are significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	Mean
C ₁	3106	2921	3014
C ₂	4269	3527	3898
Mean	3688	3224	3456

S.E. of difference of two

1. C marginal means = 146.1 lb./ac.
2. V marginal means = 114.2 lb./ac.
3. V means at the same level of C = 161.6 lb./ac.
4. C means at the same level of V = 185.5 lb./ac.

Crop :- Paddy (Kar).**Ref. :- M. 55(61).****Site :- Rice Res. Stn., Ambasamudram.****Type :- 'CMV'.**

Object :—To study the response of different varieties of Paddy to Japanese and farm methods of cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 12.7.1955/10.8.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) to (e) As per treatments. (v) and (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 3.84%. (x) 29.10.1955.

2. TREATMENTS :**Main-plot treatments :**2 methods of cultivation : C₁=Japanese and C₂=Farm methods.**Sub-plot treatments :**2 varieties : V₁=ASD. 1 and V₂=ASD. 2.

Japanese method :

Nursery : Seeds were put in salt solution and heavy seeds selected. Dry seeds sown in raised seed beds having channels allround. At sowing application of 40,000 lb. of C.M., 2000 lb. of compost, 2000 lb. of ash, 150 lb. of Super and 150 lb. of A/S.

Field : 10'×6" spacing with 4 seedlings/hole. To the field 20,000 lb./ac. of C.M., 60 lb./ac. of P₂O₅ and 60 lb./ac. of N were applied. Frequent raking. Weeding once in 15 days till shoot-blade stage.

Farm Method :

Nursery : Sprouted seed, raised seed bed, 10,000 lb. of C.M., 50 lb. of A/S a week before lifting seedlings.

Field : 4"×4" spacing, 2 seedlings/hole. 5000 lb./ac. of G.L., 30 lb./ac. of P₂O₅, 30 lb./ac. of N and 2 weedings.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) 40'×88'. (iii) 8. (iv) (a) Main-plot : 40'×44'. Sub-plot : 40'×22'. (b) Sub-plot : 39'4"×21'4". (v) One row left. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1953—1955. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1467 lb./ac. (ii) (a) 131.6 lb./ac. (b) 119.2 lb./ac. (iii) C and V effects are highly significant. Interaction C×V is also significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	Mean
C ₁	1713	1395	1554
C ₂	1635	1123	1259
Mean	1674	1379	1467

S.E. of difference of two

1. C marginal means	= 46.5 lb./ac.
2. V marginal means	= 42.1 lb./ac.
3. V means at the same level of C	= 59.6 lb./ac.
4. C means at the same level of V	= 62.8 lb./ac.

Crop :- Paddy (Pishanam).

Ref :- M. 55(63).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'CMV'.

Object :-To study the response of different varieties of Paddy to Japanese and farm methods of cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 15.9.1955/23.10.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) to (e) As per treatments. (v) and (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 23.08. (x) 3.3.1956.

2. TREATMENTS :**Main-plot treatments :**

2 methods of cultivation : C₁=Japanese and C₂=Farm methods.

Sub-plot treatments :

2 varieties : V₁=CO—25 and V₂=CO—19.

Japanese method : Same as in expt. no. 55(61) above.

Farm method :

Nursery : Sprouted seed ; raised seed beds, 10,000 lb./ac. of compost+50 lb./ac. A/S of a week prior to lifting.

Field : Spacing 6"×6"; 2 to 3 seedlings/hole, 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S and weeding twice.

3. DESIGN :

(i) (a) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) Main-plot 40'×22' ; Sub-plot : 40'×11'. (b) Sub-plot : 39'×10'. (v) One row left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1953—1955. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1946 lb./ac. (ii) (a) 160.1 lb./ac. (b) 72.8 lb./ac. (iii) C and V effects are highly significant. Interaction is not significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	Mean
C ₁	2088	1709	1898
C ₂	2181	1808	1994
Mean	2134	1758	1646

S.E. of difference of two

1. C marginal means = 56.6 lb./ac.
2. V marginal means = 25.7 lb./ac.
3. V means at the same level of C = 36.4 lb./ac.
4. C means at the same level of V = 62.2 lb./ac.

Crop :- Paddy.

Site :- Paddy Breeding Stn., Coimbatore.

Ref :- M. 54(97).

Type :- 'CMV'.

Object :—To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra', Bombay, with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clayey. (b) N.A. (iii) 31.7.1954/5.10.1954. (iv) (a) 3 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6"×6". (e) N.A. (v) As per treatments. (vi) and (vii) As per treatments. (viii) Irrigated. (viii) As per treatments. (ix) 13.55". (x) 12.2.1955.

2. TREATMENTS :

Main-plot treatments :

2 varieties : V₁=CO—25 and V₂=CO - 19.

Sub-plot treatments :

2 methods of cultivation : C₁=Japanese and C₂=Farm methods.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) 15'×20'. (b) 14½'×19½'. (v) 1 row left as guard row. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Tiller count, height measurements and grain yield. (iv) (a) 1953—contd. (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 4224 lb./ac. (ii) (a) 239.9 lb./ac. (b) 433.2 lb./ac. (iii) C effect alone is highly significant. (vi) Av. yield of grain in lb./ac.

	V ₁	V ₂	Mean
C ₁	4775	4605	4690
C ₂	3692	3823	3758
Mean	4234	4214	4224

S.E. of difference of two

1. V marginal means	=	84.8 lb./ac.
2. C marginal means	=	153.2 lb./ac.
3. C means at the same level of V	=	216.6 lb./ac.
4. V means at the same level of C	=	175.2 lb./ac.

Crop :- Paddy (*Kuruvai*).**Ref :- M. 54(62).****Site :- Agri. Res. Stn., Palur.****Type :- 'CMV'.**

Object :—To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra', Bombay, with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 29.6.1954/27.7.1954. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) As per treatments. (e) —. (v) and (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 18.75". (x) 18.10.1954.

2. TREATMENTS :**Main-plot treatments :**

2 varieties : V_1 =TKM-3 and V_2 =CO-13.

Sub-plot treatments :

2 methods of cultivation : C_1 =Japanese and C_2 =Farm methods.

Japanese method :

Nursery : 10,000 lb./ac. of G.L.+20 C.L. of C.M. Heavier seed selected by immersion in salt solution.

Field : 5000 lb./ac. of G.L.+150 lb./ac. of Super, 150 lb./ac. of A/S (as top-dressing 45 days after planting) and 10"×4" spacing. Intercultivation by rotary weeder at 15 days interval from planting up to one month prior to flowering.

Farm method :

Nursery : 10,000 lb./ac. of G.L.

Field : 5000 lb./ac. of G.L., 150 lb./ac. of Super, 150 lb./ac. of A/S (as top-dressing one month prior to flowering) and 4"×4" spacing.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) 32'×10'. (b) For C_1 : 30'4"×9'4" ; for C_2 : 31'4"×9'4". (v) and (vi) Yes.

4. GENERAL :

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

5. RESULTS :

(i) 2157 lb./ac. (ii) (a) 458.7 lb./ac. (b) 418.8 lb./ac. (iii) V effect alone is significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	Mean
C_1	2451	2071	2261
C_2	2267	1841	2054
Mean	2359	1956	2157

S.E. of difference of two

1. V marginal means	=	162.2 lb./ac.
2. C marginal means	=	148.1 lb./ac.
3. C means at the same level of V	=	209.4 lb./ac.
4. V means at the same level of C	=	219.6 lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 54(63).****Site :- Agri. Res. Stn., Palur.****Type :- 'CMV'.**

Object :-To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra', Bombay, with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) G.M. crop. (c) Nil. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 24.8.1954/2, 3.11.1954. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) As per treatments. (e) N.A. (v) and (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 32.33%. (x) 22.2.1955.

2. TREATMENTS :**Main-plot treatments :**

2 varieties : $V_1=CO-25$ and $V_2=CO-19$.

Sub-plot treatments :

2 methods of cultivation : $C_1=Japanese$ and $C_2=Farm$ methods.

Japanese method :

Nursery : 10,000 lb./ac. of G.L.+20 C.L. of C.M. Heavier seed selected by immersion in salt solution.

Field : 5000 lb./ac of G.L.+150 lb./ac. of Super+150 lb./ac of A/S (as top-dressing after 45 days of planting) and $10' \times 10'$ spacing. Intercultivation by rotary weeder at 15 days interval from planting upto one month prior to flowering.

Farm method :

Nursery : 10,000 lb./ac. of G.L.

Field : 5000 lb./ac. of G.L., 150 lb./ac. of Super, 150 lb./ac. of A/S, top-dressing one month prior to flowering at $6' \times 6'$ spacing.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) $30' \times 60'$. (iii) 8. (iv) (a) Main-plot : $30' \times 30'$; sub-plot : $30' \times 15'$. (b) Sub-plot : $C_1 : 28'4'' \times 13'4''$ and $C_2 : 29' \times 14'$. (v) N.A. (iv) Yes.

4. GENERAL :

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

5. RESULTS :

(i) 2596 lb./ac. (ii) (a) 543.5 lb./ac. (b) 510.8 lb./ac. (iii) C effect alone is highly significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	Mean
C_1	3096	2838	2967
C_2	2342	2106	2224
Mean	2719	2472	2596

S.E. of difference of two

1. V marginal means = 192.2 lb./ac.
2. C marginal means = 180.6 lb./ac.
3. C means at the same level of V = 255.4 lb./ac.
4. V means at the same level of C = 263.7 lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 55(56).****Site :- Agri. Res. Stn., Palur.****Type :- 'CMV'.**

Object :-To study the response of different varieties of Paddy to Japanese and farm methods of cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 9.8.1955/30.9.1955. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) N.A. (d) As per treatments. (e) N.A. (v) As per treatments. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 25.51". (x) 24.2.1956.

2. TREATMENTS :

Main-plot treatments :

2 varieties : $V_1 = \text{CO—25}$ and $V_2 = \text{CO—19}$.

Sub-plot treatments :

Same as in expt. no. 54(63) on page 182.

Weeding was given as and when necessary.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) $30' \times 60'$. (iii) 8. (iv) (a) Main-plot : $30' \times 30'$, Sub-plot : $30' \times 15'$. (b) Sub-plot : $C_1 : 29'2" \times 14'2"$ and $C_2 : 29'6" \times 14'6"$. (v) One row left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tiller count, height measurement and grain yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3186 lb./ac. (ii) (a) 264.4 lb./ac. (b) 287.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	Mean
C_1	3194	3318	3256
C_2	3238	2994	3116
Mean	3216	3156	3186

S.E. of difference of two

- | | |
|-----------------------------------|-----------------|
| 1. V marginal means | = 93.5 lb./ac. |
| 2. C marginal means | = 101.7 lb./ac. |
| 3. C means at the same level of V | = 143.8 lb./ac. |
| 4. V means at the same level of C | = 138.1 lb./ac. |

Crop :- Paddy (Sornavari).

Ref :- M. 55(55).

Site :- Agri. Res. Stn., Palur.

Type :- 'CMV'.

Object :- To study the response of different varieties of Paddy to Japanese and farm methods of cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 1.6.1955/26.6.1955. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) and (d) As per treatments. (e) N.A. (v) As per treatments. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 13.57". (x) 29.9.1955.

2. TREATMENTS :

Main-plot treatments :

2 varieties : $V_1 = \text{TKM—3}$ and $V_2 = \text{CO—13}$ (early).

Sub-plot treatments :

2 methods of cultivation : $C_1 = \text{Japanese}$ and $C_2 = \text{Farm}$ methods.

Japanese method :

Nursery : 10,000 lb./ac. of G.L.+20 C.L. of C.M. Heavier seed selected by immersion in salt solution. Seed rate : 30 lb./ac.

Field : 5000 lb./ac. of G.L.+150 lb./ac. of Super as B.D. 150 lb./ac. of A/S on the 30th day after planting as top-dressing and $6" \times 6"$ spacing. Intercultivation by rotary weeder after every 15 days from date of planting till one month prior to flowering.

Farm method :

Nursery : Manured by 10,000 lb./ac. of G.L. ; seed rate : 30 lb./ac.

Field : 5000 lb./ac. of G.L.+150 lb./ac. of Super as B.D. 150 lb./ac. of A/S as top-dressing one month prior to flowering and 4"×4" spacing. Weeding was done as and when necessary.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) 50'×30'. (iii) 8. (iv) (a) Main-plot : 25'×30' ; Sub-plot : 25'×15'. (b) Sub-plot : C₁ : 24'6"×14'6" and C₂ : 24'8"×14'8". (v) One row left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tiller count height measurements and grain yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2600 lb./ac. (ii) (a) 204.8 lb./ac. (b) 109.2 lb./ac. (iii) Interaction C×V alone is highly significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	Mean
C ₁	2467	2700	2584
C ₂	2646	2586	2616
Mean	2557	2643	2600

S.E. of difference of two

1. V marginal means	= 72.4 lb./ac.
2. C marginal means	= 38.6 lb./ac.
3. C means at the same level of V	= 54.6 lb./ac.
4. V means at the same level of C	= 82.1 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 56(54).

Site :- Agri. Res. Stn., Palur.

Type :- 'CMV'.

Object :- To study the response of different varieties of Paddy to Japanese and farm methods of cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 30.7.1956/1.9.1956. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) As per treatments. (e) N.A. (v) As per treatments. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (iv) 35.57". (v) 22.1.1957.

2. TREATMENTS :**Main-plot treatments :**

2 varieties : V₁=CO—25 and V₂=CO—19.

Sub-plot treatments :

Same as in expt. no. 54(63) on page 182.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) 50'×32'. (iii) 8. (iv) (a) Main-plot : 25'×32' ; sub-plot : 25'×16'. (b) Sub-plot : C₁ : 24' 2"×15' 2" and C₂ : 24' 6"×15' 6". (v) One row left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tiller count, height measurements and grain yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3300 lb./ac. (ii) (a) 171.6 lb./ac. (b) 84.5 lb./ac. (iii) V and C effects are highly significant. Interaction V×C is significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	Mean
C ₁	3246	252	3086
C ₂	3740	3290	3515
Mean	3493	3108	3300

S.E. of difference of two

1. V marginal means = 60.7 lb./ac.
2. C marginal means = 29.9 lb./ac.
3. C means at the same level of V = 42.3 lb./ac.
4. V means at the same level of C = 67.6 lb./ac.

Crop :- Paddy (Sornavari).**Ref :- M. 56(53).****Site :- Agri. Res. Stn., Palur.****Type :- 'CMV'.**

Object :—To study the response of different varieties of Paddy to Japanese and farm methods of cultivation.

1. BASAL CONDITIONS :

- (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S.
(ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 1.6.1956/29.6.1956. (iv) (a) 4 to 5 ploughings.
(b) Transplanting. (c) 30 lb./ac. (d) As per treatments. (e) N.A. (v) As per treatments. (vi) As₁ per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 24.53°. (x) 1.10.1956.

2. TREATMENTS :**Main-plot treatments :**2 varieties : V₁=TKM-3 and V₂=PLR-2.**Sub-plot treatments :**

Same as in expt. no. 55(55) on page 183.

3. DESIGN :

- (i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (iii) 8. (iv) (a) Main-plot : 19'×38'
Sub-plot : 19'×14'. (b) Sub-plot : C₁ : 18'-6"×13'6" and C₂ : 18'8"×13'8". (v) One row left. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Tiller count, height measurements and grain yield. (iv) (a) 1954—1957.
(b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (viii) Nil.

5. RESULTS :

- (i) 1896 lb./ac. (ii) (a) 258.0 lb./ac. (b) 209.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	Mean
C ₁	2110	1832	1971
C ₂	1804	1838	1821
Mean	1957	1835	1896

S.E. of difference of two

1. V marginal means = 91.2 lb./ac.
2. C marginal means = 74.1 lb./ac.
3. C means at the same level of V = 104.8 lb./ac.
4. V means at the same level of C = 117.5 lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 57(44).****Site :- Agri. Res. Stn., Palur.****Type :- 'CMV'.**

Object :—To study the response of different varieties of Paddy to Japanese and farm method of cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 23.8.1957/5.10.1957. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) As per treatments. (e) N.A. (v) As per treatments. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 31.22". (x) 6.2.1958.

2. TREATMENTS :**Main-plot treatments :**2 varieties : $V_1 = \text{CO}-25$ and $V_2 = \text{CO}-19$.**Sub-plot treatments :**

Same as in expt. no. 54(63) on page 182.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) 38'×28'. (iii) 8. (iv) (a) Main-plot : 19'×28' ; Sub plot : 19'×14'. (b) Sub-plot : $C_1 : 18'2" \times 13'2"$ and $C_2 : 18'6" \times 13'6"$. (v) One row left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tiller count, height measurements and grain yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2365 lb./ac. (ii) (a) 499.9 lb./ac. (b) 410.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	Mean
C_1	2342	2216	2279
C_2	2443	2464	2452
Mean,	2391	2340	2365

S.E. of difference of two

1. V marginal means = 176.7 lb./ac.
2. C marginal means = 145.2 lb./ac.
3. C means at the same level of V = 205.4 lb./ac.
4. V means at the same level of C = 228.6 lb./ac.

Crop :- Paddy (Sornavari).**Ref :- M. 57(43).****Site :- Agri. Res. Stn., Palur.****Type :- 'CMV'.**

Object :—To study the response of different varieties of Paddy to Japanese and farm methods of cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 12.6.1957/6.7.1957. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) and (d) As per treatments. (e) N.A. (v) As per treatments. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 17.56". (x) 5.10.1957.

2. TREATMENTS :**Main-plot treatments :**2 varieties : $V_1 = \text{TKM}-6$ and $V_2 = \text{PLR}-2$.**Sub-plot treatments :**

Same as in expt. no. 55(55) on page 183.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) 38'×28'. (iii) 8. (iv) (a) Main-plot : 19'×28' ; Sub-plot : 19'×14'. (b) Sub-plot : C₁ : 18'6"×13'6" and C₂ : 18'8"×13'8". (v) One row left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tiller count, height measurement and grain yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3690 lb./ac. (ii) (a) 510.0 lb./ac. (b) 270.6 lb./ac. (iii) Only C effect is highly significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	Mean
C ₁	3979	3843	3911
C ₂	3475	3463	3469
Mean	3727	3653	3690

S.E. of difference of two

1. V marginal means = 180.3 lb./ac.
2. C marginal means = 95.7 lb./ac.
3. C means at the same level of V = 135.3 lb./ac.
4. V means at the same level of C = 204.1 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 57(107).

Site :- Agr. Res. Stn., Palur.

Type :- 'CMV'.

Object :—To study the response of different varieties of Paddy to Japanese and farm methods of cultivation.

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. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 22.8.1957/28.9.1957. (iv) 4 ploughings. (b) to (d) As per treatments. (e) N.A. (v) and (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 31.22%. (x) 2.2.1958.

2. TREATMENTS :

Main-plot treatments :

2 varieties : V₁=CO-25 and V₂=CO-19.

Sub-plot treatments :

Same as in expt. no. 54(63) on page 182.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) 25'×16'. (b) C₁ : 24'2"×15'2" and C₂ : 24'6"×15'6". (v) and (vi) Yes.

4. GENERAL :

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

5. RESULTS:

(i) 2375 lb./ac. (ii) (a) 226.0 lb./ac. (b) 220.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	Mean
C ₁	2362	2232	2297
C ₂	2440	2464	2452
Mean	2401	2348	2375

S.E. of difference of two

1. V marginal means	=	79.9 lb./ac.
2. C marginal means	=	77.8 lb./ac.
3. C means at the same level of V	=	110.0 lb./ac.
4. V means at the same level of C	=	111.5 lb./ac.

Crop :- Paddy (Sornavari).

Ref :- M. 57(105).

Site :- Agri. Res. Stn., Palur.

Type :- 'CMV'.

Object :- To study the response of different varieties of Paddy to Japanese and farm methods of cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 12.6.1957/6.7.1957. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) As per treatments. (e) N.A. (v) As per treatments. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 17.2". (x) 5.10.1957.

2. TREATMENTS :

Main-plot treatments :

2 varieties : V_1 =TKM-6 and V_2 =PLR-2

Sub-plot treatments :

2 methods of cultivation : C_1 =Japanese and C_2 =Farm methods.

Japanese methods :

Nursery : 10,000 lb./ac. of G.L.+20 C.L. of C.M. Selection of heavier seed by immersion in salt solution.

Field : 5000 lb./ac. of G.M.+150 lb./ac. of Super+150 lb./ac. of A/S applied 45 days after planting at $10'' \times 4''$ spacing.

Farm method :

Nursery : 10,000 lb./ac. of G.L.

Field : 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S applied one month prior to flowering and $4'' \times 4''$ spacing.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) $19' \times 14'$. (b) $C_1 : 18'2'' \times 13'8''$ and $C_2 : 18'8'' \times 13'8''$. (v) One row left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield. (iv) (a) 1954-1957. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 3642 lb./ac. (ii) (a) 655 lb./ac. (b) 334 lb./ac. (iii) C effect alone is highly significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	Mean
C_1	3907	3775	3841
C_2	3487	3399	3443
Mean	3697	3587	3642

S.E. difference of two

1. V marginal means	=	231.6 lb./ac.
2. C marginal means	=	118.1 lb./ac.
3. C means at the same level of V	=	167.0 lb./ac.
4. V means at the same level of C	=	259.9 lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 54(101).****Site :- Agri. Res. Stn., Pattukkottai.****Type :- 'CMV'.**

Object :—To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra', Bombay, with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Paddy—Fallow—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Sandy to Sandy loam. (b) N.A. (iii) 1.9.1954/15, 16.10.1954. (iv) (a) 4 ploughings with Cooper II plough in puddled condition and levelling up. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 30.82". (x) 19.2.1955.

2. TREATMENTS :**Main-plot treatments :**2 varieties : $V_1=CO-25$ and $V_2=CO-19$.**Sub-plot treatments :**2 methods of cultivation : $C_1=$ Japanese and $C_2=$ Farm methods.**3. DESIGN :**

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 24'2" × 14'6". (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height measurements, tiller count, grain and straw yield. (iv) (a) 1953—1955. (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3413 lb./ac. (ii) (a) 159.2 lb./ac. (b) 102.2 lb./ac. (iii) Only C effect is significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	Mean
C_1	3556	3574	3565
C_2	3325	3199	3262
Mean	3440	3386	3413

S.E. of difference of two

1. V marginal means	= 79.6 lb./ac.
2. C marginal means	= 51.1 lb./ac.
3. C means at the same level of V	= 72.2 lb./ac.
4. V means at the same level of C	= 94.5 lb./ac.

Crop :- Paddy (Sornavari).**Ref :- M. 55(18).****Site :- Rice Res. Stn., Tirur.****Type :- 'CMV'.**

Object :—To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra', Bombay, with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 2.5.1955/28.5.1955. (iv) (a) N.A. (b) to (e) As per treatments. (v) 2000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 19.2". (x) 24.8.1955.

2. TREATMENTS :**Main-plot treatments :**2 varieties : $V_1=TKM-3$ and $V_2=CO-13$.**Sub-plot treatments :**2 methods of cultivation : $C_1=$ Japanese and $C_2=$ Farm methods.

Japanese method : Seed rate—1½ lb./cent ; spacing—10'×6' ; 4 seedlings/hole and intercultivating once in 15 days.

Farm method : Seed rate—3 lb./cent ; spacing—4'×4' ; 2 seedlings/hole and weeding one month after planting.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) Main-plot : 6'×21' ; Sub-plot : 60'×10'. (b) Sub-plot : 59½'×9½'. (v) Outer row left as border. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Tiller count, height measurement, grain and straw yield. (iv) (a) 1953—1955. (b) No. (c) N.A. (v) (a) Coimbatore, Aduthurai, Palur and Ambasamudram. (b) N.A. (vi) N.A. (vii) Raw data—N.A.

5. RESULTS :

(i) 3109 lb./ac. (ii) (a) and (b) N.A. (iii) Effect of C and V×C are significant. V effect is not significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	Mean
C ₁	3320	3123	3222
C ₂	2961	3031	2996
Mean	3141	3077	3109

S.E.'s = N.A.

Crop :- Paddy (Samba).

Ref :- M. 55(19).

Site :- Rice Res. Stn., Tirur.

Type :- 'CMV'.

Object :-To study the response of different varieties of Paddy to Japanese and farm methods of cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.L. at 5000 lb./ac.+Super at 150 lb./ac.+A/S at 175 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 31.8.1955/5.10.1955. (iv) (a) N.A. (b) to (e) As per treatments. (v) 2000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 26.43". (x) 18.2.1956.

2. TREATMENTS :

Main-plot treatments :

2 varieties : V₁=CO—25 and V₂=CO—19.

Sub-plot treatments :

2 methods of cultivation : C₁=Japanese and C₂=Farm methods.

Japanese method : Seed rate—1½ lb./cent ; spacing—10'×10' ; 4 seedlings/hole and interculturing once in 15 days.

Farm method : Seed rate—3 lb./cent ; spacing—6'×6' ; 2 seedlings/hole and weeding one month after planting.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) Main plot : 60'×21' ; Sub-plot : 60'×10', (b) Sub-plot : 59½'×9½'. (v) Outer row left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tiller count, height measurement, grain and straw yield. (iv) (a) 1953—1955. (b) No. (c) N.A. (v) (a) Coimbatore, Aduthurai, Palur and Ambasamudram. (b) N.A. (vi) Nil. (vii) Raw data—N.A.

5. RESULTS :

(i) 3296 lb./ac. (ii) (a) and (b) N.A. (iii) Only C effect is significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₁	Mean
C ₁	3609	3451	3530
C ₂	3139	2982	3061
Mean	3374	3217	3296

S.E.'s = N.A.

Crop :- Paddy (Navarai).

Ref :- M. 55(20).

Site :- Rice Res. Stn., Tirur.

Type :- 'CMV'.

Object :—To study the response of different varieties of Paddy to Japanese and farm methods of cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.L. at 5000 lb./ac.+Super at 150 lb./ac.+A/S at 175 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 23.12.1955/22.1.1956. (iv) (a) N.A. (b) to (e) As per treatments. (v) 2000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 2.72". (x) 1.5.1956.

2. TREATMENTS :

Main-plot treatments :

2 varieties : V₁=CO—18 and V₂=TKM—5 (medium).

Sub-plot treatments :

Same as in expt. no. 55(18) on page 189.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) Main-plot : 60'×21' ; Sub-plot : 60'×10'. (b) Sub-plot : 59½'×9½'. (v) Outer row left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tiller count, height measurements, grain and straw yields. (iv) (a) 1953—1955. (b) No. (c) N.A. (v) (a) Coimbatore, Aduthurai, Palur and Ambasamudram. (b) N.A. (vi) Nil. (vii) Raw data—N.A.

5. RESULTS :

(i) 2121 lb./ac. (ii) (a) and (b) N.A. (iii) Only V×C effect is significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	Mean
C ₁	2409	2244	2327
C ₂	1779	2053	1916
Mean	2094	2149	2121

S.E.'s = N.A.

Crop :- Paddy.

Ref :- M. 54(34).

Site :- Rice. Res. Stn., Tirur.

Type :- 'CMV'.

Object :—To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra', Bombay, with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.L. at 5000 lb./ac.+Super at 150 lb./ac.+A/S at 175 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 8.1.1954/29, 31.1.1954. (iv) (a) N.A. (b) to (e) As per treatments. (v) and (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 0.07". (x) 21.4.1954 and 8.5.1954.

2. TREATMENTS :**Main-plot treatments :**

2 varieties : $V_1=CO-18$ and $V_2=TKM-5$.

Sub-plot treatments :

2 methods of cultivation : $C_1=Japanese$ and $C_2=Farm$ methods.

Japanese method :

Nursery : Seed rate— $1\frac{1}{2}$ lb./cent, $10" \times 6"$ spacing with 4 seedlings/hole. F.Y.M. at 40 C.L./ac., ash at 20,000 lb./ac. and compost at 2000 lb./ac., A/S at $1\frac{1}{2}$ lb./cent and Super at $1\frac{1}{2}$ lb./cent.

Field : F.Y.M. at 20 C.L./ac., A/S at 30 lb./ac. of N and Super at 30 lb./ac. of P_2O_5 . Top dressing with A/S at an interval of 15 days each. Intercultivation every fortnight by Japanese weeder.

Farm method :

Nursery : Seed rate—3 lb./cent, $4" \times 4"$ spacing ; bulk planting with 2 seedlings/hole. G.L. at 10,000 lb./ac.

Field : G.L. at 5000 lb./ac. and Super 30 lb./ac. of P_2O_5 . Weeding one month after planting.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) $35' \times 10'$. (b) $C_1 : 34'6" \times 9'2"$ and $C_2 : 34'8" \times 9'8"$. (v) Outer rows left as guard rows. (vi) Yes.

4. GENERAL :

(i) C_1 plots vigorous and taller than C_2 plots. Lodging on 8.4.1954 in C_1 plots ; propping done. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—1955. (b) No. (c) N.A. (v) (a) Coimbatore, Aduthurai, Pattukkottai, Palur and Ambasamudram. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2633 lb./ac. (ii) (a) 190.8 lb./ac. (b) 165.2 lb./ac. (iii) V and C effects are highly significant. Interaction is not significant. (iv) Av. yield of grain in lb./ac.

	V_1	V_2	Mean
C_1	2818	2555	2686
C_2	2675	2364	2520
Mean	2746	2460	2603

S.E. of difference of two

- | | |
|-----------------------------------|----------------|
| 1. V marginal means | = 55.2 lb./ac. |
| 2. C marginal means | = 31.2 lb./ac. |
| 3. C means at the same level of V | = 44.2 lb./ac. |
| 4. V means at the same level of C | = 63.4 lb./ac. |

Crop :- Paddy (Navarai).

Site :- Rice. Res. Stn., Tirur.

Ref :- M. 54(35).

Type :- 'CMV'.

Object :- To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra', Bombay, with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Ragi. (c) F.Y.M. at 20 C.L./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 7.5.1954/30.5.1954. (iv) (a) N.A. (b) to (e) As per treatments. (v) and (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 16.16". (x) 3.9.1954.

2. TREATMENTS :**Main-plot treatments :**

2 varieties : $V_1=CO-13$ and $V_2=TKM-3$.

Sub-plot treatments :

Sams as in expt. no. 54(34) on page 191.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) 57'×10'
(b) For C_1 : 56½'×9'6" and for C_2 : 56¾'×9¾'. (v) Outer row discarded. (vi) Yes.

4. GENERAL :

(i) C_1 plots vigorous and taller than C_2 plots. Lodging on 29.7.1954. in C_1 plots, propping was done. (ii) Nil
(ii) Grain and straw yield. (iv) (a) 1953-1955. (b) No. (c) N.A. (v) (a) Coimbatore, Aduthurai, Pattukkottai, Palur and Ambasamudram. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3178 lb./ac. (ii) (a) 190.8 lb./ac. (b) 165.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	Mean.
C ₁	3306	3263	3285
C ₂	3062	3079	3070
Mean	3184	3171	3178

S.E. of difference of two

1. V marginal means = 67.5 lb./ac.
2. C marginal means = 58.4 lb./ac.
3. C means at the same level of V = 82.6 lb./ac.
4. V means at the same level of C = 89.2 lb./ac.

Crop :- Paddy (Sornavari).

Site :- Rice Res. Stn., Tirur.

Ref :- M. 54(36).

Type :- 'CMV'.

Object :- To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra', Bombay, with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.L. at 5000 lb./ac. + Super at 150 lb./ac. + A/S at 175 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 10.9.1954/18.10.1954. (iv) (a) N.A. (b) to (e) As per treatments. (v) and (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 29.94%. (x) 25.2.1955.

2. TREATMENTS :**Main-plot treatments :**

2 varieties : V₁ = CO—25 and V₂ = CO—19 (late).

Sub-plot treatments :

Same as in expt. no. 54(34) on page 191.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication ; 2 sub-plots/main-plot. (iii) 8. (iv) (a) 60'×10'. (b) For C_1 : 59'2"×9'2" and for C_2 : 59½'×9½'. (v) Outer rows left. (vi) Yes.

4. GENERAL :

(i) C_1 plots of dark colour due to heavy manuring. Lodging in C_1 plots on 24.12.1954; propping done. (ii) Nil. (iii) Grain and Straw yield. (iv) (a) 1953—1955. (b) No. (c) N.A. (v) (a) Coimbatore, Aduthurai, Pattukkottai, Palur and Ambasamudram. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3364 lb./ac. (ii) (a) 188.4 lb./ac. (b) 121.2 lb./ac. (iii) C effect and interaction C×V are highly significant. V effect is significant.

	V ₁	V ₂	Mean
C ₁	3097	3381	3239
C ₂	3405	3572	3488
Mean	3251	3476	3364

S.E. of difference of two

1. V marginal means = 66.6 lb./ac.
2. C marginal means = 42.9 lb./ac.
3. C means at the same level of V = 60.6 lb./ac.
4. V means at the same level of C = 79.2 lb./ac.

Crop :- Paddy (Samba).**Ref :- M. 54(37).****Site :- Rice Res. Stn., Tirur.****Type :- 'CMV'.**

Object :—To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra', Bombay, with that of Farm method of Paddy cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.L. at 5000 lb./ac.+Super at 150 lb./ac.+A/S at 175 lb./ac.. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 22.12.1954/19.1.1955. (iv) (a) N.A. (b) to (e) As per treatments. (v) and (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 8.83'. (x) 27.4.1955.

2. TREATMENTS :**Main-plot treatments :**

2 varieties : V₁=CO—18 and V₂=TKM—5.

Sub-plot treatments :

Same as in expt. no. 54(34) on page 191.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) 60'×10'. (b) For C₁ : 59½'×9'2" and for C₂ : 59½'×9½'. (v) Outer rows left. (vi) Yes.

4. GENERAL :

(i) C₁ plots are more vigorous and taller than C₂ plots. C₁ lodged on 27.3.1955 ; propping done. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—1955. (b) No. (c) N.A. (v) (a) Coimbatore, Adhuthurai, Pattukkottai, Palur and Ambasamudram. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2164 lb./ac. (ii) (a) 130.0 lb./ac. (b) 156.0 lb./ac. (iii) C effect alone is highly significant. (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	Mean
C ₁	2322	2299	2311
C ₂	2079	1956	2017
Mean	2201	2127	2164

S.E. of difference of two

1. V marginal means = 46.0 lb./ac.
2. C marginal means = 55.2 lb./ac.
3. C means at the same level of V = 78.0 lb./ac.
4. V means at the same level of C = 71.8 lb./ac.

Crop :- Paddy.**Ref :- M. 54(51).****Site :- Agri. Res. Stn., Aduthurai.****Type :- 'D'.**

Object :- To study the effect of different fungicides on blast disease of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.L. at 5000 lb./ac. + Super at 150 lb./ac. + A/S at 500 lb./ac. (ii) (a) Clayey loam. (b) Refer soil analysis, Aduthurai. (iii) 30.9.1954/11.11.1954. (iv) (a) 2 ploughings after watering the field. G.M. applied, trampled and allowed to decompose, ploughed again and levelled prior to transplanting. (b) Transplanting. (c) to (e) N.A. (v) 500 lb./ac. of G.M. + 150 lb./ac. of Super just before planting. Top-dressing with A/S—quantity N.A. (vi) Adt. 10. (vii) Irrigated. (viii) One weeding a month after transplanting. (ix) 27.33". (x) 6, 7.3.1955.

2. TREATMENTS :

4 fungicides : F_0 = No, F_1 = Bordeaux's mixture, F_2 = Perenox and F_3 = Cupravit.
Spraying in 2 doses, 1st 15 days after planting and the other 15 days later.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) and (b) 8' × 14'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Blast attack—As per treatments. (iii) Grain yield and % of blast infected tillers in each plot. (iv) (a) No. (b) and (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) The data is transformed into $\sin^{-1}\sqrt{p}$ where p is the % of infection and then analysed.

5. RESULTS :**I % infection of blast**

(i) 26.74 degrees. (ii) 4.05 degrees. (iii) Treatment differences are not significant. (iv) Mean angle in degrees.

Treatment	F_0	F_1	F_2	F_3
Mean angle	30.56	24.59	26.26	25.55

S.E./mean = 1.65 degrees.

II. Grain yield

(i) 2637 lb./ac. (ii) 506.3 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
Av. yield	2334	2761	2411	3034

S.E./mean = 206.7 lb./ac.

Crop :- Paddy.**Ref :- M. 54(52)****Site :- Agri. college and Res. Instt., Coimbatore.****Type :- 'D'.**

Object :- To study the effect of different fungicides in controlling blast disease of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Fallow—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. and 120 lb./ac. of N. as A/S. (ii) (a) Clayey. (b) Refer soil analysis, Coimbatore. (iii) 13.9.1954/14.10.1954. (iv) (a) 2 ploughings after letting water into the field. G.M. applied, trampled, allowed to decompose for a week and ploughed in. Levelling was done prior to transplantation. (b) Transplanting. (c) to (e) N.A. (v) 5000 lb./ac. of G.L. spread uniformly and trampled. (vi) CO—13 (early). (vii) Irrigated. (viii) Two weedings. (ix) 13.06" (x) 12.1.1955.

2. TREATMENTS :

9 fungicides : F_0 = No spraying, F_1 = Bordeaux's mixture 1% + 8 oz. of Albolinium in 100 gallons of water. F_2 = Cupravit, F_3 = Coppesan, F_4 = Fungi-copper (Geigy), F_5 = Shell copper fungicide, F_6 = Fungimar, F_7 = Trifungal and F_8 = Perenox.

The concentration of Tr. F_2 to F_8 is 1 lb. in 40 gallons of water. Two sprays given—1st 15 days after planting and second 30 days after planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) and (b) 23' × 18'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Blast attack—Control measures as per treatments. (iii) Leaf and neck infestations were recorded. Infection count and grain yield. (iv) (a) 1943—contd. (but with varying treatments). (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) The data is transformed into $\sin^{-1}\sqrt{p}$ where p is the % neck infection and then analysed. (vii) Expt. was conducted by the Mycologist, Coimbatore.

5. RESULTS :

I. % infection of blast

(i) 29.57 degrees. (ii) 4.50 degrees. (iii) Treatment differences are not significant. (iv) Mean angle in degrees.

Treatment	F ₀	F ₁	F ₂	F ₃	F ₄	F ₅	F ₆	F ₇	F ₈
Mean angle	30.68	32.54	27.77	27.62	29.28	29.42	28.66	30.14	30.04

S.E./mean = 2.25 degrees.

II. Grain yield

(i) 580.2 lb./ac. (ii) 159.4 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	F ₅	F ₆	F ₇	F ₈
Av. yield	526.1	605.0	683.9	552.4	671.3	499.8	473.5	736.5	473.5

S.E./mean = 79.7 lb./ac.

Crop :- Paddy.

Ref :- M. 54(53).

Site :- Agri. College and Res. Instt., Coimbatore.

Type :- 'D'.

Object :—To study the effect of different fungicides in controlling blast disease.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. (ii) (a) Clayey. (b) Refer soil analysis, Coimbatore. (iii) 1.11.1954/N.A. (iv) (a) 2 ploughings and levelling after G.L. was applied. (b) to (e) N.A. (v) 5000 lb./ac of G.L. (vi) CO—13 (early). (vii) Irrigated. (viii) Nil. (ix) 4.03". (x) 6.1.1955.

2. TREATMENTS :

Same as in expt. no. 54(52) on page 195.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) and (b) 5'×10'. (v) No. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Sprayed against thrips. (iii) Leaf infection was recorded. (iv) (a) 1943—contd. (but with different treatments year to year). (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) The data is transformed into $\sin^{-1}\sqrt{p}$ where p is the % infection and then analysed. (vii) Expt. was conducted by the Mycologist.

5. RESULTS :

(i) 29.51 degrees. (ii) 5.46 degrees. (iii) Treatment differences are not significant. (iv) Mean angle in degrees.

Treatment	F ₀	F ₁	F ₂	F ₃	F ₄	F ₅	F ₆	F ₇	F ₈
Mean angle	31.54	30.12	29.09	29.47	25.52	31.50	31.10	30.98	26.28

S.E./mean = 2.73 degrees.

Crop :- Paddy.

Ref :- M. 54(50).

Site :- Agri. College and Res. Instt., Coimbatore.

Type :- 'D'.

Object :—To study the effect of treating seed with fungicides on the foot-rot disease of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. (ii) (a) Clayey. (b) Refer soil analysis, Coimbatore. (iii) 6.11.1954. (iv) (a) Ploughing and levelling. (b) Transplanting. (c) to (e) N.A. (v) G.L. given—quantity N.A. (vi) CO—10. (vii) Irrigated. (viii) Nil. (ix) 3.05". (x) 20.12.1954

2. TREATMENTS :

6 fungicides : F_0 =No treatment, F_1 =Agrosan G.N., F_2 =Ceresan, F_3 =Harvesan, F_4 =Tripomol 50 and F_5 =Tripomol 80.

Quantity of fungicides—1 gm. per pound of seed.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) and (b) $2' \times 2'$. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Foot-rot disease—control manures as per treatments. (iii) Observation recorded on percentage of infected seedlings. (iv) (a) 1943—contd. (but with different treatments every year). (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) The data is transformed into $\sin^{-1}\sqrt{p}$ where p is the % infection and then analysed. (vii) Expt. was conducted by Mycologist.

5. RESULTS :

(i) 28.48 degrees. (ii) 3.56 degrees. (iii) Treatment differences are highly significant. (iv) Mean angle in degrees.

Treatment	F_0	F_1	F_2	F_3	F_4	F_5
Mean angle	79.10	3.01	8.88	6.57	33.16	40.18

S.E./mean = 1.78 degrees.

Crop :- Paddy.

Ref :- M. 54(28).

Site :- Agri. College and Res. Instt., Coimbatore.

Type :- 'D'.

Object :— To study the effect of periodical application of insecticides on Paddy stem-borer.

1. BASAL CONDITIONS :

(i) (a) No. (b) Paddy. (c) 10,000 lb./ac. [of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S as top-dressing. (ii) (a) Clayey. (b) Refer soil analysis, Coimbatore. (iii) 27.8.1954/19.10.1954. (iv) (a) Puddling with Victory plough followed by country plough and levelling. (b) Transplanting. (c) to (e) N.A. (v) 10,000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S as top-dressing. (vi) PTB.21. (medium) (vii) Irrigated. (viii) 4 weedings. (ix) N.A. (x) 17.1.1955.

2. TREATMENTS :

5 insecticides : I_0 =No spray, I_1 =B.H.C. 0.1 %, I_2 =Folidol (0.025 %, I_3 =Endrine 0.01% (1 oz. in 12½ gallons of water) and I_4 =Product 1250.

Four sprayings done—1st at nursery stage (42 days old), 2nd and 3rd after 15 and 30 days of transplanting and 4th at shoot-blade stage.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) and (b) $100' \times 22'$. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good ; lodging was noted on 10.1.1955. (ii) As per treatments. (iii) Percentage of stem-borer infection and grain yield. (iv) (a) 1952—contd. (b) No. (c) Nil. (v) (a) Aduthurai. (b) N.A. (vi) Nil. (vii) Expt. was conducted by the Entomologist, Coimbatore.

5. RESULTS :

(i) 2768 lb./ac. (ii) 121.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	I_0	I_1	I_2	I_3	I_4
Av. yield	2280	2343	2330	2267	2317

S.E./mean = 49.7 lb./ac.

Crop :- Paddy.

Ref :- M. 54(92).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'D'.

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

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super as B.D.+150 lb./ac. of A/S top-dressed one month after planting. (ii) (a) Clayey. (b) N.A. (iii) 16.7.1954/17.8.1954. (iv) (a) 3 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 4'×6'. (e) N.A. (v) 5000 lb./ac. of *Sesbania* G.L.+150 lb./ac. of Super as B.D. (vi) CO-13 (early). (vii) Irrigated. (viii) Weeding a month after planting. (ix) 10.9' (x) 17.11.1954.

2. TREATMENTS :

1. Control.
2. Each pound of seed treated by 4 lb./ac. of Ceresan.
3. Each pound of seed treated by 5 lb./ac. of Ceresan.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) and (b) 4'×20'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Height measurement, tiller count and grain yield. (iv) (a) 1953—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2783 lb./ac. (ii) 1959 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3
Av. yield	2813	2762	2776

S.E./mean = 692.6 lb./ac.

Crop :- Jowar.

Site :- Millet Breeding Stn., Coimbatore.

Ref :- M. 54(113).

Type :- 'M'.

Object :—To find out the optimum dose of fertilizers for Jowar.

1. BASAL CONDITIONS :

(i) *Jowar*—*Cotton*—*Jowar*. (b) Pulses—Cowpea. (c) 5 tons/ac. of F.Y.M. (ii) (a) Red soil. (b) Refer soil analysis, Coimbatore. (iii) 6.8.1954. (iv) (a) 4 ploughings. (b) Line sowing. (c) 15 lb./ac. (d) 1.32'×1.32'. (e) 2. (v) 5 tons/ac. of F.Y.M. given as B.D. before the last ploughing. (vi) CO-1 (late) (vii) Irrigated. (viii) 2 weedings, hoeings and thinning. (ix) 14.6'. (x) 26.12.1954.

2. TREATMENTS :

4 doses of manure : M_0 =No manure, M_1 =5 tons/ac. of F.Y.M., M_2 =5 tons/ac. of F.Y.M.+20 lb./ac. of N +20 lb./ac. of P_2O_5 and M_3 =5 tons/ac. of F.Y.M.+40 lb./ac. of N+20 lb./ac. of P_2O_5 .

N as A/S and P_2O_5 as Super. F.Y.M. and Super applied as B.D. before sowing. A/S applied in rows by hoeing at thinning time one month after sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) 32'×66'. (iii) 6. (iv) (a) 33'×66'. (b) 26.4'×59.4'. (v) 3.3'×3.3'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954—contd. (b) Yes. (c) N.A. (v) (a) Tirupathur. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1390 lb./ac. (ii) 150.6 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
Av. yield.	1303	1347	1501	1407

S.E./mean = 61.5 lb./ac.

Crop :- Jowar.**Ref :- M. 55(47).****Site :- Millet Breeding Stn., Coimbatore.****Type :- 'M'.**

Object :—To find out the optimum dose of fertilizers for Jowar.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—Pulses—*Jowar*. (b) Pulse. (c) 2½ tons/ac. of F.W.C. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 13.9.1955. (iv) (a) 4 ploughings. (b) Line sowing. (c) 15 lb./ac. (d) 1.32' × 1.32'. (e) 2. (v) Nil. (vi) CO—1 (late). (vii) Irrigated. (viii) 2 weedings and 2 hoeings. (ix) 8.95". (x) 28.1.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(113) on page 198.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) (a) Tirupathur. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 972 lb./ac. (ii) 153.7 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
Av. yield	858	890	1066	1074

S.E./mean = 62.75 lb./ac.

Crop :- Jowar.**Ref :- M. 57(37).****Site :- Millet Breeding Stn., Coimbatore.****Type :- 'M'.**

Object :—To find out the optimum dose of fertilizers.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—pulse—*Jowar*. (b) Pulse. (c) 2½ tons/ac. of F.W.C. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 8.7.1957. (iv) (a) 4 ploughings. (b) Line sowing (c) 15 lb./ac. (d) 1.32' × 1.32'. (e) 2. (v) Nil. (vi) CO—1 (late). (vii) Unirrigated. (viii) 2 weedings and 2 hoeings. (ix) 23.87". (x) 8.1.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(113) on page 198.

4. GENERAL :

Same as in expt. no 55(47) on page 198.

5. RESULTS :

(i) 1206 lb./ac. (ii) 129.4 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
Av. yield	1105	1470	1207	1041

S.E./mean = 52.8 lb./ac.

Crop :- Jowar.**Ref :- M. 55(26).****Site :- Regional Millet Stn., Tirupathur.****Type :- 'M'.**

Object :—To determine the response of Jowar to organic and inorganic manures.

1. BASAL CONDITIONS :

(i) (a) *Bajra*—Horse gram—*Jowar*. (b) Horse gram. (c) Nil. (ii) (a) Reddish loam. (b) N.A. (iii) 8.6.1955. (iv) (a) 2 ploughings with country plough and one with junior hoe. (b) Line sowing. (c) 10 lb./ac. (d) 1.32' × 0.66'. (e) 1. (v) Nil. (vi) TPT.1 (late). (vii) Unirrigated. (viii) Thinning, hoeing and weeding one month after sowing. (ix) 30.17". (x) 20.12.1955.

2. TREATMENTS :

Same as in expt. no. 54(113) on page 198.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) 66'×52.8'. (iii) 6. (iv) (a) 66'×13.2. (b) 66'×10.61'. (v) One row on either side. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of grain. (iv) (a) 1955—1958. (b) Yes. (c) Nil. (v) (a) Coimbatore. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 902.0 lb./ac. (ii) 205.8 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	635	793	1028	1151

S.E./mean = 84.0 lb./ac.

Crop : Jowar.

Site :- Regional Millet Stn., Tirupathur.

Ref :- M. 56(19).

Type :- 'M'.

Object :—To determine the response of Jowar to organic and inorganic manures.

1. BASAL CONDITIONS :

(i) (a) *Bajra*—Horse gram—*Jowar*. (b) Horse gram. (c) Nil. (ii) (a) Reddish loam. (b) N.A. (iii) 30.6.1956. (iv) (a) 2 ploughings with country plough and 1 with junior hoe. (b) Line sowing. (c) 10 lb./ac. (d) 1.32'×1.32'. (e) 1. (v) Nil. (vi) TPT—1 (late). (vii) Unirrigated. (viii) Thinning, weeding and hoeing one month after sowing. (ix) 33.30°. (x) 4.1.1957.

2. TREATMENTS :

Same as in expt. no. 54(113) on page 198.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 55(26) on page 199.

5. RESULTS :

(i) 1027 lb./ac. (ii) 161.7 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	M ₀	M ₁	M ₂	M ₃
Av. yield	816	873	1140	1279

S.E./mean = 66.0 lb./ac.

Crop :- Jowar.

Site :- Regional Millet Stn., Tirupathur.

Ref :- M. 57(15).

Type 'M'.

Object :—To determine the response of Jowar to organic and inorganic manures.

1. BASAL CONDITIONS :

(i) (a) *Bajra*—Horse gram—*Jowar*. (b) Horse gram. (c) Nil. (ii) (a) Loam—Reddish. (b) N.A. (iii) 19.6.1957. (iv) (a) 2 ploughings with country plough and 1 with junior hoe. (b) N.A. (c) 10 lb./ac. (d) 1.32'×1.32'. (e) 1. (v) Nil. (vi) TPT—1 (late). (vii) Unirrigated. (viii) 1 thinning, weeding and hoeing (ix) 24.43°. (x) 28.12.1957.

2. TREATMENTS :

Same as expt. no. 54(113) on page 198.

3. DESIGN and 4. GENERAL:

Same as in expt. no. 55(26) on page 199.

5. RESULTS :

(i) 1028 lb./ac. (ii) 201 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	M ₀	M ₁	M ₂	M ₃
Av. yield	874	863	1075	1031
	S.E./mean = 82.0 lb./ac.			

Crop :- Jowar.

Ref :- M. 58 (MAE).

Site :- M.A.E. Farm, Bhavanisagar.

Type :- 'M'.

Object:—Type II—To study the effect of N, P and K when applied alone and in combinations along with F.Y.M. on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Cholam*—Groundnut. (b) Cotton. (c) As per treatments. (ii) (a) and (b) N.A. (iii) 15 and 16.9.1958. (iv) (a) 3 *mummaty* diggings. (b) Dibbling. (c) 22 lb./ac. (d) 12"×6". (e) 1. (v) Nil. (vi) CO-1. (vii) Irrigated. (viii) Thinning, gap filling, 2 hand weedings, hoeing and weeding, spraying and dusting. (ix) N.A. (x) 20 to 26.1.1959.

2. TREATMENTS :

All combinations of (1), (2), (3) and (4)

- (1) 3 levels of N : N₀=0, N₁=20 and N₂=40 lb./ac.
 (2) 3 levels of P₂O₅ : P₀=0, P₁=20 and P₂=40 lb./ac.
 (3) 3 levels of K₂O : K₀=0, K₁=20 and K₂=40 lb./ac.
 (4) 2 levels of F.Y.M. : F₀=0 and F₁=5,000 lb./ac.

3. DESIGN :

(i) 3³×2 Fact. confd. (ii) (a) 9 plots/block ; 6 blocks/replication. (b) N.A. (iii) 3. (iv) (a) 36.3'×15'. (b) 34.3'×13'. (v) and (vi) Yes.

4. GENERAL :

(i) Satisfactory. Crop was slightly affected by continuous shower. (ii) *Cholam* red-bug. (iii) Grain yield. (iv) (a) 1957—contd. (b) Yes. (c) —. (v) N.A. (vi) Heavy rains in early stages. (vii) Nil.

5. RESULTS :

(i) 180.3 lb./ac. (ii) 63.45 lb./ac. (iii) Only N effect is highly significant. (iv) Av. yield of grain in lb./ac.

	P ₀	P ₁	P ₂	K ₀	K ₁	K ₂	F ₀	F ₁	Mean
N ₀	134.5	126.8	118.4	130.1	123.9	125.7	116.7	136.5	126.6
N ₁	183.2	184.6	177.1	161.6	181.9	201.5	171.7	191.6	181.6
N ₂	251.6	209.9	236.2	257.5	211.9	228.3	204.2	261.0	232.6
Mean	189.8	173.8	177.2	183.1	172.6	185.2	164.2	196.4	180.3
F ₀	172.5	156.6	163.4	160.2	163.0	169.4			
F ₁	207.1	191.0	191.1	205.9	182.2	201.0			
K ₀	200.2	166.7	182.3						
K ₁	170.3	175.5	171.9						
K ₂	198.9	179.2	177.6						

S.E. of marginal mean of N, P or K = 8.63 lb./ac.
 S.E. of body of N×P, N×K or P×K table = 14.96 lb./ac.

Crop :- Jowar (Kharif).

Ref :- M. 59(MAE).

Site :- M.A.E. Farm, Bhavanisagar.

Type :- 'M'.

Object :—Type II—To study the effect of N, P and K when applied alone and in combinations along with F.Y.M. on the yield of Jowar.

1. BASAL CONDITIONS :

(i) (a) Cotton—Jowar—Groundnut. (b) Groundnut. (c) As per treatments. (ii) (a) and (b) N.A. (iii) 15.9.1959. (iv) (a) 7 ploughings. (b) Dibbling. (c) 25 lb./ac. (d) 12"×6". (e) N.A. (v) Nil. (vi) CO—1. (vii) Irrigated. (viii) One *mummatty* hoeing. (ix) N.A. (x) 23 to 25.1.1960.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 58 (MAE) Type II on page 201.

4. GENERAL :

(i) Not satisfactory due to heavy rains. (ii) Severely affected by early shoot-borer ; folidol sprayed once. (iii) Grain yield. (iv) (a) 1957 - contd. (b) Yes. (c) Nil. (v) Nil. (vi) During early stages there was heavy and continuous rain which affected the growth of the crop. (vii) Nil.

5. RESULTS :

(i) 171.1 lb./ac. (ii) 72.30 lb./ac. (iii) Only N effect is highly significant. (iv) Av. yield of grain in lb./ac.

	P ₀	P ₁	P ₂	K ₀	K ₁	K ₂	F ₀	F ₁	Mean
N ₀	90.9	50.3	97.4	79.8	88.2	70.6	87.8	71.3	79.5
N ₁	152.1	173.6	150.3	128.9	164.4	182.7	125.3	192.0	158.7
N ₂	252.1	279.8	293.8	302.9	275.7	247.0	240.7	309.7	275.2
Mean	165.0	167.9	180.5	170.6	176.1	166.8	151.3	191.0	171.1
F ₀	153.4	147.7	152.8	161.1	136.3	156.4			
F ₁	176.6	188.2	208.2	180.0	215.9	177.1			
K ₀	141.4	226.3	144.0						
K ₁	188.6	140.4	199.3						
K ₂	165.1	137.0	198.2						

S.E. of marginal mean of N, P or K = 17.04 lb./ac.
 S.E. of body of N×P, N×K or P×K table = 29.52 lb./ac.

Crop :- Jowar (Kharif).

Ref :- M. 57(MAE).

Site :- M.A.E. Farm, Bhavanisagar.

Type :- 'M'.

Object :—Type VI—To determine the method of placement of phosphatic fertilizers to Jowar.

1. BASAL CONDITIONS :

(i) (a) N A. (b) Horse gram. (c) Nil. (ii) (a) and (b) N.A. (iii) 11, 12.10.1957. (iv) (a) 3 ploughings. (b) Dibbling. (c) 12 lb./ac. (d) 18"×6". (e) 1. (v) 15 lb./ac. of N as A/S before sowing and 15 lb./ac. of N as A/S 60 days after sowing. (vi) CO—1 (5½ months duration). (vii) Irrigated. (viii) Hoeing and 2 weedings. (ix) 21.9". (x) 24, 25.2.1958.

2. TREATMENTS :

All combinations of (1), (2) and (3) + a control (no manure)

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

(2) 3 sources of P_2O_5 : $S_1=$ Super, $S_2=$ Ammo. Phos. and $S_3=$ Dical. Phos.

(3) 3 methods of placement of P_2O_5 : $M_1=$ Broadcast before final combination, $M_2=$ Placed $2\frac{1}{2}$ " below seed and $M_3=$ Band placement.

3. DESIGN :

(i) R.B.D. (ii) (a) 19. (b) N.A. (iii) 3. (iv) (a) $36.3' \times 15'$. (b) $34.3' \times 13'$. (v) $1' \times 1'$. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) Slight attack of ear-head-bug. (iii) Grain yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) No. (vi) Nil. (vii) Continuous rains during the early part of the crop resulted in stunted growth of the crop.

5. RESULTS :

(i) 69.9 lb./ac. (ii) 19.90 lb./ac. (iii) None of the effect is significant. (iv) Av. yield of grain in lb./ac.

Control = 75.3 lb./ac.

	S_1	S_2	S_3	Mean	P_1	P_2
M_1	60.2	75.8	74.8	70.3	70.7	69.9
M_2	50.2	83.4	62.1	65.2	56.6	73.8
M_3	74.8	64.9	79.9	73.2	69.5	76.9
Mean	61.7	74.7	72.3	69.6	65.6	73.5
P_1	64.6	64.4	67.8			
P_2	58.9	85.0	76.7			

S.E. of marginal mean of M or S	=	4.69 lb./ac.
S.E. of marginal mean of P	=	3.83 lb./ac.
S.E. of body of M×S table	=	8.12 lb./ac.
S.E. of body of M×P or M×S table	=	6.63 lb./ac.
S.E. of control mean	=	11.49 lb./ac.

Crop :- Jowar (Kharif).

Ref :- M. 58(MAE).

Site :- M.A.E. Farm, Bhavanisagar.

Type :- 'M'.

Object :- Type VI—To determine the method of placement of phosphatic fertilizers to Jowar.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) N.A. (ii) (a) and (b) N.A. (iii) 6, 7.11.1958. (iv) (a) 2 ploughings. (b) Dibbling. (c) 35 lb./ac. (d) $12'' \times 6''$. (e) N.A. (v) Nil. (vi) CO—1. (vii) Irrigated. (viii) 3 weedings. (ix) N.A. (x) 4 to 10.3.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(MAE) Type VI on page 202.

4. GENERAL :

(i) Due to alkalinity the growth of the crop is affected in patches. (ii) A slight attack of *cholam* ear-head-bug was noticed at the time of flowering—BHC. 10 % dust was given as control measure. (iii) Grain yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 154.6 lb./ac. (ii) 69.88 lb./ac. (iii) Control vs other treatments is highly significant. P effect is significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

Control = 283.3 lb./ac.

	S ₁	S ₂	S ₃	Mean	P ₁	P ₂
M ₁	146.6	183.9	158.0	162.8	148.8	176.8
M ₂	157.9	114.0	122.2	131.4	116.2	146.5
M ₃	153.1	197.1	94.5	148.2	105.4	191.0
Mean	152.5	165.0	124.9	147.5	123.5	171.4
P ₁	124.9	133.0	107.6			
P ₂	180.1	192.0	142.2			

S.E. of marginal mean of M or S = 16.47 lb./ac.
 S.E. of marginal mean of P = 13.45 lb./ac.
 S.E. of body of M×S table = 28.53 lb./ac.
 S.E. of body of M×P or S×P table = 23.29 lb./ac.
 S.E. of control mean = 40.35 lb./ac.

Crop :- Jowar (Kharif).**Ref :- M. 59(MAE).****Site :- M.A.E. Farm, Bhavanisagar.****Type :- 'M'.**

Object :- Type VI—To determine the method of placement of phosphatic fertilizers to Jowar.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) and (b) N.A. (iii) October-November, 1959. (iv) (a) Ploughings. (b) to (e) N.A. (v) Nil. (vi) N.A. (vii) Irrigated. (viii) and (ix) N.A. (x) February—March, 1960.

2. TREATMENTS :

All combinations of (1), (2) and (3)+control (3 plots/replication).

(1) 2 levels of P₂O₅ : P₁=20 and P₂=40 lb./ac.(2) 3 sources of P₂O₅ : S₁=Super, S₂=Ammono. Phos. and S₃=Dical. Phos.(3) 3 methods of placement of P₂O₅ : N₁=Broadcast before final combination, M₂=Placed 2½" below seed level and M₃=Band placement.**3. DESIGN :**

(i) R.B.D. (ii) (a) 21. (b) N.A. (iii) 3. (iv) (a) 36.3'×15'. (b) 34.3'×13'. (v) Yes. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

(i) 219.1 lb./ac. (ii) 70.01 lb./ac. (iii) S effect is highly significant. M effect and control vs others is significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

Control = 264.1 lb./ac.

	S ₁	S ₂	S ₃	Mean	P ₁	P ₂
M ₁	202.3	150.2	259.5	204.0	208.9	199.0
M ₂	262.8	205.6	267.7	245.4	260.1	230.6
M ₃	226.8	116.0	213.8	185.5	156.7	214.3
Mean	230.6	157.3	247.0	211.6	208.6	214.6
P ₁	211.1	173.1	241.6			
P ₂	250.1	141.4	252.4			

S.E. of marginal mean of M or S	= 16.5 lb./ac.
S.E. of marginal mean of P	= 13.5 lb./ac.
S.E. of body of M×S table	= 28.6 lb./ac.
S.E. of body of M×P or S×P table	= 23.3 lb./ac.

Crop :- Jowar.

Ref :- M. 58(134).

Site :- Millet Breeding Stn., Coimbatore.

Type :- 'MV'.

Object :- To study the response of different strains of Jowar to different fertilizers.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 5 tons/ac. of F.Y.M. + 30 lb./ac. of P_2O_5 as Super and 40 lb./ac. of N as A/S. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 12.3.1958. (iv) (a) 4 ploughings. (b) Line sowing. (c) 15 lb./ac. (d) $1.32' \times 0.66'$. (e) 1 seedling/hole. (v) 5 tons/ac. of C.M. (vi) As per treatments. (vii) Irrigated. (viii) 1 weeding. (ix) 9.19". (x) 15.7.1958.

2. TREATMENTS :

Main-plot treatments :

6 levels of manuring : $M_0=0$, $M_1=25$ lb./ac. of P_2O_5 as Super, $M_2=25$ lb./ac. of P_2O_5 as Super+60 lb./ac. of N as A/S, $M_3=25$ lb./ac. of P_2O_5 as Super+80 lb./ac. of N as A/S, $M_4=25$ lb./ac. of P_2O_5 as Super+100 lb./ac. of N as A/S, $M_5=25$ lb./ac. of P_2O_5 as Super+120 lb./ac. of N as A/S.

Sub-plot treatments :

6 varieties : $V_1=CO-4$, $V_2=CO-12$, $V_3=CO-16$, $V_4=CO-18$ and $V_5=K-2$.

3. DESIGN :

(i) Split-plot. (ii) (a) 6 main-plots/block ; 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) $13.2' \times 7.9'$. (b) $13.2' \times 6.6'$. (v) 0.66' on either side. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Millet Specialist, Coimbatore.

5. RESULTS :

(i) 1180 lb./ac. (ii) (a) 198 lb./ac. (b) 151 lb./ac. (iii) M effect and interaction M×V are significant. V effect in highly significant. (iv) Av. yield of grain in lb./ac.

	M_0	M_1	M_2	M_3	M_4	M_5	Mean
V_0	988	1238	1150	1213	1338	1538	1244
V_1	1213	1000	1325	1238	1175	1500	1242
V_2	575	875	1125	1063	1000	1363	1000
V_3	1038	1013	1175	1038	1288	1275	1138
V_4	1175	1038	1363	1300	1350	1425	1275
Mean	998	1033	1228	1170	1230	1420	1180

S.E. of difference of two

1. M marginal means	= 62.6 lb./ac.
2. V marginal means	= 43.6 lb./ac.
3. V means at the same level of M	= 106.8 lb./ac.
4. M means at the same level of V	= 114.2 lb./ac.

Crop :- Jowar (Summer).

Ref :- 58(135).

Site :- Millet Breeding Stn., Coimbatore.

Type :- 'CM'.

Object :- To compare the farm method of cultivation with Poona method and Ryot's method.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) *Jowar*. (c) 5 tons/ac. of F.Y.M.+3 lb./ac. P_2O_5 as Super and 40 lb./ac. N as A/S.
 (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 13.3.1958. (iv) (a) 4 ploughings.
 (b) Lite sowing. (c) 15 lb./ac. (d) and (e) As per treatments. (v) 5 tons/ac. of F.Y.M. and 30 lb./ac.
 P_2O_5 of as Super. (vi) CO—8. (vii) Irrigated. (viii) 1 weeding and 2 thinnings. (ix) 9.19". (x)
 24.6.1958.

2. TREATMENTS :

Three methods of cultivation :

1. Poona method : 60 lb./ac. of N as A/S applied in equal doses, 3 and 6 weeks after sowing, 10 to 12 seeds/hole to be thinned in 3 stages to 4 plants/hole at $1.98' \times 1.32'$ spacing.
2. Farm method : 40 lb./ac. of N as A/S applied in equal doses, 3 and 6 weeks after sowing, 1 plant/hill at $1.32' \times 0.66'$ spacing.
3. Ryot's method : 60 lb./ac. of N as A/S applied in equal doses, 3 and 6 weeks after sowing, 1 plant/hill at $0.66' \times 0.66'$ spacing.

3. DESIGN

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) $13.2' \times 7.92'$. (b) $13.2' \times 5.94'$. (v) N.A. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Millet Specialist, Coimbatore.

5. RESULTS :

- (i) 7.9 lb./ac. (ii) 43.5 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3
Av. yield	614	776	766

S.E./mean = 15.4 lb./ac.

Crop :- Jowar.

Ref :- M. 57(MAE)

Site :- M.A.E. Farm, Bhavanisagar.

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) Nil. (b) Groundnut. (c) Nil. (ii) (a) and (b) N.A. (iii) 17, 18.9.1957. (iv) (a) 3 ploughings.
 (b) Dibbling in lines. (c) 15 lb./ac. (d) As per treatments. (e) N.A. (v) F.Y.M. at 5000 lb./ac.
 (vii) Irrigated. (viii) Hoeing and 2 weedings.. (ix) 17.72" (x) 27, 28.1.1958.

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 : $S_1=6''$, $S_2=12''$ and $S_3=18''$.

Spacing between plants is 6".

3. DESIGN :

- (i) 3^3 fact. confd. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 2. (iv) (a) $36.0' \times 15'$.
 (b) $34.3' \times 13'$. (v) N.A. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Incidence of *cholam* ear-head bug ; dusting of B.H.C. 10 %. (iii) Grain yield.
 (iv) (a) 1957—contd. (b) and (c) No. (v) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 203.8 lb./ac. (ii) 77.35 lb./ac. (iii) Only N effect is 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	133.4	169.9	142.9	148.7	159.7	139.3	147.2
N ₁	194.4	209.5	221.3	208.4	217.5	223.4	184.4
N ₂	244.0	219.0	300.0	254.3	289.7	279.4	193.9
Mean	190.6	199.5	221.4	203.8	222.3	214.0	175.2
S ₁	244.4	206.8	215.8				
S ₂	208.9	201.5	231.7				
S ₃	118.5	190.3	216.7				

S.E. of any marginal mean = 18.2 lb./ac.
S.E. of body of any table = 31.6 lb./ac.

Crop :- Jowar.

Ref :- M. 58(MAE).

Site :- M.A.E. Farm, Bhavanisagar.

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) No. (b) Groundnut. (c) N.A. (ii) (a) and (b) N.A. (iii) 29.9.1958. (iv) (a) 2 ploughings. (b) Dibbling. (c) 15 lb./ac. (d) As per treatments. (e) N.A. (v) 40 lb./ac. of P₂O₅ as Super. (vi) CO-1. (vii) Irrigated. (viii) 2 hoeings and gap filling. (ix) N.A. (x) 17 and 18.2.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(M.A.E.) Type VIII on page 206.

4. GENERAL :

(i) Crop was affected by heavy rains in October and November. (ii) Ear-head-bug, controlled by B.H.C. 10% dust. Spraying of Cupravit as a check against infection of red-leaf. (iii) —. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) Nil. (vi) Continuous rains during the early stages of the crop. (vii) Nil.

5. RESULTS :

(i) 94.7 lb./ac. (ii) 31.15 lb./ac (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	P ₀	P ₁	P ₂	S ₁	S ₂	S ₃	Mean
N ₀	81.5	84.5	81.3	112.0	72.3	62.9	82.4
N ₁	104.9	113.1	83.7	107.2	115.2	79.3	100.6
N ₂	129.2	73.1	100.7	93.4	100.7	108.9	101.0
Mean	105.2	90.2	88.6	104.2	96.1	83.7	94.7
S ₁	113.1	108.9	90.7				
S ₂	116.2	84.5	87.5				
S ₃	86.3	77.3	87.5				

S.E. of any marginal mean = 7.3 lb./ac.
S.E. of body of any table = 12.7 lb./ac.

Crop :- Jowar (Kharif).

Ref :- M. 59(MAE).

Site :- M.A.E., Farm, Bhavanisagar.

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) Nil. (b) Sannhemp. (c) Nil. (ii) (a) and (b) N.A. (iii) 8.9.1959. (iv) (a) 4 ploughings. (b) and (c) N.A. (d) As per treatments. (e) N.A. (v) Nil. (vi) CO—1. (vii) Irrigated. (viii) Weeding and hoeing twice. (ix) N.A. (x) 19 to 21.1.1960.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57 (M.A.E.) Type VIII on page 206.

4. GENERAL.

(i) Not good. (ii) The infection of early shoot borer was controlled by hand picking and with a spray of foliod. Ear-head bug was controlled by dusting B.H.C. 10%. (iii) Grain yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 259.1 lb./ac. (ii) 69.30 lb./ac. (iii) Only S and N effects 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	167.9	165.9	172.7	168.8	162.9	145.0	198.6
N ₁	293.1	262.1	263.9	273.0	213.4	257.3	348.3
N ₂	327.2	363.0	315.8	335.3	283.2	361.5	361.4
Mean	262.7	263.7	250.8	259.1	219.9	254.6	302.8
S ₁	202.0	244.3	213.3				
S ₂	255.6	263.7	244.4				
S ₃	330.5	283.1	294.7				

S.E. of any marginal mean = 16.3 lb./ac.

S.E. of body of any table = 28.3 lb./ac.

Crop :- Jowar (Summer).

Ref :- M. 55(88)

Site :- Agri. College and Res. Inst., Coimbatore.

Type :- 'ICM'.

Object :—To study the combined effect of tillage, manures and irrigation on *Jowar*.

1. BASAL CONDITIONS :

(i) (a) *Jowar*—*Cotton*—*Ragi* with a G.M. crop between *Ragi* and *Jowar* once in 2 years. (b) *Sebania* (G.M.). (c) Nil. (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 26.3.1955. (iv) (a) As per treatments. (b) Line sowing. (c) N.A. (d) 1.32' × 1.32'. (e) 2. (v) 5 tons/ac. of C.M. (vi) CO—9 (early). (vii) Irrigated. (viii) 1 hoeing and 1 weeding. (ix) 9.32'. (x) 4.7.1955.

2. TREATMENTS :

Strips in one direction :

3 levels of irrigation : I₁ = 20", I₂ = 25" and I₃ = 30".

Strips in the perpendicular direction :

All combinations of (1) and (2).

(1) 2 levels of ploughings : T₁ = Shallow ploughings (with country plough) and T₂ = Deep ploughing (victory plough).

(2) 3 levels of manuring : M₁ = 30 lb./ac. of N + 30 lb./ac. of P₂O₅ ; M₂ = 60 lb./ac. of N + 45 lb. ac. of P₂O₅ + 50 lb./ac. of K₂O and M₃ = 90 lb./ac. of N + 60 lb./ac. of P₂O₅ + 50 lb./ac. of K₂O.

N as A.S, P₂O₅ as Super and K₂O as Pot. Sul. were applied.

3. DESIGN :

(i) Strip-plot (ii) (a) 18. (b) N.A. (iii) 4. (iv) (a) 33' × 13.2'. (b) 29.70' × 10.56'. (v) 1.65' × 1.32'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) B.H.C. 50% was sprayed against earhead bugs on *jowar*. (iii) Yield of grain. (iv) 1954—contd. (b) Yes. (c) Nil. (v) and (vi) Nil. (vii) Expt. was conducted by Agronomist, Coimbatore.

5. RESULTS :

(i) 2733 lb./ac. (ii) (a) 278.2 lb./ac. (b) 295.7 lb./ac. (c) 240.8 lb./ac. (iii) None of the effects or interactions is significant. (iv) Av. yield of grain in lb./ac.

	I ₁	I ₂	I ₃	Mean	M ₁	M ₂	M ₃
T ₁	2639	2746	2662	2682	2723	2723	2601.
T ₂	2711	2850	2790	2784	2799	2737	2816
Mean	2675	2798	2726	2733	2761	2730	2709
M ₁	2696	2778	2810				
M ₂	2665	2834	2691				
M ₃	2665	2783	2678				

S.E. difference of two

- | | | | | | |
|-----------------------------------|---|---------------|-----------------------------------|---|---------------|
| 1. I marginal means | = | 80.3 lb./ac. | 5. I means at the same level of T | = | 106.2 lb./ac. |
| 2. T marginal means | = | 69.7 lb./ac. | 6. M means at the same level of I | = | 130.1 lb./ac. |
| 3. M marginal means | = | 85.3 lb./ac. | 7. I means at the same level of M | = | 126.9 lb./ac. |
| 4. T means at the same level of I | = | 106.2 lb./ac. | S.E. of body of T×M table | = | 85.4 lb./ac. |

Crop :- Jowar (Summer).

Ref :- M. 58(41).

Site :- Agri. College and Res. Instt., Coimbatore.

Type :- 'D'.

Object :- To find out the best method to control stem-borer.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 19.2.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 12 to 15 lb./ac. (d) 9"×9". (e) 1. (v) 5 tons/ac. of F.Y.M. (vi) CO-18. (viii) Irrigated. (vii) Thinning and weeding. (ix) 6.35". (x) 7.6.1958.

2. TREATMENTS :

All combinations of (1), (2) and (3)+2 extra treatments

(1) 3 pesticides : P₁=Metasystox, P₂=Systox and P₃=Pestox.

(2) 2 concentrations : C₁=0.1% and C₂=0.2%.

(3) 2 methods of application : M₁=Spraying and M₂=Along with irrigation.

Extra treatments : T₁=Spraying water and T₂=Control (no treatment).

Treatments applied on : 18.3.1958, 10.4.1958, 30.4.1958 and 26.5.1958.

3. DESIGN :

(i) R.B.D. (ii) (a) 14. (b) 168'×48' (iii) 4. (iv) (a) 24'×24'. (b) 21'×21'. (v) 1½'×1½'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Stem-borer in the 2nd week of March 1958. Controlled as per treatments. (iii) 5 counts of stem-borer at fortnightly intervals in 100 plants and yield of grain. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Sin⁻¹√p transformation used where p is the percent infestation. (vii) Experiment was conducted by Entomologist, Coimbatore.

5. RESULTS :

I. % infestation of stem-borer

(i) 23.12 degrees. (ii) 1.14 degrees. (iii) No effect is significant. (iv) Av. incidence stem-borer.

$T_1 = 24.16$ degrees ; $T_2 = 23.60$ degrees.

	C ₁	C ₂	Mean	M ₁	M ₂
P ₁	22.68	23.78	23.23	23.36	23.09
P ₂	22.82	23.46	23.14	22.84	23.44
P ₃	22.44	22.88	22.66	22.16	23.16
Mean	22.64	23.37	23.00	22.79	23.23
M ₁	21.50	24.07			
M ₂	23.78	22.68			

S.E. of P marginal mean = 0.29 degrees.
 S.E. of C or M marginal mean = 0.23 degrees.
 S.E. of body of C×M table = 0.33 degrees.
 S.E. of body of P×C or P×M table = 0.40 degrees.
 S.E. of extra treatment mean = 0.57 degrees.

II. Grain yield.

(i) 3134 lb./ac. (ii) 232 lb./ac. (iii) Only M effect and interaction C×M are highly significant. (iv) Av. yield of grain in lb./ac.

$T_1 = 2925$ lb./ac. ; $T_2 = 3088$ lb./ac.

	C ₁	C ₂	Mean	M ₁	M ₂
P ₁	2850	3119	3035	3226	2844
P ₂	3147	3081	3114	3369	2859
P ₃	3282	3350	3316	3550	3082
Mean	3126	3183	3155	3381	2928
M ₁	3246	3517			
M ₂	3007	2850			

S.E. of P marginal mean = 58.0 lb./ac.
 S.E. of C or M marginal mean = 47.3 lb./ac.
 S.E. of body of C×M table = 66.9 lb./ac.
 S.E. of body of P×C or P×M table = 82.0 lb./ac.
 S.E. of extra treatment mean = 116.0 lb./ac.

Crop :- Jowar (Summer).

Ref :- M. 59(35).

Site :- Agri. College and Res. Instt., Coimbatore.

Type :- 'D'.

Object :—To find out the best method to control stem-borer.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 16.2.1959.
 (iv) (a) 3 ploughings (b) N.A. (c) 15 lb./ac. (d) 9"×9". (e) 1. (v) 5 tons/ac. of F.Y.M. (vi) CO—18.
 (vii) Irrigated. (viii) 1 thinning and weeding. (ix) N.A. (x) 8.6.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 58(41) on page 209.

4. GENERAL :

(i) N.A. (ii) Stem-borer incidence noticed. Controlled as per treatments. (iii) Count of stem-borer infested plants and yield of grain. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) $\sin^{-1}\sqrt{p}$ transformation was used where p is the percent infestation. (vii) Expt. was conducted by Govt. Entomologist, Coimbatore.

5. RESULTS :

I. % infestation of stem-borer.

(i) 18.05 degrees. (ii) 1.24 degrees. (iii) No effect is significant.

 $T_1 = 17.45$ degrees ; $T_2 = 17.88$ degrees.

	C ₁	C ₂	Mean	M ₁	M ₂
P ₁	18.18	18.18	18.18	17.99	18.36
P ₂	17.88	17.76	17.82	18.00	17.63
P ₃	18.58	18.14	18.36	18.38	18.34
Mean	18.21	18.03	18.12	18.12	18.11
M ₁	18.31	17.94			
M ₂	18.11	18.11			

S.E. of P marginal mean = 0.31 degrees.
 S.E. of C or M marginal mean = 0.25 degrees.
 S.E. of body of C×M table = 0.36 degrees.
 S.E. of body of P×C or P×M table = 0.44 degrees.
 S.E. of extra treatment mean = 0.62 degrees.

II. Grain yield.

(i) 845 lb./ac. (ii) 172.6 lb./ac. (iii) M effect is highly significant. P effect is significant. Other effects and interactions are not significant. (iv) Av. yield of grain in lb./ac.

 $T_1 = 938$ lb./ac. ; $T_2 = 796$ lb./ac.

	C ₁	C ₂	Mean	M ₁	M ₂
P ₁	778	920	849	976	722
P ₂	753	741	749	827	657
P ₃	932	924	928	1068	788
Mean	821	862	842	957	726
M ₁	906	1008			
M ₂	737	715			

S.E. of P marginal mean = 43.2 lb./ac.
 S.E. of C or M marginal mean = 35.2 lb./ac.
 S.E. of body of C×M table = 49.8 lb./ac.
 S.E. of body of P×C or P×M table = 61.0 lb./ac.
 S.E. of extra treatment mean = 86.3 lb./ac.

Crop :- Bajra.

Ref :- M. 59(58).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'M'.

Object :- To study the effect of P₂O₅ and G.M. on Bajra.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Red gravelly loam. (b) The soils are poor in lime, phosphate and nitrogen. The soluble salts are below 0.1%. The pH value ranges from 8 to 9. (iii) 27 to 30.8.1959. (iv) (a) 2 and 3 ploughings. (b) N.A. (c) 7 to 8 lb./ac. (d) 6'×6". (e) N.A. (v) Nil. (vi) CO-4. (vii) Irrigated. (viii) Weeding once. (ix) 9.10". (x) 26, 27.12.1959.

2. TREATMENTS :

Main-plot treatments :

6 G.M. crops ploughed in *situ* : M_1 =Sannhemp, M_2 =*Sesbania*, M_3 =Cowpea, M_4 =Dew gram, M_5 =
Indigo and M_6 =*Dhaincha*.

Sub-plot treatments :

2 levels of P_2O_5 as Super : $P_0=0$ and $P_1=30$ lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 6 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 64'×18'. (b) 62'×16'. (v) 2 rows left as border. (vi) Yes.

4. GENERAL:

(i) Not satisfactory. (ii) N.A. (iii) Yield of grain. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 291 lb./ac. (ii) (a) 59.5 lb./ac. (b) 85.1 lb./ac. (iii) Main effects of M and P are highly significant. Interaction is not significant. (iv) Av. yield of grain in lb./ac.

	M_1	M_2	M_3	M_4	M_5	M_6	Mean
P_0	360	185	208	264	227	288	255
P_1	486	217	352	274	295	332	326
Mean	423	201	280	269	261	310	291

S.E. of difference of two

1. M marginal means = 29.8 lb./ac.
2. P marginal means = 24.6 lb./ac.
3. P means at the same level of M = 60.2 lb./ac.
4. M means at the same level of P = 51.9 lb./ac.

Crop :- Bajra.

Ref :- M. 56(60).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'M'

Object : - To find out the relative effect of application of bulky organic manures at different levels of N to Bajra.

1. BASAL CONDITIONS:

(i) (a) *Bajra-Rogi*—Cotton. (b) G.M. crop. (c) Nil. (ii) (a) Red gravelly loam. (b) Same as in expt. no. 59/58 on page 211. (iii) 28.11.1956. (iv) (a) to (e) N.A. (v) River silt at 10 C.L./ac. + A/S at 136 lb./ac. + Super at 240 lb./ac. (vi) CO—4. (vii) Irrigated. (viii) Weeding once. (ix) Nil. (x) 14.3.1957.

2. TREATMENTS :

Main-plot treatments :

4 sources of bulky manure : S_1 =Sannhemp, S_2 =C.M., S_3 =Farm waste compost and S_4 =Glyricidia.

Sub-plot treatments :

4 levels of bulky manures : $L_0=0$, $L_1=2500$, $L_2=5000$ and $L_3=7500$ lb./ac.

3. DESIGN:

(i) Split-plot. (ii) (a) 4 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 30'×24'. (b) 27'×20'. (v) 1½'×2'. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—1957. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Low yield due to unfavourable seasonal conditions. (vii) Nil.

5. RESULTS :

(i) 333 lb./ac. (ii) (a) 103.0 lb./ac. (b) 109.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

L₀ = 320 lb./ac.

	S ₁	S ₂	S ₃	S ₄	Mean
L ₁	382	275	345	308	328
L ₂	396	375	317	318	351
L ₃	397	246	413	284	335
Mean	392	299	358	303	338

S.E. of difference of two

1. S marginal means = 42.0 lb./ac.
2. L marginal means = 38.7 lb./ac.
3. L means at the same level of S = 77.4 lb./ac.
4. S means at the same level of L = 75.9 lb./ac.

Crop :- Bajra.**Ref :- M. 57(49).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'M'.**

Object :- To find out the relative effect of application of bulky organic manures at different levels of N to Bajra.

1. BASAL CONDITIONS :

(i) (a) G.M.—Cotton—G.M.—*Bajra—Ragi*. (b) G.M. crop. (c) Nil. (ii) (a) Red gravelly loam. (b) Same as in expt. no. 59(58) on page 211. (iii) 28 to 30.9.1957. (iv) (a) 2 to 3 ploughings. (b) to (e) N.A. (v) River silt at 10 C.L./ac.+A/S at 136 lb./ac.+Super at 240 lb./ac. (vi) CO-4. (vii) Irrigated. (viii) Weeding once. (ix) 1.00". (x) 23 to 25.12.1957.

2. TREATMENTS and 3. DESIGN

Same as in expt. no. 56(60) on page 212.

4. GENERAL :

(i) Fair. (ii) N.A. (iii) Grain yield. (iv) (a) 1956—1957. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Yield poor due to untimely heavy rains. (vii) Nil.

5. RESULTS :

(i) 273 lb./ac. (ii) (a) 83.14 lb./ac. (b) 65.92 lb./ac (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

L₀ = 264 lb./ac.

	S ₁	S ₂	S ₃	S ₄	Mean
L ₁	348	217	229	296	273
L ₂	324	256	250	260	273
L ₃	432	244	232	220	283
Mean	369	239	237	259	276

S.E. of difference of two

1. S marginal means = 33.94 lb./ac.
2. L marginal means = 23.31 lb./ac.
3. L means at the same level of S = 46.61 lb./ac.
4. S means at the same level of L = 50.99 lb./ac.

Crop :- Bajra.**Ref :- M. 58(68).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'M'.**

Object :- To study the relative effect of bulky manures on Bajra.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Red gravelly loam. (b) Same as in expt. no. 59(58) on page 211. (iii) 18.9.1958. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 7 to 8 lb./ac. (d) 9'×6'. (e) N.A. (v) Nil. (vi) CO—4. (vii) Irrigated. (viii) Weeding once. (ix) N.A. (x) 9.12.1958.

2. TREATMENTS :

Main-plot treatments :

4 sources of bulky manure: S_1 =Sannhemp, S_2 =Gliricidia, S_3 =Farm yard compost and S_4 =Ordinary compost.

Sub-plot treatments :

4 levels of bulky manures : $L_0=0$, $L_1=2500$, $L_2=5000$ and $L_3=7500$ lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 30'×24'. (b) 27'×22'. (v) 1½'×1'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 161 lb./ac. (ii) (a) 89.1 lb./ac. (b) 54.1 lb./ac. (iii) Main effect of L and interaction $S \times L$ are highly significant. Effect of S is significant (iv) Av. yield of grain in lb./ac.

$$L_0 = 126 \text{ lb./ac.}$$

	S_1	S_2	S_3	S_4	Mean
L_1	170	115	128	115	132
L_2	247	169	141	163	180
L_3	389	167	156	112	206
Mean	269	150	142	130	173

S.E. of difference of two

1. S marginal means = 36.4 lb./ac.
2. L marginal means = 19.1 lb./ac.
3. L means at the same level of S = 38.3 lb./ac.
4. S means at the same level of L = 47.9 lb./ac.

Crop :- Bajra.

Ref :- M. 59(57).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'M'.

Object :—To study the relative effect of bulky manures on Bajra.

1. BASAL CONDITIONS

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Red gravelly loam. (b) Same as in expt. no. 59(58) on page 211. (iii) 10.8.1959. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 7 to 8 lb./ac. (d) 9'×6'. (e) N.A. (v) Nil. (vi) CO—4. (vii) Irrigated. (viii) Weeding once. (ix) 9.10. (x) 8.11.1959.

2. TREATMENTS

Same as expt. no. 58(68) above.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 33'×24'. (b) 28.5'×23'. (v) 9'×6'. (vi) Yes.

4. GENERAL :

Same as in expt. no. 58(68) above.

5. RESULTS :

(i) 444 lb./ac. (ii) (a) 142.1 lb./ac. (b) 73.1 lb./ac. (iii) Main effect of L is highly significant and effect of S is significant. (iv) Av. yield of grain in lb./ac.

L₀ = 344 lb./ac.

	S ₁	S ₂	S ₃	S ₄	Mean
L ₁	532	390	444	339	426
L ₂	635	500	444	390	492
L ₃	688	424	513	434	515
Mean	618	438	467	388	478

S.E. of difference of two

1. S marginal means = 58.0 lb./ac.
2. L marginal means = 25.8 lb./ac.
3. L means at the same level of S = 51.7 lb./ac.
4. S means at the same level of L = 71.7 lb./ac.

Crop :- Bajra.**Ref :- M. 56(65).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'M'.**

Object :- To study the effects of G.L. on Bajra.

1. BASAL CONDITIONS :

(i) (a) Bajra—Ragi—Cotton. (b) G.M. crop. (c) Nil. (ii) (a) Red gravelly loam. (b) Same as in expt. no. 59(58) on page 211. (iii) 24, 25.11.1956. (iv) (a) to (e) N.A. (v) Nil. (vi) CO—4. (vii) Irrigated. (viii) 2 weedings. (ix) 1.00°. (x) 22, 23.2.1957.

2. TREATMENTS :**Main-plot treatments :**5 G.M. crops : S₁ = *Dhaincha*, S₂ = *Sesbania*, S₃ = Cowpea, S₄ = Glyricidia and S₅ = Sannhemp.**Sub-plot treatments :**4 levels of G.M. : L₀ = 0, L₁ = 2500, L₂ = 5000 and L₃ = 7500 lb./ac.**3. DESIGN :**

(i) Split-plot. (ii) (a) 5 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 25' × 27'. (b) 23' × 24'. (v) 1' × 1½'. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Poor yield due to unfavourable seasonal condition. (vii) Nil.

5. RESULTS :

(i) 266 lb./ac. (ii) (a) 82.0 lb./ac. (b) 78.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

L₀ = 244 lb./ac.

	S ₁	S ₂	S ₃	S ₄	S ₅	Mean
L ₁	239	261	283	283	239	261
L ₂	283	239	218	283	348	274
L ₃	261	305	261	283	309	284
Mean	261	268	254	283	299	273

S.E. of difference of two

1. S marginal means = 33.5 lb./ac.
2. L marginal means = 24.8 lb./ac.
3. L means at the same level of S = 55.4 lb./ac.
4. S means at the same level of L = 56.2 lb./ac.

Crop :- Bajra.**Ref :- M. 57(55).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'M'.**

Object :—To study the effects of G.L. on Bajra.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Bajra—Ragi*. (b) Cotton. (c) As per treatments. (ii) (a) Red gravelly loam. (b) Same as in expt. no. 59(58) on page 211. (iii) 23 to 28.9.1957. (iv) (a) to (e) N.A. (v) Nil. (vi) CO—4. (vii) Irrigated. (viii) 2 weedings. (ix) 16.47". (x) 15.4.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(65) on page 215.

4. GENERAL :

(i) N.A. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Crop affected by heavy rains at the time of flowering. (vii) N.A.

5. RESULTS :

(i) 356 lb./ac. (ii) (a) 128 lb./ac. (b) 168.1 lb./ac. (iii) Main effect of L alone is significant. (iv) Av. yield of grain in lb./ac.

$$L_0 = 268 \text{ lb./ac.}$$

	S ₁	S ₂	S ₃	S ₄	S ₅	Mean
L ₁	386	356	417	345	385	378
L ₂	459	415	277	390	359	380
L ₃	427	380	349	402	424	396
Mean	424	384	348	379	389	385

S.E. of difference of two

- | | |
|-----------------------------------|-----------------|
| 1. S marginal means | = 52.3 lb./ac. |
| 2. L marginal means | = 53.1 lb./ac. |
| 3. L means at the same level of S | = 118.9 lb./ac. |
| 4. S means at the same level of L | = 110.2 lb./ac. |

Crop :- Bajra.**Ref :- M. 58(57)****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'M'.**

Object :—To study the effect of G.L. on Bajra.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Red gravelly loam. (b) Same as in expt. no. 59(58) on page 211. (iii) 14 to 16.9.1958. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 7 lb./ac. (d) 8"×4". (e) 1. (v) Nil. (vi) CO—4. (vii) Irrigated. (viii) Weeding and hoeing twice. (ix) 10.05" (x) 4, 13.12.1958.

2. TREATMENTS :

Same as in expt. no. 56(65) on page 215.

3. DESIGN :

(i) Split-plot. (ii) (a) 5 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 25'×27'. (b) 23'8"×25'8". (v) 8" left as border. (vi) Yes.

3. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 213 lb./ac. (ii) (a) 67.5 lb./ac. (b) 52.3 lb./ac. (iii) Effects of S and S×L are highly significant while effect of L is significant. (iv) Av. yield of grain in lb./ac.

L₀ = 181 lb./ac.

	S ₁	S ₂	S ₃	S ₄	S ₅	Mean
L ₁	246	210	219	145	219	208
L ₂	219	271	108	237	324	232
L ₃	339	117	167	238	299	232
Mean	268	199	165	207	281	224

S.E. of difference of two

1. S marginal means = 27.6 lb./ac.
2. L marginal means = 16.5 lb./ac.
3. L means at the same level of S = 37.0 lb./ac.
4. S means at the same level of L = 40.9 lb./ac.

Crop :- Bajra.**Ref :- M. 59(56).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'M'.**

Object :—To study the effect of G.L. on Bajra.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) and (c) N.A. (ii) (a) Red gravelly loam. (b) Same as in expt. no. 59(58) on page 211. (iii) 19, 20.8.1964. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 7 to 8 lb./ac. (d) 6"×6". (e) N.A. (v) As per treatments. (vi) CO—4. (vii) Irrigated. (viii) Weeding once. (ix) 9.1". (x) 12.11.1959.

2. TREATMENTS :

Same as in expt. no. 56(63) on page 215.

3. DESIGN :

- (i) Split-plot. (ii) (a) 5 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 27'×25'. (b) 25'×23'. (v) 6"×6". (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

- (i) 442 lb./ac. (ii) (a) 71.9 lb./ac. (b) 67.9 lb./ac. (iii) Effect of L alone is highly significant. (iv) Av. yield of grain in lb./ac.

L₀ = 311 lb./ac.

	S ₁	S ₂	S ₃	S ₄	S ₅	Mean
L ₁	477	413	392	420	369	414
L ₂	513	483	509	494	487	497
L ₃	562	485	540	621	513	544
Mean	517	460	480	512	456	485

S.E. of difference of two

1. S marginal means = 29.4 lb./ac.
2. L marginal means = 21.5 lb./ac.
3. L means at the same level of S = 48.0 lb./ac.
4. S means at the same level of L = 49.0 lb./ac.

Crop :- Bajra.**Ref :- M. 56(63).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'M'.**Object :— To study the effect of P₂O₅ applied to previous G.M. crops on the yield of Bajra.

1. BASAL CONDITIONS :

(i) (a) *Cumbu—Ragi—Cotton*. (b) G.M. crop. (c) Nil. (ii) (a) Red gravelly loam. (b) Same as in expt. no. 59(58) on page 211. (iii) 24, 25.11.1955. (iv) (a) to (e) N.A. (v) 100 lb./ac. of A/S as top dressing. (vi) CO—4. (vii) Irrigated. (viii) 2 weedings. (ix) 1.00". (x) 23 to 25.2.1957.

2. TREATMENTS :

Main-plot treatments :

2 levels of P_2O_5 as Super : $P_0=0$ and $P_1=30$ lb./ac.

Sub-plot treatments :

6 G.M. crops : $M_1=Cowpea$, $M_2=Sesbania$, $M_3=Sannhemp$, $M_4=Indigo$, $M_5=Dewgram$ and $M_6=Dhaincha$.

P_2O_5 applied to G.M. crops and ploughed *in situ*.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots block ; 6 sub-plots/main-plot. (b) 132'×72'. (iii) 4. (iv) (a) 66'×12' (b) 64'×10'. (v) 1'×1'. (vi) Yes.

4. GENERAL :

(i) Poor growth. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 346 lb./ac. (ii) (a) 110.4 lb./ac. (b) 80.6 lb./ac. (iii) Effect of M above is significant. (iv) Av. yield of grain in lb./ac.

	M_1	M_2	M_3	M_4	M_5	M_6	Mean
P_0	399	264	418	300	416	347	357
P_1	378	342	302	321	418	242	334
Mean	389	303	360	311	417	295	346

Crop :- Bajra.

Ref :- M. 57(52).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'M'.

Object :—To study the effect of P_2O_5 applied to previous G.M. crops on the yield of Bajra.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Cumbu—Ragi*. (b) Cotton. (c) As per treatments. (ii) (a) Red gravelly loam. (b) Same as in expt. no. 59(58) on page 211. (iii) 21, 22.9.1957. (iv) (a) to (e) N.A. (v) 100 lb./ac. of A/S as top-dressing half 40 days after planting and half at flowering. (vi) CO—4. (vii) Irrigated. (viii) 2 weedings. (ix) 16.47". (x) 4 to 6.1.1958.

2. TREATMENTS and 3. DESIGN

Same as in expt. no. 56(63) on page 217.

4. GENERAL :

(i) Poor growth. (ii) Nil. (iii) Yield. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) The crop suffered due to heavy rains. (vii) Nil.

5. RESULTS :

(i) 303 lb./ac. (ii) (a) 35.2 lb./ac. (b) 80.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	M_1	M_2	M_3	M_4	M_5	M_6	Mean
P_1	341	274	258	233	280	298	297
P_2	333	343	248	304	355	272	309
Mean	336	308	303	268	317	285	303

S.E. of difference of two

- | | |
|-----------------------------------|----------------|
| 1. P marginal means | = 10.2 lb./ac. |
| 2. M marginal means | = 40.0 lb./ac. |
| 3. M means at the same level of P | = 56.6 lb./ac. |
| 4. P means at the same level of M | = 52.6 lb./ac. |

Crop :- Bajra.**Ref :- M. 58(67)****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'M'.**Object :—To study the effect of P_2O_5 applied to previous G.M. crops on the yield of Bajra.**1. BASAL CONDITIONS :**

- (i) (a) Nil. (b) and (c) N.A. (ii) Red gravelly loam. (b) Same as in expt. no. 59(58) on page 211. (iii) 27, 28.9.1958. (iv) 2 to 3 ploughings. (b) N.A. (c) 7 lb./ac. (d) 6"×6". (e) N.A. (v) N.A. (vi) CO—4. (vii) Irrigated. (viii) Weeding once. (ix) N.A. (x) 23, 28.12.1958.

2. TREATMENTS :**Main-plot treatments :**6 G.M. crops : M_1 =Cowpea, M_2 =*Sesbania*, M_3 =Sannhemp, M_4 =Indigo, M_5 =Dewgram and M_6 =*Dhaincha*.**Sub-plot treatments :**2 levels of P_2O_5 as Super applied to G.M. crops : $P_0=0$ and $P_1=30$ lb./ac. G.M. crops ploughed *in situ*.**3. DESIGN :**

Same as in expt. no. 56(63) on page 217.

4. GENERAL :

- (i) Not satisfactory. (ii) N.A. (iii) Grain yield. (vi) (a) 1956—1858 (modified in 1958). (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

- (i) 144 lb./ac. (ii) (a) 46.7 lb./ac. (e) 30.5 lb./ac. (iii) Main effect of P alone is highly significant. (iv) Av. yield of grain in lb./ac.

	M_1	M_2	M_3	M_4	M_5	M_6	Mean
P_0	93	76	169	138	232	129	140
P_1	119	100	149	146	196	177	148
Mean	106	88	159	142	214	153	144

S.E. of difference of two

- | | |
|-----------------------------------|----------------|
| 1. P marginal means | = 23.3 lb./ac. |
| 2. M marginal means | = 8.8 lb./ac. |
| 3. M means at the same level of P | = 21.6 lb./a. |
| 4. P means at the same level of M | = 27.9 lb./ac. |

Crop :- Bajra.**Ref :- M. 54(114).****Site :- Millet Breeding Stn., Coimbatore.****Type :- 'M'.**

Object :—To determine the optimum dose of A/S and Super for Bajra.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Bajra. (c) 5 tons/ac. of compost. (ii) (a) Red. (b) Refer soil analysis, Coimbatore. (iii) 3.10.1954. (iv) (a) 2 ploughings (b) N.A. (c) 6 lb./ac. (d) 1.3'×0.7' (e) N.A. (x) F.Y.M. at 5 tons/ac. applied 15 to 20 days before sowing. (vi) CO—2 (medium). (vii) Unirrigated. (viii) 2 weeding and interculture with a Junior hoe, one month after sowing. (ix) 72.75%. (x) 25.12.1954.

2. TREATMENTS :

4 levels of manure : $M_0=0$, $M_1=30$ lb./ac. of N+30 lb./ac. of P_2O_5 , $M_2=60$ lb./ac. of N+45 lb./ac. of P_2O_5 and $M_3=90$ lb./ac. of N+60 lb./ac. of P_2O_5 +50 lb./ac. of K_2O .
N applied as A/S, P_2O_5 as Super and K_2O as Pot. Sul.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 8. (iv) (a) 8.58'×51.48'. (b) 5.28'×44.88. (v) 3.3'×1.65' left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954—1956. (b) and (c) No. (v) (a) and (b) Nil. (vi) Yields are low due to draught. (vii) Nil.

5. RESULTS :

(i) 454.5 lb./ac. (ii) 85.1 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
Av. Yield	393	443	511	471

S.E./mean = 30.0 lb./ac.

Crop :- Bajra.

Ref :- M. 5(1)

Site :- Millet Breeding Stn., Coimbatore.

Type :- 'M'.

Object :—To determine the optimum dose of A/S and Super for Bajra.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Bajra*. (c) 5 tons/ac. of compost as B.D. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 25.5.1955. (iv) (a) 2 ploughings. (b) N.A. (c) 6 lb./ac. (d) 1.3'×0.7'. (e) N.A. (v) F.Y.M. at 5 tons/ac. 15 to 20 days before sowing. (vi) CO—3 (short duration). (vii) Irrigated. (viii) Two weedings and intercultivation with hand hoe. (ix) 2.48". (x) 31.8.1955.

2. TREATMENTS :

Same as in expt. no. 54(114) on page 219.

N top dressed one month after planting. P at the time of last ploughing.

3. DESIGN :

Same as in expt. no. 55(114) on page 219.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954—1956. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1097.1 lb./ac. (ii) 134.2 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3
Av. yield	973	1057	1189	1171

S.E./mean = 47.6 lb./ac.

Crop :- Bajra.

Ref :- M. 56(44).

Site :- Millet Breeding. Stn., Coimbatore.

Type :- 'M'.

Object :—To find a suitable combination of N, P and K for Bajra.

1. BASAL CONDITIONS :

(i) (a) *Bajra—Jowar—Bajra*. (b) *Bajra*. (c) 5 tons /ac. of compost. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 10.4.1956. (iv) (a) 2 ploughings. (b) 1.3'×0.7'. (c) 6 lb./ac. (d) and (e) N.A. (v) F.Y.M. at 5 tons/ac. applied 15 days before sowing. (vi) CO—3 (early). (vii) Irrigated. (viii) 2 weedings and intercultivation with hand hoe. (ix) 7.09". (x) 26.7.1956.

2. TREATMENTS :

4 levels of manure⁴: M_0 =No manure, M_1 =30 lb./ac. of N+30 lb./ac. of P_2O_5 , M_2 =60 lb./ac. of N+45 lb./ac. of P_2O_5 +50 lb./ac. of K_2O and M_3 =90 lb./ac. of N+60 lb./ac. of P_2O_5 +50 lb./ac. of K_2O .

N applied as A/S, P_2O_5 as Super and K_2O as Pot. Sul.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 8. (iv) (a) 8.6'×51.5'. (b) 5.3'×44.9'. (v) 1.6'×3.3'. (vi) Yes.

4. GENERAL

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1608 lb./ac. (ii) 129.5 lb./ac. (iii) Treatment differences are significant, (iv) Av. yield of grain in lb./ac.

Treatment	M_0	M_1	M_2	M_3
Av. yield	1212	1609	1643	1968

S.E./mean = 52.9 lb./ac.

Crop :- Bajra.

Ref :- M. 57(36).

Site :- Millet Breeding Stn., Coimbatore.

Type :- 'M'.

Object :—To find a suitable combination of N, P and K for Bajra.

I. BASAL CONDITIONS :

(i) (a) Nil. (b) Maize. (c) 5 tons /ac. of compost. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 2.5.1957. (iv) (a) 3 ploughings. (b) 1.3'×0.7'. (c) 6 lb./ac. (d) and (e) N.A. (v) Compost at 5 tons/ac. applied by broadcast. (vi) CO—3 (early). (vii) Irrigated. (viii) 2 weedings and hoeing. (ix) 6.64". (x) 24.7.1957.

2. TREATMENTS :

Same as in expt. no. 56(44) on page 220.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 8. (iv) (a) 8.6'×51.5'. (b) 5.3'×46.2'. (v) 1.6'×2.6'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1497 lb./ac. (ii) 104.1 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
Av. yield	1250	1407	1530	1800

S.E./mean = 36.8 lb./ac.

Crop :- Bajra.

Ref :- M. 55(46).

Site :- Millet Breeding Stn., Coimbatore.

Type :- 'M'.

Object :—To find a suitable dose of fertilizers for Bajra.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton. (c) 5 tons/ac. of compost+60 lb./ac. of N as A/S. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 25.10.1955. (iv) (a) 2 ploughings. (b) N.A. (c) 10 lb./ac. (d) 1.32'×1.32'. (e) N.A. (v) Nil. (vi) CO—2 (medium). (vii) Unirrigated. (viii) Weeding and hoeing once. (ix) 13.77". (x) 2.2.1956.

2. TREATMENTS :

1. No manure.
2. Compost at 5 tons/ac.
3. Compost at 5 tons/ac.+20 lb./ac. of N+20 lb./ac. of P₂O₅.
4. Compost at 5 tons/ac.+40 lb./ac. of N+20 lb./ac. of P₂O₅.
N applied as A/S and P₂O₅ as Super.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) 66'×66'. (iii) 6. (iv) (a) 16.5'×66'. (b) 10.5'×59.4'. (v) 3'×3.3'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—1957, (b) No. (c) N.A. (v) to (vii) Nil.

5. RESULTS:

(i) 774 lb./ac. (ii) 125.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4
Av. yield	763	793	752	788

S.E./mean = 51.4 lb./ac.

Crop :- Bajra.

Site :- Millet Breeding Stn., Coimbatore.

Ref :- M. 56(40).

Type :- 'M'.

Object :—To find a suitable dose of fertilizers for Bajra.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 5 tons/ac. of compost. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 26.10.1956. (iv) (a) 2 ploughings. (b) N.A. (c) 10 lb./ac. (d) 1.32'×1.32'. (e) N.A. (v) Nil. (vi) CO—2 (medium). (vii) Unirrigated. (viii) Weeding and hoeing once. (ix) 13.50". (x) 9.2.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(46) on page 221.

5. RESULTS :

(i) 459 lb./ac. (ii) 148.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4
Av. yield	393	349	511	582

S.E./mean = 60.5 lb./ac.

Crop :- Bajra.

Site :- Millet Breeding Stn., Coimbatore.

Ref :- M. 57(35).

Type :- 'M'.

Object :—To find a suitable dose of fertilizer for Bajra crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 5 tons/ac. of compost. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 20.10.1957. (iv) (a) 2 ploughings. (b) N.A. (c) 10 lb./ac. (d) 1.32'×1.32'. (e) N.A. (v) Nil. (vi) CO—2 (medium). (vii) Unirrigated. (viii) Weeding and hoeing once. (ix) 19.43". (x) 23.1.1958.

2. TREATMENTS to 4. GENERAL :
Same as in expt. no. 55(46) on page 221.

5. RESULTS :

(i) 309.5 lb./ac. (ii) 76.00 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4
Av. yield	285	283	299	371

S.E./mean = 31.04 lb./ac.

Crop :- Bajra.

Ref :- M. 54(65).

Site :- Agri. Res. Stn., Palur.

Type :- 'M'.

Object :- To study the residual effect of manures on Bajra crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Ragi*. (c) As per treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 16.8.1954. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) 6" x 6". (e) N.A. (v) Nil. (vi) CO-3. (vii) Unirrigated. (viii) Weeding once. (ix) N.A. (x) 5.11.1954.

2. TREATMENTS :

All combinations of (1), (2) and (3) + one extra treatment.

(1) 2 levels of B.D. : B_0 = No B.D. and B_1 = 450 lb./ac. of lime + 3 tons/ac. of F.Y.M. + 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.

Extra treatment : T = 450 lb./ac. of lime + 3 tons/ac. of F.Y.M. + 30 lb./ac. of [P_2O_5 as Super applied as B.D.

These manures were applied to previous crop *Ragi*.

3. DESIGN :

(i) R.E.D. (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a) $32\frac{1}{2}' \times 20'$. (b) $31\frac{1}{2}' \times 19'$. (v) 6" left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) N.A. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 700 lb./ac. (ii) 134.2 lb./ac. (iii) T vs. others alone is highly significant. (iv) Av. yield of grain in lb./ac.

T = 518 lb./ac.

	B_0	B_1	Mean	N_1	N_2
S_1	716	716	716	666	766
S_2	785	675	730	714	746
Mean	751	695	723	690	756
	722	658			
N_2	780	732			

S.E. of any marginal mean = 30.0 lb./ac.
S.E. of body of any table = 42.4 lb./ac.
S.E. of extra treatment mean = 60.0 lb./ac.

Crop :- Bajra.**Ref :- M. 55(27)****Site :- Regional Millet Stn., Tirupathur.****Type :- 'M'.**

Object :—To find a suitable dose of fertilizers for Bajra crop.

1. BASAL CONDITIONS :

(i) (a) *Bajra*—Horse gram—*Jowar*. (b) *Jowar*. (c) 2½ tons/ac. of C.M. (ii) (a) Reddish loam. (b) N.A. (iii) 9.6.1955. (iv) (a) Country plough twice and junior hoe once. (b) N.A. (c) 10 lb./ac. (d) 16"×8". (e) 1. (v) Nil. (vi) CO—3 (medium). (vii) Irrigated. (viii) Weeding and hoeing one month after planting. (ix) 20.06." (x) 15.9.1955.

2. TREATMENTS:

1. No manure.

2. F.Y.M. at 5 tons./ac.

3. F.Y.M. at 5 tons./ac.+20 lb./ac. of N+20 lb./ac. of P₂O₅.4. F.Y.M. at 5 tons./ac.+40 lb./ac. of N+20 lb./ac. of P₂O₅.F.Y.M. and P₂O₅ as Super applied as B.D. before sowing. N as A/S applied between rows by hoeing at the time of thinning about a month after sowing.**3. DESIGN :**

(i) R.B.D. (ii) (a) 4. (b) 66'×52.8'. (iii) 6. (iv) (a) 66'×13.2'. (b) 66'×10.06'. (v) One row at either end of plot. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—1958. (b) Yes. (c) Nil. (v) (a) Coimbatore. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 711 lb./ac. (ii) 42.4 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4
Av. yield	504	544	812	984

S.E./mean = 17.3 lb./ac.

Crop :- Bajra.**Ref :- 56(18).****Site :- Regional Millet Stn., Tirupathur.****Type :- 'M'.**

Object :—To find a suitable dose of fertilizers for Bajra crop.

1. BASAL CONDITIONS :

(i) *Bajra*—Horse gram—*Jowar*. (b) *Jowar*. (c) As per treatments. (ii) (a) Reddish loam. (b) N.A. (iii) 29.6.1956. (iv) (a) Ploughed with country plough twice and junior hoe once. (b) N.A. (c) 10 lb./ac. (d) 16"×16". (e) 1. (v) Nil. (vi) CO—3 (medium). (vii) Irrigated. (viii) Thinning, weeding and hoeing once. (ix) 18.25". (x) 9.10.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(27) above.

4. GENERAL :

(i) Growth of crop checked due to drought conditions. Heavy rains in September affected grain setting and also caused lodging in the crop. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—1958. (b) Yes. (c) Nil. (v) (a) Coimbatore. (b) Nil. (vi) Unfavourable seasonal conditions. (vii) Nil.

5. RESULTS :

(i) 354 lb./ac. (ii) 39.2 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4
Av. yield	324	306	368	419

S.E./mean = 16.0 lb./ac.

Crop :- Bajra.**Ref :- M. 57(16).****Site :- Regional Millet Stn., Tirupathur.****Type :- 'M'.**

Object :- To find a suitable dose of fertilizers for Bajra crop.

1. BASAL CONDITIONS :

(i) (a) *Bajra*—Horsegram—*Jowar*. (b) *Jowar*. (c) As per treatments. (ii) (a) Reddish loam. (b) N.A. (iii) 19.6.1957. (iv) (a) Ploughing with country plough twice and junior hoe once. (b) N.A. (c) 10 lb./ac. (d) 16"×16". (e) 1. (v) Nil. (vi) CO—3 (medium). (vii) Unirrigated. (viii) Thinning, weeding and hoeing once. (ix) 8.48". (x) 24.9.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(27) on page 224.

4. GENERAL :

(i) Poor growth. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—1958. (b) Yes. (c) Nil. (v) (a) and (b) Coimbatore. (vi) Growth was poor due to lack of rains. (vii) Nil.

5. RESULTS :

(i) 312 lb./ac. (ii) 31.9 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4
Av. yield	236	272	357	382

S.E./mean = 13.0 lb./ac.

Crop :- Bajra.**Ref :- M. 54(67).****Site :- Agri. Res. Stn., Palur.****Type :- 'C'.**

Object :- To study the residual effect of mixed cropping on the succeeding crop of Bajra.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) As per treatments. (c) 5 tons/ac. of compost+100 lb./ac. of A/S. (ii) (a) Loam. (b) Refer soil analysis, Palur. (iii) 16.8.1954. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) 6"×6". (e) N.A. (v) 5 tons/ac. of C.M.+100 lb./ac. of A/S. (vi) CO—3. (vii) Unirrigated. (viii) Weeding once. (ix) N.A. (x) 29.11.1954.

2. TREATMENTS :

6 previous crops : C₁=*Ragi*, C₂=Groundnut, C₃=Cotton, C₄=*Ragi*+Cotton, C₅=*Ragi*+Groundnut and C₆=*Ragi*+Groundnut+Cotton.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) and (b) 35'×25'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Grain yield. (iv) (a) Not contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 151 lb./ac. (ii) 52.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	C ₁	C ₂	C ₃	C ₄	C ₅	C ₆
Av. yield	103	200	150	116	181	156

S.E./mean = 26.1 lb./ac.

Crop :- Bajra.**Ref :- M. 56(83).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'CV'.**

Object :—To find out the best date of sowing and harvest for different varieties of Paddy.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 7 lb./ac. (d) 8"×4". (e) 1. (v) 10 C.L./ac. of compost. (vi) As per treatments. (vii) Irrigated. (viii) Hoing and weeding twice. (ix) 18.32". (x) As per treatments.

2. TREATMENTS:**Main-plot treatments :**3 dates of sowing/harvest : $D_1=10.9.1956/25.11.1956$, $D_2=25.9.1956/10.12.1956$ and $D_3=10.10.1956/20.12.1956$.**Sub-plot treatments :**2 varieties : $V_1=CO-1$ and $V_2=CO-4$.**3. DESIGN :**

(i) Split-plot. (ii) (a) 3 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) 12'×18'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) N.A. (iii) Grain yield. (iv) (a) 1955—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :(i) 96 lb./ac. (ii) (a) 36.8 lb./ac. (b) 18.5 lb./ac. (iii) Main effect of D is highly significant, interaction $D \times V$ is significant. (iv) Av. yield of grain in lb./ac.

	D ₁	D ₂	D ₃	Mean
V ₁	195	46	36	92
V ₂	183	46	72	100
Mean	189	46	54	96

S.E. of difference of two

1. D marginal means = 15.0 lb./ac.
2. V marginal means = 6.2 lb./ac.
3. V means at the same level of D = 10.7 lb./ac.
4. D means at the same level of V = 16.8 lb./ac.

Crop :- Bajra.**Ref :- M. 57(76).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'CV'.**

Object :—To find out the best date of sowing and harvest for different varieties of Paddy.

1. BASAL CONDITIONS :

(i) to (viii) Same as in expt. no. 56(83) above. (ix) 11.05". (x) As per treatments.

2. TREATMENTS :**Main-plot treatments :**3 dates of sowing/harvest : $D_1=10.9.1957/25.11.1957$, $D_2=25.9.1957/2.12.1957$ and $D_3=10.10.1957/18.12.1957$.**Sub-plot treatments :**2 varieties : $V_1=CO-1$ and $V_2=CO-4$.**3. DESIGN :**

(i) Split-plot. (ii) (a) 3 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) 24'×12'. (v) Nil. (vi) Yes.

4. GENERAL :

Same as in expt. no. 56(83) on page 226.

5. RESULTS :

(i) 255 lb./ac. (ii) (a) 66.1 lb./ac. (b) 58.8 lb./ac. (iii) Main effects of D and V are highly significant; interaction D×V is significant. (iv) Av. yield of grain in lb./ac.

	D ₁	D ₂	D ₃	Mean
V ₁	365	140	127	211
V ₂	517	250	129	299
Mean	441	195	128	255

S.E. of difference of two

1. D marginal means = 27.0 lb./ac.
2. V marginal means = 19.6 lb./ac.
3. V means at the same level of D = 33.9 lb./ac.
4. D means at the same level of V = 36.1 lb./ac.

Crop :- Bajra.

Ref :- M. 58(46).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'CV'.

Object :—To study the best time of sowing and harvest for different varieties of Paddy.

1. BASAL CONDITIONS :

(i) (i) to (viii) Same as in expt. no. 56 (83) on page 226. (ix) N.A. (x) As per treatments.

2. TREATMENTS :

Main-plot treatments.

3 dates of sowing/harvest : D₁=10.9.1958/17.12.1958, D₂=25.9.1958/23.12.1958 and D₃=10.10.1958/2.1.1959.

Sub-plot treatments.

2 varieties : V₁=CO-1 and V₂=CO-4.

3. DESIGN :

Same as in expt. no. 57(76) on page 226.

4. GENERAL :

(i) Satisfactory. (ii) No. (iii) Grain yield. (iv) (a) 1955—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 215 lb./ac. (ii) (a) 61.71 lb./ac. (b) 65.29 lb./ac. (iii) Main effect of D is highly significant and effect of V is significant. (iv) Av. yield of grain lb./ac.

	D ₁	D ₂	D ₃	Mean
V ₁	257	300	259	239
V ₂	219	197	156	191
Mean	38	249	158	215

S.E. of difference of two

1. D marginal means = 25.2 lb./ac.
2. V marginal means = 21.8 lb./ac.
3. V means at the same level of D = 37.7 lb./ac.
4. D means at the same level of V = 36.7 lb./ac.

Crop :- Bajra.**Ref. :- M 59(45).****Site :- Agri. Res. stn., Bhavanisagar.****Type :- 'CV'.**

Object :—To study the best time of sowing and harvest for different varieties of Paddy.

1. BASAL CONDITIONS :

(i) to (viii). Same as in expt. no. 56(83) on page 226. (ix) 9.10" (x) As per treatments.

2. TREATMENTS :**Main-plot treatments.**3 dates of sowing/harvest : $D_1=10.9.1959/12.12.1959$. $D_2=25.9.1959/20.12.1959$. and $D_3=10.10.1959/20.1.1960$.**Sub-plot treatments.**2 varieties : $V_1=CO-1$ and $V_2=CO-4$.**3. DESIGN and 4. GENERAL :**

Same as in expt. no. 57(76) on page 226.

5. RESULTS :

(i) 285 lb./ac. (ii) (a) 59.4 lb./ac. (b) 111.0 lb./ac. (iii) Main effect of D alone is highly significant. (iv) Av. yield of grain in lb./ac.

	D_1	D_2	D_3	Mean .
V_1 .	565	295	25	295
V_2	444	363	20	276
Mean	505	329	22	285

S.E. of difference of two.

- | | |
|-----------------------------------|----------------|
| 1. D marginal means | = 24.2 lb./ac. |
| 2. V marginal means | = 37.0 lb./ac. |
| 3. V means at the same level of D | = 64.1 lb./ac. |
| 4. D means at the same level of V | = 51.4 lb./ac. |

Crop :- Ragi (Series I).**Ref :- M. 57(56).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'M'.**

Object :—To study the differential effects of the application of different G.M. crops in varying doses.

1. BASAL CONDITIONS :(i) Cotton—*Bajra*—*Ragi*. (b) *Bajra*. (c) As per treatments. (ii) (a) Red gravelly loam. (b) N.A. (iii) 31.12.1957 to 4.1.1958. (iv) (a) to (e) N.A. (v) Nil. (vi) CO-1. (vii) Irrigated. (viii) 2 weedings. (ix) 9.13". (x) 4 and 7.4.1958.**2. TREATMENTS :****Main-plot treatments :**5 G.M. crops : $G_1=Dhaincha$, $G_2=Sesbania$, $G_3=Cowpea$, $G_4=Gliricidia$ and $G_5=Sannhemp$.**Sub-plot treatments :**4 levels of G.M. : $L_0=0$, $L_1=2500$, $L_2=5000$ and $L_3=7500$ lb./ac.**3. DESIGN :**

(i) Split-plot. (ii) (a) 5 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) 25'×27'. (b) 23'×24'. (v) 1'×1½'. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 941 lb./ac. (ii) (a) 216 lb./ac. (b) 51.9 lb./ac. (iii) Only L effect is significant. (iv) Av. yield of grain in lb./ac.

	L ₀	L ₁	L ₂	L ₃	Mean
G ₁	911	1098	1064	990	1016
G ₂	941	957	1042	1054	998
G ₃	887	1057	935	891	943
G ₄	841	857	849	900	862
G ₅	800	844	987	920	888
Mean	876	963	975	951	941

S.E. of difference of two

1. G marginal means = 76.36 lb./ac.
2. L marginal means = 16.41 lb./ac.
3. L means at the same level of G = 36.70 lb./ac.
4. G means at the same level of L = 82.72 lb./ac.

Crop :- Ragi (Series II).

Ref :- M. 57(58).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'M'.

Object :—To study the differential effects of the application of different G.M. crops in varying doses.

1. BASAL CONDITIONS :

(i) (a) *Bajra—Ragi—Cotton*. (b) *Bajra*. (c) As per treatments. (ii) (a) Red gravelly loam. (b) N.A. (iii) 26, 27.2.1957. (iv) (a) to (e) N.A. (v) Nil. (vi) CO—1. (vii) Irrigated. (viii) 2 weedings. (ix) 12.95". (x) 27, 28.5.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(56) on page 228.

4. GENERAL :

(i) Poor. Affected by heavy rains. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 119 lb./ac. (ii) (a) 24 lb./ac. (b) 23.7 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	L ₀	L ₁	L ₂	L ₃	Mean
G ₁	119	127	117	130	123
G ₂	123	108	107	123	115
G ₃	110	122	117	124	118
G ₄	104	116	110	110	110
G ₅	134	125	120	140	130
Mean	118	120	114	125	119

S.E. of difference of two

1. G marginal means = 7.59 lb./ac.
2. L marginal means = 7.49 lb./ac.
3. L means at the same level of G = 16.76 lb./ac.
4. G means at the same level of L = 16.81 lb./ac.

Crop :- Ragi.**Ref :- M. 58(56).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'M'.**

Object :—To find out the differential effects of the application of different G.M. crops in varying doses to Ragi.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 29 to 31.12.1958. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 5 lb./ac. (d) 6'×6'. (e) 1. (v) As per treatments. (vi) CO-1. (vii) Irrigated. (viii) 2 weedings. (ix) 0.67'. (x) 18 to 21.3.1959.

2. TREATMENTS :

Same as in expt. no. 57(58) on page 229.

3. DESIGN :

(i) Split-plot. (ii) (a) 5 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 25'×27'. (b) 23'×25'. (v) 1'×1'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 977 lb./ac. (ii) (a) 146.1 lb./ac. (b) 133.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	L ₀	L ₁	L ₂	L ₃	Mean
G ₁	966	907	1040	1066	995
G ₂	987	903	1028	989	977
G ₃	903	862	894	953	903
G ₄	979	1023	936	928	967
G ₅	975	1002	994	1214	1046
Mean	962	939	978	1030	977

S.E. of difference of two

- | | |
|-----------------------------------|----------------|
| 1. G marginal means | = 51.6 lb./ac. |
| 2. L marginal means | = 47.2 lb./ac. |
| 3. L means at the same level of G | = 94.4 lb./ac. |
| 4. G means at the same level of L | = 96.7 lb./ac. |

Crop :- Ragi (Series II).**Ref :- M. 57(50).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'M'.**

Object :—To find out the relative effects of the application of bulky organic manures at different levels to Ragi.

1. BASAL CONDITIONS :

(i) (a) Bajra—Ragi—Cotton. (b) Bajra. (c) As per treatments. (ii) (a) Red gravelly loam. (b) N.A. (iii) 17, 18.3 1957. (iv) (a) to (e) N.A. (v) River silt at 10 C.L./ac., A/S at 136 lb./ac.+ Super at 240 lb./ac. (vi) CO-1. (vii) Irrigated. (viii) 1 weeding. (ix) —. (x) 21.6.1957.

2. TREATMENTS :

Main-plot treatments :

4 bulky manures : M₁=Sannhemp, M₂=C.M., M₃=F.W.C. and M₄=Glyricidia.

Sub-plot treatments :

4 levels of manure : L₀=0, L₁=2500, L₂=5000 and L₃=7500 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 30'×24'. (b) 27'×20'. (v) 1½'×2'. (vi) Yes.

4. GENERAL:

(i) Poor. Unfavourable seasonal conditions. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1957. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 385 lb./ac. (ii) (a) 106.8 lb./ac. (b) 63.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	L ₀	L ₁	L ₂	L ₃	Mean
M ₁	435	397	429	414	419
M ₂	401	360	425	403	397
M ₃	343	381	347	351	355
M ₄	360	358	360	399	369
Mean	385	374	390	392	385

S.E. of difference of two

1. M marginal means	= 37.76 lb./ac.
2. L marginal means	= 22.34 lb./ac.
3. L means at the same level of M	= 44.69 lb./ac.
4. M means at the same level of L	= 54.07 lb./ac.

Crop :- Ragi (Series I).

Ref :- M. 58(3).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'M'.

Object :—To find out the relative effects of the application of bulky organic manures at different levels.

1. BASAL CONDITIONS :

(i) (a) G.M.—Cotton—G.M.—*Bajra*—*Ragi*. (b) *Bajra*. (c) As per treatments. (ii) (a) Red gravelly loam (b) N.A. (iii) 13 to 15.1.1958. (iv) (a) 2 to 3 ploughings. (b) to (e) N.A. (v) 10 C.L./ac. of river silt + 136 lb./ac. of A/S and 240 lb./ac. of Super. (vi) CO—1. (vii) Irrigated. (viii) 1 weeding. (ix) 12.95". (x) 8 to 15.4.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(50) on page 230.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1503 lb./ac. (ii) (a) 194 lb./ac. (b) 210 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	L ₀	L ₁	L ₂	L ₃	Mean
M ₁	1500	1615	1447	1753	1579
M ₂	1458	1640	1288	1480	1467
M ₃	1348	1349	1461	1572	1433
M ₄	1606	1428	1538	1566	1534
Mean	1478	1508	1434	1593	1503

S.E. of difference of two	
1. M marginal means	= 68.6 lb./ac.
2. L marginal means	= 74.2 lb./ac.
3. L means at the same level of M	= 148.5 lb./ac.
4. M means at the same level of L	= 145.8 lb./ac.

Crop :- Ragi.

Ref :- M. 59(46).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'M'.

Object :—To find out the relative effects of the application of bulky organic manures at different levels.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 20, 21.1.1959. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 5 lb./ac. (d) 6"×6". (e) N.A. (v) As per treatments. (vi) CO—1. (vii) Irrigated. (viii) 2 weedings. (ix) 1.57". (x) 13, 14.4.1959.

2. TREATMENTS :

Main-plot treatments :

5 bulky manures : M₁=Sannhemp, M₂=Ordinary compost, M₃=F.Y.M. and M₄=*Gliricidia*.

Sub-plot treatments :

4 levels of manure : L₀=0, L₁=250, L₂=500 and L₃=750 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) 4 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 25'×23'. (b) 23'×21'. (v) 6"×6". (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1017 lb./ac. (ii) (a) 168.1 lb./ac. (b) 140.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	L ₀	L ₁	L ₂	L ₃	Mean
M ₁	1028	951	1176	1193	1087
M ₂	1055	1051	1134	1069	1077
M ₃	882	1008	964	942	949
M ₄	922	947	958	988	954
Mean	972	989	1058	1048	1017

S.E. of difference of two

1. M marginal means	= 59.4 lb./ac.
2. L marginal means	= 49.6 lb./ac.
3. L means at the same level of M	= 99.2 lb./ac.
4. M means at the same level of L	= 104.5 lb./ac.

Crop :- Ragi (Series II).

Ref :- M. 57(53).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'M'.

Object :—To find out the effect of different legume crops with and without phosphate on the yield of succeeding Ragi crop.

1. BASAL CONDITIONS :

(i) (a) *Bajra*—*Ragi*—Cotton. (b) *Bajra*. (c) As per treatments. (ii) (a) Red gravelly loam. (b) N.A. (iii) 1.3.1957. (iv) (a) to (e) N.A. (v) As per treatments. (vi) CO—1. (vii) Irrigated. (viii) 2 weedings. (ix) 12.95". (x) 28.5.1957.

2. TREATMENTS :

Main-plot treatments :

2. levels of P_2O_5 as Super : P_0 =No P_2O_5 and P_1 =30 lb./ac. of P_2O_5 to legumes.

Sub-plot treatments :

6 legume crops : G_1 =Cowpea, G_2 =*Sesbania*, G_3 =Sannhemp, G_4 =Indigo, G_5 =Dewgram and G_6 =*Dhaincha*.

The legumes were cut and incorporated in the respective plots. 100 lb./ac. of A/S applied to the *Ragi* crop as top-dressing.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 6 sub-plots/main-plot. (b) 132'×72'. (iii) 4. (iv) (a) 66'×12'. (b) 64'×10'. (v) 1' left all round. (vi) Yes.

4. GENERAL :

(i) Poor yields due to heavy rains. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 336 lb./ac. (ii) (a) 46.6 lb./ac. (b) 45.3 lb./ac. (iii) Only G effect is highly significant. (iv) Av. yield of grain in lb./ac.

	G_1	G_2	G_3	G_4	G_5	G_6	Mean
P_0	383	267	306	326	368	264	336
P_1	395	263	392	324	450	295	353
Mean	389	265	349	325	409	280	336

S.E. of difference of two

1. P marginal means = 13.4 lb./ac.
2. G marginal means = 22.6 lb./ac.
3. G means at the same level of P = 32.0 lb./ac.
4. P means at the same level of G = 34.7 lb./ac.

Crop :- Ragi (Series I).

Ref :- M. 58(4).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'M'.

Object :—To find out the effect of different legume crops with and without phosphate on the yield of succeeding Ragi crop.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Bajra*—*Ragi*. (b) *Bajra*. (c) As per treatments. (ii) (a) Red gravelly loam. (b) N.A. (iii) 25.1.1958. (iv) (a) to (e) N.A. (v) As per treatments. (vi) CO-1. (vii) Irrigated. (viii) 2 weedings. (ix) 9.13". (x) 17, 18, 19.4.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(53) on page 232.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1689 lb./ac. (ii) (a) 291 lb./ac. (b) 79 lb./ac. (iii) Main effect of G alone is significant. (iv) Av. yield of grain in lb./ac.

	G ₁	G ₂	G ₃	G ₄	G ₅	G ₆	Mean
P ₀	1664	1501	1550	1708	1515	1600	1590
P ₁	1706	1640	1921	1708	1855	1901	1788
Mean	1685	1571	1736	1708	1685	1751	1689

S.E. of difference of two

1. P marginal mean ; = 84.0 lb./ac.
2. G marginal means = 39.5 lb./ac.
3. G means at the same level of P = 55.9 lb./ac.
4. P means at the same level of G = 98.3 lb./ac.

Crop :- Ragi.

Ref :- M. 59(47).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'M'.

Object :—To find out the effect of different legume crops with and without phosphate on the yield of succeeding Ragi crop.

1. BASAL CONDITIONS :

- (i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 5 to 7.2.1959. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 5 lb./ac. (d, 6. × 6". (e) N.A. (v) As per treatments. (vi) CO—1. (vii) Irrigated. (viii) 2 weedings. (ix) 1.57". (x) 25 to 29.4.1959.

2. TREATMENTS :

Main-plot treatments :

6 legume crops : G₁=Cowpea, G₂=*Sesbania*, G₃=Sannhemp, G₄=Indigo, G₅=Dewgram and G₆=*Dhaincha*.

Sub-plot treatments :

2 levels of P₂O₅ as Super : P₀=No P₂O₅ and P₁=30 lb./ac. of P₂O₅ to legumes.

3. DESIGN:

- (i) Split-plot. (b) 6 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 66' × 12'. (b) 64' × 10'. (v) 1' × 1' left as border. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) 1956—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

- (i) 1056 lb./ac. (ii) (a) 268.0 lb./ac. (b) 217.7 lb./ac. (iii) Only P effect is significant. (iv) Av. yield of grain in lb./ac.

	G ₁	G ₂	G ₃	G ₄	G ₅	G ₆	Mean
P ₀	918	860	1077	817	1091	1046	968
P ₁	996	1132	1241	1231	1117	1144	1144
Mean	957	996	1159	1024	1104	1095	1056

S.E. of difference of two

1. G marginal means = 134.0 lb./ac.
2. P marginal means = 62.8 lb./ac.
3. P means at the same level of G = 153.9 lb./ac.
4. G means at the same level of P = 231.3 lb./ac.

Crop :- Ragi.**Ref :- M. 58(45).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'M'.**

Object:—To find the effect of spraying different fertilizers on yield of Ragi.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Coimbatore. (iii) 6.2.1958/1 and 2.3.1958.
 (iv) (a) 3 ploughings. (b) Transplanting. (c) 3 to 4 lb./ac. (d) and (e) N.A. (v) 10 tons/ac. of F.Y.M. and 400 lb./ac. of A/s. (vi) CO—7 (medium). (vii) Irrigated. (viii) 3 weedings. (ix) 6.40". (x) 19 and 27.5.1958.

2. TREATMENTS :

All combinations of (1) and (2)+2 extra treatments.

(1) 5 fertilizers for spraying : F_1 =Urea (1%), F_2 =Urea (1%)+Sucrose (1%), F_3 =Super (1%), F_4 =Pot. Nitrate (1%) and F_5 =A/N (1%).

(2) 2 sprayings : T_1 =1 and T_2 =2.

Extra treatments : C_0 =Control and C_1 =Water spray once.

3. DESIGN :

(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 6. (iv) (a) and (b) 1/243.9 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) Expt. was conducted by Systematic Botanist, Coimbatore.

5. RESULTS :

(i) 3554 lb./ac. (ii) 517.1 lb./ac. (iii) Treatment differences [are significant. (iv) Av. yield of grain in lb./ac.

C_0 =3171 lb./ac. and C_1 =3943 lb./ac.

	F_1	F_2	F_3	F_4	F_5	Mean
T_1	3374	3455	3293	4065	3293	3496
T_2	3862	3537	4146	3374	3130	3610
Mean	3618	3496	3720	3720	3212	3553

S.E. of F marginal mean = 149.3 lb./ac.

S.E. of T marginal mean = 94.4 lb./ac.

S.E. of body of F×T table or any extra treatment mean = 211.1 lb./ac.

Crop :- Ragi.**Ref :- M. 54(111).****Site :- Millet. Breeding Stn., Coimbatore.****Type :- 'M'.**

Object:—To study the effect of zinc on the yield of Ragi.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Bajra. (c) N.A. (ii) (a) Red soil. (b) Refer soil analysis, Coimbatore. (iii) 18.1.1954/15, 16.2.1954. (iv) (a) 3 ploughings. (b) Transplanting. (c) 3 to 4 lb./ac. (d) 0.66'×0.66'. (e) N.A. (v) 5 tons/ac. of F.Y.M. as B.D. before last ploughing. (vi) Ragi CO—2 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 4.00". (x) 6.5.1954.

2. TREATMENTS :

1. 10 tons/ac. of F.Y.M.

2. 10 tons/ac. of F.Y.M.+ 5 lb./ac. of Zn. Sul.

3. 1 ton/ac. of F.Y.M.+336 lb./ac. of G.N.C.

4. 4 tons/ac. of F.Y.M.+336 lb./ac. of G.N.C.+5 lb./ac. of Zn. Sul.

3. DESIGN :

(i) R.B.D. (a) 4. (b) N.A. (iii) 6. (iv) (a) 5.94'×71.28'. (b) 3.96'×67.32'. (v) 0.99'×1.98'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—1954. (b) No. (c) N.A. (v) to (vii) Nil.

5. RESULTS :

(i) 4555 lb./ac. (ii) 270.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4
Av. yield	4542	4510	4477	4690

S.E./mean = 110.3 lb./ac.

Crop :- Ragi.

Ref :- M. 54(112).

Site :- Millet Breeding Stn., Coimbatore.

Type :- 'M'.

Object :—To find out the optimum dose of N and P required for the Ragi crop.

1. BASAL CONDITIONS :

(i) Nil. (b) *Jowar*. (c) C.M. at 10 tons/ac. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 9.6.1954/7 to 9.7.1954. (iv) (a) 3 ploughings. (b) Transplanting. (c) 3 to 4 lb./ac. (d) 0.66'×0.66'. (e) N.A. (v) 5 tons/ac. of F.Y.M. given as B.D. before last ploughing. (vi) CO—7 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 3.72". (x) 20.9.1954.

2. TREATMENTS :

- No manure (control)
- C.M. at 5 tons/ac.
- C.M. at 5 tons/ac. + 20 lb./ac. of N + 20 lb./ac. of P_2O_5 .
- C.M. at 5 tons/ac. + 20 lb./ac. of N + 40 lb./ac. of P_2O_5 .
- C.M. at 5 tons/ac. + 40 lb./ac. of N + 20 lb./ac. of P_2O_5 .
- C.M. at 5 tons/ac. + 40 lb./ac. of N + 40 lb./ac. of P_2O_5 .
- C.M. at 5 tons/ac. + 60 lb./ac. of N + 20 lb./ac. of P_2O_5 .
- C.M. at 5 tons/ac. + 60 lb./ac. of N + 40 lb./ac. of P_2O_5 .
N 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) 1.83 cent. (b) 1.50 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) 1954—1955. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1189 lb./ac. (ii) 115.7 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4	5	6	7	8
Av. yield	936	938	1244	1155	1294	1183	1328	1431

S.E./mean = 57.8 lb./ac.

Crop :- Ragi.

Ref :- M. 54(64).

Site :- Agri. Res. Stn., Palur.

Type :- 'M'.

Object :—To find out the relative merits of A/S and C/N applied alone and in combination with lime, compost and Super.

BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S and 150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 10.6.1954/2.7.1954. (iv) (a) 3 ploughings. (b) Transplanting. (c) 8 lb./ac. (d) 6" x 6". (e) N.A. (v) As per treatments. (vi) PLR-1. (vii) Irrigated. (viii) 1 weeding. (ix) N.A. (x) 12.9.1954.

8. TREATMENTS :

All combinations of (1), (2) and (3) and a control (B.D. alone)

(1) 2 sources of N : $S_1 = A/S$ and $S_2 = C/N$.

(2) 2 levels of N : $N_1 = 40$ and $N_2 = 60$ lb./ac.

(3) 2 levels of B.D : $D_0 = \text{No B.D.}$ and $D_1 = \text{B.D.}$

B.D. of 450 lb./ac. of lime, 3 tons/ac. of F.Y.M. and 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) $32\frac{1}{2}' \times 20'$. (b) $31\frac{1}{2}' \times 19'$. (v) 6" x 6". (vi) Yes.

4. GENERAL :

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

5. RESULTS :

(i) 1908 lb./ac. (ii) 39.7 lb./ac. (iii) All main effects, 2-factor interactions and 'control vs. others' are all highly significant. 3-factor interactions are significant. (iv) Av. yield of grain in lb./ac.

	D ₀	D ₁	Mean	N ₁	N ₂
S ₁	1911	2135	2023	1960	2086
S ₂	1945	2095	2020	1995	2045
Mean	1928	2115	2021	1978	2065
N ₁	1945	2010			
N ₂	1911	2220			

S.E. of N, D or S marginal mean = 8.89 lb./ac.
S.E. of body of any table = 11.95 lb./ac.

Crop :- Ragi.

Site :- Agri. Res. Stn., Palur.

Ref :- M. 55(52).

Type :- 'M'.

Object :- To find out the relative merits of A/S and C/N applied alone and in combination with lime, compost and Super.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 5 tons/ac. of compost. (ii) (a) Loam. (b) Refer soil analysis, Palur. (iii) 28.6.1955/27.7.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) 10 lb./ac. (d) 6" x 6". (e) 1. (v) Nil. (vi) PLR-1 (110 days). (vii) Irrigated. (viii) 2 weedings. (ix) 13.05". (x) 11.10.1955.

2. TREATMENTS :

Same as in expt. no. 54(64) on page 236.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a) $33' \times 17'$. (b) $32' \times 16'$. (v) 6" x 6". (vi) Yes.

4. GENERAL :

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

5. RESULTS :

(i) 2097 lb./ac. (ii) 209.4 lb./ac. (iii) S effect is significant. 'Control vs. others' is highly significant. (iv) Av. yield of grain in lb./ac.

	D ₀	D ₁	Mean	N ₁	N ₂
S ₁	2238	2134	2186	2196	2176
S ₂	2072	2092	2082	2022	2142
Mean	2155	2113	2134	2109	2159
N ₁	2092	2126			
N ₂	2218	2100			

S.E. of N, D or S marginal mean = 46.83 lb./ac.

S.E. of body of any table = 66.24 lb./ac.

Crop :- Ragi (Rabi).

Ref :- M. 59(SFT).

Centre :- Salem (c.f.).

Type :- 'M'.

Object :-Type A—To study the responses 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. (iii) N.A. (iv) N.A./December 1959 to January 1960. (v) (a) 6 ploughings. (b) Transplanting. (c) —. (d) and (e) N.A. (vi) and (vii) N.A. (viii) 2 weedings. (ix) N.A. (x) April 1960.

2. TREATMENTS :

0 = Control (no manure).

n = 20 lb. ac. of N as A/S.

p = 20 lb./ac. of P₂O₅ as Super.

np = 20 lb./ac. of N as A/S + 20 lb./ac. of P₂O₅ as Super.

k = 20 lb./ac. of K₂O as Mur. Pot.

nk = 20 lb./ac. of N as A/S + 20 lb./ac. of K₂O as Mur. Pot.

pk = 20 lb./ac. of P₂O₅ as Super + 20 lb./ac. of K₂O as Mur. Pot.

npk = 20 lb./ac. of N as A/S + 20 lb./ac. of P₂O₅ as Super + 20 lb./ac. of K₂O 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 a *kharif* cereal, 8 on a *rabi* cereal, 8 on cash crop, 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) and (b) 1/40 ac.

4. GENERAL :

(i) Normal. (ii) N.A. (iii) Grain yield. (iv) (a) 1959—contd. (b) No. (c) N.A. (v) (a) and (b) As per treatments. (vi) and (vii) N.A.

5. RESULTS :

Treatment	0	n	p	np	k	nk	pk	npk
Av. yield	1950	2181	2238	2477	2255	2493	2576	2822

G.M. = 2374 lb./ac. ; S.E./mean = 74.24 lb./ac. and no. of trials = 4.

Crop :- Ragi (Rabi).**Ref :- M. 59(SFT).****Centre :- Salem (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. (iii) Nil. (iv) N.A./December 1959 and January 1960. (v) (a) 5 to 6 ploughings with country plough. (b) Transplanting. (c) —. (d) and (e) N.A. (vi) Early variety. (vii) Irrigated. (viii) 2 hand weedings. (ix) N.A. (x) April 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 and 4. GENERAL :**

Same as in expt. no. 59(SFT) Type A on page 238 conducted at Salem.

5. RESULTS :

Treatment	0	n_1	n_2	n_1'	n_2'	n_1'''	n_2'''
Av. yield	1317	1514	1786	1596	1728	1761	1810

G.M. = 1645 lb./ac. ; S.E./mean = 58.18 lb./ac. and no. of trials = 4.

Crop :- Ragi (Rabi).**Ref :- M. 59(SFT).****Centre :- Trichirapalli (c.f.).****Type :- 'M'.**

Object :—Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS and 2. TREATMENTS :

Same as in expt. no. 59(SFT) Type B above.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 59(SFT) Type A on page 288 conducted at Salem.

5. RESULTS :

Treatment	0	n_1	n_2	n_1'	n_2'	n_1'''	n_2'''
Av. yield	1193	1267	1662	1391	1629	1226	1473

G.M. = 1406 lb./ac. ; S.E./mean = 110.56 lb./ac. and no. of trials = 2.

Crop :- Ragi.**Ref :- M. 56(77).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'CV'.**

Object :—To find out the optimum time of transplanting different varieties of Ragi.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Light gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) Transplanting. (c) 5 lb./ac. (d) 6" x 6". (e) —. (v) 10 C.L./ac. of F.Y.M. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 25.11.1956, 4.12.1956 and 17, 18.12.1956.

2. TREATMENTS :**Main-plot treatments :**3 dates of transplanting : D_1 = 10.9.1956, D_2 = 25.9.1956 and D_3 = 10.10.1956.

Sub-plot treatments :2 varieties : $V_1=CO-1$ and $V_2=CO-5$.**3. DESIGN :**(i) Split-plot. (ii) (a) 3 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) $18' \times 12'$. (b) $16' \times 10'$. (v) 2 rows on all sides. (vi) Yes.**4. GENERAL :**

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a, 1956—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :(i) 641 lb./ac. (ii) (a) 160.2 lb./ac. (b) 188.1 lb./ac. (iii) D and V effects are highly significant. Interaction $D \times V$ is significant. (iv) Av. yield of grain in lb./ac.

	D ₁	D ₂	D ₃	Mean
V ₁	1588	625	139	784
V ₂	1008	455	31	498
Mean	1298	540	85	641

S.E. of difference of two

1. D marginal means = 65.4 lb./ac.
2. V marginal means = 62.7 lb./ac.
3. V means at the same level of D = 108.6 lb./ac.
4. D means at the same level of V = 100.9 lb./ac.

Crop :- Ragi.**Ref :- M 58(48).****Site :- Agri. Res. Stn. Bhavanisagar.****Type :- 'CV'.****Object :-**To find out the optimum time of transplanting different varieties of Ragi.**1. BASAL CONDITIONS :**(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 5 lb./ac. (d) $6' \times 6'$. (e) N.A. (v) 10 C.L./ac of Compost. (vi) As per treatments. (vii) Irrigated. (viii) Hoeing and weeding. (ix) N.A. (x) 8.11.1958, 17.11.1958 and 26.11.1958.**2. TREATMENTS :****Main-plot treatments :**3 dates of sowing : $D_1=18.8.1958$, $D_2=1.9.1958$, and $D_3=15.9.1958$.**Sub-plot treatments :**2 varieties : $V_1=CO-1$ and $V_2=CO-5$.**3. DESIGN.**(i) Split-plot. (ii) (a) 3 main-plots/block ; 2 sub-plots/main-plots. (b) N.A. (iii) 6. (iv) (a) $24' \times 12'$. (b) $22' \times 10'$. (v) 1 row left around. (vi) Yes.**4. GENERAL :**

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) (a) and (b) No. (vi) Nil. (vii) Crop failed in 1957.

5. RESULTS :

(i) 1069 lb./ac. (ii) (a) 192.6 lb./ac. (b) 268.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

	D ₁	D ₂	D ₃	Mean
V ₁	1057	998	1027	1027
V ₂	993	1069	1272	1111
Mean	1025	1033	1149	1069

S.E. of difference of two

1. D marginal means = 78.6 lb./ac.
2. V marginal means = 89.6 lb./ac.
3. V means at the same level of D = 155.2 lb./ac.
4. D means at the same level of V = 135.0 lb./ac.

Crop :- Ragi.

Ref. :- M. 58(51).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'CV'.

Object :—To find out the optimum time of transplanting different varieties of Ragi.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 5 lb./ac. (d) 6"×6". (e) N.A. (v) 10 C.L./ac. of F.Y.M. (vi) As per treatments. (vii) Irrigated. (viii) Hoeing and weeding. (ix) N.A. (x) 11.12.1958, 26.12.1958 and 27.12.1958.

2. TREATMENTS :

Main-plot treatments :

3 dates of sowing : D₁=10.9.1958, D₂=25.9.1958 and D₃=10.10.1958

Sub-plot treatments :

2 varieties : V₁=CO-1 and V₂=CO-5.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 58(48) on page 240.^u

5. RESULTS :

(i) 1027 lb./ac. (ii) (a) 367.7 lb./ac. (b) 410.5 lb./ac. (iii) Only V effect is highly significant. (iv) Av. yield of grain in lb./ac.

	D ₁	D ₂	D ₃	Mean
V ₁	1576	1690	1198	1488
V ₂	616	432	650	566
Mean	1096	1061	924	1027

S.E. of difference of two

1. D marginal means = 150.1 lb./ac.
2. V marginal means = 136.8 lb./ac.
3. V means at the same level of D = 237.0 lb./ac.
4. D means at the same level of V = 225.0 lb./ac.

Crop :- Ragi.

Ref :- M. 59(53).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'CV'.

Object :—To find out the optimum time of transplanting different varieties of Ragi.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 5 lb./ac. (d) 6'×6'. (e) 1. (v) 10 C.L./ac. of compost. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings and 2 hoeings. (ix) 9.1". (x) 3.12.1959, 8.12.1959 and 26.12.1959.

2. TREATMENTS :

Main-plot treatments :

3 dates of sowing : $D_1=10.9.1959$, $D_2=25.9.1959$ and $D_3=10.10.1959$.

Sub-plot treatments :

2 varieties : $V_1=CO-1$ and $V_2=CO-5$.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 58(48) on page 240.

5. RESULTS :

(i) 1309 lb./ac. (ii) (a) 76.4 lb./ac. (b) 118.6 lb./ac. (iii) D effect is highly significant. Interaction $D \times V$ is significant. (iv) Av. yield of grain in lb./ac.

	D_1	D_2	D_3	Mean
V_1	1704	1333	812	1283
V_2	1904	1251	848	1334
Mean	1804	1292	830	1309

S.E. of difference of two

1. D marginal means = 31.2 lb./ac.
2. V marginal means = 39.5 lb./ac.
3. V means at the same level of D = 68.5 lb./ac.
4. D means at the same level of V = 57.6 lb./ac.

Crop :- Ragi.

Site :- Millet Breeding Stn., Coimbatore.

Ref :- M. 54(1).

Type :- 'CV'.

Object :—To find out the optimum age of seedlings of different varieties of Ragi at the time of planting.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 10 tons/ac. of C.M. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 25.5.1954. (iv) (a) 3 ploughings. (b) N.A. (c) 3 to 4 lb./ac. (d) 0.66'×0.66'. (e) N.A. (v) 10 tons/ac. of F.Y.M. before last ploughing. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings and 2 hoeings. (ix) 4.33". (x) V_1 and V_2 on 28.9.1954 and V_3 on 7.9.1954.

2. TREATMENTS :

Main-plot treatments :

3 varieties : $V_1=CO-1$, $V_2=CO-2$ and $V_3=CO-7$.

Sub-plot treatments :

6 ages of seedlings : $A_1=20$, $A_2=25$, $A_3=30$, $A_4=35$, $A_5=40$ and $A_6=45$ days old.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) Main-plot : 59.4'×9.9' ; Sub-plot : 9.9'×9.9' ; 9.2'×9.9'. (v) 2 rows. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954—55. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1567 lb./ac. (ii) (a) 337.6 lb./ac. (b) 128.6 lb./ac. (iii) Only A effect and interaction $A \times V$ are highly significant. (iv) Av. yield of grain in lb./ac.

	A ₁	A ₂	A ₃	A ₄	A ₅	A ₆	Mean
V ₁	1367	1367	1628	1417	1028	1294	1350
V ₂	1683	1711	2083	1683	1906	1139	1701
V ₃	1889	1722	2406	1833	1306	750	1651
Mean	1646	1600	2039	1644	1413	1061	1567

S.E. of difference of two

1. V marginal means = 97.6 lb./ac.
2. A marginal means = 52.3 lb./ac.
3. A means at the same level of V = 90.9 lb./ac.
4. V means at the same level of A = 128.9 lb./ac.

Crop :- Ragi.

Ref :- M. 54(2).

Site :- Millet Breeding Stn., Coimbatore.

Type :- 'CV'.

Object :—To find out the optimum time of sowing different varieties of Ragi.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 10 tons/ac. of C.M. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) As per treatments / 9.7.1954. (iv) (a) 3 ploughings. (b) Transplanting. (c) 3 to 4 lb./ac. (d) 0.66' × 0.66' (e) N.A. (v) 10 tons/ac. of F.Y.M. applied before last ploughing. (vi) As per treatments, (vii) Irrigated. (viii) 2 weedings and 2 hoeings. (ix) 12.93". (x) V₁, V₂ on 11.10.1954 and V₃ on 28.9.1954.

2. TREATMENTS :

Main-plot treatments :

3 varieties : V₁=CO-1, V₂=CO-2 and V₃=CO-7.

Sub-plot treatments :

6 dates of sowing : D₁=19.6.1954, D₂=14.6.1954, D₃=9.6.1954, D₄=4.6.1954, D₅=30.5.1954 and D₆=25.5.1954.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 54(1) on page 242.

5. RESULTS :

(i) 1277 lb./ac. (ii) (a) 347.6 lb./ac. (b) 257.1 lb./ac. (iii) D effect is significant and interaction D × V is highly significant. (iv) Av. yield of grain in lb./ac.

	D ₁	D ₂	D ₃	D ₄	D ₅	D ₆	Mean
V ₁	1539	1179	1173	1319	1291	1117	1270
V ₂	1178	1045	1269	1359	1288	1615	1292
V ₃	1565	1292	1398	1612	1056	692	1270
Mean	1427	1172	1280	1430	1212	1143	1277

S.E. of difference of two

1. V marginal means = 99.0 lb./ac.
2. D marginal means = 104.8 lb./ac.
3. D means at the same level of V = 180.9 lb./ac.
4. V means at the same level of D = 192.9 lb./ac.

Crop :- Ragi.**Ref :- M. 54(119).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'ICM'.**

Object :—To study the combined effect of tillage, manure and irrigation on Ragi.

1. BASAL CONDITIONS :

(i) (a) Ragi—G.M.—Jowar—Cotton. (b) Vegetables. (c) 9 tons/ac. of F.Y.M. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 26.5.1954/23 to 26.6.1954. (iv) (a) As per treatments. (b) Transplanting. (c) to (e) N.A. (v) F.Y.M. at 5 tons ac. broadcast on 14, 15.6.1954. (vi) CO-1 (late). (vii) Irrigated. (viii) 3 weedings on 11.7.1954 and 30.7.1954. (ix) 5.24". (x) 24, 25.9.1954 and 13.10.1954.

2. TREATMENTS :**Strips in one direction :**3 levels of irrigation : $I_1=20"$, $I_2=25"$ and $I_3=30"$.**Strips in the orthogonal direction :**

All combination of (1) and (2)

(1) 2 levels of tillage : T_1 =Shallow ploughing and T_2 =Deep ploughing.(2) 3 levels of manures : $M_1=30$ lb./ac. of N+30 lb./ac. of P_2O_5 , $M_2=60$ lb./ac. of N+45 lb./ac. of P_2O_5 +50 lb./ac. of K_2O and $M_3=90$ lb./ac. of N+60 lb./ac. of P_2O_5 +50 lb./ac. of K_2O .N applied as A/S, P_2O_5 as Super and K_2O as Pot. Sul.**3. DESIGN :**

(i) Strip-plot. (ii) (a) 18. (b) N.A. (iii) 4. (iv) (a) 1.00 cent. (b) 0.72 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1954—1957. (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3390 lb./ac. (ii) (a) 457.9 lb./ac. (b) 278.3 lb./ac. (c) 308.5 lb./ac. (iii) Only I effect is significant. (iv) Av. yield of grain in lb./ac.

	I_1	I_2	I_3	Mean	M_1	M_2	M_3
T_1	3231	3456	3451	3379	3351	3376	3410
T_2	3172	3415	3618	3401	3356	3347	3502
Mean	3201	3436	3535	3390	3354	3362	3456
M_1	3251	3359	3452				
M_2	3046	3494	3546				
M_3	3307	3455	3607				

S.E. difference of two

1. I marginal means	= 132.2 lb./ac.
2. T marginal means	= 65.6 lb./ac.
3. M marginal means	= 80.3 lb./ac.
4. T means at the same level of I	= 122.0 lb./ac.
5. I means at the same level of T	= 159.4 lb./ac.
6. M means at the same level of I	= 149.4 lb./ac.
7. I means at the same level of M	= 182.5 lb./ac.

Crop :- Tenai.**Ref :- M. 56(82).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'CV'.**

Object :—To find out the optimum time of sowing different varieties of Tenai.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) and (c) N.A. (d) 8"×4". (e) N.A. (v) 10 C.L./ac. of compost. (vi) As per treatments. (vii) Irrigated. (viii) 1 hoeing and weeding. (ix) 18.32". (x) 7.11.1956, 25.11.1956 and 13.12.1956.

2. TREATMENTS :

Main-plot treatments :

3 dates of sowing : $D_1=10.9.1956$, $D_2=25.9.1956$ and $D_3=10.10.1956$.

Sub-plot treatments :

8 varieties : $V_1=CO-1$ and $V_2=CO-2$.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 2 sub-plots main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) 12'×18'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Poor. (ii) N.A. (iii) Yield of grain (iv) (a) 1955—59. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 170 lb./ac. (ii) (a) 86.3 lb./ac. (b) 46.5 lb./ac. (iii) Only D effect is significant. (iv) Av. yield of grain in lb./ac.

	D_1	D_2	D_3	Mean
V_1	187	107	235	176
V_2	187	111	195	164
Mean	187	109	215	170

S.E. of difference of two

- | | |
|-----------------------------------|----------------|
| 1. D marginal means | = 35.2 lb./ac. |
| 2. V marginal means | = 15.5 lb./ac. |
| 3. V means at the same level of D | = 26.8 lb./ac. |
| 4. D means at the same level of V | = 40.0 lb./ac. |

Crop :- Tenai.

Ref :- M. 57(75).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'CV'.

Object :—To find out the optimum time of sowing different varieties of Tenai.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) and (c) N.A. (d) 8"×4". (e) N.A. (v) 10 C.L./ac. of compost. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings and hoeings. (ix) 11.05". (x) 30.11.1957, 11.12.1957 and 24.12.1957.

2. TREATMENTS :

Main-plot treatments :

3 dates of sowing : $D_1=10.9.1957$, $D_2=25.9.1957$ and $D_3=10.10.1957$.

Sub-plot treatments :

2 varieties : $V_1=CO-1$ and $V_2=CO-2$.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) 24'×12'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 404 lb./ac. (ii) (a) 86.6 lb./ac. (b) 60.5 lb./ac. (iii) D and V effects are highly significant. (iv) Av. yield of grain in lb./ac.

	D ₁	D ₂	D ₃	Mean
V ₁	558	351	421	443
V ₂	473	249	369	364
Mean	516	300	395	404

S.E. of difference of two

1. D marginal means = 35.3 lb./ac.
2. V marginal means = 20.2 lb./ac.
3. V means at the same level of D = 34.9 lb./ac.
4. D means at the same level of V = 43.1 lb./ac.

Crop :- Tenai.

Ref :- M. 58(61).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'CV'.

Object :- To find out the optimum time of sowing different varieties of Tenai.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) and (c) N.A. (d) 8'×4'. (e) N.A. (v) 10 C.L./ac. of compost. (vi) As per treatments. (vii) Irrigated. (viii) 1 weeding and hoeing. (ix) 9'85". (x) 17.12.1958, 23.12.1958 and 2.1.1959.

2. TREATMENTS :

Main-plot treatments :

3 dates of sowing : D₁=10.9.1958, D₂=25.9.1958 and D₃=10.10.1958.

Sub-plot treatments :

2 varieties : V₁=CO-1 and V₂=CO-2.

3. DESIGN :

Same as in expt. no. 57(75) on page 245.

4. GENERAL :

Same as in expt. no. 56(82) on page 244.

5. RESULTS :

(i) 60 lb./ac. (ii) (a) 28.6 lb./ac. (b) 26.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of rain in lb./ac.

	D ₁	D ₂	D ₃	Mean
V ₁	48	63	63	58
V ₂	50	91	45	62
Mean	49	77	54	60

S.E. of difference of two

1. D marginal means = 11.7 lb./ac.
2. V marginal means = 8.7 lb./ac.
3. V means at the same level of D = 15.0 lb./ac.
4. D means at the same level of V = 15.8 lb./ac.

Crop :- Tenai.**Ref :- M. 59(44).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'CV'.**

Object :—To find out the optimum time of sowing different varieties of Tenai.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) a) 2 to 3 ploughings. (b) and (c) N.A. (d) 8"×4". (e) N.A. (v) 10 C.L./ac. of compost. (vi) As per treatments. (vii) Irrigated. (viii) 1 weeding and hoeing. (ix) 9.10". (x) 3.10.1959, 14.12.1959, and 6.1.1960.

2. TREATMENTS :**Main-plot treatments :**3 dates of sowing : $D_1=10.9.1959$, $D_2=25.9.1959$ and $D_3=10.10.1959$.**Sub-plot treatments :**2 varieties : $V_1=CO-1$ and $V_2=CO-2$.**3. DESIGN and 4. GENERAL :**

Same as in expt. no. 57(75) on page 246.

5. RESULTS :

(i) 223 lb./ac. (ii) (a) 121.3 lb./ac. (b) 64.9 lb./ac. (iii) D effect is highly significant and interaction $D \times V$ is significant. (iv) Av. yield of grain in lb./ac.

	D_1	D_2	D_3	Mean
V_1	295	272	156	241
V_2	353	174	88	205
Mean	324	223	122	223

S.E. of difference of two

- | | |
|-----------------------------------|----------------|
| 1. D marginal means | = 49.5 lb./ac. |
| 2. V marginal means | = 21.6 lb./ac. |
| 3. V means at the same level of D | = 37.4 lb./ac. |
| 4. D means at the same level of V | = 56.2 lb./ac. |

Crop :- Bhendi (Summer).**Ref :- M. 56(101)****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'ICMV'.**

Object :—To determine a suitable manurial schedule and an economic irrigation practice for Bhendi.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 15.3.1956. (iv) (a) 2 ploughings. (b) N.A. (c) 5 lb./ac. (d) As per treatments. (e) —. (v) 50 lb./ac. of N as F.Y.M. (vi) and (vii) As per treatments. (viii) Weeding twice. (ix) N.A. (x) 12.6.1956.

2. TREATMENTS :**Main-plot treatments :**

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

- (1) 2 varieties : $V_1=College\ orchard$ and $V_2=Indian$.
- (2) 2 intervals of irrigation : $I_1=4$ days interval and $I_2=7$ days interval.
- (3) 2 spacings : $S_1=24" \times 9"$ and $S_2=24" \times 18"$.

Sub-plot treatments :

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

- (1) 2 levels of N as A/S : $N_0=0$ and $N_1=40$ lb./ac.
- (2) 2 levels of P_2O_5 as Super : $P_0=0$ and $P_1=60$ lb./ac.
- (3) 2 levels of K_2O as Pot. Sul. : $K_0=0$ and $K_1=40$ lb./ac.

DESIGN :

(i) Split-plot. (ii) 8 main-plots/replication ; 8 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 12'×10'. (b) 10½'×6'. (v) One row left on either side. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) *Bhendi* yield. (iv) (a) 1956—1957. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) 3218 lb./ac. (ii) (a) 1793 lb./ac. (b) 860 lb./ac. (iii) Main effect of S and interactions $K \times S$ and $K \times I$ are highly significant. Effect of I and interactions $N \times P \times K$ are significant. Others are not significant.

(iv) Av. yield of *bhendi* in lb./ac.

Treatment	V ₁	V ₂	S ₁	S ₂	I ₁	I ₂
Av. yield	2947	3489	3418	3018	3322	3114
Treatment	N ₀	N ₁	P ₀	P ₁	K ₀	K ₁
Av. yield	3276	3159	3187	3248	3197	3238

Crop :- Bhendi (Monsoon).

Ref :- M. 56(102).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'ICMV'.

Object :—To determine a suitable manurial schedule and an economic irrigation practice for *Bhendi*.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) July, 1956. (iv) (a) 2 ploughings. (b) N.A. (c) 5 lb./ac. (d) As per treatments. (e) Doubles. (v) 50 lb./ac. of N as F.Y.M. (vi) and (vii) As per treatments. (viii) Weeding twice. (ix) N.A. (x) Nov. 1956.

2. TREATMENTS to 4 GENERAL :

Same as in expt. no. 56(101) on page 247.

5. RESULTS :

(i) 3878 lb./ac. (ii) (a) 3663 lb./ac. (b) 1334 lb./ac. (iii) S effect alone is highly significant. (iv) Av. yield of *bhendi* in lb./ac.

Treatment	V ₁	V ₂	I ₁	I ₂	S ₁	S ₂
Av. yield	3861	3896	3573	4183	4226	3531
Treatment	N ₀	N ₁	P ₀	P ₁	K ₀	K ₁
Av. yield	3989	3768	3929	3828	3819	3938

Crop :- Bhendi (Summer).

Ref :- M. 57(88).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'ICMV'.

Object :—To determine a suitable manurial schedule and an economic irrigation practice for *Bhendi*.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 1.3.1957. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 5 lb./ac. (d) As per treatments. (e) 2. (v) 50 lb./ac. of N as F.Y.M. (vi) and (vii) As per treatments. (viii) 2 weedings. (ix) N.A. (x) 20.5.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(101) on page 247.

4. GENERAL :

(i) Not satisfactory. Crop was damaged to some extent by heavy rains. (ii) Nil. (iii) *Bhendi* yield. (iv) 1956—1957. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Heavy rains. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) 2202 lb./ac. (ii) (a) 1646 lb./ac. (b) 606.7 lb./ac. (iii) S effect alone is significant. (iv) Av. yield of *bhendi* in lb./ac.

Treatment	V ₁	V ₂	S ₁	S ₂	I ₁	I ₂
Av. yield	2295	2109	2532	1872	2321	2083
Treatment	N ₀	N ₁	P ₀	P ₁	K ₀	K ₁
Av. yield	2185	2219	2241	2162	2204	2199

Crop :- Bhendi.

Ref :- M. 56(88).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'D'.

Object :—To study the effect of different insecticides against 'damping off' on Bhendi crop

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 28.8.1956. (iv) (a) 1 ploughing. (b) Hand sowing. (c) 5 lb./ac. (d) 2'×1.5'. (e) 1. (v) 15 lb./ac. of A/S+30 lb./ac. of Super. (vi) Indian *bhendi*. (vii) Irrigated. (viii) Nil. (ix) and (x) N.A.

2. TREATMENTS :

6 insecticides : I₀=Control, I₁=Agrosan G.N., I₂=Ceresan, I₃=Harvesan, I₄=Spergon and I₅=Fernosan. Insecticides applied at 2 grams for per lb. of seed.

3. DESIGN :

(i) R B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) and (b) 20'×4'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Incidence of 'damping off' noticed. (iv) Emergence and incidence percentages. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore. Incidence data analysed with $\sin^{-1}\sqrt{p}$ transformation, p being the incidence per centage.

5. RESULTS :

(i) to (iv)

Emergence		Incidence of disease	
Treatment	Mean %	Mean %	Transformed value in degrees
I ₀	67.6	19.48	21.12
I ₁	67.7	12.55	20.23
I ₂	79.1	15.46	22.58
I ₃	71.4	9.08	16.88
I ₄	67.5	15.21	22.33
I ₅	79.4	13.88	21.33
G.Mean	72.1	14.28	20.75
S.E./plot	5.1	—	5.41
S.E./mean	2.08	—	2.21
Significance	Not significant	—	Not significant

Crop :- Bhendi (Summer).

Ref :- M. 57(64).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'D'.

Object :—To study the effect of different insecticides to control the shoot and fruit borer of Bhendi crop.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 24 to 26.2.1957. (iv) (a) One ploughing. (b) Hand sowing. (c) 5 lb./ac. (d) 2'×15'. (e) 1. (v) 1.5 tons/ac. of F.Y.M.+100 lb./ac.

5. RESULTS :

(i) to (iv)

Treatment	Yield of fruit		Borer incidence on fruit			
			By number		By weight	
	in lb./ac.	in no./ac.	Mean %	Transformed value in degrees	Mean %	Transformed value in degrees
I ₀	1656	31949	24.900	29.403	30.350	32.94
I ₁	6557	79316	1.275	3.645	1.125	3.31
I ₂	5127	63888	3.950	8.025	5.050	10.65
I ₃	4095	83672	3.050	9.890	4.225	11.72
I ₄	3891	54269	4.925	12.578	6.150	14.04
I ₅	4787	60803	14.775	22.138	16.150	31.75
I ₆	5627	34304	17.425	23.163	20.150	26.39
G.M.	4534	58.314	10.043	15.549	11.886	18.69
S.E./mean	556.8	11309	—	3.57	—	3.08
Significance	Highly significant	Highly significant	—	Highly significant	—	Highly significant

Crop :- Bhendi (Monsoon).**Ref :- M. 58(24).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'D'.**

Object :- To study the effect of different insecticides to control shoot and fruit borer of Bhendi crop.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 21.7.1958. (iv) 1 ploughing. (v) Hand sowing. (c) 5 lb./ac. (d) 2' x 1½'. (e) 1. (v) 15 tons/ac. of F.Y.M.+100 lb./ac. of A/S+200 lb./ac. of Super+100 lb./ac. of Potash. (vi) Indian *bhendi*. (vii) Irrigated. (viii) Weeding once. (ix) 10.47". (x) 12.9.1958 to 17.10.1958.

2. TREATMENTS :

7 insecticides : I₀=Control, I₁=Endrin 0.02%, I₂=Aldrin 0.1%, I₃=Dieldrin 0.1%, I₄=Toxaphene 0.1%, I₅=Pestox 0.1% and I₆=G. Folidol 0.05%.

Insecticides sprayed on 8, 20.8.1958 and 5.9.1958.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) 24' x 21'. (v) 16' x 15'. (vi) 4' x 3'. (vii) Yes.

4. GENERAL :

(i) Satisfactory, (ii) N.A. (iii) Yield of fruit by number and weight and % infection. (iv) (a) 1955—contd. (b) N.A. (c) Nil. (v) (a) and (b) No. (vi) Nil. (vii) Expt. was conducted by Entomologist, Coimbatore.

5. RESULTS :

See page 253 under expt. no. 59(20).

Crop :- Bhendi (Summer).**Ref :- M. 59(20).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'D'.**

Object :- To study the effect of insecticides to control the shoot and fruit borer of Bhendi crop.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 2.2.1959. (iv) 1 ploughing. (v) Hand sowing. (c) 5 lb./ac. (d) 2' x 2½'. (e) 1. (v) 15 tons/ac. of F.Y.M.+100 lb./ac. of A/S+200 lb./ac. of Super. (vi) Indian *bhendi*. (vii) Irrigated. (viii) Weeding once. (ix) 1.3". (x) 26.3.1959 to 17.4.1959.

2. TREATMENTS :

6 insecticides : I₀= Control (no insecticide), I₁=Endrin 0.02%, I₂=Dieldrin 0.1%, I₃=Aldrin 0.1%, I₄=
Folidol 0.05% and I₅=Mechanical methods of control.

Insecticides sprayed on 27.2.1959, 13.3.1959 and 21.3.1959.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 21'×24'. (b) 18'×20'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) As per treatments. (iii) Yield of *bhendi* in number and weight ; % infection. (iv) (a) 1955—contd. (b) N.A. (c) Nil. (v) (a) and (b) No. (vi) No. (vii) Expt. was conducted by Entomologist, Coimbatore.

5. RESULTS :

(i) to (iv)

Treatement	Yield of fruit		Borer incidence on fruit			
			By number		By weight	
	in lb./ac.	in no./ac.	Mean %	Transformed value in degrees	Mean value	Transformed value in degrees
I ₀	45	2662	75.93	68.08	77.73	69.12
I ₁	1150	59169	6.50	14.70	7.05	15.18
I ₂	802	43923	7.15	15.45	6.10	14.20
I ₃	537	30734	15.65	23.20	15.93	23.50
I ₄	287	15004	36.05	36.72	35.45	36.40
I ₅	15	847	64.30	57.22	62.93	56.45
G.M.	473	25390	34.26	35.90	34.20	35.81
S.E./plot	64.8	12146	—	15.94	—	15.31
S.E./mean	32.4	6073	—	7.97	—	7.65
Significance	Highly significant	Highly significant	—	Highly significant	—	Highly significant

Results of expt. no. 58(24) on page 252.

Treatment	Yield of fruit		Borer incidence on fruit			
			By number		By weight	
	in lb./ac.	in no./ac	Mean %	Transformed value in degrees	Mean %	Transformed value in degrees
I ₀	1656	78227	15.5	24.93	17.6	26.38
I ₁	6554	210359	5.0	12.90	5.3	12.23
I ₂	3890	155727	6.9	15.25	8.1	16.70
I ₃	5126	188034	6.1	13.95	6.1	13.70
I ₄	4094	161535	8.4	16.88	9.4	17.95
I ₅	5625	169521	8.5	16.83	9.2	17.70
I ₆	4786	164984	7.1	15.50	7.9	16.40
G.M.	4533	161198	8.21	16.61	9.09	17.44
S.E./mean	556.6	18673	—	1.09	—	1.09
Significance	Highly significant	Highly significant	—	Highly significant	—	Highly significant

4. GENERAL :

(i) Satisfactory. (ii) As per treatments. (iii) Direct count and yield. (iv) (a) 1956-1959. (b) No. (c) Nil. (v) (a) and (b), Nil. (vi) Nil. (vii) Expt. was conducted by Entomologist, Coimbatore.

5. RESULTS :

(i) to (iv)

Treatment	Yield of borer free fruits		Borer incidence on fruit					
			By number		By weight		On shoots	
	in no./ac.	in lb./ac.	Mean %	Transformed value in degrees	Mean %	Transformed value in degrees	Mean %	Transformed value in degrees
I ₀	57383	8966	30.70	35.24	28.42	32.19	4.30	11.80
I ₁	87352	11877	14.76	22.56	15.52	23.14	0.20	1.62
I ₂	86888	13453	21.50	27.52	22.76	28.39	0.96	5.02
I ₃	73181	10650	27.36	27.49	22.95	28.59	2.00	7.89
I ₄	61332	8552	34.54	35.73	31.36	33.88	2.50	10.58
G.M.	73227	10700	25.77	29.71	24.20	29.24	1.99	7.38
S.E./plot	13611	1543	—	3.8	—	3.09	—	2.46
S.E./mean	6087	690	—	1.7	—	1.38	—	1.10
Significance	Highly significant	Highly significant	—	Highly significant	—	Highly significant	—	Highly significant

Crop :- Brinjal (Summer).

Ref :- M. 58(22).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'D'.

Object :—To study the effect of different insecticides to control Brinjal shoot and fruit borer.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore, (iii) 3, 4.3.1958. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) About 7000 seedlings/ac. (d) 2½'×2½'. (e) 1. (v) 15 tons/ac. of F.Y.M.+100 lb./ac. of A,S+200 lb./ac. of Super+100 lb./ac. of Potash. (vi) *Okhla* (medium). (vii) Irrigated. (viii) Hand hoeing and weeding twice and earthing up once. (ix) 2.6". (x) 10.5.1958 to 20.6.1958.

2. TREATMENTS :

6 insecticides : I₀=Control (no insecticide), I₁=Lindane 0.1%, I₂=Endrin 0.02%, I₃=Dieldrin 0.1%, I₄=DDT 0.1% and I₅=Folidol 0.05%.

5 rounds of treatments given.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) 25'×150'. (iii) 4. (iv) (a) 25'×25'. (b) 20'×20'. (v) One row left as border. (vi) Yes.

4. GENERAL :

Same as in expt. no. 57(63) on page 255.

5. RESULTS :

See on page 257 under expt. no. 58(21).

Crop :- Brinjal (Monsoon).

Ref :- M. 58(21).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'D'.

Object :— To study the effect of insecticides against the Brinjal shoot and fruit borer.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 6.8.1958. (iv) 3 to 4 ploughings. (b) Transplanting. (c) About 7000 seedlings/ac. (d) 2½'×2½'. (e) 1. (v) 15 tons/ac.

of F.Y.M.+100 lb./ac. of A/S+200 lb./ac. of Super+100 lb./ac. of Potash. (vi) *Okhla* (medium). (vii) Irrigated. (viii) Hand hoeing and weeding twice and earthing up once. (ix) 10.47". (x) 2.10.1958 to 18.11.1958.

2. TREATMENTS :

6 insecticides : I₀=Control (no insecticides), I₁=Lindane 0.1%, I₂=Endrin 0.02%, I₃=Dieldrin=0.1%, I₄=D.D.T. 0.1% and I₅=Folidol 0.05%.

Insecticides sprayed on 22.8.1958, 10.9.1958, 2.10.1958 and 21.10.1958.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) 25'×150'. (iii) 4. (iv) (a) 25'×25'. (b) 20'×20'. (v) N.A. (vi) Yes.

4. GENERAL :

Same as in expt. no 57(63) on page 255.

5. RESULTS :

(i) to (iv)

Treatment	Yield of borer free fruit		Borer incidence on fruit			
			By number		By weight	
	in no./ac.	in lb./ac.	Mean %	Transformed value in degrees	Mean %	Transformed value in degrees
I ₁	1424	80	63.3	46.00	53.3	46.9
I ₂	11104	764	6.5	13.75	6.0	13.5
I ₃	12192	943	21.4	30.18	25.1	29.7
I ₄	11532	851	25.4	27.75	26.3	30.8
I ₅	13616	1041	51.8	33.45	31.6	34.1
I ₅	4352	441	30.3	32.85	63.7	53.2
G.M.	9037	687	33.1	30.66	34.3	34.7
S.E./plot	4035.2	323	—	6.29	—	6.52
S.E./mean	2017.5	161.5	—	3.145	—	3.26
Significance	Highly significant	Highly significant	—	Highly significant	—	Highly significant

Results of expt. no. 57(22) on page 256.

(i) to (iv)

Treatment	Yield of borer free fruit		Borer incidence on fruit			
			By number		By weight	
	in no./ac.	in lb./ac.	Mean %	Transformed value in degrees	Mean %	Transformed value in degrees
I ₀	4490	374	60.73	51.24	58.7	52.0
I ₁	62682	5321	10.23	18.50	10.7	19.0
I ₂	45479	3827	20.88	27.17	22.0	28.0
I ₃	85762	3280	23.54	28.86	24.5	29.6
I ₄	29134	2200	25.45	30.22	28.7	32.0
I ₅	5.95	470	61.20	57.55	62.2	52.2
G.M.	38774	2579	33.67	34.59	34.5	35.1
S.E./plot	17230	1326.9	—	6.42	—	3.38
S.E./mean	8600	663.1	—	3.21	—	1.69
Significance	Highly significant	Highly significant	—	Highly significant	—	Highly significant

Crop :- Brinjal (Monsoon).**Ref :- M. 59(19).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'D'.**

Object :—To study the effect of different insecticides to control Brinjal fruit borer.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) N.A./26.9.1959. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) About 7000 seedlings/ac. (d) $2\frac{1}{2}' \times 2\frac{1}{2}'$. (e) 1. (v) 15 tons/ac. of F.Y.M.+100 lb./ac. of A/S+200 lb./ac. of Super+100 lb./ac. of Potash. (vi) *Okhla* (medium). (vii) Irrigated. (viii) Hand hoeing and weeding twice, earthing up once. (ix) 14.89°. (x) 28.11.1959 to 4.1.1960.

2. TREATMENTS :

5 insecticides : I_0 =Control (no insecticide), I_1 =Lindane 0.1%, I_2 =Endrin 0.02%. I_3 =Dieldrin 0.1% and I_4 =D.D.T. 0.1%.

Insecticides sprayed on 24.10.1959, 6.11.1959 and 4.12.1959.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) $25' \times 125'$. (iii) 4. (iv) $25' \times 25'$. (b) $20' \times 20'$. (v) 36 guard plants around. (vi) Yes.

4. GENERAL :

Same as in expt. no. 57(63) on page 255.

5. RESULTS :

(i) to (iv)

Treatment	Percentage of borer incidence on fruit			
	Yield of uninfested fruit		By number	By weight
	in no./ac.	in lb./ac.	Transformed value in degrees	Transformed value in degrees
I_0	2505	217	40.41	50.11
I_1	13830	1341	21.06	21.51
I_2	9910	918	34.78	36.41
I_3	15573	1470	34.97	36.27
I_4	10237	966	36.06	35.22
G.M.	10411	982	35.26	35.90
S.E./plot	2470	279.8	4.44	5.58
S.E./mean	1235	139.9	2.2	2.74
Significance	Highly significant	Highly significant	Highly significant	Highly significant

Crop :- Brinjal.**Ref :- M. 56(86).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'D'.**

Object :—To test the efficacy of different fungicides applied as dressings on the seeds of Brinjal against 'damping off' disease.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 9.8.1956. (iv) (a) 3 ploughings. (b) Transplanting. (c) 1000 seeds/bed of $6' \times 1'$. (d) and (e) N.A. (v) 15 tons/ac. of F.Y.M.+100 lb./ac. of A/S.+200 lb./ac. of Super+100 lb./ac. of Mur. Pot. (vi) H. 129 (I.C. 185). (vii) Irrigated. (viii) Nil. (ix) N.A. (x) Nil.

2. TREATMENTS :

6 fungicides: F₀=Control (no insecticide), F₁=Agrosan G.N., F₂=Ceresan, T₃=Harvesan, F₄=Sperguson and F₅=Fernosan.

Fungicides applied at the rate of 2 gms. for a pound of seed.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) and (b) Raised seed bed of 6'×1'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Low incidence of 'damping off' observed. (iii) Emergence % and incidence % of 'damping off' disease. (iv) 1956—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) to (iv)

Treatment	Emergence out of 1000	% incidence	Transformed value in degrees
F ₀	565	3.46	10.68
F ₁	569	3.03	9.85
F ₂	564	1.48	6.65
F ₃	513	2.72	9.38
F ₄	576	3.36	9.78
F ₅	612	3.94	10.73
G.M.	567	3.00	9.51
S.E./plot	788	—	3.27
S.E./treatment	39.4	—	1.63
Significance	Not significant	—	Not significant

Crop :- Brinjal.

Ref :- M. 57(87).

Site :- Agri College & Res. Instt., Coimbatore.

Type :- 'D'.

Object :—To study the effect of fungicides against wilt of Brinjal.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 20.3.1957. (iv) (a) 3 ploughings. (b) Transplanting. (c) About 7000 seedlings/ac. (d) 2½'×2½'. (e) 1. (v) 15 tons/ac. of F.Y.M. +100 lb./ac of A/S+200 lb./ac. of Super. (vi) H.129 (I.C.1855). (vii) Irrigated. (viii) Nil. (ix) N.A. (x) 25.6.1857.

2. TREATMENTS :

6 Fungicides : F₀=Control (no fungicide), F₁=Bordeaux's mixture 1%, F₂=Wet Ceresan 0.1%, F₃=Chestnut compound 0.3%, F₄=Dithane Z 78 0.15% and F₅=Urea 0.3%.
Dates of treatment are 20.4.1957, 10.5.1957, 28.5.1957 and 12.6.1957.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) and (b) 25'×5'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Wilt of brinjal noticed. (iii) Incidence percentage. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by the Horticulturist, Coimbatore.

5. RESULTS :

(i) 16.3 degrees. (ii) 11.68 degrees. (iii) Treatment differences are not significant. (iv) As given below.

Treatment	F ₀	F ₁	F ₂	F ₃	F ₄	F ₅
% incidence	18.01	3.65	15.94	16.63	10.28	5.31
Transformed value in degrees	25.1	7.8	19.6	22.8	13.3	9.3

S.E./mean = 5.8 degrees.

Crop :- Brinjal.**Ref :- M. 58(84).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'D'.**

Object :—To study the effect of fungicides against wilt of brinjal.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 25.1.1958. (iv) (a) 3 ploughings. (b) Transplanting. (c) About 7000 seedlings/ac. (d) $2\frac{1}{2}' \times 2\frac{1}{2}'$. (e) N.A. (v) 15 tons/ac. of F.Y.M. +100 lb./ac. of A/S+200 lb./ac. of Super. (vi) H. 129 (I.C. 1855). (vii) Irrigated. (viii) Weeding once. (ix) N.A. (x) 31.5.1958.

2. TREATMENTS :

6 fungicides : F_0 =Control (no fungicide). F_1 =Bordeaux's mixture 1%, F_2 =Wet Ceresan 0.1%, F_3 =Chestnut Compound 0.3%, F_4 =Dithane Z 78 0.15% and F_5 =Urea 0.3%.
Fungicides given on 1.4.1958, 20.4.1958, 30.4.1958 and 10.5.1958.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) and (b) $25' \times 5'$. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Wilt incidence noticed—control measures as per treatments. (iii) % incidence. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) 14.32 degrees. (ii) 7.21 degrees. (iii) Treatment differences are significant. (iv) As given below.

Treatment	F_0	F_1	F_2	F_3	F_4	F_5
% of incidence	16.25	7.58	1.25	5.08	12.65	6.63
Transformed value in degrees	23.75	13.2	3.22	13.00	19.95	12.82

S.E./mean = 3.6 degrees.

Crop :- Bitter gourd.**Ref :- M. 58(85).****Site :- Agri. College & Res. Instt., Coimbatore****Type :- 'D'.**

Object :—To study the effect of fungicides against downy mildew of bitter gourd.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 31.8.1958. (iv) (a) 3 ploughings. (b) N.A. (c) to (e) $4' \times 4'$ pits with 2 plants in each. (v) F.Y.M. at 50 lb./pit. (vi) N.A. (vii) Irrigated. (viii) Nil. (ix) N.A. (x) 10.1.1959.

2. TREATMENTS :

5 fungicides : F_0 =Control (no fungicide). F_1 =Agrimycin 200 ppm, F_2 =Bordeaux's mixture 1%, F_3 =Cupravit 0.25% and F_4 =Flit. 406 0.1%.
Fungicides applied on 22.11.1958, 6.12.1958, 20.12.1958 and 3.1.1959.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5 (iv) (a) and (b) $8' \times 8'$. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Incidence of downy mildew noticed. (iii) Incidence in categorical values and yield. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

1. BASAL CONDITIONS :

(i) (a) Brinjal—Bitter gourd. (b) Brinjal. (c) 15 tons of F.Y.M. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 18.3.1958. (iv) (a) One ploughing. (b) Hand sowing. (c) 8 seeds/plot. (d) and (e) N.A. (v) F.Y.M. at 100 lb./pit as B.D. and 100 lb./pit at the time of flowering. (vi) H. 7. (vii) Irrigated. (viii) Weeding once. (ix) 2.6". (x) 6.5.1958 to 23.6.1958.

2. TREATMENTS :

5 insecticides : I₀=Control (no insecticide), I₁=Folidol 0.05%, I₂=Nicotine Sulphate 0.1%, I₃=Calcium arsenate+lime (1 oz. each in one gallon of water) and I₄=Endrin 0.02%.

Insecticides sprayed on 25.4.1958, 7.5.1958, 19.5.1958 and 30.5.1958.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) and (b) 8'×8'. (v) None. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) As per treatments. (iii) The percentage of incidence and the number of healthy fruits at harvest. (iv) 1955—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Expt. was conducted by Entomologist, Coimbatore.

5. RESULTS :

(i) to (iv)

Treatment	Fruit fly incidence					
	Yield of uninfested fruit		By number		By weight	
	in no./ac.	in lb./ac.	Mean %	Transformed value in degrees	Mean %	Transformed value in degrees
I ₀	178529	10890	32.7	34.7	31.5	34.0
I ₁	221885	13358	25.0	29.8	24.2	29.4
I ₂	196362	12209	26.0	30.6	25.5	30.3
I ₃	145519	9997	25.6	31.6	26.0	30.6
I ₄	259865	15952	18.3	25.2	18.5	25.4
G.M.	200432	12481	25.52	30.38	25.14	29.94
S.E./plot	36373	2856	—	4.48	—	3.64
S.E./mean	18186	1428	—	2.24	—	1.82
Significance	Highly significant	Not significant	—	Not significant	—	Not significant

Crop :- Bitter gourd (Monsoon).

Ref :- M. 58(27).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'D'.

Object : —To study the effect of insecticides for the control of the fruit fly *Dacus Cucurbitac* Coq.

1. BASAL CONDITIONS :

(i) (a) Bitter gourd—Brinjal. (b) Brinjal. (c) 15 tons/ac. of F.Y.M. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 17.9.1958. (iv) (a) 1 ploughing. (b) Hand sowing. (c) 8 seeds pit. (d) and (e) N.A. (v) 100 lb./pit of F.Y.M. as B.D. and 100 lb./pit at the time of flowering. (vi) N.A. (vii) Irrigated. (viii) Weeding twice. (ix) 10.96". (x) 17.12.1958 to 27.1.1958.

2. TREATMENTS :

Same as in expt. no. 58(28) on Page 261.

Treatments applied on 12.11.1958, 19.11.1958, 29.11. 1958, 9.12.1958 and 15.12.1958.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 58(28) on page 261.

5. RESULTS :

(i) to (iv)

Treatment	Yield of uninfested fruit		Fruit fly incidence			
			By number		By weight	
	in no./ac.	in lb./ac.	Mean %	Transformed value in degrees	Mean %	Transformed value in degrees
I ₀	98011	5445	30.7	33.48	26.4	30.63
I ₁	177644	10933	11.1	19.15	9.3	17.28
I ₂	270210	15272	14.2	22.03	12.3	20.50
I ₃	229372	14123	9.7	17.95	7.7	15.93
I ₄	112985	5998	18.3	25.23	14.7	22.33
G.M.	177644	10354	16.8	23.57	14.1	21.33
S.E./plot	62236	3410	—	4.18	—	4.62
S.E./mean	31118	1709	—	2.09	—	2.31
Significance	Highly significant	Highly significant	—	Highly significant	—	Highly significant

Crop :- Bitter gourd (Summer).**Ref :- M. 59(24).****Site :- Agri. College and Res. Instt., Coimbatore.****Type :- 'D'.**Object :- To study the effect of insecticides against the control of fruit fly *Dacus cucurbitac* Coq.

1. BASAL CONDITIONS :

(i) (a) Brinjal—Bitter gourd. (b) Brinjal. (c) 15 ton/ac. of F.Y.M. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 28.3.1959. (iv) (a) One ploughing. (b) Hand sowing. (c) 8 seeds/pit. (d) and (e) N.A. (v) 100 lb./pit of F.Y.M. as B.D.+100 lb./pit of F.Y.M. at the time of flowering. (vi) Adt. (vii) Irrigated. (viii) Weeding once. (ix) 2.53". (x) 26.5.1959 to 22.6.1959.

2. TREATMENTS :

6 insecticides : I₀=Control (no insecticide), I₁=DDT 0.1%, I₂=Folidol 0.05%, I₃=Calcium arsenate with lime, I₄=Endrin 0.02% and I₅=Aldrin 0.1%.

Insecticides sprayed on 9.5.1959, 19.5.1959 and 3.6.1959.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) and (b) 8'×8'. (v) Nil. (vi) Yes.

4. GENERAL :

Same as in expt. no. 58(28) on page 261.

5. RESULTS :

(i) to (iv)

See page 264 under expt. no 59(25).

Crop :- Bitter gourd (Monsoon).**Ref :- M. 59(25).****Site :- Agri. College and Res. Instt., Coimbatore.****Type :- 'D'.**Object :- To study the effect of insecticides against the control of fruit fly *Dacus cucurbitac* Coq.

1. BASAL CONDITIONS :

(i) (a) Brinjal—Bitter gourd. (b) Brinjal. (c) 15 tons/ac. of F.Y.M. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 29.8.1959. (iv) (a) One ploughing. (b) N.A. (c) Hand sowing. (d) 8 seeds/pit. (e) N.A. (v) 100 lb./pit of F.Y.M. as B.D.+100 lb./pit of F.Y.M. at the time of flowering. (vi) Adt. (vii) Irrigated. (viii) Weeding twice. (ix) 16.27". (x) 19.11.1959 to 31.12.1959, pulled cut on 31.12.1959.

2. TREATMENTS :

6 insecticides : I₀=Control (no insecticide), I₁=Endrin 0.02%, I₂=DDT 0.1%, I₃=Parathion (Folidol) 0.05%, I₄=Dieldrin 0.1% and I₅=Calcium arsenate.

Insecticides sprayed on 24.10.1959, 10.11.1959, 19.11.1959 and 2.12.1959.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) and (b) 8'×8'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) As per treatments. (iii) The percentage incidence at harvest. (iv) (a) 1955—contd. (b) No. (c) Nil. (v) (a) and (b) No. (vi) Nil. (vii) Expt. was conducted by the Entomologist, Coimbatore Plot-wise yield N.A. Hence not analysed.

5. RESULTS :

(i) As given below. (ii) and (iii) N.A. (iv) As given below.

Treatment	I ₀	I ₁	I ₂	I ₃	I ₄	I ₅	G.M.
Av. number	55302	171691	166416	136809	122856	134767	131307
Av. yield	3830	12683	13502	10406	8959	10778	10026

Results of expt. no. 59(24) on page 263.

Treatment	Fruit fly incidence					
	Yield of uninfested fruit		By number		By weight	
	in no./ac.	in lb./ac.	Mean %	Transformed value in degrees	Mean %	Transformed value in degrees
I ₀	50367	2192	23.5	25.3	24.75	23.30
I ₁	68063	4309	14.9	22.2	12.65	16.28
I ₂	68744	4107	16.3	23.6	15.03	18.04
I ₃	72827	5182	17.0	24.0	15.50	18.40
I ₄	66021	4862	23.4	25.3	17.62	19.62
I ₅	51047	3000	19.4	25.4	20.75	21.20
G.M.	62845	3942	19.1	24.3	17.72	19.47
S.E./plot	21358	N.A.	—	4.2	—	3.90
S.E./mean	10679	N.A.	—	2.1	—	1.95
Significance	Not significant	N.A.	—	Not Significant	—	Not significant

Crop :- Radish.

Ref :- M. 56(89).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'D'.

Object :- To study the effect of insecticides against tuber-rot disease.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 7.9.1956. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) About 4 lb./ac. (d) 9'×1½'. (e) 2. (v) 15 tons/ac. of F.Y.M.+100 lb./ac. of A/S+200 lb./ac. of Super. (vi) H-123. (vii) Irrigated. (viii) Nil. (ix) and (x) N.A.

2. TREATMENTS :

6 insecticides : I₀=Control (no insecticide), I₁=Agrosan G.N., I₂=Harvesan, I₃=Ceresan, I₄=Sperguson and I₅=Fernosan.

Insecticides applied at the rate of 2 gm./lb. of seed.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) and (b) 15'×3'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Mild attack of tuber-rot disease noticed. (iii) Emergence and incidence percentage. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vi) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) to (iv)

Treatment	Emergence		Mean incidence	
	Mean %	Mean %	Transformed value in degrees	
I ₀	70.00	10.35	18.75	
I ₁	75.62	3.12	10.07	
I ₂	73.12	7.22	15.57	
I ₃	72.37	6.80	15.12	
I ₄	70.00	5.45	13.27	
I ₅	76.25	6.02	14.10	
G.M.	72.89	6.49	14.48	
S.E./plot	13.64	—	1.96	
S.E./mean	6.82	—	0.98	
Significance	Not significant	—	Highly significant	

Crop :- Radish.**Ref :- M. 57(83).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'D'.**

Object:—To study the effect of insecticides against tuber-rot disease.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 6.4.1957. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 2 rows of 20 plants each. (d) 1½' × 9'. (e) N.A. (v) 15 tons/ac. of F.Y.M. + 100 lb./ac. of A/S + 200 lb./ac. of Super. (vi) H. 123. (vii) Irrigated. (viii) Nil. (ix) N.A. (x) 21.5.1957.

2. TREATMENTS :

6 insecticides : I₀=Control (no insecticide), I₁=Agresan G.N., I₂=Harvesan, I₃=Sperguson, I₄=Ceresan and I₅=Orthocide.
Insecticides applied at the rate of 2 gm./lb. of seed.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) and (b) 15' × 3'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Tuber-rot disease noticed. (iii) % emergence and yield. (iv) (a) 1956—1957 (treatments modified). (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) to (iv)

Treatment	Emergence		Av. yield in lb./ac.
	Mean %	Transformed value in degrees	
I ₀	87.5	55.70	11223
I ₁	63.1	52.63	9136
I ₂	65.0	54.08	8773
I ₃	75.0	60.05	10149
I ₄	69.4	56.95	9786
I ₅	80.0	64.48	9499
G.M.	73.3	57.32	9761
S.E./plot	—	7.79	2995
S.E./mean	—	3.89	1497
Significance	—	Not significant	Not significant

Crop :- Ribbed gourd.**Ref :- M. 56(93).****Site :- Agri. College & Res Instt., Coimbatore.****Type :- 'D'.**

Object :—To study the effect of fungicides against downy mildew of Ribbed gourd.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 10.9.1956. (iv) (a) 3 ploughings. (b) N.A. (c) and (d) 4 plants per pit of 4'×4'. (e) N.A. (v) F.Y.M. at 50 lb./pit. (vi) N.A. (vii) Irrigated. (viii) Nil. (ix) N.A. (x) 30.11.1956.

2. TREATMENTS :6 fungicides, : F₀=Control (no fungicide), F₁=Bordeaux's mixture 1%, F₂=Dithane Z 78. 0.15%, F₃=Cupravit 0.4%, F₄=Perenox 0.25% and F₅=Yellow Cuprocide 0.15%.
Fungicides sprayed on 11.10.1956, 27.10.1956, 11.11.1956 and 27.11.1956.**3. DESIGN :**

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) and (b) 20'×4'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Incidence of downy mildew disease noticed. (iii) Incidence in categorical values and yield. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) to (iv)

Treatment	Av. yield in lb./ac.	Incidence of downy mildew in categorical values.
F ₀	10,822	50.00
F ₁	13,638	11.00
F ₂	14,658	22.75
F ₃	12,259	31.75
F ₄	10,958	27.25
F ₅	11,545	36.25
G.M.	12,313	29.83
S.E. plot	2702	4.638
S.E. mean	1351	2.319
Significance	Not significant	Highly significant

Crop :- Ribbed gourd.**Ref :- M. 57(86).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'D'.**

Object :—To study the effect of fungicides against mildew of Ribbed gourd.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 10.9.1957. (iv) (a) 3 ploughings. (b) N.A. (c) and (d) 4 plants per pit of 4'×4'. (e) N.A. (v) F.Y.M. at 50 lb./pit. (vi) N.A. (vii) Irrigated. (viii) Nil. (ix) N.A. (x) 15.12.1957.

2. TREATMENTS :5 fungicides : F₀=Control (no fungicide), F₁=Bordeaux's mixture 1%, F₂=Fungimar 0.25%, F₃=Dithane Z 78 0.15% and F₄=Copper oxychloride 0.25%.

Fungicides applied on 26.10.1957, 8.11.1957, 22.11.1957 and 6.12.1957.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) and (b) 12'×12'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Mild incidence of downy mildew. (iii) Incidence of the disease and yield. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) and (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) to (iv)

Treatment	Av. yield in lb./ac.	Incidence of downy mildew in categorical values
F ₀	3319	2.26
F ₁	2986	1.64
F ₂	3198	1.86
F ₃	3035	2.00
F ₄	3444	1.74
G.M.	3196	1.90
S.E./plot	884.1	0.181
S.E./mean	395.4	0.08
Significance	Not significant	Highly significant

Crop :- Ribbed gourd.**Ref :- M. 58(86).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'M'.**

Object :—To study the effect against the die-back disease of Ribbed gourd.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 13.3.1958. (iv) (a) 3 ploughings. (b) N.A. (c) to (e) 4'×4' pits with 2 plants in each. (v) F.Y.M. at 50 lb./pit. (vi) N.A. (vii) Irrigated. (viii) Nil. (ix) N.A. (x) 28.6.1958.

2. TREATMENTS :

4 fungicides : F₀=Control (no fungicide), F₁=Bordeaux's mixture 1%, F₂=Cupravit 0.4% and F₃=Dithane Z.78 0.15%.

Fungicides applied on 10.5.1958, 24.5.1958, 7.6.1958 and 21.6.1958.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) and (b) 8'×8'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Incidence of die-back noticed. (iii) % incidence and yield. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) to (iv)

Treatment	Mean % of incidence	Transformed value in degrees	Av. yield in lb./ac.
F ₀	26.67	31.05	7358
F ₁	28.35	28.78	7957
F ₂	21.67	27.31	7589
F ₃	21.12	27.68	8065
G.M.	24.45	28.71	7742
S.E./plot	—	1.99	2232
S.E./mean	—	0.81	911
Significance		Significant	Not significant

Crop :- Potato.**Ref :- M. 58(136).****Site :- Agri. Res. Stn., Nanjanad.****Type :- 'M'.**

Object :—To study the availability of phosphates to Potato by the addition of organic manure and lime.

1. BASAL CONDITIONS :

(i) (a) Potato—Lupin. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 25.3.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 4000 lb./ac. (d) 18"×9". (e) 1. (v) Nil. (vi) Great-Scot (medium). (vii) Unirrigated. (viii) Weeding, hoeing and 2 earthings. (ix) 35.58". (x) 26.7.1958.

2. TREATMENTS :

All combinations of (1), (2, and (3)+an extra treatment

(1) Nanjanad mixture with 4 sources of P_2O_5 to give the total Phosphate content : S_1 =Rock Phos., S_2 =B.M., S_3 =Super and S_4 =Dicalcium Phos.

(2) 2 levels of limo : $L_0=0$ and $L_1=7500$ lb./ac.

(3) 2 levels of G.L. : $G_0=0$ and $G_1=5000$ lb./ac.

Extra treatment : T=Standard Nanjanad mixture.

Treatments applied as B.D.

3. DESIGN :

(i) R.B.D. (ii) (a) 17. (b) N.A. (iii) 3. (iv) (a) 1/200 ac. (b) 1/400 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Nanjanad mixture contains 500 lb./ac. of G.N.C.+200 lb./ac. of A/S+672 lb./ac. of Super+350 lb./ac. of B.M.+224 lb./ac. of Pot. Sul.

5. RESULTS :

(i) 7152 lb./ac. (ii) 2636 lb./ac. (iii) Main effect of S and L are significant. No other effect is significant. (iv) Av. yield of tuber in lb./ac.

	S_1	S_2	S_3	S_4	L_0	L_1	Mean
G_0	6110	5516	9300	10368	6372	9275	7824
G_1	5338	4440	8952	7800	5863	7403	6633
Mean	5724	4978	9126	9084	6118	8339	7228
L_0	4898	3152	9260	7158			
L_1	6550	6804	8992	11010			

S.E. of G or L marginal mean = 538 lb./ac.

S.E. of S marginal mean = 761 lb./ac.

S.E. of body of $S \times G$ or $S \times L$ table = 1076 lb./ac.

S.E. of body of $G \times L$ table = 761 lb./ac.

Crop :- Potato (Summer).

Ref :- M. 59(99).

Site :- Agri. Res. Stn., Nanjanad.

Type :- 'M'.

Object :-To study the availability of phosphates to Potato by the addition of organic manurs and lime.

1. BASAL CONDITIONS :

(i) (a) Potato—Lupin. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 8.4.1959. (iv) (a) 3 ploughings. (b) N.A. (c) 400 lb./ac. (d) $18'' \times 9''$. (e) 1. (v) 5 tons/ac. of F.Y.M. (vi) Great Scot. (vii) Unirrigated. (viii) 6 weedings and 2 earthings. (ix) 52.98%. (x) 25.8.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no 58(136) on page 267.

5. RESULTS :

(i) 8130 lb./ac. (ii) 2913 lb./ac. (iii) Main effect of S is highly significant while that of L is significant. No other effect is significant. (iv) Av. yield of tuber in lb./ac.

T = 7191 lb./ac.

	S ₁	S ₂	S ₃	S ₄	L ₀	L ₁	Mean
G ₀	7380	5846	9004	12968	7217	10312	8800
G ₁	7830	4597	9285	8600	6882	8274	7578
Mean	7605	5222	9144	10784	7050	9328	8189
L ₀	5447	3838	7688	11225			
L ₁	9763	6605	10601	10342			

S.E. of G or L marginal mean	= 595 lb./ac.
S.E. of S marginal mean	= 841 lb./ac.
S.E. of body of S×L or S×G table	= 1189 lb./ac.
S.E. of body of G×L table	= 841 lb./ac.

Crop :- Potato.**Ref :- M. 56(96).****Site :- Agri. Res. Stn., Nanjanad.****Type :- 'M'.**

Object :- To find out the possibility of replacing Super by Hyper Phos. in the Nanjanad mixture for Potato.

1. BASAL CONDITIONS :

(i) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 9.4.1956. (iv) 3 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 24"×9". (e) Nil. (v) 5000 lb./ac. of G.L.+1946 lb./ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Hoeing, weeding and 1 earthing. (ix) 50.75". (x) 19.9.1956.

2. TREATMENTS :

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

- (1) 2 sources of P₂O₅ : S₁=Super and S₂=Hyper Phos.
 (2) 3 levels of P₂O₅ : P₁=150 P₂=200 and P₃=250 lb./ac.
 (3) 2 levels of N : N₁=100 and N₂=150 lb./ac.

The treatments are variations in the constituents of Nanjanad mixture applied at the time of planting.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) 1/133.3 lb./ac. (b) 1/200 lb./ac. (v) On row around. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 11807 lb./ac. (ii) 1336 lb./ac. (iii) Main effect of S is highly significant while that of P is significant. No other effect is significant. (iv) Av. yield of tuber in lb./ac.

	P ₁	P ₂	P ₃	S ₁	S ₂	Mean
N ₁	10880	11360	12200	12987	9973	11480
N ₂	11200	12560	12640	13520	10747	12134
Mean	11040	11960	12420	13254	10360	11807
S ₁	12440	13520	13800			
S ₂	9640	10400	11040			

S.E. of N or S marginal mean	= 273 lb./ac.
S.E. of P marginal mean	= 334 lb./ac.
S.E. of body of P×N or P×S table	= 472 lb./ac.
S.E. of body of N×S table	= 386 lb./ac.

Crop :- Potato (Summer).

Ref :- M. 57(96).

Site :- Agri. Res. Stn., Nanjanad.

Type :- 'M'.

Object :—To find out the possibility of replacing Super by Hyper Phos. in the Nanjanad mixture for Potato.

1. BASAL CONDITIONS :

(i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 16.4.1957. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) 1. (v) 5 tons/ac. of F.Y.M.+1946 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Unirrigated. (viii) 2 weedings and 1 earthing. (ix) 40.47". (x) 26.9.1957.

2. TREATMENTS :

Same as in expt. no. 56(96) on page 269.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 5. (iv) (a) 33'×12'. (b) 30'×9'. (v) 1½' around the net plot. (vi) Yes.

4. GENERAL :

Same as in expt. no. 56(96) on page 269.

5. RESULTS :

(i) 10714 lb./ac. (ii) 985 lb./ac. (iii) S and P effects are highly significant. Effect of N is significant. Other effects are not significant. (iv) Av. yield of tuber in lb./ac.

	P ₁	P ₂	P ₃	S ₁	S ₂	Mean
N ₁	9874	10309	11072	11785	9051	10418
N ₂	10164	11398	11471	12269	9753	11011
Mean	10019	10854	11272	12027	9402	10714
S ₁	11288	12269	12524			
S ₂	8749	9438	10019			

S.E. of N or S marginal mean	= 179.8 lb./ac.
S.E. of P marginal mean	= 220.3 lb./ac.
S.E. of body of P×N or P×S table	= 311.5 lb./ac.
S.E. of body of N×S table	= 254.3 lb./ac.

Crop :-Potato (Summer).

Ref :- M. 58(137).

Site :- Agri. Res. Stn., Nanjanad.

Type :- 'M'.

Object :—To find out the possibility of replacing Super by Hyper Phos. in the Nanjanad mixture for Potato.

1. BASAL CONDITIONS :

(i) Potato—Lupin. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 21.3.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 4000 lb./ac. (d) 18"×9". (e) 1. (v) 5 tons/ac. of F.Y.M. (vi) Great Scot (medium). (viii) Unirrigated. (viii) Weeding, hoeing and 2 earthings. (ix) 35.58". (x) 14.8.1958.

2. TREATMENTS :

Same as in expt. no. 56(95) on page 269.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 5. (iv) (a) 33'×9'. (b) 30'×7.5'. (v) 18'×9' left on all sides. (vi) Yes.

4. GENERAL :

Same as in expt. no. 56(96) on page 269.

5. RESULTS :

(i) 11743 lb./ac. (ii) 2460 lb./ac. (iii) Only main effect of S is significant. (iv) Av. yield of tuber in lb./ac.

	P ₁	P ₂	P ₃	S ₁	S ₂	Mean
N ₁	11186	11572	11680	12726	10231	11479
N ₂	11438	11892	12694	12727	11288	12008
Mean	11307	11732	12187	12726	10759	11743
S ₁	12322	12638	13214			
S ₂	10292	10826	11160			

S.E. of N or S marginal mean = 449 lb./ac.
 S.E. of P marginal mean = 550 lb./ac.
 S.E. of body of P×N or P×S table = 778 lb./ac.
 S.E. of body of N×S table = 635 lb./ac.

Crop :- Potato (1st crop).

Ref :- M. 54(6).

Site :- Agri. Res. Stn., Nanjanad.

Type :- 'M'.

Object :- To study the effect of application of split doses of Nanjanad mixture to Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Potato—G.M. (Lupin-rye mixture). (c) N.A. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 25.3.1954. (iv) (a) Hand forking and breaking clods to a fine tilth. (b) to (e) N.A. (v) Nil. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Nil. (ix) 44". (x) 14.9.1954.

2. TREATMENTS :

1. No fertilizer.
2. $\frac{1}{2}$ dose of Nanjanad mixture at planting + $\frac{1}{2}$ dose at 1st earthing up.
3. $\frac{1}{2}$ dose of Nanjanad mixture at planting + $\frac{1}{2}$ dose at 1st earthing up.
4. $\frac{1}{2}$ dose of Nanjanad mixture at planting + $\frac{1}{2}$ dose at 1st earthing up.
5. Complete dose at planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 1/100 ac. (b) 1/200 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height and growth of plants and tuber yield. (iv) (a) 1954—1956. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 16655 lb./ac. (ii) 1290 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2	3	4	5
Av. yield	12025	15725	17025	19525	18975

S.E./mean = 645 lb./ac.

Crop :- Potato (2nd crop).**Ref :- M. 54(6a).****Site :- Agri. Res. Stn., Nanjanad.****Type :- 'M'.**

Object :—To study the effect of application of split doses of Nanjanad mixture to Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Potato—G.M. (Lupin-rye mixture). (c) N.A. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 11.8.1954. (iv) (a) Hand forking and breaking clods to a fine tilth. (b) to (e) N.A. (v) Nil. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Nil. (ix) 44". (x) 17.12.1954.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(6) on page 271.

5. RESULTS :

(i) 11410 lb./ac. (ii) 1282 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2	3	4	5
Av. yield	7150	9550	11000	14600	14750

S.E./mean = 641 lb./ac.

Crop :- Potato (Main crop).**Ref :- M. 55(77).****Site :- Agri. Res. Stn., Nanjanad.****Type :- 'M'.**

Object :—To study the effect of application of split doses of Nanjanad mixture to Potato.

1. BASAL CONDITIONS :

(i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 9.4.1955. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) 1. (v) 5 tons/ac. of F.Y.M. +Nanjanad mixture—as per treatments. (vi) Great Scot. (vii) Unirrigated. (viii) Weeding and 2 earthings. (ix) 38.15". (x) 5.8.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(6) on page 271.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1954—1955. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 11235 lb./ac. (ii) 1640 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2	3	4	5
Av. yield	5875	9550	11875	13425	15450

S.E./mean = 820 lb./ac.

Crop :- Potato (2nd crop).**Ref :- M. 55(78).****Site :- Agri. Res. Stn., Nanjanad.****Type :- 'M'.**

Object :—To study the effect of application of split doses of Nanjanad mixture to Potato.

1. BASAL CONDITIONS :

(i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 7.9.1955. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) 1. (v) 5 tons/ac. of F.Y.M. +Nanjanad mixture—as per treatments. (vi) Great Scot. (vii) Unirrigated. (viii) Weeding and 2 earthings. (ix) 19.09". (x) 6.1.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(6) on page 271.

4. GENERAL :

Same as in expt. no. 54(77) on page 272.

5. RESULTS :

(i) 8240 lb./ac. (ii) 1250 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2	3	4	5
Av. yield	2400	8100	9100	10500	11100

S.E./mean = 625 lb./ac.

Crop :- Potato (Summer).

Ref :- M. 56(94).

Site :- Agri. Res. Stn., Nanjanad.

Type :- 'M'.

Object :—To study the effect of bulky organic manures and Nanjanad mixture on Potato.

1. BASAL CONDITIONS :

(i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 23.4.1956. (iv) (a) 3 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 24"×9". (e) —. (v) As per treatments. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Hoeing, weeding and 1 earthing. (ix) 50.75". (x) 6.9.1956.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 bulky manures as B.D. : $B_0=0$, $B_1=5$ tons/ac. of F.Y.M. and $B_2=5$ tons/ac. of spent Cinchona bark compost.

(2) 2 levels of Nanjanad mixture : $M_0=0$ and $M_1=1946$ lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 1/266.7 ac. (b) 1/400 ac. (v) One row left. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

(i) 10911 lb./ac. (ii) 3896 lb./ac. (iii) Main effect of M is highly significant and B effect is significant. (iv) Av. yield of tuber in lb./ac.

	B_0	B_1	B_2	Mean
M_0	5800	9533	6067	7133
M_1	13667	17400	13000	14689
Mean	9734	13467	9533	10911

S.E. of B marginal mean = 1125 lb./ac.

S.E. of M marginal mean = 918 lb./ac.

S.E. of body of table = 1591 lb./ac.

Crop :- Potato.

Ref :- M. 54(8).

Site :- Agri. Res. Stn., Nanjanad.

Type :- 'M'.

Object :—To study the effect of application of magnesium and lime with Nanjanad mixture to Potato.

1. BASAL CONDITIONS

(i) (a) Nil. (b) Potato. (c) N.A. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 31.3.1954. (iv) (a) Hand forking and breaking of clods to fine tilth. (b) and (c) N.A. (d) 24" between rows. (e) —. (v) 5000 lb./ac. of G.L. as B.D.+1946 lb./ac. of Nanjanad mixture as B.D. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Nil. (ix) 44.0". (x) 8.9.1954.

2. TREATMENTS :

All combinations of (1), (2) and (3) +2 extra treatments

(1) 3 levels of MgO as MgSO₄ : S₁=10, S₂=20 and S₃=30 lb./ac.

(2) 2 levels of slaked lime : L₀=0 and L₁=1500 lb./ac.

(3) 2 methods of application of MgO : M₁=Soil application and M₂=Spray application.

Extra treatments : T₀=Control and T₁=1500 lb./ac. of slaked lime.

3. DESIGN :

(i) R.B.D. (ii) (a) 14. (b) N.A. (iii) 4. (iv) (a) and (b) 1/200 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Growth, height measurements and tuber yield. (iv) (a) 1953—1954. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 15404 lb./ac. (ii) 1840 lb./ac. (iii) No effect is significant. (iv) Av. yield of tuber in lb./ac.

$$T_0 = 13900 \text{ lb./ac. ; } T_1 = 14850 \text{ lb./ac.}$$

	S ₁	S ₂	S ₃	L ₀	L ₁	Mean
M ₁	15900	16050	15250	16117	15350	15733
M ₂	15175	15475	15600	15117	15717	15417
Mean	15538	15763	15425	15617	15533	15575
L ₀	16100	15200	15550			
L ₁	14975	16325	15300			

S.E. of M or L marginal mean	= 375.7 lb./ac.
S.E. of S marginal mean	= 460.0 lb./ac.
S.E. of body of S×M or S×L table	= 650.5 lb./ac.
S.E. of body of M×L table	= 531.2 lb./ac.
S..E. of extra treatment mean	= 920.0 lb./ac.

Crop :- Potato.

Ref :- M. 54(9).

Site :- Agri. Res. Stn., Nanjanad.

Type :- 'M'.

Object :- To find out a suitable source of N for Nanjanad mixture for Potato crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Potato. (c) N.A. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 29.3.1954. (iv) (a) Hand forking and breaking clods to fine tilth. (b) to (e) N.A. (v) 5000 lb./ac. of G.L. and 1500 lb./ac. of lime. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Nil. (ix) 44.0" (x) 13.9.1954.

2. TREATMENTS :

Main-plot treatments :

All combinations of (1) and (2)

(1) 2 levels of lime : L₀=0 and L₁=1500 lb./ac.

(2) 2 levels of G.L. : G₀=0 and G₁=5000 lb./ac.

Sub-plot treatments :

4 manurial treatments : M₁=80 lb./ac. of N as C/N+P₂O₅ and K₂O as in Nanjanad mixture, M₂=80 lb./ac. of N as Urea+P₂O₅ and K₂O as in Nanjanad mixture, M₃=80 lb./ac. of N as A/S+P₂O₅ and K₂O as in Nanjanad mixture and M₄=Nanjanad mixture.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/replication ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 1/200 ac. (b) 1/400 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Growth, height measurements and tuber yield. (iv) (a) 1952—1954. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 13775 lb./ac. (ii) (a) 1521 lb./ac. (b) 1445 lb./ac. (iii) M effect alone is significant. (iv) Av. yield of tuber in lb./ac.

	M ₁	M ₂	M ₃	M ₄	G ₀	G ₁	Mean
L ₀	13400	14100	12250	14200	12775	14200	13488
L ₁	14000	13250	13600	15400	14250	13875	14062
Mean	13700	13675	12925	14800	13513	14037	13775
G ₀	13600	12700	12650	15100			
G ₁	13800	14650	13200	14500			

S.E. of difference of two

1. L or G marginal means = 380.3 lb./ac.
2. M marginal means = 510.9 lb./ac.
3. M means at the same level of L or G = 722.5 lb./ac.
4. L or G means at the same level of M = 732.2 lb./ac.

Crop :- Potato (Summer).

Ref :- M. 55(73).

Site :- Agri. Res. Stn., Nanjanad.

Type :- 'M'.

Object :—To assess the manurial value of combinations of Copper, Zinc and Urea for Potato crop.

1. BASAL CONDITIONS :

(i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad (iii) 3.4.1955. (iv) (a) 3 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 24"×9". (e) —. (v) 5000 lb./ac. of G.L.+1946 lb./ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Hoeing, weeding and 1 earthing. (ix) 43'.82". (x) 31.7.1955.

2. TREATMENTS :

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

- (1) 2 levels of Copper Sulphate : C₀=0 and C₁=10 lb./ac.
- (2) 2 levels of Zn. Sul. : Z₀=0 and Z₁=10 lb./ac.
- (3) 2 levels of Urea : U₀=0 and U₁=15 lb./ac.

Each constituent was dissolved in 100 gallons of water for spraying 45 days after planting.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 1/133.3 ac. (b) 1/200 ac. (v) 2 rows left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) 1955—1956. (b) No. (c) Nil. (v) to (vii) Nil.

RESULTS :

(i) 11431 lb./ac. (ii) 708 lb./ac. (ii) Main effect of C alone is highly significant. (iv) Av. yield of tuber in lb./ac.

	C ₀	C ₁	Mean	U ₀	U ₁
Z ₀	11975	11175	11575	11500	11650
Z ₁	11750	10825	11287	11325	11250
Mean	11862	11000	11431	11412	11450
U ₀	11700	11125			
U ₁	12025	10875			

S.E. of any marginal mean = 177 lb./ac.
 S.E. of body of any table = 250 lb./ac.

Crop :- Potato (Summer).

Ref :- M. 56(106).

Site :- Agri. Res. Stn., Nanjanad.

Type :- 'M'.

Object :-To assess the manurial value of combinations of Copper, Zinc and Urea for Potato crop.

1. BASAL CONDITIONS :

(i) (a) Lupin--Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 31.3.1956. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) 1. (v) 5 tons/ac. of F.Y.M. +1946 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Unirrigated. (viii) Weeding and 2 earthings. (ix) 27.55". (x) 7.9.1956.

2. TREATMENTS :

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

- (1) 2 levels of C/ S : C₀=0 and C₁=20 lb./ac.
 (2) 2 levels of Zn. Sul. : Z₀=0 and Z₁=10 lb./ac.
 (3) 2 levels of Urea : U₀=0 and U₁=15 lb./ac.

Each constituent was dissolved in 100 gallons of water and sprayed 45 days after planting.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 55(73) on page 275.

5. RESULTS :

(i) 10362 lb./ac. (ii) 1390 lb./ac. (iii) Main effect of C alone is significant. (iv) Av. yield of tuber in lb/ac.

	C ₀	C ₁	Mean	U ₀	U ₁
Z ₀	11050	9950	10500	10350	10650
Z ₁	10800	9650	10225	9700	10750
Mean	10925	9800	10362	10025	10700
U ₀	10850	9200			
U ₁	11000	10400			

S.E. of any marginal mean = 347.5 lb./ac.
 S.E. of body of any table = 491.4 lb./ac.

Crop :- Potato.**Ref :- M. 56(95).****Site :- Agri. Res. Stn., Nanjanad.****Type :- 'M'.**

Object :—To study the effect of replacing A/S by A/S/N in Nanjanad mixture on Potato.

1. BASAL CONDITIONS :

(i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 10.4.1956. (iv) (a) 3 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 24"×9". (e) N.A. (v) 5000 lb./ac. of G.L.+Nanjanad mixture as per treatments. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Hoeing, weeding and earthing. (ix) 50.75". (x) 14.9.1956.

TREATMENTS :

3 manurial treatments : M_1 =Nanjanad mixture at 1946 lb./ac., M_2 =Nanjanad mixture at 1946 lb./ac. replacing A/S by A/S/N and M_3 =Nanjanad mixture in which total N is supplied by A/S/N.

Nanjanad mixture applied at the time of planting in furrows by placement. Nanjanad mixture consists of Super at 672 ; A/S at 200 lb., G.N.C. at 5000 lb., B.M. at 350 lb. and Potash at 224 lb.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 1/100 ac. (b) 1/200 ac. (v) 2 rows left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 10883 lb./ac. (ii) 1301 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	M_1	M_2	M_3
Av. yield	11750	10650	10250

S.E./mean = 460 lb./ac.

Crop :- Potato (Summer).**Ref :- M. 57(104).****Site :- Agri. Res. Stn., Nanjanad.****Type :- 'M'.**

Object :—To study the effect of replacing A/S by A/S/N in Nanjanad mixture on Potato.

BASAL CONDITIONS :

(i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 21.4.1957. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) N.A. (v) 5 tons/ac. of F.Y.M. (vi) Great Scot. (vii) Unirrigated. (viii) Weeding and 2 earthings. (ix) 37.91". (x) 6.9.1957.

TREATMENTS :

Same as in expt. no. 56(95) above.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 21'×21'. (b) 15'×15'. (v) 3'×3' left as border. (vi) Yes

4. GENERAL :

Same as in expt. no. 56(95) above.

5. RESULTS :

(i) 8397 lb./ac. (ii) 938 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	M_1	M_2	M_3
v. yield	8107	8083	9002

S.E./mean = 332 lb./ac.

Crop :- Potato (Summer).**Ref :- M. 58(118).****Site :- Agri. Res. Stn., Nanjanad.****Type :- 'M'.**

Object :—To study the effect of replacing A/S by A/S/N in Nanjanad mixture on Potato.

1. BASAL CONDITIONS :

(i) (a) Potato—Lupin. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 18.3.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) 1. (v) As per treatments. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Hoeing, 2 weedings and 1 earthing. (ix) 35.58". (x) 24.7.1958.

2. TREATMENTS :

Same as in expt. no. 56(95) on page 277.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 22'×20'. (b) 16'×14'. (v) 3'×3' left around. (vi) Yes.

4. GENERAL :

Same as in expt. no. 56(95) on page 277.

5. RESULTS :

(i) 14406 lb./ac. (ii) 1029 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	M ₁	M ₂	M ₃
Av. yield	14682	14293	14244

S.E./mean = 364 lb./ac.

Crop :- Potato (Main crop).**Ref :- M. 55(79).****Site :- Agri. Res. Stn., Nanjanad.****Type :- 'M'.**

Object :—To study the effect of Mg on Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 2.4.1955. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) 1. (v) 5 tons/ac. of F.Y.M. (vi) Great Scot. (vii) Unirrigated. (viii) Weeding and 1 earthing. (ix) 38.15". (x) 29.7.1955.

2. TREATMENTS :

- Control.
 - MgSO₄ at 30 lb./ac. at planting.
 - MgSO₄ at 60 lb./ac. at planting.
 - MgSO₄ at 60 lb./ac. at planting+30 lb./ac. after one month.
- Treatments applied to the soil.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) 1/133.3 ac. (b) 1/200 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1955—58. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 13938 lb./ac. (ii) 904 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2	3	4
Av. yield	12450	14500	14400	14400

S.E./mean = 452 lb./ac.

Crop :- Potato.**Ref :- M. 56(98).****Site :- Agri. Res. Stn., Nanjanad.****Type :- 'M'.**

Object :—To study the effect of Mg on Potato.

1. BASAL CONDITIONS

(i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (c) Refer soil analysis, Nanjanad. (iii) 6.4.1956. (iv) (a) 3 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 24"×9". (e) N.A. (v) 5000 lb./ac. of G.L.+1946 lb./ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Hoeing, weeding and earthing. (ix) 50.75%. (x) 15.9.1956.

2. TREATMENTS :

Same as in expt. no. 55(79) on page 278.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 8. (iv) 1/100 ac. (b) 1/200 ac. (v) 2 rows left alround. (vi) Yes.

4. GENERAL :

Same as in expt. no. 55(79) on page 278.

5. RESULTS :

(i) 12925 lb./ac. (ii) 1668 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2	3	4
Av. yield	12250	12800	13250	13400

S.E./mean = 590 lb./ac.

Crop :- Potato (Summer).**Ref :- M. 57(97).****Site :- Agri. Res. Stn., Nanjanad.****Type :- 'M'.**

Object :—To study the effect of Mg on Potato.

1. BASAL CONDITIONS

(i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 2.4.1957. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) 1. (v) 5 tons/ac. of F.Y.M.+1946 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Unirrigated. (viii) Weeding and 2 earthings. (ix) 33.82%. (x) 25.7.1957.

2. TREATMENTS :

Same as in expt. no. 55(79) on page 278.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 8. (iv) (a) 29'×18'. (b) 20'×10½'. (v) 4½'×3½' left as border. (vi) Yes.

4. GENERAL :

Same as in expt. no. 55(79) on page 278.

5. TREATMENTS :

(i) 14402 lb./ac. (ii) 1100 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2	3	4
Av. yield	13955	14438	14341	14872

S.E./mean = 389 lb./ac.

Crop :- Potato (Summer).**Ref :- M. 58(113).****Site :- Agri. Res. Stn., Nanjanad.****Type :- 'M'.**

Object :- To study the effect of Mg on Potato.

1. BASAL CONDITIONS :

(i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 8.4.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) 1. (v) 5 tons/ac. of F.Y.M. +1946 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Unirrigated. (viii) Hoeing, 2 weedings and 1 earthing. (ix) 41.33". (v) 12.9.1958.

2. TREATMENTS :

Same as in expt. no. 55(79) on page 278.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 8. (iv) (a) 29'×18'. (b) 20'×12'. (v) 4½'×3' left as border. (vi) Yes.

4. GENERAL :

Same as in expt. no. 55(79) on page 278.

5. RESULTS :

(i) 6531 lb./ac. (ii) 1977 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2	3	4
Av. yield	6784	6262	6613	6466

S.E./mean = 699 lb./ac.

Crop :- Potato (Main crop).**Ref :- M. 55(80).****Site :- Agri. Res. Stn., Nanjanad.****Type :- 'M'.**

Object :- To study the effect of Mg on Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 2.4.1955. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) 1. (v) 5 tons/ac. of F.Y.M. (vi) Great Scot. (viii) Unirrigated. (viii) Weeding and 1 earthing. (ix) 38.15". (x) 29.7.1957.

2. TREATMENTS :

- Control.
 - MgSO₄ at 10 lb./ac. in 100 gallons of water 45 days after planting.
 - MgSO₄ at 10 lb./ac. in 100 gallons of water in 2 doses 45 and 60 days after planting.
 - MgSO₄ at 20 lb./ac. in 100 gallons of water 45 days after planting.
- Treatments applied as foliar spray.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 1/133.3 ac. (b) 1/200 ac. (v) and (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (v) (a) 1955—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 14238 lb./ac. (ii) 876 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2	3	4
Av. yield	13700	13350	15300	14600

S.E./mean = 438 lb./ac.

Crop :- Potato (Summer).**Ref :- M. 56(97).****Site :- Agri. Res. Stn., Nanjanad.****Type :- 'M'.**

Object :—To study the effect of Mg on Potato.

1. BASAL CONDITIONS :

(i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 5.4.1956. (iv) (a) 3 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 24"×9". (e) N.A. (v) 5000 lb./ac. of G.L.+1946 lb./ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Hoeing, weeding and earthing. (ix) 50.75". (x) 18.9.1956.

2. TREATMENTS :

1. Control.
2. MgSO₄ at 10 lb./ac. in 100 gallons of water 45 days after planting.
3. MgSO₄ at 10 lb./ac. in 100 gallons of water in 2 doses, 45 and 60 days after planting.
4. MgSO₄ at 20 lb./ac. in 100 gallons of water in 2 doses, 45 and 60 days after planting.

Treatments applied as foliar spray.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 8. (iv) (a) 1/100 ac. (b) 1/200 ac. (v) 2 rows around. (vi) Yes.

GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 13000 lb./ac. (ii) 1109 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac

Treatment	1	2	3	4
Av. yield	13150	12850	13100	12900

S.E./mean = 392 lb./ac.

Crop :- Potato (Summer).**Ref :- M. 57(98).****Site :- Agri. Res. Stn., Nanjanad.****Type :- 'M'.**

Object :—To study the effect of Mg on Potato.

1. BASAL CONDITIONS :

(i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 30.3.1957. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) 1. (v) 5 tons/ac. of F.Y.M. +1946 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Unirrigated. (viii) Weeding and 2 earthings. (ix) 40.85". (x) 13.9.1957.

2. TREATMENTS :

Same as in expt. no. 56(97) above.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 8. (iv) (a) 29'×18". (b) 20'×10'6". (v) 4½'×3½' left as border. (vi) Yes.

4. GENERAL :

Same as in expt. no. 56(97) above.

5. RESULTS :

(i) 12252 lb./ac. (ii) 1645 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2	3	4
Av. yield	11395	12506	12941	12168

S.E./mean = 582 lb./ac.

4. GENERAL :

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

5. RESULTS :

(i) 13501 lb./ac. (ii) 1258 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in lb./ac.

Treatment	T ₀	T ₁	T ₂	T ₃	T ₄	T ₅	T ₆
Av. yield	16983	12672	11862	11797	16335	12770	12089

S.E./mean = 513 lb./ac.

Crop :- Potato (Autumn).

Ref :- M. 58(116).

Site :- Agri. Res. Stn., Nanjanad.

Type :- 'M'.

Object :—To find out the effect of minor elements on Potato.

1. BASAL CONDITIONS :

(i) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 9.9.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) 1. (v) 5 tons/ac. of F.Y.M +1946 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Unirrigated. (viii) Weeding and earthing. (ix) 12.95". (x) 24.12.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(114) on page 283.

5. RESULTS :

(i) 8820 lb./ac. (ii) 1289 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in lb./ac.

Treatment	T ₀	T ₁	T ₂	T ₃	T ₄	T ₅	T ₆
Av. yield.	13483	6320	7487	6936	12932	7357	7227

S.E./mean = 526 lb./ac.

Crop :- Potato (Autumn).

Ref :- M. 57(102).

Site :- Agri. Res. Stn., Nanjanad.

Type :- 'M'.

Object :—To find out the effect of minor elements on Potato.

1. BASAL CONDITIONS :

(i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 4.9.1957. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) N.A. (v) 5 tons/ac. of F.Y.M.+1946 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Unirrigated. (viii) Weeding and 2 earthings. (ix) 22.98". (x) 27.12.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(101) on page 283.

5. RESULTS :

(i) 6657 lb./ac. (ii) 1497 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	T ₀	T ₁	T ₂	T ₃	T ₄	T ₅	T ₆
Av. yield	6996	6996	6864	6600	5940	5808	7392

S.E./mean = 611 lb./ac.

Crop :- Potato (Summer).**Ref :- M. 58(115).****Site :- Agri. Res. Stn., Nanjanad.****Type :- 'M'.**

Object:—To find out the effect of minor elements on Potato.

1. BASAL CONDITIONS :

(i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 26.3.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) 1. (v) 5 tons/ac. of F.Y.M.+1946 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Unirrigated. (viii) Weeding and earthing. (ix) 35.58". (x) 7.8.1958.

2. TREATMENTS :

Same as in expt. no. 57(102) on page 284.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 58(114) on page 283.

5. RESULTS :

(i) 13464 lb./ac. (ii) 3050 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	T ₀	T ₁	T ₂	T ₃	T ₄	T ₅	T ₆
Av. yield	12640	13677	13904	13871	12575	13321	14260

S.E./mean = 1245 lb./ac.

Crop : Potato (Autumn).**Ref :- M. 58(117).****Site :- Agri. Res. Stn., Nanjanad.****Type :- 'M'.**

Object:—To find out the effect of minor elements on Potato.

1. BASAL CONDITIONS :

(i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 2.9.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) 1. (v) 5 tons/ac. of F.Y.M.+1946 lb./ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Weeding and earthing. (ix) 12.95". (x) 26.12.1958.

2. TREATMENTS :

Same as in expt. no. 57(102) on page 284.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 58(114) on page 283.

5. RESULTS :

(i) 11672 lb./ac. (ii) 1193 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	T ₀	T ₁	T ₂	T ₃	T ₄	T ₅	T ₆
Av. yield	12121	11603	11214	11344	11181	12154	12089

S.E./mean = 487 lb./ac.

Crop :- Potato (Summer).**Ref :- M. 57(99).****Site :- Agri. Res. Stn., Nanjanad.****Type :- 'M'.**

Object:—To study the comparative merits of different G.M. crops on Potato.

1 BASAL CONDITIONS :

(i) (a) Lupin—Potato. (b) As per treatments. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 10.4.1957. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) 1. (v) 1946 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Unirrigated. (viii) 1 weeding and 2 earthings. (ix) 38.57". (x) 6.8.1957.

2. TREATMENTS :

4 Green manures : G₀=Fallow, G₁=Lupin, G₂=Buck-wheat and G₃=Rye.

G.M. sown on 12.8.1956. G₁, G₂ and G₃ incorporated on 21.11.1956, 12.10.1956 and 30.10.1956 respectively.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) and (b) 22'×10'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1957—1960. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 12233 lb./ac. (ii) 1593 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	G ₀	G ₁	G ₂	G ₃
Av. yield	11400	12700	12800	12033

S.E./mean = 650 lb./ac.

Crop :- Potato (Autumn).

Ref :- M. 57(100).

Site :- Agri. Res. Stn., Nanjanad.

Type :- 'M'.

Object :—To study the comparative merits of different G.M. crops on Potato.

1. BASAL CONDITIONS :

(i) (a) Lupin—Potato. (b) As per treatments. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 5.9.1957. (iv) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) 1. (v) 1946 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Unirrigated. (viii) 1 weeding and 2 earthings. (ix) 22.98". (x) 28.12.1957.

2. TREATMENTS :

Same as in expt. no. 57(99) on page 285.

G.M. sown on 16.4.1957. G₁, G₂ and G₃ incorporated on 6.8.1957, 9.6.1957 and 20.6.1957 respectively.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 57(99) on page 285.

5. RESULTS :

(i) 8914 lb./ac. (ii) 642 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	G ₀	G ₁	G ₂	G ₃
Av. yield	9306	8547	8960	8844

S.E./mean = 262 lb./ac.

Crop :- Potato (Summer).

Ref :- M. 5E(119).

Site :- Agri. Res. Stn., Nanjanad.

Type :- 'M'.

Object :—To study the comparative merits of different G.M. crops on Potato.

1. BASAL CONDITIONS :

(i) (a) and (b) As per treatments. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 20.3.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) 1. (v) 1946 lb./ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) 2 earthings and 2 weedings. (ix) 35.58". (x) 25.7.1958.

2. TREATMENTS :

Same as in expt. no. 57(99) on page 285.

G.M. sown on 2.9.1957 G₁, G₂ and G₃ incorporated on 19.12.1957, 1.11.1957 and 9.12.1957 respectively.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 57(99) on page 285.

5. RESULTS :

(i) 12111 lb./ac. (ii) 3229 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	G ₀	G ₁	G ₂	G ₃
Av. yield	11286	12573	12672	11913

S.E./mean = 1318 lb./ac.

Crop :- Potato (Autumn).

Ref :- M. 58(120).

Site :- Agri. Res. Stn., Nanjanad.

Type :- 'M'.

Object :—To study the comparative merits of different G.M. on Potato.

1. BASAL CONDITIONS :

(i) (a) and (b) As per treatments. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 2.9.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) 1. (v) 1946 lb./ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) 2 weedings and 1 earthing. (ix) 12.95". (x) 27.12.1958.

2. TREATMENTS :

Same as in expt. no. 57(99) on page 285.

G.M. sown on 8.4.1958, G₁, G₂ and G₃ incorporated on 7.8.1958, 27.5.1958 and 7.6.1958 respectively.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 57(99) on page 285.

5. RESULTS :

(i) 11526 lb./ac. (ii) 947 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	G ₀	G ₁	G ₂	G ₃
Av. yield	11534	12062	11204	11303

S.E./mean = 387 lb./ac.

Crop :- Potato (Summer).

Ref :- M. 59(92).

Site :- Agri. Res. Stn., Nanjanad.

Type :- 'M'.

Object :—To study comparative merits of different G.M. crops on Potato.

1. BASAL CONDITIONS :

(i) (a) and (b) As per treatments. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 30.3.1959. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) 1. (v) 1946 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Unirrigated. (viii) Weeding and earthing. (ix) 54.5". (x) 29.8.1959.

2. TREATMENTS :

Same as in expt. no 57(99) on page 285.

G.M. sown on 2.9.1958. G₁, G₂ and G₃ incorporated on 24.10.1958, 12.11.1958 and 21.1.1959 respectively.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 57(99) on page 285.

5. RESULTS :

(i) 12,722 lb./ac. (ii) 1723 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	G ₀	G ₁	G ₂	G ₃
Av. yield	11748	13393	13860	11385

S.E./mean = 703 lb./ac.

Crop :- Potato (Autumn).

Ref :- M. 59(93).

Site :- Agri. Res. Stn., Nanjanad.

Type :- 'M'.

Object :—To study the comparative merits of different G.M. on Potato.

1. BASAL CONDITIONS :

(i) (a) and (b) As per treatments. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 2.9.1959. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) 1. (v) 1946 lb./ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Weeding and earthing. (ix) 24.22". (x) 20.12.1959.

2. TREATMENTS :

Same as in expt. no. 57(99) on page 285.

G.M. sown on 25.4.1959. G₁, G₂ and G₃ incorporated on 11.8.1959, 16.7.1959 and 16.7.1959 respectively.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 57(99) on page 285.

5. RESULTS :

(i) 8390 lb./ac. (ii) 775 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	G ₀	G ₁	G ₂	G ₃
Av. yield	8118	8283	8415	8745

S.E./mean = 316 lb./ac.

Crop :- Potato (Summer).

Ref :- M. 57(63).

Site :- Agri. Res. Stn., Nanjanad.

Type :- 'C'.

Object :—To find out the optimum depth of cultivation for planting Potatoes.

1. BASAL CONDITIONS :

(i) (a) Potato—Lupin. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 7.4.1957. (iv) (a) As per treatments. (b) Placement in furrows. (c) N.A. (d) 2'×9". (e) —. (v) 1946 lb./ac. of Nanjanad mixture applied at the time of planting in furrows. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Hoeing, weeding and earthing. (ix) 33.41". (x) 23.7.1957.

2. TREATMENTS :

4 depths of cultivation : D₁=4", D₂=6", D₃=9" and D₄=12".

D₁ was with *guddalies* where as D₂ to D₄ were with digging fork.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) 86'×11'. (iii) 6. (iv) (a) 1/200 ac. (b) 1/400 ac. (v) and (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Germination count, height of plant, yield and weight of different grades. (iv) (a) 1957—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:

(i) 13,042 lb./ac. (ii) 2038 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	D ₁	D ₂	D ₃	D ₄
Av. yield	12567	13333	13267	13000

S.E./mean = 832 lb./ac.

Crop :- Potato.

Ref :- M. 58(20).

Site :- Agri. Res. Stn., Nanjanad.

Type :- 'C'.

Object :—To find out the optimum depth of cultivation for planting Potato.

1. BASAL CONDITIONS :

(i) (a) Potato—Lupin. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 2.4.1958. (iv) (a) As per treatments. (b) In ridges and furrows. (c) N.A. (d) 2' × 9". (e) N.A. (v) 1946 lb./ac. of Nanjanad mixture applied at the time of planting in furrows. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Hoeing, weeding and earthing. (ix) 32.85%. (x) 23.7.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(53) on page 288.

5. RESULTS :

(i) 13,133 lb./ac. (ii) 1666 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	D ₁	D ₂	D ₃	D ₄
Av. yield	13133	12800	12666	13933

S.E./mean = 680 lb./ac.

Crop :- Potato (Summer).

Ref :- M. 59(18).

Site :- Agri. Res. Stn., Nanjanad.

Type :- 'C'.

Object :—To find out the optimum depth of cultivation for planting Potato.

1. BASAL CONDITIONS :

(i) (a) Potato—Lupin. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 15.4.1959. (iv) (a) As per treatments. (b) In ridges and furrows. (c) N.A. (d) 2' × 9". (e) N.A. (v) 1946 lb./ac. of Nanjanad mixture applied at the time of planting in furrows. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Hoeing, weeding and earthing. (ix) 55.82%. (x) 9.9.1959.

2. TREATMENTS :

3 depths of cultivation : D₁=4" with firefly plough, D₂=6" with Victory plough and D₃=9" with digging fork.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) 86' × 11'. (iii) 8. (iv) (a) 1/50 ac. (b) 1/100 ac. (v) and (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber yield and weight measurement. (iv) (a) 1957—contd. (modified in 1959). (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 16545 lb./ac. (ii) 2121 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	D ₁	D ₂	D ₃
Av. yield	16721	16528	16385

S.E./mean = 750 lb./ac.

Crop :- Potato (Summer).

Ref :- M. 57(111).

Site :- Agri. Res. Stn., Nanjanad.

Type :- 'C'.

Object :—To determine the best combination of size of seed and row spacing for Potato.

1. BASAL CONDITIONS :

(i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 10.4.1957. (iv) (a) 3 ploughings. (b) N.A. (c) and (d) As per treatments. (e) —. (f) 1946 lb./ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Hoeing, weeding and earthing. (ix) 33.64%. (x) 30.7.1957.

2. TREATMENTS :

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

(1) 4 seed sizes : S₁=0.5, S₂=1.0, S₃=1.5 and S₄=2.0 oz.

(2) 4 row spacings : R₁=12", R₂=16", R₃=20" and R₄=24".

(3) 4 plant spacings : L₁=6", L₂=9", L₃=12" and L₄=15".

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 64. (b) 144'×70'. (iii) 2. (iv) (a) and (b) 14'×8'. (v) Nil. (vi) Yes

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1957—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 18,572 lb./ac. (ii) 2829 lb./ac. (iii) Main effects of L, S and R are highly significant. Interactions are not significant. (iv) Av. yield of tuber in lb./ac.

	L ₁	L ₂	L ₃	L ₄	Mean	S ₁	S ₂	S ₃	S ₄
R ₁	24300	20700	18650	15600	19813	14000	18600	23500	23150
R ₂	24250	19350	18800	16650	19763	13200	20700	21300	23850
R ₃	23000	21100	17350	16300	19438	13500	20900	20700	22650
R ₄	17750	15050	15200	13100	15275	10300	15600	17000	18200
Mean	22325	19050	17500	15413	18572	12850	18950	20625	21963
S ₁	16500	12150	12250	10500					
S ₂	22700	19100	17800	16200					
S ₃	25600	22000	18900	16000					
S ₄	24450	22950	21050	19400					

S.E. of any marginal mean = 500 lb./ac.
S.E. of body of any table = 1000 lb./ac.

Crop :- Potato (Autumn).

Ref :- M. 57(110).

Site :- Agri. Res. Stn., Nanjanad.

Type :- 'C'.

Object :—To determine the best combination of size of seed and row spacing for Potato.

1. BASAL CONDITIONS :

(i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 29.8.1957. (iv) 3 ploughings. (b) N.A. (c) and (d) As per treatments. (e) —. (v) 1946 lb./ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Hoeing, weeding and earthing. (ix) 25.01%. (x) 6.1.1958.

TREATMENTS to 4. GENERAL :

Same as in expt. no 57(111) on page 290.

5. RESULTS :

(i) 11855 lb./ac. (ii) 2087 lb./ac. (iii) Main effects of L, S and R are highly significant. Interactions are not significant. (iv) Av. yield of tuber in lb./ac.

	L ₁	L ₂	L ₃	L ₄	Mean	S ₁	S ₂	S ₃	S ₄
R ₁	16150	13950	11725	12100	13481	11700	12075	14675	15475
R ₂	16025	13025	12700	10725	13119	9250	11425	14275	17525
R ₃	13200	10875	10650	10500	11306	7875	11325	12025	14000
R ₄	12125	9725	8875	7325	9513	6950	8675	10700	11725
Mean	14375	11894	10988	10163	11855	8944	10875	12919	14681
S ₁	10700	9600	8475	7000					
S ₂	13025	10875	10950	8650					
S ₃	15325	12600	11925	11825					
S ₄	18450	14500	12600	13175					

S.E. of any marginal mean = 369 lb./ac.

S.E. of body of any table = 738 lb./ac.

Crop :- Potato (Summer).

Site :- Agri. Res. Stn., Nanjanad.

Ref :- M. 58(131).

Type :- 'C'.

Object :—To determine the best combination of size of seed and row spacing for Potato.

1. BASAL CONDITIONS :

(i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 29.3.1958. (iv) (a) 3 ploughings. (b) N.A. (c) and (d) As per treatments. (vi) 1946 lb./ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Hoeing, weeding and earthing. (ix) 34.14%. (x) 5.8.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(111) on page 290.

5. RESULTS :

(i) 14546 lb./ac. (ii) 2901 lb./ac. (iii) Main effects of L, S and R are highly significant. Interactions are not significant. (iv) Av. yield of tuber in lb./ac.

	L ₁	L ₂	L ₃	L ₄	Mean	S ₁	S ₂	S ₃	S ₄
R ₁	18325	16400	13700	15200	15906	13950	14400	18400	16875
R ₂	17975	15850	13750	12775	15088	11600	14750	16150	17850
R ₃	15500	14150	14575	13525	14438	12200	13825	16200	15525
R ₄	11275	14225	11850	10650	12750	10525	12200	13350	14925
Mean	16519	15156	13469	13038	14546	12069	13794	16025	16294
S ₁	14000	12100	11425	10750					
S ₂	15025	15100	13775	11275					
S ₃	18725	16575	14175	14625					
S ₄	18325	16850	14500	15500					

S.E. of any marginal mean = 513 lb./ac.
S.E. of body of any table = 1026 lb./ac.

Crop :- Potato (Autumn).

Ref :- M. 58(132).

Site :- Agri. Res. Stn., Nanjanad.

Type :- 'C'.

Object :- To determine the best combination of size of seed and row spacing for Potato.

1. BASAL CONDITIONS :

(i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis. Nanjanad. (ii). 4.9.1958. (iv) (a) 3 ploughings. (b) N.A. (c) and (d) As per treatments. (e) —. v 1946 lb./ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Hoeing, weeding and earthing. (ix) 15.03". (x) 26.12.1958.

1. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(111) on page 290.

5. RESULTS :

(i) 13269 lb./ac. (ii) 1403 lb./ac. (iii) Main effects of L, S and R and interaction R × L are highly significant. (iv) Av. yield of tuber in lb./ac.

	L ₁	L ₂	L ₃	L ₄	Mean	S ₁	S ₂	S ₃	S ₄
R ₁	17825	15075	15575	11650	15031	11750	13900	15725	18750
R ₂	17700	15825	13850	12250	14906	11475	14350	16025	17775
R ₃	15775	13150	11250	11275	12863	9400	12050	14675	15325
R ₄	11825	10325	9800	9150	10275	7225	9875	11200	12300
Mean	15781	13594	12619	11081	13269	10038	12544	14406	16088
S ₁	11850	10975	9100	8225					
S ₂	15375	13175	11550	10075					
S ₃	16900	14675	14125	11925					
S ₄	19000	15550	15700	14100					

S.E. of any marginal mean = 248 lb./ac.
S.E. of body of any table = 496 lb./ac.

Crop :- Potato (Summer).**Ref :- M. 59(101).****Site :- Agri. Res. Stn., Nanjanad.****Type :- 'C'.**

Object :- To determine the best combination of size of seed and row spacing for Potato.

1. BASAL CONDITIONS :

(i) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 28.3.1959. (iv) (a) 3 ploughings. (b) N.A. (c) and (d) As per treatments. (e) N.A. (v) 1946 lb./ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Weeding and earthing twice. (ix) 55.25". (x) 30.8.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(111) on page 290.

5. RESULTS :

(i) 11619 lb./ac. (ii) 3426 lb./ac. (iii) Main effects of L, S and R are highly significant. (iv) Av. yield of tuber in lb./ac.

	L ₁	L ₂	L ₃	L ₄	Mean	S ₁	S ₂	S ₃	S ₄
R ₁	15850	12850	12350	7850	12725	8700	11200	13500	17500
R ₂	15550	14250	10650	11550	13000	7950	12500	14300	17250
R ₃	13000	11400	11100	9400	11225	6100	11150	13050	14600
R ₄	11100	9850	9350	7800	9525	5500	9100	11700	11800
Mean	13875	12088	10862	9650	11619	7063	10988	13138	15288
S ₁	9750	8200	6000	4300					
S ₂	14850	10250	9900	8950					
S ₃	14100	13600	13400	11450					
S ₄	16800	16300	14150	13900					

S.E. of any marginal mean = 606 lb./ac.

S.E. of body of any table = 1212 lb./ac.

Crop :- Potato (Autumn).**Ref :- M. 59(102).****Site :- Agri. Res. Stn., Nanjanad.****Type :- 'C'.**

Object :- To determine the best combination of size of seed and row spacing for Potato.

1. BASAL CONDITIONS :

(i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 7.9.1959. (iv) (a) 3 ploughings. (b) N.A. (c) and (d) As per treatments. (e) N.A. (v) 1946 lb./ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Weeding and 2 earthings. (ix) 23.2". (x) 22.12.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(111) on page 290.

5. RESULTS :

(i) 10526 lb./ac. (ii) 2429 lb./ac. (iii) Main effects of S and L are highly significant. Effect of R is significant. (iv) Av. yield of tuber in lb./ac.

	L ₁	L ₂	L ₃	L ₄	Mean	S ₁	S ₂	S ₃	S ₄
R ₁	14700	10388	9838	9375	11075	7113	11525	11488	14175
R ₂	13525	12350	10238	8675	11197	8263	11225	11250	14050
R ₃	12100	10625	9963	8838	10381	7850	9238	13150	11288
R ₄	10850	10200	8688	8063	9450	7500	8763	10000	10938
Mean	12794	10891	9682	8738	10526	7682	10188	11622	12613
S ₁	11225	7713	6575	5213					
S ₂	11825	10950	9575	8400					
S ₃	13675	12325	11126	9363					
S ₄	14450	12575	11450	11975					

S.E. of any marginal mean = 429 lb./ac.
 S.E. of body of any table = 858 lb./ac.

Crop :- Potato (Autumn).

Ref :- M. 57 (103).

Site :- Agri. Res. Stn., Nanjanad.

Type :- 'D'.

Object :—To study the effect of pre-treatment of Potato seed with growth regulating chemicals.

1. BASAL CONDITIONS :

(i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 1.9.1957. (iv) (a) 3 Ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) 1. (v) 5 tons ac. of F.Y.M. + 1946 lb./ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Weeding and earthing. (ix) 22.98". (x) 18.12.1957.

2. TREATMENTS :

- | | |
|---|--|
| 1. Control (soaking in water). | 6. Sodium 2, 4—D 25 ppm. |
| 2. α naphthalene acetic acid 25 ppm. | 7. β naphthoxy acetic acid 25 ppm. |
| 3. α naphthalene acetic acid 50 ppm. | 8. Tri-iodo benzoic acid 25 ppm. |
| 4. β indolyl acetic acid 50 ppm. | 9. 2, 4, 5—T acid 10 ppm. |
| 5. β butyric acid 50 ppm. | |

The tubers were soaked in the chemicals for 6 hours.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 6. (iv) (a) and (b) 11'×10'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1957—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 8712 lb./ac. (ii) 1548 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2	3	4	5	6	7	8	9
Av. yield	7590	8514	8448	9636	8580	8712	9438	9108	8382

S.E./mean = 632 lb./ac.

Crop :- Potato (Autumn).

Ref :- M. 58(121).

Site :- Agri. Res. Stn., Nanjanad.

Type :- 'D'.

Object :—To study the effect of pre-treatment of Potato seed with growth regulating chemicals.

1. BASAL CONDITIONS :

(i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 26.8.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) 1. (v) 5 tons/ac. of F.Y.M.+1946 lb./ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Weeding and 1 earthing. (ix) 15.68". (x) 21.12.1958.

2. TREATMENTS :

Same as in expt. no. 57(103) on page 294.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 6. (iv) (a) and (b) 18'×6'. (v) Nil. (vi) Yes.

4. GENERAL :

Same as in expt no. 57(103) on page 294.

5. RESULTS :

(i) 12257 lb./ac. (ii) 1680 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2	3	4	5	6	7	8	9
Av. yield	12234	12369	12571	12705	11764	12302	12167	12369	11831

S.E./mean = 686 lb./ac.

Crop :- Sweet Potato.

Ref :- M. 54(109).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'M'.

Object :—To determine a suitable manural schedule for Sweet Potato.

1. BASAL CONDITONS :

(i) (a) Nil. (b) Sannhemp. (c) Nil. (ii) (a) Stiff clay. (b) Refer soil analysis, Coimbatore. (iii) 26 to 28.11.1954. (iv) 4 ploughings, working Cambridge roller and ridge plough once. (b) N.A. (c) 20,000 cuttings/ac. (d) 2'×6". (e) N.A. (v) As per treatments. (vi) V—6. (vii) Irrigated. (viii) Weeding twice. (ix) N.A. (x) 9 to 14.5.1955.

2. TREATMENTS :

Main-plot treatments :

3 levels of B.D. : B_0 =No B.D., B_1 =F.Y.M. at 10,000 lb./ac. and B_2 =G.L. to supply same N as in B_1 .

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 Pot. Sul. : $K_0=0$, $K_1=80$ and $K_2=160$ lb./ac.

Sub-sub-plot treatments :

2 levels of P_2O_5 as Super : $P_0=0$ and $P_1=80$ lb./ac.

N and K applied one month after planting. P applied at planting. Three basal dressings allotted to 6 replications at random so that each treatment covers 2 replications.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication ; 9 sub-plots/main-plot ; 2 sub-sub-plots/sub-plot. (b) N.A. (iii) 2. (iv) (a) 24'×15'. (b) 20'×13'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Slight incidence of sweet potato weevil. (iii) Tuber yield. (iv) (a) 1951—58. (b) No. (c) Nil. (v) to (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) 4471 lb./ac. (ii) (a) 10927 lb./ac. (b) 2174 lb./ac. (c) 1362 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of tuber in lb./ac.

	B ₀	B ₁	B ₂	K ₀	K ₁	K ₂	P ₀	P ₁	Mean
N ₀	4619	2888	6028	5212	4128	4193	4481	4542	4512
N ₁	4520	3401	5696	4342	5840	4335	4462	5216	4839
N ₂	4617	1665	5907	3749	4171	4269	4299	3828	4063
Mean	4885	2651	5877	4434	4713	4266	4414	4529	4471
P ₀	4791	2683	5767	4386	4557	4299			
P ₁	4981	2619	5987	4483	4870	423			
K ₀	4887	2682	5734						
K ₁	5033	2778	6329						
K ₂	4737	2494	5567						

S.E. of difference of two

- | | | | |
|--|----------------|---|----------------|
| 1. B marginal means | = 2576 lb./ac. | 5. N or K means at the same level of B | = 887 lb./ac. |
| 2. N or K marginal means | = 512 lb./ac. | 6. B means at the same level of P | = 2596 lb./ac. |
| 3. P marginal means | = 262 lb./ac. | 7. N or K means at the same level of P | = 605 lb./ac. |
| 4. B means at the same level of N or K | = 2676 lb./ac. | 8. P means at the same level of N, B or K | = 454 lb./ac. |
| | | S.E. of body of N×K table | = 627 lb./ac. |

Crop :- Sweet Potato.

Ref :- M. 55(74).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'M'.

Object :- To determine a suitable manurial schedule for Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sannhemp. (c) Nil. (ii) (a) Loamy soil. (b) Refer soil analysis, Coimbatore. (iii) 18, 19.11.1955. (iv) (a) 4 ploughings, passing Cambridge roller and ridging once. (b) N.A. (c) 20,000 cuttings/ac. (d) 2'×6". (e) N.A. (v) As per treatments. (vi) V—6. (vii) Irrigated. (viii) 2 weedings. (ix) 18.14". (x) 16.4.1956 to 21.4.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(109) on page 295

4. GENERAL :

(i) Satisfactory. (ii) Nil (iii) Tuber yield. (iv) (a) 1951—1958. (b) No. (c) Nil. (v) (a) and (b) Nil (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) 18785 lb./ac. (ii) (a) 9400 lb./ac. (b) 5243 lb./ac. (c) 2650 lb./ac. (iii) Interaction P×K alone 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	17407	20071	18331	19026	18180	17280	19809	18720	18603
N ₁	19401	19989	18999	19368	19558	21680	19586	17123	19463
N ₂	17960	17660	19250	17799	18781	16594	19445	18831	18290
Mean	18256	19240	18860	18731	18840	18518	19613	18225	18785
K ₀	19114	17659	18781	19470	17566				
K ₁	17808	22501	18530	18764	20462				
K ₂	17846	17560	19269	17944	18506				
P ₀	17742	19016	19435						
P ₁	18770	19464	18285						

S.E. of difference of two

1. B marginal means	= 2216 lb./ac.	5. B means at the same level of N or K	= 2822 lb./ac.
2. N or K marginal means	= 1236 lb./ac.	6. P means at the same level of B, N or K	= 885 lb./ac.
3. P marginal means	= 510 lb./ac.	7. B means at the same level of P	= 2303 lb./ac.
4. N or K means at the same level of B	= 2141 lb./ac.	8. N or K means at the same level of P	= 1386 lb./ac.
		S.E. of body of N×K table	= 1514 lb./ac.

Crop :- Sweet Potato.**Ref :- M. 56(103).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'M'.**

Object :—To determine an optimum manurial schedule for Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Loamy. (b) Réfer soil analysis, Coimbatore. (iii) 16, 17.12.1956. (iv) (a) 4 ploughings and passing Cambridge roller once. (b) N.A. (c) 20,000 cuttings/ac. (d) 2½'×9". (e) N.A. (v) Nil. (vi) V—8. (vii) Irrigated. (viii) 2 weedings. (ix) 25.38". (x) 13, 15, 20, 29 and 30.5.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(74) on page 289.

5. RESULTS :

(i) 16559 lb./ac. (ii) (a) 7797 lb./ac. (b) 4679 lb./ac. (c) 3222 lb./ac. (iii) Effects of N and N×B are highly significant. Effects of K and N×K are 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	13844	21611	20679	17810	19613	19551	16237	20346	18711
N ₁	18903	15918	16842	17283	17159	18804	15969	16890	17221
N ₂	11078	16078	14076	14218	13270	10720	13472	17041	13744
Mean	14608	17869	17199	16437	16680	16358	15226	18092	16559
K ₀	13968	17067	18039	16384	16332				
K ₁	14332	17931	13415	15229	15223				
K ₂	15524	18609	20143	17698	18486				
P ₀	14837	16701	17773						
P ₁	14379	19037	16625						

S.E. of difference of two

1. B marginal means	= 1838 lb./ac.	5. B means at the same level of N or K	= 2411 lb./ac.
2. N or K marginal means	= 1103 lb./ac.	6. B means at the same level of P	= 1989 lb./ac.
3. P marginal means	= 620 lb./ac.	7. P means at the same level of B, N or K	= 1073 lb./ac.
4. N or K means at the same level of B	= 1910 lb./ac.	8. N or K means at the same level of P	= 1339 lb./ac.
		S.E. of body of N×K table	= 1351 lb./ac.

Crop :- Sweet Potato.**Ref :- M. 57(92).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'M'.**

Object :—To determine a suitable manurial schedule for Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 20, 21, 22.12.1957. (iv) (a) 4 ploughings ; passing Cambridge roller once. (b) N.A. (c) 20,000 cuttings/ac. (d) 2½'×9". (e) N.A. (v) Nil. (vi) V—8. (vii) Irrigated. (viii) 2 weedings. (ix) 35.07". (x) 26, 27, 28.5.1958.

2. TREATMENTS:

Same as in expt. no. 54(109) on page 295.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 9 sub-plots/main-plot ; 2 sub-sub-plots/sub-plot. (b, N.A. (iii) 2. (iv)(a) 24'×15'. (b) 21'×10'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1951—1958. (b) No. (c) Nil. (v) (a, and (b, Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) 4083 lb./ac. (ii) (a) 4028 lb./ac. (b) 2634 lb./ac. (c) 2537 lb./ac. (iii) Main effect of N alone is 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	5150	5195	5513	5024	5548	4917	4834	6108	5286
N ₁	3759	4006	4033	3879	3986	3856	4379	3563	3933
N ₂	3113	2725	3300	3074	3018	2526	3318	3294	3046
Mean	4007	3975	4282	3992	4184	3766	4177	4322	4088
K ₀	3603	4395	3300	3777	3756				
K ₁	4413	3505	4613	4012	4342				
K ₂	4006	4026	4934	4188	4455				
P ₀	3916	4055	4005						
P ₁	4098	3895	4559						

S.E. of difference of two

- | | | | |
|--|----------------|---|----------------|
| 1. B marginal means | = 803 lb./ac. | 5. B means at the same level of N or K | = 2059 lb./ac. |
| 2. N or K marginal means | = 620 lb./ac. | 6. B means at the same level of P | = 1415 lb./ac. |
| 3. P marginal means | = 487 lb./ac. | 7. P means at the same level of B, N or K | = 846 lb./ac. |
| 4. N or K means at the same level of B | = 1076 lb./ac. | 8. N or K means at the same level of P | = 863 lb./ac. |
| | | S.E. of body of N×K table | = 760 lb./ac. |

Crop :- Sweet Potato.

Ref :- M. 58(92).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'M'.

Object:—To determine a suitable manurial schedule for Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 21, 22.10.1958. (iv) (a) 4 ploughings ; passing Cambridge roller once and ridge plough once. (b) N.A. (c) 20,000 cuttings ac. (d) 2½'×9". (e) N.A. (v) Nil. (vi) V-8. (vii) Irrigated. (viii) Weeding twice. (ix) 25.21". (x) 18.3.1959 to 27.3.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(74) on page 296.

5. RESULTS :

(i) 25138 lb./ac. (ii) (a) 9165 lb./ac. (b) 6792 lb./ac. (c) 2887 lb./ac. (iii) Interaction P×B alone 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	23895	23942	29789	25462	26288	27188	25321	25116	28875
N ₁	27273	21599	29328	26317	25815	26638	27089	24473	26067
N ₂	27279	20835	22304	22922	24025	22484	22271	25666	23474
Mean ^a	26149	22125	27140	24900	25376	25437	25894	25085	25138
K ₀	27837	21420	27055	25016	25859				
K ₁	24150	22111	28420	24869	24917				
K ₂	26462	22847	25948	24817	25353				
P ₀	26937	21078	26688						
P ₁	25361	23173	27592						

S.E. of difference of two

- | | | | |
|--|----------------|---|----------------|
| 1. B marginal means | = 2161 lb./ac. | 5. B means at the same level of N or K | = 5419 lb./ac. |
| 2. N or K marginal means | = 1601 lb./ac. | 6. B means at the same level of P | = 3202 lb./ac. |
| 3. P marginal means | = 556 lb./ac. | 7. P means at the same level of B, N or K | = 962 lb./ac. |
| 4. N or K means at the same level of B | = 2773 lb./ac. | 8. N or K means at the same level of P | = 2460 lb./ac. |
| | | S.E. of body of N×K table | = 1961 lb./ac. |

Crop :- Sweet Potato.

Ref :- M. 54(43).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'C'.

Object :- To study the performance of crops raised from vines planted horizontally and vertically.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sannhemp. (c) Nil. (ii) (a) Stiff clay. (b) Refer soil analysis, Coimbatore. (iii) 14.11.1954. (iv) (a) 4 ploughings ; Cambridge roller passed to break up the clods and ridging. (b) As per treatments. (c) to (e) N.A. (v) 5.7 tons/ac. of F.Y.M. applied at the time of last ploughing. (vi) V-6. (vii) Irrigated. (viii) 2 weedings. (ix) 28.34%. (x) 17.3.1955.

2. TREATMENTS :

- Planting vines erect.
- Planting vines horizontally.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 10. (iv) (a) 22'×6'. (b) 20'×2'. (v) 2 rows left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Slight infection by sweet potato weevil. (iii) Tuber yield. (iv) (a) 1950—contd. (b) No. (c) Nil. (v) (a) and (b) No. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) 2327.5 lb./ac. (ii) 524.3 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2
Av. yield	2069	2586

S.E./mean = 165.8 lb./ac.

Crop :- Sweet Potato.

Ref :- M. 55(23).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'C'.

Object :- To test the difference in yield by planting the Sweet Potato tuber horizontally and erect.

Crop :- Sweet Potato.**Ref :- M. 56(7).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'C'.**

Object :—To test the effect of pruning vines on the yield of Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 9.12.1956. (iv) (a) 4 ploughings. (b) N.A. (c) 21000 cuttings/ac. (d) $2\frac{1}{2}' \times 9'$. (e) N.A. (v) 5 tons/ac. of F.Y.M. applied before the last ploughing. (vi) V—8. (vii) Irrigated. (viii) 2 weedings. (ix) 25.38%. (x) 30.4.1957.

2. TREATMENTS :

1. No treatment.
2. Vines pruned to 1'.
3. Vines pruned to 2'.
4. Vines pruned to 3'.
5. Vines not pruned but merely rolled.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) $30' \times 9'$. (b) $25' \times 6'$. (v) $2\frac{1}{2}' \times 1\frac{1}{2}'$. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1956—contd. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) 20411 lb./ac. (ii) 2490 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2	3	4	5
Av. yield	22787	18610	21223	24031	15403

S.E./mean = 1016 lb./ac.

Crop :- Sweet Potato.**Ref :- M. 57(1).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'C'.**

Object :—To test the effect of pruning vines on the yield of Sweet Potato

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 13.10.1957. (iv) (a) 4 ploughings ; passing Cambridge roller once. (b) N.A. (c) 21000 cuttings/ac. (d) $2\frac{1}{2}' \times 9'$. (e) N.A. (v) 5 tons/ac. of F.Y.M. applied before the last ploughing. (vi) V—8. (vii) Irrigated. (viii) 2 weedings. (ix) 35.07%. (x) 28.2.1958.

2. TREATMENTS to 4. GENERAL

Same as in expt. no. 56(7) above.

5. RESULTS :

(i) 6909 lb./ac. (ii) 1914 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2	3	4	5
Av. yield	7365	6647	7533	9107	3891

S.E./mean = 781 lb./ac.

Crop :- Sweet Potato.**Ref :- M. 58(95).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'C'.**

Object :—To test the effect of pruning vines on the yield of Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 3, 4.10.1958. (iv) 4 ploughings ; passing Cambridge roller once. (b) N.A. (c) 20000 cuttings./ac. (d) $2\frac{1}{2}' \times 9''$. (e) N.A. (v) 5 tons/ac. of F.Y.M. applied before the last ploughing. (vi) V—8. (vii) Irrigated. (viii) Weeding twice. (ix) 25.21". (x) 27, 28.2.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(7) on page 302.

5. RESULTS :

(i) 26,304 lb./ac. (ii) 4185 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2	3	4	5
Av. yield	29403	24853	26688	27874	22704

S.E./mean = 1708 lb./ac.

Crop :- Sweet Potato.**Ref :- M. 56(8).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'C'.**

Object :—To find out the effect of disturbing the vines on the yield of Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 3.12.1956. (iv) (a) 4 ploughings. (b) N.A. (c) 21000 cuttings/ac. (d) $2\frac{1}{2}' \times 9''$. (e) N.A. (v) 5 tons/ac. of F.Y.M. applied before the last ploughing. (vi) V—8. (vii) Irrigated. (viii) 2 weedings. (ix) 25.38". (x) 29.4.1957.

2. TREATMENTS :5 levels of disturbing the vines : $D_0=0$, $D_1=2$, $D_2=4$, $D_3=6$ and $D_4=8$ times.**3. DESIGN and 4. GENERAL :**

Same as in expt. no. 56(7) on page 302.

5. RESULTS :

(i) 14,686 lb./ac. (ii) 3864 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2	3	4	5
Av. yield	14791	16069	13116	14701	14750

S.E./mean = 1577 lb./ac.

Crop :- Sweet Potato.**Ref :- M. 57(2).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'C'.**

Object :—To determine the effect of disturbing the vines on the yield of tuber.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 12.10.1957. (iv) (a) 4 ploughings and passing Cambridge roller once to break the clods. (b) N.A. (c) 21000 cuttings/ac. (d) $2\frac{1}{2}' \times 9''$. (e) N.A. (v) 5 tons/ac. of F.Y.M. applied before the last ploughing. (vi) V—8. (vii) Irrigated. (viii) 2 weedings. (ix) 35.07". (x) 26.2.1958.

2. TREATMENTS :

Same as in expt. no. 56(8), on page 303.

3. DESIGN :

Same as in expt. no. 56(7), on page 302.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1956—contd. (b) N. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) 6154 lb./ac. (ii) 1850 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2	3	4	5
Av. yield	7042	7275	5817	5744	4893

S.E./mean = 755 lb./ac.

Crop :- Sweet Potato.

Ref :- M. 58(96).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'C'.

Object :—To determine the effect of disturbing the vines on the yield of Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 9.10.1958. (iv) 4 ploughings and passing Cambridge roller once. (b) N.A. (c) 20,000 cuttings/ac. (d) 2' x 9". (e) N.A. (v) 5 tons/ac. of F.Y.M. (vi) V-8. (vii) Irrigated. (viii) Weeding twice. (ix) 25.21". (x) 2, 3.3.1959.

2. TREATMENTS :

Same as in expt. no. 56(8), on page 303.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 56(7), on page 302.

5. RESULTS :

(i) 23,345 lb./ac. (ii) 2950 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2	3	4	5
Av. yield	22913	25763	23595	21591	22869

S.E./mean = 1208 lb./ac.

Crop :- Sweet Potato.

Ref :- M. 54(44).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'C'.

Object :—To find out the difference in yield of Sweet Potato raised by using vines from tubers and vines from vines as planting material.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sannhemp. (c) Nil. (ii) (a) Stiff clay soil. (b) Refer soil analysis, Coimbatore. (iii) 14.11.1954. (iv) (a) 4 ploughings and working Cambridge roller. Forming ridges and furrows. (b) to (e) N.A. (v) 5 to 7 tons/ac. of F.Y.M. applied at the time of last ploughing. (vi) V-6. (vii) Irrigated. (viii) 2 weedings. (ix) 28.34". (x) 17.3.1955.

2. TREATMENTS :

1. Planting vines to raise vines.
2. Planting tubers to raise vines.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 10. (iv) (a) 22'×6'. (b) 20'×2'. (v) 2 rows left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Infestation by sweet potato weevil. (iii) Tuber yield. (iv) (a) 1951—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) 3192 lb./ac. (ii) 1329 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2
Av. yield	3430	2953

S.E./mean = 420 lb./ac.

Crop :- Sweet Potato.

Ref :- M. 54(45).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'C'.

Object :- To find out the influence of length of cuttings on the final yield of tuber in Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sannhemp. (c) Nil. (ii) (a) Stiff clay soil. (b) Refer soil analysis, Coimbatore. (iii) 19.11.1954. (iv) (a) Ploughings and breaking of clods by passing Cambridge roller. Forming ridges and furrows. (b) to (e) N.A. (v) 5 to 7 tons/ac. of F.Y.M. applied at the time of last ploughing. (vi) V-6. (vii) Irrigated. (viii) 2 weeding. (ix) 28.34%. (x) 18.3.1955.

2. TREATMENTS :

2 lengths of vines : $L_1 = 18''$ (long) and $L_2 = 9''$ (short).

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 10. (iv) (a) 22'×6'. (b) 20'×2'. (v) 2 rows left as border. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1952—contd. (b) and (c) No. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) 2354 lb./ac. (ii) 639.2 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	L_1	L_2
Av. yield	2491	2219

S.E./mean = 202.6 lb./ac.

Crop :- Sweet Potato.

Ref :- M. 55(24).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'C'.

Object :- To find out the influence of length of cuttings on the final yield of tuber in Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy soil. (b) Refer soil analysis, Coimbatore. (iii) 3.11.1955. (iv) (a) 4 ploughings ; passing Cambridge roller. (b) N.A. (c) 22000 cuttings/ac. (d) 2'×6". (e) N.A. (v) 5 tons/ac. of F.Y.M. applied before the last ploughing. (vi) V-2. (vii) Irrigated. (viii) 2 weedings. (ix) 18.14%. (x) 26.3.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(45) above.

5. RESULTS

(i) 24830 lb./ac. (ii) 2080 lb./ac. (iii) Treatment difference is significant. (iv) Av. yield of tuber in lb./ac.

Treatment	L ₁	L ₂
Av. yield	23207	26452

S.E./mean = 658 lb./ac.

Crop :- Sweet Potato.

Ref :- M. 57(39).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'C'.

Object :—To find out the optimum spacing for Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 9, 10.10.1957. (iv) (a) 4 ploughings. (b) and (c) N.A. (d) As per treatments. (e) N.A. (v) 5 tons/ac. of F.Y.M. applied before the last ploughing. (vi) V—8. (vii) Irrigated. (viii) 2 weedings. (ix) 35.07%. (x) 10 to 13.3.1958.

2. TREATMENTS :

Main-plot treatments :

3 spacings between rows : R₁=2', R₂=2.5' and R₃=3'.

Sub-plot treatments :

3 spacings within rows : C₁=6', C₂=9' and C₃=12'.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 30'×6'. (v) One row left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) 19,075 lb./ac. (ii) 7715 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of tuber in lb./ac.

	R ₁	R ₂	R ₃	Mean
C ₁	20165	20221	20425	20270
C ₂	17998	18413	20201	18871
C ₃	18214	19515	16528	18086
Mean	18792	19383	19051	19075

S.E. of difference of two

1. R marginal means	= 2572 lb./ac.
2. C marginal means	= 1232 lb./ac.
3. C means at the same level of R	= 2134 lb./ac.
4. R means at the same level of C	= 3107 lb./ac.

Crop :- Sweet Potato.

Ref :- M. 58(97).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'C'.

Object :—To find out the optimum spacing for Sweet Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 22, 29.10.1958. (iv) (a) 4 ploughings. (b) N.A. (c) 20,000 cuttings/ac. (d) As per treatments. (e) N.A. (v) 5 tons/ac. of F.Y.M. (vi) V—6. (vii) Irrigated. (viii) Weeding twice. (ix) 25.21". (x) 3 to 7.4.1959.

2. TREATMENTS :

Same as in expt. no. 57(39) on page 306.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) 30'×6'. (v) Nil. (vi) Yes.

4. GENERAL :

Same as in expt. no 57(39) on page 306.

5. RESULTS :

(i) 28291 lb./ac. (ii) (a) 5953 lb./ac. (b) 5048 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of tuber in lb./ac.

	R ₁	R ₂	R ₃	Mean
C ₁	27140	27680	26814	27211
C ₂	31356	31153	25834	29448
C ₃	27605	29105	27934	28215
Mean	28700	29313	26861	28291

S.E. of difference of two

1. R marginal means = 1984 lb./ac.
2. C marginal means = 1683 lb./ac.
3. C means at the same level of R = 2915 lb./ac.
4. R means at the same level of C = 3098 lb./ac.

Crop :- Sweet Potato.

Ref :- M. 56(46).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'IC'.

Object :—To test the effect of time of planting and frequency of irrigation on Sweet Potato yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) As per treatments. (iv) (a) 4 ploughings and passing Cambridge roller once to break the clods. (b) to (e) N.A. (v) 5 tons/ac. of F.Y.M. applied before the last ploughing. (vi) V—8. (vii) Irrigated. (viii) 2 weedings. (ix) 25.38" (x) As per treatments.

2. TREATMENTS :

Main-plot treatments :

4 dates of planting/harvest : D₁=1.10.1956/25.2.1957, D₂=15.10.1956/13.3.1957, D₃=1.11.1956/28.3.1957 and D₄=15.11.1956/12.4.1957.

Sub-plot treatments :

No. of irrigations : I₁=4, I₂=8 and I₃=12 irrigations.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 30'×9'. (b) 25'×6'. (v) 2½'×1½'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of tuber. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) 24171 lb./ac. (ii) (a) 2176 lb./ac. (b) 2882 lb./ac. (iii) All [the effects are [highly significant. (iv) Av yield of tuber in lb./ac.

	D ₁	D ₂	D ₃	D ₄	Mean
I ₁	28614	19955	20827	8049	19361
I ₂	31010	21044	22327	25826	25052
I ₃	35438	21567	25792	29601	28099
Mean	31687	20855	22982	21159	24171

S.E. of difference of two

1. D marginal means = 725 lb./ac.
2. I marginal means = 832 lb./ac.
3. I means at the same level of D = 1664 lb./ac.
4. D means at the same level of I = 1204 lb./ac.

Crop :- Sweet Potato.

Ref :- M. 58(94).

Site :- Agri. College. & Res. Instt., Coimbatore.

Type :- 'IC'.

Object :- To test the effect of time of planting and frequency of irrigation on Sweet Potato yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis. Coimbatore. (iii) As per treatments. (iv) (a) 4 ploughings and passing Cambridge roller once. (b) N.A. (c) 20,000 cuttings/ac. (d) 2½' × 9". (e) N.A. (v) 5 tons/ac. of F.Y.M. applied before the last ploughing. (vi) V-8. (vii) Irrigated. (viii) 2 weedings. (ix) 25.21". (x) As per treatments.

2. TREATMENTS :

Main-plot treatments :

4 dates of planting/harvest : D₁=1.10.1958/25.2.1959, D₂=15.10.1958/13.3.1959, D₃=1.11.1958/28.3.1959 and D₄=15.11.1958/13.4.1959.

Sub-plot treatments :

No. of irrigations : I₁=4, I₂=8 and I₃=12 irrigations.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 56(46) on page 307.

5. RESULTS :

(i) 17,765 lb. ac. (ii) (a) 6255 lb./ac. (b) 3101 lb./ac. (iii) Main effect of D is significant. Effect of I and interaction D × I are highly significant. (iv) Av. yield of tuber in lb./ac.

	D ₁	D ₂	D ₃	D ₄	Mean
I ₁	23435	20706	24742	21025	22477
I ₂	24684	16553	15943	14346	17882
I ₃	19660	14288	9641	8160	12937
Mean	22593	17182	16775	14510	17765

S E. of difference of two

1. D marginal means = 2085 lb./ac.
2. I marginal means = 895 lb./ac.
3. I means at the same level of D = 1790 lb./ac.
4. D means at the same level of I = 2547 lb./ac.

Crop :- Sweet Potato.**Ref :- M. 54(30).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'D'.**

Object :—To find out the effective insecticide for the control of Sweet Potato weevil.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 28.11.1954. (iv) (a) 2 ploughings with country plough and forming ridges. (b) to (e) N.A. (v) 10 tons/ac. of F.Y.M. (vi) V-6 (medium). (vii) Irrigated. (viii) 4 weedings. (ix) 11.03". (x) 9.5.1955.

2. TREATMENTS :

1. No treatment.
2. Aldrin 2.5% dust applied in soil at 20 lb./ac.
3. Dieldrin 2.5% dust applied in soil at 20 lb./ac.
4. Lindane 0.65% dust applied in soil at 20 lb./ac.
5. Aldrin 0.1% spray on foliage.
6. Dieldrin 0.1% spray on foliage.
7. Lindane 0.1% spray on foliage.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) 17'×14'. (b) 15'×10'. (v) 2 rows left as border. (vi) Yes.

4. GENERAL :

(i) Good growth. (ii) Nil. (iii) Tuber yield. (iv) (a) N.A. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Entomologist, Coimbatore.

5. RESULTS :

(i) 4938 lb./ac. (ii) 1968.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2	3	4	5	6	7
Av. yield	1735	4538	6984	2338	5314	10911	2744

S.E./mean = 984.5 lb./ac.

Crop :- Sweet Potato.**Ref :- M. 54(47).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'D'.**

Object :—To find out the effect of the different insecticides on Sweet Potato weevil.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sannhemp. (c) Nil. (ii) (a) Stiff clay soil. (b) Refer soil analysis, Coimbatore. (iii) 28.11.1954. (iv) (a) 4 ploughings ; passing Cambridge roller once and ridging up once. (b) to (e) N.A. (v) 5 to 7 tons/ac. of F.Y.M. applied at the time of last ploughing. (vi) V-6. (vii) Irrigated. (viii) 2 weedings. (ix) 28.34". (x) 2.5.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(30) above.

4. GENERAL :

(i) Satisfactory. (ii) Infestation of sweet potato weevil. (iii) Tuber yield. (iv) (a) 1952—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) 2585 lb./ac. (ii) 1792 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2	3	4	5	6	7
Av. yield	4414	4879	900	1016	871	3369	2643

S.E./mean = 896 lb./ac.

Crop :- Sweet Potato.**Ref :- M. 56(9).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'D'.**

Object :—To determine the relative efficacy of different insecticides in minimizing the incidence of Sweet Potato weevil.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 20.12.1956. (iv) (a) 4 ploughings. (b) N.A. (c) 21000 cuttings/ac. (d) $2\frac{1}{2}' \times 9'$. (e) N.A. (v) 5 tons/ac. of F.Y.M. applied before the last ploughing. (vi) V-8. (vii) Irrigated. (viii) 2 weedings. (ix) 25.38%. (x) 8.5.1957.

2. TREATMENTS :

1. Control (no treatment).
2. Aldrin 0.1% spray.
3. Aldrin 2.5% dust.
4. Dieldrin 0.1% spray.
5. Dieldrin 1.5% dust.
6. Endrine 0.1% spray.
7. Endrine 0.1% dust.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) $18' \times 15'$. (b) $15' \times 10'$. (v) $1\frac{1}{2}' \times 2\frac{1}{2}'$. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Weevil pest observed—control measures as per treatments. (iii) Yield of unaffected tubers. (iv) (a) 1951—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) 3901 lb./ac. (ii) 2266 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2	3	4	5	6	7
Av. yield	581	1742	4138	5733	5699	5277	4138

S.E./mean = 1133 lb./ac.

Crop :- Sweet Potato.**Ref :- M. 58(93).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'D'.**

Object :—To determine the relative efficacy of different insecticides on minimizing the incidence of Sweet Potato weevil.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 29.10.1958. (iv) (a) 4 ploughings. (b) N.A. (c) 20,000 cuttings/ac. (d) $2\frac{1}{2}' \times 9'$. (e) N.A. (v) 5 tons/ac. of F.Y.M. applied before the last ploughing. (vi) V-8. (vii) Irrigated. (viii) Weeding twice. (ix) 25.21% (x) 2.4.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(9) above.

5. RESULTS :

(i) 9761 lb./ac. (ii) 4193 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2	3	4	5	6	7
Av. yield	7587	12988	7986	11079	8952	10222	9511

S.E./mean = 2097 lb./ac.

Crop :- Sweet Potato.**Ref :- M. 55(25).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'D'.**

Object :—To test the relative efficacy of the different insecticides in controlling Sweet Potato weevil .

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 20.11.1955. (iv) (a) 4 ploughings ; passing Cambridge roller once. (b) N.A. (c) 22000 cuttings/ac. (d) 2'×6". (e) N.A. (v) 5 tons/ac. of F.Y.M. applied before the last ploughing. (vi) V-6. (vii) Irrigated. (viii) 2 weedings. (ix) 18.14". (x) 10, 11.4/1956.

2. TREATMENTS :

1. Control (no treatment).
2. Aldrin 0.1% spray.
3. Dieldrin 0.1% spray.
4. Endrine 0.1% spray.
5. Aldrin 2% dust.
6. Dieldrin 2% dust.
7. Endrine 1% dust.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) 17'×14'. (b) 15'×10'. (v) 1'×2'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Attack of weevil pest—control measures as per treatments. (iii) Yield of healthy tubers. (iv) (a) 1951—contd. (b) and (c) No. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) 9483 lb./ac. (ii) 2264 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2	3	4	5	6	7
Av. yield	2577	12015	12588	11180	7260	10781	9983

S.E./mean = 1132 lb./ac.

Crop :- Tomato (Summer).**Ref :- M. 56(99).****Site :- Agri. College & Res. Instt., Coimbatore.****Type 'IMV'.**

Object :—To determine a suitable manurial schedule and an economic irrigation practice for Tomato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 20.4.1956. (iv) (a) 3 ploughings. (b) N.A. (c) 4 ozs/ac. (d) 2½'×2½'. (e) 2. (v) 50 lb./ac. of N as F.Y.M. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 9.8.1956.

2. TREATMENTS :**Main-plot treatments :**

All combinations of (1) and (2)

- (1) 3 varieties : V₁ = Red jacket, V₂ = Early Chatham and V₃ = Ottawa to 17.
- (2) 2 intervals of irrigation : I₁ = 4 and I₂ = 7 days.

Sub-plot treatments :

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

- (1) 2 levels of N as A/S : N₀ = 0 and N₁ = 30 lb./ac.
- (2) 2 levels of P₂O₅ as Super : P₀ = 0 and P₁ = 60 lb./ac.
- (3) 2 levels of K₂O as Pot. Sul. : K₀ = 0 and K₁ = 30 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 6 main-plots/block ; 8 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 10'×12½'. (b) 5'×7½'. (v) One row left on all sides. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Tomato yield. (iv) (a) N.A. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Heavy rains damaged the crops to some extent. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) 2390 lb./ac. (ii) (a) 2179 lb./ac. (b) 1218 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of tomato in lb./ac.

	V ₁	V ₂	V ₃	I ₁	I ₂	N ₀	N ₁	P ₀	P ₁	Mean
K ₀	2507	2118	2930	2264	2772	2536	2500	2298	2739	2518
K ₁	2159	2332	2292	2230	2292	2359	2163	2325	2197	2261
Mean	2333	2225	2611	2247	2532	2448	2332	2312	2468	2390
P ₀	2255	2099	2579	2260	2362	2546	2077			
P ₁	2411	2351	2642	2234	2701	2349	2587			
N ₀	2504	2280	2558	2206	2689					
N ₁	2162	2170	2663	2288	2375					
I ₁	2129	2442	2280							
I ₂	2537	2118	2941							

S.E. for difference of two

- | | | | |
|---|-----------------|---|-----------------|
| 1. V marginal means | = 385.2 lb./ac. | 5. N, P or K means at the same level of I | = 248.6 lb./ac. |
| 2. I marginal means | = 314.5 lb./ac. | 6. V means at the same level of N, P or K | = 441.3 lb./ac. |
| 3. N, P or K marginal means | = 175.8 lb./ac. | 7. I means at the same level of N, P or K | = 360.3 lb./ac. |
| 4. N, P or K means at the same level of V | = 304.5 lb./ac. | S.E. of body of V×I table | = 385.2 lb./ac. |
| | | S.E. of body of N×P, P×K or K×N table | = 175.8 lb./ac. |

Crop :- Tomato (Monsoon).

Ref :- M. 56(100).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'IMV'.

Object :—To determine a suitable manurial schedule and an economic irrigation practice for Tomato.

1. BASAL CONDITIONS :

(i) a' Nil. b) and c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 20.7.1956. (iv) (a) 3 ploughings. (b) N.A. (c) 4 ozs./ac. (d) 2½'×2½'. (e) 2. (v) 50 lb./ac. of N as F.Y.M. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 35.46". (x) 9.11.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(99) on page 311.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tomato yield. (iv) (a) N.A. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) 7238 lb./ac. (ii) (a) 5719 lb./ac. (b) 2492 lb./ac. (iii) Interaction N×V and N×I are highly significant. Effect of I, N×P and K×I are significant. Other effects are not significant. (iv) Av. yield of tomato in lb./ac.

	V ₁	V ₂	V ₃	I ₁	I ₂	N ₀	N ₁	P ₀	P ₁	Mean
K ₀	5953	8020	7055	6473	7545	7049	6970	7430	6589	7009
K ₁	6019	8032	8349	6184	8750	7231	7703	7581	7353	7467
Mean	5986	8026	7702	6328	8148	7140	7336	7505	6971	7238
P ₀	5899	8564	8053	6490	8519	7744	7267			
P ₁	6074	7489	7351	6166	7776	6536	7406			
N ₀	5165	8977	7278	6516	7762					
N ₁	6808	7075	8126	6141	8533					
I ₁	4782	6470	7732							
I ₂	7190	9582	7672							

S.E. of difference of two

- V marginal means = 1011 lb./ac.
- I marginal means = 825.4 lb./ac.
- N, P or K marginal means = 359.7 lb./ac.
- N, P or K means at the same level of V = 623.0 lb./ac.
- N, P or K means at the same level of V = 508.6 lb./ac.
- V means at the same level of N, P or K = 1103 lb./ac.
- I means at the same level of N, P or K = 900.4 lb./ac.
- S.E. of body of V×I table = 1011 lb./ac.
- S.E. of body of N×P, P×K or K×N table = 359.7 lb./ac.

Crop :- Tomato.

Ref :- M. 57(89).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'IMV'.

Object :- To determine a suitable manurial schedule and an economic irrigation practice for Tomato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 5.8.1957. (iv) (a) 3 ploughings. (b) N.A. (c) 4 ozs./ac. (d) 2½'×2½'. (e) 2. (v) 50 lb./ac. of N as F.Y.M. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 28.75%. (x) 15.11.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(100) on page 312.

5. RESULTS :

(i) 9002 lb./ac. (ii) (a) 4862 lb./ac. (b) 4182 lb./ac. (iii) Interaction N×P alone is highly significant. (iv) Av. yield of tomato in lb./ac.

	V ₁	V ₂	V ₃	I ₁	I ₂	N ₀	N ₁	P ₀	P ₁	Mean
K ₀	8639	9565	9716	9444	9169	9372	9242	8845	9769	9307
K ₁	8068	9057	8966	8137	9257	8870	8524	8633	8761	8697
Mean	8353	9211	9341	8791	9213	9121	8883	8739	9265	9002
P ₀	7686	9374	9157	8506	8972	9795	7683			
P ₁	9020	9248	9526	9075	9454	8447	10083			
N ₀	7959	9656	9747	8894	9348					
N ₁	8747	8966	8935	8688	9078					
I ₁	7723	9021	9629							
I ₂	8983	9601	9053							

S.E. of difference of two

1. V marginal means	= 859.5 lb./ac.	5. N, P or K means at the same level of I	= 853.6 lb./ac.
2. I marginal means	= 701.8 lb./ac.	6. V means at the same level of N, P or K	= 1133.7 lb./ac.
3. N, P or K marginal means	= 603.6 lb./ac.	7. I means at the same level of N, P or K	= 925.7 lb./ac.
4. N, P or K means at the same level of V	= 1045.5 lb./ac.	S.E. of body of V×I table	= 859.5 lb./ac.
		S.E. of body of N×P, P×K or K×N table	= 603.6 lb./ac.

Crop :- Tomato.

Ref :- M. 56(92).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'D'.

Object :- To study the effect of different fungicides against wilt of Tomato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 25.8.1956. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 4 ozs/ac. (d) 2½'×2¼'. (e) 2. (v) 15 tons/ac. of F.Y.M. + 100 lb./ac. of A/S + 200 lb. ac. of Super + 100 lb./ac. of Mur. of Pot. (vi) H-123. (vii) Irrigated. (viii) Nil. (ix) N.A. (x) 28.11.1956.

2. TREATMENTS :

6 fungicides : F₀=Control, F₁=Bordeaux mixture 1%, F₂=Chestnut compound 1 oz in a gallon of water, F₃=Wet ceresan 0.1%, F₄=Agallol 0.1% and F₅=Urea 0.1%.
Fungicides applied on 4, 19.10.1956 and 5, 15.11.1956.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) and (b) 25'×5'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Severe incidence of tomato wilt. As per treatments. (iii) Incidence % and tomato yield. (iv) 1956—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore. The data is transformed into $\sin^{-1}\sqrt{p}$, where p is the % incidence of wilt and then analysed.

5. RESULTS :

I. Tomato yield

(i) 4805 lb./ac. (ii) 1082 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tomato in lb./ac.

Treatment	F ₀	F ₁	F ₂	F ₃	F ₄	F ₅
Av. yield	4436	4850	5151	4588	5154	4654

S.E./mean = 44.7 lb./ac.

II. Incidence of wilt

(i) 29.86 degrees (ii) 5.51 degrees. (iii) Treatment differences are significant. (iv) Av. incidence of wilt in degrees.

Treatment	F ₀	F ₁	F ₂	F ₃	F ₄	F ₅
Mean angle	32.10	22.32	27.62	32.85	34.33	22.95

S.E./mean = 2.25 degrees

Crop :- Tomato.

Ref :- M. 57(84).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'D'.

Object :- To study the effect of fungicides against wilt of Tomato.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 6.3.1957. (iv) 3 ploughings. (b) N.A. (c) 4 ozs./ac. (d) $2\frac{1}{2}' \times 2\frac{1}{2}'$. (e) 2. (v) 15 tons/ac. of F.Y.M.+100 lb./ac. of A/S+200 lb./ac. of Super+100 lb./ac. of Mur. Pot. (vi) H-123. (viii) Irrigated. (viii) Nil. (ix) N.A. (x) 10.6.1957.

2. TREATMENTS :

6 fungicides : F_0 =Control, F_1 =Bordeaux mixture 1%, F_2 =Wet Ceresan 0.1%, F_3 =Chestnut Compound 1 oz. in a gallon of water, F_4 =Dithane Z 78 0.15% and F_5 =Urea 1 oz in 2 gallons of water. Fungicides applied as soil drench at the base of the plants, at one pint/plant on 7, 25.4.1957 and 9, 27.5.1957.

3. DESIGN :

Same as in expt. no. 56(92) on page 314.

4. GENERAL :

(i) Satisfactory. (ii) Heavy incidence of wilt of tomato—control measures as per treatments. (iii) Incidence percentage. (iv) to (vii) Same as in expt. no. 56(92) on page 314.

5. RESULTS :

(i) 41.11 degrees. (ii) 8.68 degrees. (iii) Treatment differences are not significant. (iv) Av. incidence of wilt in degrees.

Treatment	F_0	F_1	F_2	F_3	F_4	F_5
Mean angle	40.09	39.68	47.35	38.65	44.48	36.08

S.E./mean = 4.34 degrees.

Crop :- Tomato.

Ref :- M. 58(83).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'D'.

Object :—To study the effect of fungicides against wilt of Tomato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 24.1.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 4 ozs./ac. (d) $2\frac{1}{2}' \times 2\frac{1}{2}'$. (e) 2. (v) 15 tons/ac. of F.Y.M.+100 lb./ac. of A/S+200 lb./ac. of Super+100 lb./ac. of Mur. Pot. (vi) H-123. (vii) Irrigated. (viii) Nil. (ix) N.A. (x) 24.5.1958.

2. TREATMENTS :

6 fungicides : F_0 =Control, F_1 =Bordeaux mixture 1%, F_2 =Wet Ceresan 0.1%, F_3 =Chestnut compound 0.3%, F_4 =Dithane Z 78 0.15% and F_5 =Urea 1 oz. in 2 gallons of water. Fungicides applied on 30.3.1958 ; 8, 28.4.1958 and 10.5.1958.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 56(92) on page 314.

5. RESULTS :

I. Tomato yield

(i) 8477 lb./ac. (ii) 1982 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tomato in lb./ac

Treatment	F_0	F_1	F_2	F_3	F_4	F_5
Av. yield _l	9082	7598	9512	9757	6896	8015

S.E./mean = 991 lb./ac.

II. Incidence of wilt.

(i) 16.26 degrees. (ii) 8.16 degrees. (iii) Treatment differences are not significant. (iv) Av. incidence of wilt in degrees.

Treatment	F_0	F_1	F_2	F_3	F_4	F_5
Mean angle	18.30	17.48	13.00	16.73	17.10	14.93

S.E./mean = 4.08 degrees.

Crop :- Tomato (Monsoon).**Ref :- M. 59(68).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'D'.**

Object :- To study the effect of fungicides on the early blight disease of Tomato.

1. BASAL CONDITIONS :

(i) (a) N.I. (b) and (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 19.9.1959. (iv) (a) 3 ploughings. (b) N.A. (c) 4 oz./ac. (d) $2\frac{1}{2}' \times 2\frac{1}{2}'$. (e) 2. (v) 15 tons of F.Y.M.+100 lb. ac. of A/S +200 lb./ac. of Super+100 lb./ac. of Mur. Pot. (vi) H—123. (vii) Irrigated. (viii) Nil. (ix) N.A. (x) 15.12.1959.

2. TREATMENTS :

6 fungicides : F_0 =Control, F_1 =Bordeaux mixture 1%, F_2 =Flit 406 0.15%, F_3 =Cupravit 0.25%, F_4 =Dithane Z 78 0.15% and F_5 =Copper acetyl acetone 0.125%.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) $20' \times 10'$. (b) $15' \times 5'$. (v) $2\frac{1}{2}' \times 2\frac{1}{2}'$. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Incidence of early blight—control measures as per treatments. (iii) Incidence % and tomato yield. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) 3249 lb./ac. (ii) 714 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tomato in lb./ac.

Treatment	F_0	F_1	F_2	F_3	F_4	F_5
Av. yield	2360	3530	2813	3712	3385	3694

S.E./mean = 357 lb./ac.

Crop :- Tomato.**Ref :- M. 56(87).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'D'.**

Object :- To test the efficacy of different fungicides as seed dressings against 'damping off' disease of Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 9.8.1956. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 4 ozs/ac. (d) N.A. (e) 1000 seeds sown in each raised bed of $6' \times 1'$. (v) 15 tons/ac. of F.Y.M.+100 lb./ac. of A/S+200 lb./ac. of Super+100 lb. ac. of Mur. Pot. (vi) H—123. (vii) Irrigated. (viii) N.I. (ix) N.A. (x) Nil.

2. TREATMENTS :

6 fungicides : F_0 =Control, F_1 =Agrosan G.N., F_2 =Ceresan, F_3 =Harvesan, F_4 =Sperguson and F_5 =Fernosan. 2 gms of fungicide for 1 lb. of seed.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) and (b) $6' \times 1'$. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Low incidence of 'damping off' disease.—control measures as per treatments. (iii) % emergence and % incidence of the 'damping off' disease. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by the Horticulturist. The data has been transformed into $\sin^{-1}\sqrt{p}$, where p is the % incidence of disease and then analysed

5. RESULTS :

(i) 19.91 degrees. (ii) 2.92 degrees. (iii) Treatment differences are not significant. (iv) Av. incidence of 'damping off' disease.

Treatment	F_0	F_1	F_2	F_3	F_4	F_5
Mean angle	21.48	19.38	19.58	22.63	17.48	18.93

S.E./mean = 1.46 degrees.

Crop :- Tomato.**Ref :- M. 56(91).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'D'.**

Object :—To study the effect of fungicides against early blight and leaf-spot disease of Tomato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 23.8.1956.
 (iv) (a) 3 ploughings. (b) N.A. (c) 4 ozs/ac. (d) $2\frac{1}{2}' \times \frac{1}{2}'$. (e) N.A. (v) 15 tons/ac. of F.Y.M.+20 lb./ac.
 of Super+100 lb./ac. of A/S+100 lb./ac. of $\frac{1}{2}$ Mur. Pot. (vi) H—123. (vii) Irrigated. (viii) Nil. (ix)
 N.A. (x) 25.11.1956.

2. TREATMENTS :

6 fungicides : F₀=Control, F₁=Dithane Z 78 0.15%, F₂=Fungimar 0.25%, F₃=Bordeaux mixture %,
 F₄=Yellow Cuproicide 0.15% and F₅=Shell copper fungicide 0.25%.

Fungicides applied in three sprayings on 26.9.1956 and 13, 28.10.1956.

3. DESIGN :(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) $30' \times 7\frac{1}{2}'$ (b) $25' \times 5'$. (v) One row left as border. (vi) Yes.**4. GENERAL :**

(i) Satisfactory. (ii) mild incidence of early blight.—control measures as per treatments. (iii) Incidence %.
 (iv) to (vii) Same as in expt. no. 56(87) on page 316.

5. RESULTS :

(i) 9.5 degrees (ii) 1.66 degrees. (iii) Treatment differences are not significant. (iv) Av. incidence of disease.

Treatment	F ₀	F ₁	F ₂	F ₃	F ₄	F ₅
Mean angle	9.23	9.2	9.85	9.66	9.75	9.35

S.E./mean = 0.83 lb./ac.

Crop :- Tomato.**Ref :- M. 57(85).****Site :- Agri. College & Res. Instt. Coimbatore.****Type :- 'D'.**

Object :—To study the effect of fungicides against early blight and leaf-spot disease of Tomato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 14.7.1957.
 (vi) (a) 3 ploughings. (b) N.A. (c) 4 ozs/ac. (d) $2\frac{1}{2}' \times 2\frac{1}{2}'$. (e) 2. (v) 15 tons/ac. of F.Y.M.+
 100 lb./ac. of A/S+200 lb./ac. of Super+100 lb./ac. of Mur. Pot. (vi) H—123. (vii) Irrigated. (viii) Nil.
 (ix) N.A. (x) 18.10.1957.

2. TREATMENTS :

5 fungicides : F₀=Control, F₁=Fungimar 0.25%, F₂=Copper oxychloride 0.25%, F₃=Dithane Z 78
 0.15% and F₄=Bordeaux Mixture 1%.

Fungicides applied on 27.8.1957, 25.9.1957 and 9.10.1957.

3. DESIGN :(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) $20' \times 10'$. (b) $17\frac{1}{2}' \times 7\frac{1}{2}'$. (v) N.A. (vi) Yes.**4. GENERAL :**

(i) Satisfactory. (ii) Mild incidence of early blight. (iii) % of incidence and yield. (iv) (a) 1956—contd.
 (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) 6875 lb./ac. (ii) 1670 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tomato in lb./ac.

Treatment	F ₀	F ₁	F ₂	F ₃	F ₄
Av. yield	6034	7556	7002	6798	6985

S.E./mean = 746.9 lb./ac.

Crop :- Tomato.**Ref :- M. 58(87).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'D'.**

Object :—To study the effect of fungicides on the early blight of Tomato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Red loam. (b) N.A. (iii) 4.8.1958. (iv) (a) 3 ploughs. (b) N.A. (c) 4 oz./ac. (d) $2\frac{1}{2}' \times 2\frac{1}{2}'$. (e) 2. (v) 15 tons/ac. of F.Y.M.+100 lb./ac. of A/S+200 lb./ac. of Super+100 lb./ac. of Mur. Pot. (vi) H-123. (vii) Irrigated. (viii) Nil. (ix) N.A. (x) 8.11.1958.

2. TREATMENTS :

5 fungicid. des : F_0 = Control, F_1 = Flit 406 0.1%, F_2 = Cupravit 0.25%, F_3 = Dithane Z 78 0.15% and F_4 = Bordeaux mixture 1%.

Fungicides applied on 17.9.1958 ; 1, 16.10.1958 and 1.11.1958.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 59(68) on page 316.

5. RESULTS :

(i) 20596 lb./ac. (ii) 4832 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of tomato in lb./ac.

Treatment	F_0	F_1	F_2	F_3	F_4
Av. yield	15786	23749	20822	23714	18911

S.E./mean = 1969 lb./ac.

Crop :- Tomato (Monsoon).**Ref :- M. 57(66).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'D'.**

Object :—To study the effect of fungicides against fruit-borer.

1. BASAL CONDITIONS :

(i) (a) None. (b) and (c) Nil. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) N.A. 9.8.1957. (iv) (a) 3 ploughings. (b) Transplanting. (c) 4 oz./ac. (d) $2\frac{1}{2}' \times 2\frac{1}{2}'$. (e) N.A. (v) 15 tons ac. of F.Y.M.+100 lb./ac. of A/S+200 lb./ac. of Super+100 lb./ac. of potash. (vi) Morden. (vii) Irrigated. (viii) Weeding. (ix) 21.4". (x) N.A.

2. TREATMENTS :

4 fungicides : F_0 = Control, F_1 = Endrine 0.02%, F_2 = DDT 0.1% and F_3 = Mechanical methods. Treatments applied on 25.8.1957, 14.9.1957 and 2.10.1957.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) $25' \times 20'$. (b) $20' \times 15'$. (v) 32 guard plants around. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Fruit-borer attack—control measures as per treatments. (iii) Percentage and weight of affected and unaffected fruit. (iv) (a) 1956—N.A. (b) No. (c) Nil. (v) and (vi) Nil. (vii) Expt. was conducted by Entomologist, Coimbatore. The data is transformed to $\sin^{-1}\sqrt{p}$, where p is the % incidence and then analysed.

5. RESULTS :

(i) 13.77 degrees. (ii) 1.81 degrees. (iii) Treatment differences are highly significant. (iv) Av. incidence of borer attack.

Treatment	F_0	F_1	F_2	F_3
Mean angle	30.40	6.79	2.44	30.39

S.E./mean = 0.81 degrees.

Crop :- Tomato (Monsoon).**Ref :- M. 58(25).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'D'.**

Object :—To study the effect of fungicides against fruit-borer.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 26.7.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 4 oz./ac. (d) $2\frac{1}{2}' \times 2\frac{1}{2}'$. (e) N.A. (v) 15 tons/ac. of F.Y.M.+100 lb./ac. of A/S+200 lb./ac. of Super+100 lb./ac. of Potash. (vi) Morden. (vii) Irrigated. (viii) Weeding. (ix) 10.47". (x) 22.9.1958. to 23.10.1958.

2. TREATMENTS :

5 fungicides : F_0 =Control, F_1 =Endrin 0.02%, F_2 =DDT 0.1%, F_3 =Folidol 0.05% and F_4 =Mechanical method.

Treatments sprayed on 8.8.1958, 20.8.1958 and 6.9.1958.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) $30' \times 30'$. (b) $25' \times 25'$. (v) $2\frac{1}{2}' \times 2\frac{1}{2}'$ (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Attack of fruit-borer (*Heliothis armigera H* and *prodenia-litura F*) Control measures as per treatments. (iii) Percentage and weight of affected and unaffected fruit. (iv) to (vii) Same as in expt. no. 57(66) on page 318.

5. RESULTS :

(i) 14.83 degrees. (ii) 1.94 degrees. (iii) Treatment differences are highly significant. (iv) Av. incidence of borer attack.

Treatment	F_0	F_1	F_2	F_3	F_4
Mean angle	23.80	7.40	10.00	12.10	20.85

S.E./mean = 0.97 degrees.

Crop :- Tomato (Summer).**Ref :- M. 58(26).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'D'.**

Object :—To study the effect of fungicides against fruit-borer.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 16.2.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 4 ozs/ac. (d) $2\frac{1}{2}' \times 2\frac{1}{2}'$. (e) N.A. (v) 15 tons/ac. of F.Y.M.+100 lb./ac. of A/S+200 lb./ac. of Super+100 lb./ac. of Potash. (vi) Morden. (vii) Irrigated. (viii) Weeding. (ix) 2.02". (x) 6.4.1958 to 17.5.1958.

2. TREATMENTS :

Same as in expt. no. 58(25) above.

Treatments applied from 10.3.1958 to 10.4.1958 at fortnightly intervals.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) $30' \times 20'$. (b) $25' \times 15'$. (v) $2\frac{1}{2}' \times 2\frac{1}{2}'$. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Attack of *heliothis armigera H* fruit borer—control measures as per treatments. (iii) Percentage and weight of affected and unaffected fruit. (iv) to (vii) Same as in expt. no. 57(66) on page 318.

5. RESULTS :**I. Unaffected fruit.**

(i) 7197 lb./ac. (ii) 2840 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of unaffected fruit in lb./ac.

Treatment	F_0	F_1	F_2	F_3	F_4
Av. yield	3196	11117	10909	6707	4058

S.E./mean = 1270 lb./ac.

II. Percentage incidence of borer

(i) 23.54 degrees. (ii) 2.39 degrees. (iii) Treatment differences are highly significant. (iv) Av. incidence of borer attack.

Treatment	F ₀	F ₁	F ₂	F ₃	F ₄
Mean angle	41.36	8.43	6.34	27.06	44.74

S.E./mean = 1.07 degrees.

Crop :- Tomato (Summer).

Ref :- M. 59(22).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'D'.

Object :—To study the effect of fungicides against fruit borer.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 19.2.1959. (iv) 3 ploughings. (b) N.A. (c) 4 oz./ac. (d) 2½' × 2½'. (e) N.A. (v) 15 tons/ac. of F.Y.M. + 100 lb. ac. of A S + 200 lb./ac. of Super + 100 lb./ac. of Potash. (vi) Morden. (vii) Irrigated. (viii) Weeding. ix, 2.53". (x) 18.5.1959.

2. TREATMENTS :

Same as in expt. no. 58 (25) on page 319.

Treatments sprayed on 21.3.1959 and 5, 20.4.1959.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 25' × 25'. (b) 20' × 20'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Attack of *heliothis armigera* and *proleua litura* F. Control measures as per treatments. (iii) Percentage and weight of affected and unaffected fruit. (iv) to (vii) Same as in expt. no. 57 (66) on page 3.8.

5. RESULTS :

I. Uninfested fruit

(i) 1170 lb./ac. (ii) 933.2 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of uninfested fruit in lb./ac.

Treatment	F ₀	F ₁	F ₂	F ₃	F ₄
Av. yield	511	1776	2505	1246	265

S.E./mean = 466.6 lb./ac.

II. Percentage incidence of borer

(i) 34.35 degrees. (ii) 4.74 degrees. (iii) Treatment differences are highly significant. (iv) Av. incidence of borer attack.

Treatment	F ₀	F ₁	F ₂	F ₃	F ₄
Mean Angle	54.00	13.85	10.13	36.55	57.23

S.E./mean = 2.37 degrees.

Crop :- Tomato (Monsoon).

Ref :- M. 59(23).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'D'.

Object :—To study the effect of insecticides against fruit-borer.

1. BASAL CONDITIONS :

(i) (a) to (c) Nil. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 31.8.1959. (iv) (a) 3 ploughings. (b) N.A. (c) 4 oz./ac. (d) $2\frac{1}{2}' \times 2\frac{1}{2}'$. (e) N.A. (v) 15 tons/ac. of F.Y.M. + 100 lb./ac. of A/S + 200 lb./ac. of Super + 100 lb./ac. of Potash. (vi) Morden. (vii) Irrigated. (viii) Weeding. (ix) 1.63". (x) 10.9.1959 to 6.10.1959.

2. TREATMENTS :

5 insecticides : F_0 =Control, F_1 =Dieldrin 0.1%, F_2 =Endrine (Folorin) 0.02%, F_3 =DDT 0.1%, and F_4 =Calcium arsenate.

Treatments sprayed on 25.9.1959 and 9, 21.10.1959.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) $25' \times 25'$. (b) $20' \times 20'$. (v) One row around left as border. (vi) Yes.

4. GENERAL :

Same as in expt. no. 59(22) on page 320.

5. RESULTS :

(i) 19.24 degrees. (ii) 2.30 degrees. (iii) Treatment differences are highly significant. (iv) Av. incidence of borer.

Treatment	F_0	F_1	F_2	F_3	F_4
Mean angle	30.27	8.08	11.79	21.35	24.69

S.E./mean = 1.15 degrees.

Crop :- Tomato.

Ref :- M. 56(90).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'D'.

Object :—To study the effect of different methods of planting and spraying different fungicides on the 'damping off' disease of Tomato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 14.7.1956. (iv) (a) 2 ploughings. (b) As per treatments. (c) 4 oz./ac. (d) and (e) N.A. (v) 15 tons/ac. of F.Y.M. + 200 lb./ac. of Super + 100 lb./ac. of A/S + 100 lb./ac. of Mur. Pot. (vi) H-123. (viii) Irrigated. (viii) Nil. (ix) and (x) N.A.

2. TREATMENTS :

Main-plot treatments :

2 methods of planting : C_1 =Planting on raised beds and C_2 =Planting on level beds.

Sub-plot treatments :

6 fungicides : F_0 =Control, F_1 =Bordeaux mixture 1%, F_2 =Chestnut compound 0.3%, F_3 =Wet Ceresan 0.1%, F_4 =Dithane Z-78 0.15% and F_5 =Cupravit 0.4%.

Fungicides applied to the soil at one gallon/plot on 21, 29.7.1956 and 5.8.1956.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 6 sub-plots/main-plot. (b) N.A. (iii) 4 (iv) (a) and (b) $10' \times 2'$. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Mild incidence of 'damping off' disease. (iii) Percentage incidence. (iv) (a) 1956—contd., (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore. The data is transformed into $\sin^{-1}\sqrt{p}$, where p is the % incidence and then analysed.

5. RESULTS :

(i) 8.38 degrees. (ii) (a) 2.55 degrees. (b) 1.80 degrees. (iii) Main effect of F alone is significant. (iv) Av. incidence of 'damping off' disease.

	F ₀	F ₁	F ₂	F ₃	F ₄	F ₅	Mean
C ₁	10.63	6.40	9.48	7.73	5.03	10.63	8.32
C ₂	12.12	7.50	5.80	7.83	6.15	11.25	8.44
Mean	11.38	6.95	7.64	7.78	5.59	10.94	8.38

S.E. of difference of two

1. C marginal means = 0.74 degrees.
2. F marginal means = 0.90 degrees.
3. F means at the same level of C = 1.28 degrees.
4. C means at the same level of F = 1.37 degrees.

Crop :- Tomato (Monsoon).

Ref :- M. 58(88).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'DC'.

Object : - To study the effect of different methods of planting and spraying different fungicides on the 'damping off' disease of Tomato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 30.7.1958. (iv) (a) 3 ploughings. (b) As per treatments. (c) 500 seeds/plot. (d) and (e) N.A. (v) 15 tons/ac. of F.Y.M. + 100 lb./ac. of A/S + 200 lb./ac. of Super + 100 lb./ac. of Mur. Pot. (vi) H-123. (vii) Irrigated. (viii) Nil. (ix) N.A. (x) Nil.

2. TREATMENTS :

Main-plot treatments :

2 types of seed beds : B₁=Raised and B₂=Level.

Sub-plot treatments :

7 fungicides : F₀=Control (without fungus), F₁=Control (with fungus), F₂=Bordeaux mixture 1%, F₃=Chestnut compound at 1 oz./2 gallons of water, F₄=Wet Ceresan 0.1%, F₅=Cupravit 0.25% and F₆=Dithane Z-78 0.15%.

Spraying done on 30.7.1958, 6, 13 and 20.8.1958.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 7 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 5'x2'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Incidence of 'damping off' ; control measures as per treatments. (iii) Percentage incidence. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by the Horticulturist. The data is transformed into $\sin^{-1}\sqrt{p}$, where p is the % incidence and then analysed.

5. RESULTS :

(i) 33.1 degrees. (ii) (a) 4.14 degrees. (b) 6.43 degrees. (iii) F effect alone is significant. (iv) Av. incidence of 'damping off' disease.

	F ₀	F ₁	F ₂	F ₃	F ₄	F ₅	F ₆	Mean
B ₁	38.5	21.2	32.8	38.6	27.8	34.3	35.8	32.7
B ₂	37.8	23.1	35.1	39.5	28.9	36.2	33.7	33.5
Mean	38.1	22.2	33.9	39.1	28.4	35.2	34.8	33.1

S.E. of difference of two

1. B marginal means = 1.11 degrees.
2. F marginal means = 3.22 degrees.
3. F means at the same level of B = 4.55 degrees.
4. B means at the same level of F = 4.35 degrees.

Crop :- Tomato.**Ref :- M. 59(67).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'DC'.**

Object :—To study the effect of different methods of planting and spraying different fungicides on the 'damping off' disease of Tomato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 21.8.1959. (iv) (a) 3 ploughings. (b) As per treatments. (c) 500 seeds/plot. (d) and (e) N.A. (v) 15 tons/ac. of F.Y.M.+100 lb./ac. of A/S+200 lb./ac. of Super+100 lb./ac. of Mur. Pot. (vi) H—123. (vii) Irrigated. (viii) Nil. (ix) N.A. (x) Nil.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58(88) on page 322.

5. RESULTS :

(i) 33.8 degrees. (ii) (a) 5.81 degrees. (b) 4.68 degrees. (iii) F effect alone is highly significant. (iv) Av. incidence of 'damping off' disease.

	F ₀	F ₁	F ₂	F ₃	F ₄	F ₅	F ₆	Mean
B ₁	39.2	18.6	40.9	29.8	37.1	32.1	39.9	33.9
B ₂	37.4	21.5 ₂	39.9	28.8	37.4	31.7	39.3	33.7
Mean	38.3	20.0	40.4	29.3	37.3	31.9	39.6	33.8

S.E. of difference of two

1. B marginal means = 1.55 degrees.
2. F marginal means = 2.34 degrees.
3. F means at the same level of B = 3.31 degrees.
4. B means at the same level of F = 3.30 degrees.

Crop :- Tapioca.**Ref :- M. 54(110).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'M'.**

Object :—To determine a suitable manurial dose for Tapioca under local conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Maize. (c) Nil. (ii) (a) Stiff clay soil. (b) Refer soil analysis, Coimbatore. (iii) 20 to 23.9.1954. (iv) (a) 4 ploughings ; working Cambridge roller once and ridging up once. (b) to (e) N.A. (v) As per treatments. (vi) Butter stick. (vii) Irrigated. (viii) 2 weedings. (ix) 28.34". (x) 7 to 15.8.1955.

2. TREATMENTS :

Main-plot treatments :

3 basal dressings : B₀=No basal dressing, B₁=10,000 lb./ac. of F.Y.M. and B₂=G.L. equivalent to B₁ (on basis of N).

Sub-plot treatments :

All combinations of (1) and (2)

- (1) 3 levels of N as A/S : N₀=0, N₁=50 and N₂=100 lb./ac.
- (2) 3 levels of K₂O as Pot. Sul. : K₀=0, K₁=80 and K₂=160 lb./ac.

Sub-sub-plot treatments :

2 levels of P₂O₅ as Super : P₀=0 and P₁=80 lb./ac.

A/S and Pot. Sul. applied one month after planting. Super applied just before planting.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 9 sub-plots/main-plot and 2 sub-sub-plots/sub-plot. (b) N.A. (iii) 2. (iv) (a) 24'×15'. (b) 18'×12'. (v) 3'×1½'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1951—1957. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

- (i) 3770 lb./ac. (ii) (a) 7862 lb./ac. (b) 1511 lb./ac. (c) 1363 lb./ac. (iii) None of the effects is significant.
 (iv) Av. yield of tapioca in lb./ac.

	N ₀	N ₁	N ₂	K ₀	K ₁	K ₂	P ₀	P ₁	Mean
B ₀	2560	2963	2238	2130	2739	2892	2588	2586	2587
B ₁	4408	4110	4727	4055	4168	5022	4412	4418	4415
B ₂	4000	4429	4498	5155	3971	3801	4272	4346	4309
Mean.	3656	3834	3821	3780	3626	3905	3757	3783	3770
P ₀	3754	3631	3886	3869	3849	3554			
P ₁	3558	4037	3756	3961	3403	4256			
K ₀	3483	4234	3533						
K ₁	3606	3231	4041						
K ₂	3879	3947	3889						

S.E. of difference of two

1. B marginal means = 1009.9 lb./ac. 6. N or K means at the same level of B = 356.2 lb./ac.
2. N or K marginal means = 205.6 lb./ac. 7. B means at the same level of N or K = 1921.0 lb./ac.
3. P marginal means = 151.4 lb./ac. 8. P means at the same level of N or K = 290.8 lb./ac.
4. P means at the same level of B = 262.3 lb./ac. 9. N or K means at the same level of P = 274.9 lb./ac.
5. B means at the same level of P = 1085.8 lb./ac. S.E. of body of N × K table = 251.8 lb./ac.

Crop :- Tapioca.

Ref :- M. 55(75).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'M'.

Object :—To determine a suitable manurial dose for Tapioca.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 24 to 27.8.1955.
 (iv) (a) 4 ploughings ; passing Cambridge roller once and ridging up once. (b) to (e) N.A. (v) Nil. (vi) Butter stick. (vii) Irrigated. (viii) 3 weedings. (ix) 18.14". (x) 28.7.1956 to 4.8.1956.

2. TREATMENTS :

Same as in expt. no. 54(110) on page 323.

3. DESIGN :

- (i) Split-plot. (ii) (a) 3 main-plots/block ; 9 sub-plots/main-plot and 2 sub-sub-plots/sub-plot. (b) N.A.
 (iii) 2. (iv) (a) 24' × 15'. (b) 20' × 10'. (v) 2' × 2½'. (vi) Yes.

4. GENERAL :

Same as in expt. no. 54(110) on page 323.

5. RESULTS :

- (i) 10660 lb./ac. (ii) (a) 2290 lb./ac. (b) 1823 lb./ac. (c) 2170 lb./ac. (iii) N effect and interaction K × N × B are highly significant. Interaction N × B is significant. Others are not significant. (iv) Av. yield of tapioca in lb./ac.

	N ₀	N ₁	N ₂	K ₀	K ₁	K ₂	P ₀	P ₁	Mean
B ₀	12983	11009	9389	11556	11104	10721	11251	11004	11127
B ₁	13322	9747	7850	10748	10318	9852	10474	10139	10306
B ₂	11866	11794	7982	10858	11148	9636	11229	9866	10547
Mean	12724	10850	8407	11054	10857	10070	10985	10336	10660
P ₀	13276	11436	8241	11505	10496	10953			
P ₁	12171	10264	8573	10604	11218	9186			
K ₀	12741	11215	9207						
K ₁	13783	10425	8362						
K ₂	11647	10910	7652						

S.E. of difference of two

- | | | | |
|-----------------------------------|-----------------|--|-----------------|
| 1. B marginal means | = 311.6 lb./ac. | 6. N or K means at the same level of B | = 429.7 lb./ac. |
| 2. N or K marginal means | = 248.1 lb./ac. | 7. B means at the same level of N or K | = 812.8 lb./ac. |
| 3. P marginal means | = 241.1 lb./ac. | 8. P means at the same level of N or K | = 350.8 lb./ac. |
| 4. P means at the same level of B | = 295.3 lb./ac. | 9. N or K means at the same level of P | = 385.7 lb./ac. |
| 5. B means at the same level of P | = 429.3 lb./ac. | S.E. of body of N×K table | = 303.8 lb./ac. |

Crop :- Tapioca.

Ref :- M. 56(104).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'M'.

Object :- To determine a suitable manurial dose for Tapioca.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 3.8.1956. (iv) (a) 4 ploughings ; passing Cambridge roller once. (b) N.A. (c) 12000 cuttings/ac. (d) 2'×1½'. (e) 1. (v) Nil. (vi) V-8. (vii) Irrigated. (viii) 3 weedings. (ix) 25.38%. (x) 13.7.1957.

TREATMENTS :

Same as in expt. no. 54(110) on page 323.

3. DESIGN :

- (i) Split-plot. (ii) (a) 3 main-plots/block ; 9 sub-plots/main-plot ; 2 sub-sub-plots/sub-plot. (b) N.A. (iii) 2. (iv) (a) 24'×15'. (b) 21'×10'. (v) 1½'×2½'. (vi) Yes.

GENERAL :

Same as in expt. no. 54(110) on page 323.

5. RESULTS :

- (i) 5659 lb./ac. (ii) (a) 2623 lb./ac. (b) 2621 lb./ac. (c) 1116 lb./ac. (iii) N effect is highly significant. Interaction N×P, P×K, P×N×B, P×K×B and P×K×N×B are significant. (iv) Av. yield of tuber in lb./ac.

	N ₀	N ₁	N ₂	K ₀	K ₁	K ₂	P ₀	P ₁	Mean
B ₀	7625	4311	5254	6134	5638	5418	5744	5717	5730
B ₁	6099	5857	5670	5498	6236	5891	5875	5876	5875
B ₂	6559	5000	4558	5639	5064	5413	5587	5157	5372
Mean	6761	5056	5161	5757	5696	5574	5735	5583	5659
P ₀	6850	5381	4975	5900	5366	5940			
P ₁	6672	4732	5346	5614	5927	5209			
K ₀	6490	5245	5537						
K ₁	6765	4953	5221						
K ₂	7029	4971	4723						

S.E. of difference of two

- | | | | |
|-----------------------------------|-----------------|--|------------------|
| 1. B marginal means | = 356.9 lb./ac. | 6. N or K means at the same level of B | = 617.8 lb./ac. |
| 2. N or K marginal means | = 356.7 lb./ac. | 7. B means at the same level of N or K | = 1070.3 lb./ac. |
| 3. P marginal means | = 124.0 lb./ac. | 8. P means at the same level of N or K | = 504.4 lb./ac. |
| 4. P means at the same level of B | = 214.8 lb./ac. | 9. N or K means at the same level of P | = 387.7 lb./ac. |
| 5. B means at the same level of P | = 387.9 lb./ac. | S.E. of body of N×K table | = 436.8 lb./ac. |

Crop :- Tapioca.**Ref :- M. 57(93).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'M'.**

Object :- To determine a suitable manurial dose for Tapioca.

1. BASAL CONDITIONS :

- (i) a) Nil. (b) and (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 6, 7, 8.8.1957.
 (iv) 4 ploughings ; passing Cambridge roller once. (b) N.A. (c) 12000 cuttings/ac. (d) 2'×1½'. (e) 1.
 (v) Nil. (vi) Valenca. (vii) Irrigated. (viii) 3 weedings. (ix) 35.07". (x) 17 to 21 5.1958.

2. TREATMENTS :

Same as in expt. no. 54 110) on page 323.

3. DESIGN :

Same as in expt no. 56 104) on page 325.

4. GENERAL :

- (i) Poor. (ii) Incidence of fungus diseases—spraying with 1% Bordeaux mixture. (iii) Yield of tuber.
 (iv) (a) 1951—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

- (i) 2221 lb./ac. (ii) (a) 3064 lb./ac. (b) 775 lb./ac. (c) 269 lb./ac. (iii) P effect is significant. Interactions N×K, B×N, P×K, P×K×N, P×N×B and P×N×K×B are highly significant. (iv) Av. yield of tuber in lb./ac.

	N ₀	N ₁	N ₂	K ₀	K ₁	K ₂	P ₀	P ₁	Mean
B ₀	3230	2518	2037	2736	2889	2160	2698	2492	2595
B ₁	1894	1769	2586	1697	2522	2030	2164	2002	2083
B ₂	2175	2169	1614	2167	1939	1852	2014	1958	1986
Mean	2433	2152	2079	2200	2450	2014	2292	2151	2221
P ₀	2561	2140	2174	2294	2690	1891			
P ₁	2305	2164	1984	2106	2210	2137			
K ₀	2246	2207	2147						
K ₁	3310	2196	1844						
K ₂	1743	2053	2246						

S.E. of difference of two

- | | | | |
|-----------------------------------|-----------------|--|-----------------|
| 1. B marginal means | = 417.0 lb./ac. | 6. N or K means at the same level of B | = 182.7 lb./ac. |
| 2. N or K marginal means | = 105.5 lb./ac. | 7. B means at the same level of N or K | = 767.0 lb./ac. |
| 3. P marginal means | = 29.9 lb./ac. | 8. P means at the same level of N or K | = 149.1 lb./ac. |
| 4. P means at the same level of B | = 51.8 lb./ac. | 9. N or K means at the same level of P | = 111.6 lb./ac. |
| 5. B means at the same level of P | = 418.6 lb./ac. | S.E. of body of N×K table | = 129.2 lb./ac. |

Crop :- Tapioca.**Ref :- M. 54(66).****Site :- Agri. Res. Stn., Palur.****Type :- 'M'.**

Object :—To study the effect of different quantities of manures on the yield of Tapioca.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Palur. (iii) 18.11.1954. (iv) (a) 3 ploughings. (b) to (c) N.A. (v) 5 tons/ac. of F.Y.M. and 560 lb./ac. of lime. (vi) Valenca. (vii) Irrigated. (viii) One weeding and 1 earthing up. (ix) N.A. (x) 24.8.1955.

2. TREATMENTS :

Five doses of manures : M_0 = Control, M_1 = 30 lb./ac. of N + 25 lb./ac. of P_2O_5 + 30 lb./ac. of K_2O , M_2 = 45 lb./ac. of N + 25 lb./ac. of P_2O_5 + 50 lb./ac. of K_2O and M_3 = 60 lb./ac. of N + 25 lb./ac. of P_2O_5 + 50 lb./ac. of K_2O .

N applied as A/S, P_2O_5 as Super and K_2O as Potash.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) and (b) 30' × 36'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tapioca yield. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 23318 lb./ac. (ii) 659 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tapioca in lb./ac.

Treatment	M_0	M_1	M_2	M_3
Av. yield	20400	22790	24260	25270

S.E./mean = 329.5 lb./ac.

Crop :- Tapioca.**Ref :- M. 58(78).****Site :- Agri. Res. Stn., Pattukkottai.****Type :- 'MV'.**

Object :—To find out the effect of different manures on different varieties of Tapioca.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Sandy loam. (b) N.A. (iii) 9.9.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 25 tubers/plot. (d) N.A. (e) 1. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) N.A. (ix) N.A. (x) 24.6.1959.

2. TREATMENTS :**Main-plot treatments :**

2 varieties : V_1 = Butter stick and V_2 = Local.

Sub-plot treatments :

4 levels of manure : M_0 = No manure, M_1 = C.M. at 5 tons/ac. + lime stone at 5 C.L./ac., M_2 = M_1 + 30 lb./ac. of N + 25 lb./ac. of P_2O_5 + 50 lb./ac. of K_2O and M_3 = 45 lb./ac. of N + 25 lb./ac. of P_2O_5 + 50 lb./ac. of K_2O .

N applied as A/S, P_2O_5 as Super and K_2O as Pot. Sul.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 12½' × 7½'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1958—1959. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 11308 lb./ac. (ii) (a) 1795 lb./ac. (b) 2547 lb./ac. (iii) Only M effect is significant. (iv) Av. yield of tuber in lb./ac.

	M ₀	M ₁	M ₂	M ₃	Mean
V ₁	8626	8540	12050	13450	10666
V ₂	10770	10890	11200	13940	11950
Mean	9698	9715	12125	13695	11308

S.E. of difference of two

1. V marginal means = 634.6 lb./ac.
2. M marginal means = 1273.5 lb./ac.
3. M means at the same level of V = 1801.0 lb./ac.
4. V means at the same level of M = 1683.6 lb./ac.

Crop :- Tapioca.

Ref :- M. 59(62).

Site :- Agri. Res. Stn., Pattukkottai.

Type :- 'MV'

Object :- To find out the effect of different manures on different varieties of Tapioca.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Sandy loam. (b) N.A. (iii) 1.7.1959. (iv) (a) 3 ploughings. (b) N.A. (c) 25 tubers/plot. (d) N.A. (e) 1. (v) and (vi) As per treatments. (vii) Irrigated. (viii) N.A. (ix) N.A. (x) 24.6.1959.

2. TREATMENTS :

Main-plot treatments :

2 varieties : V₁=Butter Stick and V₂=Local.

Sub-plot treatments :

4 levels of manure : M₀=No manure, M₁=5 tons/ac. of C.M.+5 C.L./ac. of lime stone, M₂=M₁+30 lb./ac. of N+25 lb./ac. of P₂O₅+20 lb./ac. of K₂O and M₃=30 lb./ac. of N+25 lb./ac. of P₂O₅+20 lb./ac. of K₂O.

N applied as A/S, P₂O₅ as Super and K₂O as Pot. Sul.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 15' × 12'. (v) Nil. (vi) Yes.

4. GENERAL :

Same as in expt. no. 58(78) on page 327.

5. RESULTS :

(i) 15265 lb./ac. (ii) (a) 5262 lb./ac. (b) 1977 lb./ac. (iii) Only M effect is highly significant. (iv) Av. yield of tuber in lb./ac.

	M ₀	M ₁	M ₂	M ₃	Mean
V ₁	14400	18590	18850	19300	17785
V ₂	9650	11260	14640	15430	12745
Mean	12025	14925	16745	17365	15265

S.E. of difference of two

1. V marginal means = 1860 lb./ac.
2. M marginal means = 988 lb./ac.
3. M means at the same level of V = 1398 lb./ac.
4. V means at the same level of M = 2218 lb./ac.

Crop :- Tapioca.**Ref :- M. 56(47).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'C'.**

Object :—To determine the optimum spacing for Tapioca.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 13,14.8.1956. (iv) (a) 4 ploughings. (b) N.A. (c) and (d) As per treatments. (e) 1. (v) 5 tons/ac. of F.Y.M. applied before last ploughing. (vi) Local. (vii) Irrigated. (viii) 3 weedings. (ix) 25.38". (x) 24.6.1957 to 3.7.1957.

2. TREATMENTS :**Main-plot treatments :**3 spacings with in rows : $D_1=1\frac{1}{2}'$, $D_2=2'$ and $D_3=3'$.**Sub-plot treatments :**3 spacings between rows : $S_1=2'$, $S_2=3'$ and $S_3=4'$.**3. DESIGN :**

(i) Split-plot. (ii) (a) 3 main-plots/block ; 3 sub-plots/main-plct. (b) N.A. (iii) 6. (iv) (a) N.A. (b) Sub-plot : $30' \times 12'$. (v) 1 row all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1956—N.A. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) 9129 lb./ac. (ii) (a) 3388 lb./ac. (b) 2130 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of tuber in lb./ac.

	D_1	D_2	D_3	Mean
S_1	9716	8397	9704	9272
S_2	9220	9087	11132	9813
S_3	7986	8252	8664	8301
Mean	8974	8579	9833	9129

S.E. of difference of two

1. D marginal means = 1129 lb./ac.
2. S marginal means = 710 lb./ac.
3. S means at the same level of D = 1230 lb./ac.
4. D means at the same level of S = 1511 lb./ac.

Crop :- Tapioca.**Ref :- M. 54(46).****Site :- Agri. College & Res. Instt., Coimbatore.****Type :- 'C'.**

Object :—To find out the performance of setts taken from the different portions of the stem for Tapioca.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Maize. (c) Nil. (ii) (a) Stiff clay soil. (b) Refer soil analysis, Coimbatore. (iii) 30.8.1954. (iv) (a) 4 ploughings and passing Cambridge roller once and ridging up once. (b) to (d) N.A. (e) 1. (v) 5 to 7 tons/ac. of F.Y.M. applied before last ploughing. (vi) Butter stick. (vii) Irrigated. (viii) 2 weedings. (ix) 28.34". (x) 13.7.1955.

2. TREATMENTS :

1. Setts from bottom $\frac{1}{3}$ portion of stem.
2. Setts from middle $\frac{1}{3}$ portion.
3. Setts from top $\frac{1}{3}$ portion.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 12. (iv) (a) 12'×12'. (b) 10'×10'. (v) 1' around. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1953—contd. (b) and (c) No. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) 7116 lb./ac. (ii) 3597 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2	3
Av. yield	7993	8088	5267

S.E./mean = 1068 lb./ac.

— — —

Crop :- Tapioca.

Ref :- M. 54(48).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'C'.

Object :—To find out the difference in yield by planting setts on mounds and ridges.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Maize. (c) Nil. (ii) (a) Stiff clay soil. (b) Refer soil analysis, Coimbatore. (iii) 31.8.1954. (iv) (a) 4 ploughings and passing Cambridge roller once. (b) to (d) N.A. (e) 1. (v) 5 to 7 tons/ac. of F.Y.M. applied before last ploughing. (vi) Local. (vii) Irrigated. (viii) 2 weedings. (ix) 28.34". (x) 29, 30.6.1955.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 methods of planting : M_1 = Planting on ridges and M_2 = Planting on mounds.

(2) 3 spacings between rows and between plants : $S_1 = 2' \times 3'$, $S_2 = 3' \times 2'$ and $S_3 = 4' \times 1\frac{1}{2}'$.

3. DESIGN:

(i) Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 24'×15'. (b) 18'×12'. (v) 3'×1½'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Attack of scale insects. Folidol and Endrine were sprayed. (iii) Tuber yield. (iv) (a) 1951—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) 7767 lb./ac. (ii) 1729 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of tuber in lb./ac.

	S_1	S_2	S_3	Mean
M_1	8504	8715	6773	7997
M_2	7875	6628	8'07	7537
Mean	8189	7672	7440	7767

S.E. of S marginal mean = 499.2 lb./ac.

S.E. of M marginal mean = 407.6 lb./ac.

S.E. of body of table = 705.9 lb./ac.

— — —

Crop :- Tapioca.

Ref :- M. 54(49).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'C'.

Object :—To compare the performance of Tapioca raised from setts planted erect and horizontally.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Maize. (c) Nil. (ii) (a) Stiff clay soil. (b) Refer soil analysis, Coimbatore. (iii) 26.8.1954. (iv) (a) 4 ploughings followed by passing Cambridge roller. Ridge plough was then passed to form ridges and furrows. (b) to (d) N.A. (e) 1. (v) 5 to 7 tons/ac. of F.Y.M. applied at the time of planting. (vi) Valenca. (vii) Irrigated. (viii) 2 weedings. (ix) 28.34". (x) 19.7.1955.

2. TREATMENTS :

1. Planting setts erect.
2. Planting setts horizontally.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) 10'×8'. (b) 10'×6'. (v) 2 rows. (vi) Yes.

4. GENERAL :

(i) Poor. (ii) Nil. (iii) Tuber yield. (vi) (a) 1953—contd. (b) and (c) No. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) 7322 lb./ac. (ii) 6998 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2
Av. yield	7726	7018

S.E./mean = 2020 lb./ac.

Crop :- Tapioca.

Ref :- M. 55(21).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'C'.

Object :—To find out the performance of setts taken from the different portions of the stem for Tapioca.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy soil. (b) Refer soil analysis, Coimbatore. (iii) 29.7.1955. (iv) (a) 4 ploughings. (b) N.A. (c) 8000 setts/ac. (d) 2'×1½'. (e) 1. (v) 5 tons/ac. of F.Y.M. (vi) Valenca. (vii) Irrigated. (viii) 3 weedings. (ix) 18.14". (x) 27.6.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(46) on page 329.

4. GENERAL :

(i) Poor. (ii) Nil. (iii) Tuber yield. (iv) (a) 1953—1955. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS :

(i) 5956 lb./ac. (ii) 1840.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

Treatment	1	2	3
Av. yield	5745	6688	5436

S.E./mean = 531.4 lb./ac.

Crop :- Sugarcane (Adsali).

Ref :- M. 55(76).

Site :- Central Sugarcane Res. Stn., Cuddalore.

Type :- 'M'.

Object :—To determine the optimum dose of N and time of application of the final dose to Sugarcane crop.

1. BASAL CONDITIONS :

(i) (a) Ragi—Sugarcane—Paddy—G.M. (b) Ragi. (c) 40 lb./ac. of N as A/S. (ii) (a) Sandy loam. (b) Refer soil analysis, Cuddalore. (iii) 23.8.1955. (iv) (a) 5 ploughings. (b) Planting in rows. (c) 15000 3-budded setts/ac. (d) 3.3" between rows. (e) —. (v) As per treatments. (vi) CO—527 (early). (vii) Irrigated. (viii) 3 weedings, propping once and earthing up twice. (ix) 83.2". (x) 31.12.1956.

TREATMENTS :

Main-plot treatments :

2 levels of N as mixture of A/S and G.N.C. in 2 : 1 ratio : $N_1=250$ and $N_2=350$ lb./ac.

Sub-plot treatments :

3 times of application of final dose ($\frac{1}{3}$) : $T_1=$ December 1955, $T_2=$ March 1956 and $T_3=$ June 1956.

The first and 2nd dose of manure ($\frac{1}{3}$ each of the dose in main-plots) was given after 45 and 90 days after planting respectively.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) $46.2' \times 33'$. (b) $39.6' \times 29.7'$. (v) One row on either side and 1.65' at each end. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) N.I. (iii) Yield of cane. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 61.10 tons/ac. (ii) (a) 6.27 tons/ac. (b) 8.65 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of sugarcane in tons/ac.

	T_1	T_2	T_3	Mean
N_1	56.39	59.70	62.01	59.37
N_2	59.06	70.91	58.52	62.83
Mean	57.72	65.31	60.26	61.10

S.E. of difference of two

1. N marginal means	= 2.6 tons/ac-
2. T marginal means	= 4.3 tons/ac.
3. T means at the same level of N	= 6.1 tons/ac.
4. N means at the same level of T	= 5.6 tons/ac.

Crop :- Sugarcane (*Adsali*).

Ref :- M. 56(105).

Site :- Central Sugarcane Res. Stn., Cuddalore.

Type :- 'M'.

Object :- To determine the optimum dose of N and time of application of the final dose of N to Sugarcane crop.

1. BASAL CONDITIONS :

(i) (a) *Ragi*-Sugarcane. (b) *Ragi*. (c) 40 lb./ac. of N as A/S. (ii) (a) Sandy loam. (b) Refer soil analysis, Cuddalore. (iii) 24.9.1956. (iv) (a) 5 ploughings. (b) Planting in rows. (c) 15000 three-budded setts/ac. (d) 3.3' between rows. (e) —. (v) 5000 lb./ac. of G.L. (vi) CO—527 (early). (vii) Irrigated. (viii) 3 weedings, earthing up twice and trash twist propping. (ix) 78.41%. (x) December 1957.

2. TREATMENTS :

Main-plot treatments :

2 levels of N as mixture of A/S and G.N.C. in 2 : 1 ratio : $N_1=250$ and $N_2=350$ lb./ac.

Sub-plot treatments :

3 times of application of final dose ($\frac{1}{3}$) : $T_1=$ December 1956, $T_2=$ March 1957 and $T_3=$ June 1957.

The first and 2nd doses of manure ($\frac{1}{3}$ each of the dose in main-plots) were given 45 and 90 day after planting respectively.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) $46.2' \times 31'$. (b) $39.6' \times 27.7'$. (v) One row. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield, population and sugar content. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 58.15 tons/ac. (ii) (a) 0.20 tons/ac. (b) 0.85 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of cane in tons/ac.

	T ₁	T ₂	T ₃	Mean
N ₁	59.07	59.74	61.03	59.95
N ₂	55.68	56.83	56.57	56.36
Mean	57.38	58.28	58.80	58.15

S.E. of difference of two

1. N marginal means = 0.1 tons/ac.
2. T marginal means = 0.4 tons/ac.
3. T means at the same level of N = 0.6 tons/ac.
4. N means at the same level of T = 0.5 tons/ac.

Crop :- Sugarcane.

Ref :- M. 57(108).

Site :- Central Sugarcane. Res. Stn., Cuddalore.

Type :- 'M'.

Object :—To determine the optimum dose of N and time of application of the final dose to the Adsalu crop of Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Clay loam. (b) Refer soil analysis, Cuddalore. (iii) 15.9.1957. (iv) (a) 5 ploughings. (b) Planting. (c) 15000 3-budded setts/ac. (d) 3.3' between rows. (e) —. (v) As per treatments. (vi) CO-527. (vii) Irrigated. (viii) 2 weedings and earthing up once. (ix) 39.5%. (x) 4.1.1959.

2. TREATMENTS :

Main-plot treatments :

2 levels of N as mixture of A/S and G.N.C. in 1 : 2 ratio : N₁=250 lb./ac. and N₂=350 lb./ac.

Sub-plot treatments :

3 times of application of the 3rd dose : T₁=December 1957, T₂=March 1958 and T₃=June 1958.

1st dose applied 45 days after planting and 2nd dose 90 days after planting.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 39.6'×31'. (b) 33'×24.4'. (v) 3.3' around. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of cane. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 70.27 tons/ac. (ii) (a) 6.76 tons/ac. (b) 11.73 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of Sugarcane in tons./ac.

	T ₁	T ₂	T ₃	Mean
N ₁	66.41	73.13	69.33	69.62
N ₂	68.86	73.12	70.77	70.92
Mean	67.63	73.12	70.05	70.27

S.E. of difference of two

1. N marginal means = 2.3 tons/ac.
2. T marginal means = 4.8 tons/ac.
3. T means at the same level of N = 6.8 tons/ac.
4. N means at the same level of T = 6.0 tons/ac.

Crop :- Sugarcane.**Ref :- M. 57(95).****Site :- Central Sugarcane Res. Stn., Cuddalore.****Type :- 'M'.**

Object :—To determine the optimum dose of N, P and K for Sugarcane crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sannhemp. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Cuddalore. (iii) 5.6.5.1957. (iv) (a) 5 ploughings. (b) Planted in furrows. (c) 15000 3-budded setts/ac. (d) 3.3' between furrows. (e) —. (v) 5000 lb./ac. of G.L. (vi) CO—449. (vii) Irrigated. (viii) 3 weedings and earthing up once. (ix) 35.4°. (x) Last week of February 1958.

2. TREATMENTS :

1. No manure.
 2. 150 lb./ac. of N.
 3. 250 lb./ac. of N.
 4. 250 lb./ac. of N+100 lb./ac. of P_2O_5 +125 lb./ac. of K_2O .
 5. 350 lb./ac. of N.
 6. 350 lb./ac. of N+100 lb./ac. of P_2O_5 +125 lb./ac. of K_2O .
- N as A.S and G.N.C. in 2 : 1 ratio ; P and K as Triple Super and Mur. Pot. applied as B.D.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 39.6'×33'. (b) 33'×26.4' (v) 3.3' around. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of cane. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 43.38 tons/ac. (ii) 5.03 tons/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of cane in tons/ac.

Treatment	1	2	3	4	5	6
Av. yield	17.21	45.12	46.65	48.15	52.16	50.99

S.E./mean = 2.05 tons/ac.

Crop :- Sugarcane.**Ref :- M. 58(107).****Site :- Central Sugarcane Res. Stn., Cuddalore.****Type :- 'M'.**

Object :—To study the effect of foliar application of N on the yield of Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—G.M. crop—Sugarcane. (b) G.M. crop. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Cuddalore. (iii) 28, 29.3.1958. (iv) (a) 5 ploughings. (b) Planting in rows. (c) 15000 three-budded setts/ac. (d) 3.3' between rows. (e) —. (v) 5000 lb. ac. of G.L. (vi) CO—419. (vii) Irrigated. (viii) 3 weedings and earthing up twice. (ix) 37.20°. (x) 2nd week of March 1959.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 sources of N : S_1 =A/S and S_2 =Urea.

(2) 2 methods of application : M_1 Application of full dose to soil and M_2 —Application partly to soil and partly by foliar spray.

Full dose of N is 250 lb./ac. and in M_2 150 lb. was applied to soil.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 57(95) above.

5. RESULTS :

(i) 41.50 tons/ac. (ii) 5.98 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of cane in tons/ac.

	S ₁	S ₂	Mean
M ₁	43.42	39.58	41.50
M ₂	40.92	42.08	41.50
Mean	42.17	40.83	41.50

S.E. of any marginal mean = 1.7 tons/ac.

S.E. of body of table = 2.4 tons/ac.

Crop :- Sugarcane.

Ref :- M. 59(83).

Site :- Central Sugarcane Res. Stn., Cuddalore.

Type :- 'M'.

Object :- To study the effect of foliar application of N on Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—G.M.—Sugarcane. (b) G.M. crcp. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Cuddalore. (iii) 17.3.1959. (iv) (a) 5 ploughings. (b) Planting in rows. (c) 15000 3-budded setts/ac. (d) 3.3' apart. (e) —. (v) 5000 lb./ac. of G.L. (vi) Co-785. (vii) Irrigated. (viii) 3 weedings, earthing up twice, trashing and propping. (ix) 47.08. (x) 28.6.1960.

2. TREATMENTS :

Main-plot treatments :

4 levels of N as mixture of A/S and G.N.C. in 2 : 1 ratio : N₀=0, N₁=25, N₂=50 and N₃=75 lb./ac.

Sub-plot treatments :

6 levels of N as Urea : U₀=0, U₁=10, U₂=20, U₃=30, U₄=40, and U₅=50 lb./ac.

A/S and G.N.C. applied to soil in two doses 45 and 90 days after planting. While Urea applied as foliar spray at an interval of 8 days (2% solution).

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/block ; 6 sub-plots/main-plot. (b) N.A. (iii) 2. (iv) (a) 33'×26.4'. (b) 26.4'×19.8'. (v) one row on all sides. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of cane. (iv) (a) 1959—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 35.8 tons/ac. (ii) (a) 2.107 tons/ac. (b) 7.204 tons/ac. (iii) Main effect of U is highly significant and of N is significant. Interaction U×N is not significant. (iv) Av. yield of cane in tons/ac.

	U ₀	U ₁	U ₂	U ₃	U ₄	U ₅	Mean
N ₀	19.4	18.8	19.3	37.2	35.8	63.7	32.4
N ₁	16.8	34.2	21.2	43.3	33.9	60.4	35.0
N ₂	22.8	31.5	33.3	44.9	43.0	42.9	36.4
N ₃	27.7	31.6	37.8	42.8	50.3	46.1	39.4
Mean	21.7	29.0	27.9	42.1	40.8	53.3	35.8

S.E. of difference of two

1. N marginal means = 0.86 tons/ac.

2. U marginal means = 3.60 tons/ac.

3. U means at the same level of N = 7.20 tons/ac.

4. N means at the same level of U = 6.63 tons/ac.

Crop :- Sugarcane.**Ref :- M. 58(129).****Site :- Central Sugarcane Res. Stn., Cuddalore.****Type :- 'M'.**

Object :—To find out the effect of different sources of N on Sugarcane crop.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—Fallow—Sugarcane. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Cuddalore. (iii) 20.3.1958. (iv) (a) 5 ploughings. (b) N.A. (c) 15,000 three-budded setts/ac. (d) 3.3' between rows. (e) —. (v) 5000 lb./ac. of G.L. (vi) Co-419 (late). (vii) Irrigated. (viii) Weeding and earthing up twice. (ix) 38.00°. (x) 25.2.1959 to 3.3.1959.

2. TREATMENTS :

4 sources of 250 lb./ac. of N : $S_1=A/S$, $S_2=Urea$, $S_3=A/S/N$ and $S_4=C/A/N$.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 39.6' × 33'. (b) 33' × 26.4'. (v) 3.3' around. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of cane. (iv) (a) 1958—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 49.5 tons/ac. (ii) 5.88 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of cane in tons/ac.

Treatment	S_1	S_2	S_3	S_4
Av. yield	49.2	49.1	48.6	51.0

S.E./mean = 2.4 tons/ac.

Crop :- Sugarcane.**Ref :- 57(94).****Site :- Central Sugarcane Res. Stn., Cuddalore.****Type :- 'M'.**Object :—To determine the best time and method of application of P_2O_5 to Sugarcane crop.**1. BASAL CONDITIONS :**

(i) (a) Nil. (b) Sannhemp. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Cuddalore. (iii) 18.19.5.1957. (iv) (a) 5 ploughings. (b) Planted in furrows. (c) 15000 three-budded setts/ac. (d) 3.3' between furrows. (e) —. (v) 5000 lb./ac. of G.L. + 250 lb./ac. of N as A/S and G.N.C. in 2 : 1 ratio. (vi) Co-419. (vii) Irrigated. (viii) 2 weedings and earthing up once. (ix) 35.4°. (x) 28.4.1958.

2. TREATMENTS :

All combinations of (1), (2) & (3), + a control.

(1) 2 levels of P_2O_5 : $P_1=75$ and $P_2=150$ lb./ac.

(2) 2 methods of applications : $M_1=On$ surface and $M_2=6"$ below the surface.

(3) 2 times of applications : $T_1=All$ at planting and $T_2=In$ two split doses half at planting and remaining half at earthing up

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 6. (iv) (a) 39.6' × 33'. (b) 33' × 26.4'. (v) 3.3' around. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of cane. (iv) (a) 1957—1959. (b) No. (c) Nil. (v) to (vi) Nil.

5. RESULTS :

(i) 35.15 tons/ac. (ii) 2.87 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of Sugarcane in tons/ac.

Control = 32.56 tons/ac.

	P ₁	P ₂	M ₁	M ₂	Mean
T ₁	33.85	36.70	35.75	34.80	35.28
T ₂	35.53	35.67	34.86	36.34	35.60
Mean	34.69	36.19	35.30	35.57	35.44
M ₁	34.87	35.73			
M ₂	34.50	36.64			

S.E. of any marginal mean = .59 tons/ac.

S.E. of body of any table = .83 tons/ac.

Crop :- Sugarcane.**Ref :- M. 58(111).****Site :- Central Sugarcane. Res. Stn., Cuddalore.****Type :- 'M'.**Object :- To determine the best time and method of application of P₂O₅ to Sugarcane crop.**1. BASAL CONDITIONS :**

(i) (a) Sugarcane—Groundnut—G.M. crop. (b) Sannhemp. (c) Nil. (ii) (a) Clay loam. (b) Refer soil analysis, Cuddalore. (iii) 20.4.1958. (iv) (a) 5 ploughings. (b) Planted in furrows. (c) 15000 three-budded setts/ac. (d) 3.3' between furrows. (e) —. (v) 5000 lb./ac. of G.L. + 250 lb./ac. of N as A/S and G.N.C. in 2 : 1 ratio. (vi) CO—419 (late). (vii) Irrigated. (viii) 3 weedings & earthing up once (ix) 37.20". (x) 20.3.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(94) on page 336.

5. RESULTS :

(i) 52.32 tons/ac. (ii) 9.28 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of sugarcane in tons/ac

Control = 55.64 tons/ac.

	P ₁	P ₂	M ₁	M ₂	Mean
T ₁	52.42	52.86	50.31	54.97	52.64
T ₂	48.21	54.22	52.17	50.26	51.22
Mean	50.32	53.54	51.24	52.61	51.93
M ₁	50.45	52.04			
M ₂	50.19	55.04			

S.E. of any marginal mean = 1.9 tons/ac.

S.E. of body of any table = 2.7 tons/ac.

Crop :- Sugarcane.**Ref :- M. 59(91).****Site :- Central Sugarcane. Res. Stn., Cuddalore.****Type :- 'M'.**Object :- To determine the best time and method of application of P₂O₅ to Sugarcane crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Cuddalore. (iii) 7.4.1959. (iv) (a) 5 ploughings. (b) In furrows. (c) 15000 three-budded setts/ac. (d) 3.3' a part. (e) —. (v) 5000 lb./ac. of G.L. + 250 lb./ac. of N as A/S and G.N.C. in 2 : 1 ratio. (vi) CO—419. (vii) Irrigated. (viii) 3 weedings and earthing up once. (ix) 47.65%. (x) 19.4.1960.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(94) on page 336.

4. GENERAL :

(i) Satisfactory ; lodged. (ii) Nil. (iii) Yield of sugarcane. (iv) (a) 1957—1959. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Heavy rains in September 1959. (vii) Nil.

5. RESULTS :

(i) 56.43 tons/ac. (ii) 9.93 tons/ac. (iii) Interaction P × T is significant. Other effects are not significant. (iv) Av. yield of cane in tons/ac.

Control = 55.47 tons/ac.

	P ₁	P ₂	M ₁	M ₂	Mean
T ₁	53.96	58.66	55.86	56.76	56.31
T ₂	57.86	55.70	55.57	57.99	56.78
Mean	55.91	57.18	55.71	57.38	56.54
M ₁	54.64	56.79			
M ₂	57.18	57.57			

S.E. of any marginal mean = 2.03 tons/ac.

S.E. of body of any table = 2.87 tons/ac.

Crop :- Sugarcane.

Ref :- M. 55(67).

Site :- Sugarcane Res. Stn., Gudiyattam.

Type :- 'M'.

Object :—To study the effect of different sources of N on the yield of Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Paddy—Sugarcane—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 100 lb./ac. of Super as B.D. + 150 lb./ac. of A/S as top dressing. (ii) (a) Sandy loam. (b) N.A. (iii) 19.4.1955. (iv) (a) 5 to 6 ploughings. (b) N.A. (c) 15000 three-budded setts/ac. (d) 3.3' between rows. (e) N.A. (v) As per treatments. (vi) CO—419. (vii) Irrigated. (viii) 3 weedings, *mummaty* digging twice, earthing up twice, trashing and propping once. (ix) and (x) N.A.

2. TREATMENTS :

Main-plot treatments :

4 levels of B.D. : B₀=No B.D., B₁=F Y.M. at 10 tons/ac., B₂=5000 lb./ac. of G.M. as sannhemp intersown in cane rows and B₃=Super at 100 lb./ac. of P₂O₅.

Sub-plot treatments :

5 sources of 200 lb./ac. of N : S₁=A/S, S₂=G.N.C., S₃=Castorcake, S₄=G.N.C. and A/S and S₅=Castorcake and A/S in 2 : 1 ratio of N.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/block ; 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 33' × 23.1'. (b) 33' × 16.5'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Slight attack of shoot-borer and top borer. (iii) Germination, tillering, count of early shoot and top-borers, smut and yield of cane. (iv) (a) 1955—1957. (b) Yes. (c) Nil. (v) and (vi) Nil. (vii) Raw data N.A.

5. RESULTS :

(i) 43.14 tons/ac. (ii) (a) and (b) N.A. (iii) None of the effects is significant. (iv) Av. yield of cane in tons/ac.

	S ₁	S ₂	S ₃	S ₄	S ₅	Mean
B ₀	43.15	37.49	40.64	44.20	43.52	41.80
B ₁	48.46	46.42	39.87	44.60	40.15	43.90
B ₂	40.66	41.02	40.82	39.80	39.05	40.27
B ₃	50.37	47.35	44.27	44.24	46.72	46.59
Mean	45.66	43.07	41.40	43.21	42.36	43.14

S.E.'s N.A.

Crop :- Sugarcane.

Ref :- M. 56(71).

Site :- Sugarcane Res. Stn., Gudiyattam.

Type :- 'M'.

Object :—To study the effect of different sources of N on the yield of Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Paddy—Sugarcane—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+100 lb./ac. of Super as B.D.+150 lb./ac. of A/S as top-dressing. (ii) (a) Sandy loam. (b) N.A. (iii) 15,16.3.1956. (iv) (a) 5 to 6 ploughings. (b) N.A. (c) 15000 three budded setts/ac. (d) 3.3' between rows. (e) —. (v) As per treatments. (vi) CO—419. (vii) Irrigated. (viii) 3 weedings, *mummatty* digging twice, earthing up twice, trashing and propping once. (ix) 37.05". (x) 2.3.1957 to 26.4.1957.

2. TREATMENTS :

Main-plot treatments :

4 levels of B.D. : B₀=No B.D., B₁=10 tons/ac. of F.Y.M., B₂=10 tons/ac. of F.Y.M.+5000 lb./ac. of G.L. as sannhemp grown in ridges and applied *in situ* and B₃=100 lb./ac. of P₂O₅ as Super.

Sub-plot treatments :

Same as in expt. no. 55(67) on page 338..

3. DESIGN and 4. GENERAL :

Same as in expt. no. 55(67) on page 338.

5. RESULTS :

(i) 47.07 tons/ac. (ii) (a) 5.74 tons/ac. (b) 5.03 tons/ac. (iii) Main effect of S is highly significant. Other effects are not significant. (iv) Av. yield of cane in tons/ac.

	S ₁	S ₂	S ₃	S ₄	S ₅	Mean
B ₀	49.27	49.68	43.68	48.83	50.19	48.33
B ₁	49.83	42.68	44.61	51.64	47.89	47.33
B ₂	59.97	50.44	47.95	47.91	50.60	51.37
B ₃	56.09	47.04	46.24	5.46	51.51	41.27
Mean	53.79	47.46	45.62	38.46	50.05	47.07

S.E. of difference of two

1. B marginal means = 1.81 tons/ac.
2. S marginal means = 1.78 tons/ac.
3. S means at the same level of B = 3.56 tons/ac.
4. B means at the same level of S = 3.66 tons/ac.

Crop :- Sugarcane.**Ref :- M. 57(61).****Site :- Sugarcane Res. Stn., Gudiyattam.****Type :- 'M'.**

Object :—To study the effect of different sources of N on the yield of Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Paddy—Sugarcane—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 100 lb./ac. of Super as B.D. + 150 lb./ac. of A/S as top-dressing. (ii) (a) Sandy loam. (b) N.A. (iii) 28.3.1957 to 3.4.1957. (iv) (a) 5 to 6 ploughings. (b) N.A. (c) 15000 three-budded setts/ac. (d) 3.3' between rows. (e) —. (v) As per treatments. (vi) CO—419. (vii) Irrigated. (viii) 3 weedings, *mummatty* digging twice, earthing up twice, trashing and propping once. (ix) 33.40". (x) 16.4.1958 to 1.5.1958.

2. TREATMENTS :**Main-plot treatments :**

4 levels of B.D. : B_0 = No B.D., B_1 = F.Y.M. at 10 tons/ac., B_2 = F.Y.M. at 10 tons/ac. + 5000 lb./ac. of G.M. as sannhemp intersown between rows of cane and B_4 = Super at 100 lb./ac. of P_2O_5 .

Sub-plot treatments :

Same as expt. no. 55(67) on page 338.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/block ; 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) 'a' 33' × 23.1'. (b) 33' × 16.5'. (v) One row left on either side. (vi) Yes.

4. GENERAL :

Same as in expt. no. 55(67) on page 338.

5. RESULTS :

(i) 39.03 tons/ac. (ii) (a) 15.10 tons/ac. (b) 4.59 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of cane in tons/ac.

	S ₁	S ₂	S ₃	S ₄	S ₅	Mean
B ₀	44.08	41.12	37.83	38.09	39.93	40.21
B ₁	39.32	38.28	33.54	36.07	37.83	37.01
B ₂	44.77	42.72	38.60	40.93	38.41	41.09
B ₃	36.01	37.53	37.86	37.68	40.07	37.83
Mean	41.04	36.96	36.96	38.19	39.06	39.03

S.E. of difference of two

1. B marginal means = 4.77 tons/ac.
2. S marginal means = 1.62 tons/ac.
3. S means at the same level of B = 3.24 tons/ac.
4. B means at the same level of S = 5.59 tons/ac.

Crop :- Sugarcane.**Ref :- M. 58(39).****Site :- Sugarcane Res. Stn., Gudiyattam.****Type :- 'M'.**Object :—To determine the best time and method of application of P_2O_5 to Sugarcane.**1. BASAL CONDITIONS :**

(i) (a) Paddy—Sugarcane—Paddy. (b) Paddy. (c) Nil. (ii) (a) Sandy loam. (b) N.A. (iii) 31.3.1958 and 8.4.1958. (iv) (a) 5 to 6 ploughings. (b) Planting. (c) 15000 three-budded setts/ac. (d) 3.3' between rows. (e) —. (v) B.D. of 10 tons/ac. of F.Y.M. (vi) CO—419. (vii) Irrigated. (viii) 3 weedings, *mummatty* digging twice, earthing up twice and trashing once. (ix) 36.65". (x) 2 to 22.4.1959.

2. TREATMENTS :

All combinations of (1), (2) and (3) + a control

(1) 2 levels of P_2O_5 : P_1 = 75 lb./ac. and P_2 = 150 lb./ac.

(2) 2 times of application : $T_1 = \frac{1}{2}$ at planting and $\frac{1}{2}$ at earthing up and $T_2 =$ Full dose at planting.

(3) 2 methods of application : $M_1 =$ Normal method and $M_2 =$ By placement 6" below the soil.

P_2O_5 applied as Super and N at 200 lb./ac. as mixture of G.N.C. and A/S in 2 : 1 ratio of N.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) $39.6' \times 39.6'$. (b) $33' \times 33'$. (v) One row kept on either side. (vi) Yes.

4. GENERAL :

(i) Slightly affected by draught conditions. (ii) Nil. (iii) Yield of sugarcane. (iv) (a) 1958—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(a) 48.27 tons/ac. (ii) 7.45 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of cane in tons/ac.

Control = 52.30 tons/ac.

	M_1	M_2	P_1	P_2	Mean
T_1	49.11	47.73	45.46	51.38	48.4
T_2	45.38	48.88	48.98	45.27	47.3
Mean	47.24	48.31	47.22	48.32	47.77
P_1	49.34	45.10			
P_2	45.14	51.51			

S.E. of any marginal mean = 1.86 tons/ac.

S.E. of body of any table = 2.63 tons/ac.

Crop :- Sugarcane.

Ref :- M. 59(32).

Site :- Sugarcane Res. Stn., Gudiyattam.

Type :- 'M'.

Object :—To determine the best time and method of application of P_2O_5 to Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Paddy—Sugarcane—Paddy. (b) Paddy. (c) Nil. (ii) (a) Sandy Loam. (b) N.A. (iii) 18 and 20.3.1959. (iv) (a) 5 to 6 ploughings (b) Planting. (c) 15000 three-budded setts/ac. (d) 3.3' between cane rows. (e) N.A. (v) B.D. of 10 tons/ac. of F.Y.M. (vi) CO-419. (vii) Irrigated. (viii) 3 weedings. *mummatty* digging twice, earthing up twice, thrashing once and propping once. (ix) 23.71". 5 to 9.3.1960.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 58(39) on page 340.

4. GENERAL :

(i) The crop was stunted due to water scarcity. (ii) Early shoot borer and top borer on mild scale ; spraying with DDT was taken up. The smut wilt was removed. (iii) Cane yield. (iv) (a) 1958—1960. (b) No. (c) Nil. (v) (a) Cuddalore. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 45.6 tons/ac. (ii) 29.08 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of cane in tons/ac.

Control = 50.0 tons/ac.

	M ₁	M ₃	Mean	P ₁	P ₂
T ₁	42.8	42.7	42.7	43.8	41.8
T ₂	49.3	45.2	47.3	47.1	47.3
Mean	46.1	43.9	45.0	45.5	44.5
P ₁	48.0	42.9			
P ₂	44.1	45.0			

S.E. of any marginal mean = 7.27 tons/ac.
 S.E. of body of any table = 10.28 tons/ac.

Crop :- Sugarcane.**Ref :- M. 58(108).****Site :- Central Sugarcane Res. Stn., Cuddalore.****Type :- 'MV'.**

Object :- To study the response of Sugarcane to N with and without basal application of P₂O₅ and K₂O.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—G.M.—Sugarcane. (b) G.M. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Cuddalore. (iii) 1st week of April 1958. (iv) (a) 5 ploughings. (b) Planting in furrows. (c) 15030 three-budded setts/ac. (d) 3.3' between rows. (e) N.A. (v) 5000 lb./ac. of G.L. (vi) As per treatments. (vii) Irrigated. (3) Weeding and earthing up once. (ix) 37.20°. (x) Last week of Feb. 1959 and 1st week of March 1959.

2. TREATMENTS :**Main-plot treatments :**

2 varieties : V₁=CO—419 and V₂=CO—449.

Sub-plot treatments :

6 doses of manures : D₀=No nitrogen, D₁=150 lb./ac. of N, D₂=250 lb./ac. of N, D₃=250 lb./ac. of N+100 lb./ac. of P₂O₅+125 lb./ac. of K₂O, D₄=350 lb./ac. of N and D₅=350 lb./ac. of N+100 lb./ac. of P₂O₅+125 lb./ac. of K₂O.

N as A/S and G.N.C. in 2 : 1 ratio in two equal doses applied 45 and 90 days after planting.

K₂O as Mur. Pot. and P₂O₅ as Super applied at planting as B.D.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 33'×26.4' (b) 29.7'×19.8'. (v) 3.3'×1.6'. (v) Yes.

4. GENERAL :

(i) Satisfactory. (b) N.A. (iii) Yield of cane. (iv) (a) to (c) N.A. (v) to (vii) Nil.

5. RESULTS :

(i) 46.80 tons/ac. (ii) (a) 5.47 tons/ac. (b) 2.92 tons/ac. (iii) Effect of M alone is significant. (iv) Av. yield of sugarcane in tons/ac.

	M ₀	M ₁	M ₂	M ₃	M ₄	M ₅	Mean
V ₁	21.50	51.20	52.90	53.70	54.00	55.00	48.05
V ₂	24.90	46.10	50.20	50.70	50.60	50.80	45.55
Mean	23.20	48.65	51.55	52.20	52.30	52.90	46.80

S.E. of difference of two

1. V marginal means = 1.58 tons/ac.
 2. M marginal means = 1.46 tons/ac.
 3. M means at the same level of V = 2.06 tons/ac.
 4. V means at the same level of M = 2.46 tons/ac.

Crop :- Sugarcane.**Ref :- M. 59(80).****Site :- Central Sugarcane Res. Stn., Cuddalore.****Type :- 'MV'.**

Object :- To study the effect of N, P and K on the yield of Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—G.M.—Sugarcane. (b) G.M. crop. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Cuddalore. (iii) 25.3.1959 to 3.4.1959. (iv) (a) 5 ploughings. (b) Planting in furrows. (c) 15000 three-budded setts/ac. (d) 3.3' between rows. (e) —. (v) 5000 lb./ac. of G.L. (vi) As per treatments. (vii) Irrigated. (viii) 3 weedings ; earthing up twice. (ix) 47.35%. (x) March, 1960.

2. TREATMENTS :**Main-plot treatments :**2 varieties : $V_1=CO-419$ and $V_2=CO-449$.**Sub-plot treatments :**

9 manurial doses : $M_0=$ No nitrogen, $M_1=50$ lb./ac. of N, $M_2=100$ lb./ac. of N, $M_3=150$ lb./ac. of N, $M_4=150$ lb./ac. of N+100 lb./ac. of P_2O_5 +125 lb./ac. of K_2O , $M_5=250$ lb./ac. of N, $M_6=250$ lb./ac. of N+100 lb./ac. of P_2O_5 +125 lb./ac. of K_2O , $M_7=350$ lb./ac. of N and $M_8=350$ lb./ac. of N+100 lb./ac. of P_2O_5 +125 lb./ac. of K_2O .

N as A/S and G.N.C. applied in two doses 45 and 100 days after planting. P_2O_5 as Super and K_2O as Mur. of Pot. applied at planting.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 9 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 39.6'×33'. (b) 33'×29.7'. (v) 3.3'×1.6'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Cane yield. (iv) (a) 1957—1961. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 34.4 tons/ac. (ii) (a) 4.88 tons/ac. (b) 3.77 tons/ac. (iii) Main effects of V and M are significant. Interaction $V \times D$ is not significant. (iv) Av. yield of sugarcane in tons/ac.

	M_0	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8	Mean
V_1	20.8	30.3	39.2	44.8	47.3	46.2	48.9	48.6	49.8	41.8
V_2	17.6	21.2	26.8	28.0	30.8	31.6	29.6	30.4	27.6	27.1
Mean	19.2	25.8	33.0	36.4	39.1	38.9	39.3	39.5	38.7	34.4

S.E. of difference of two

1. V marginal means = 0.9 tons/ac.
2. M marginal means = 1.5 tons/ac.
3. M means at the same level of V = 2.2 tons/ac.
4. V means at the same level of M = 2.3 tons/ac.

Crop :- Sugarcane.**Ref :- M. 59(87).****Site :- Central Sugarcane Res. Stn., Cuddalore.****Type :- 'MV'.**

Object :- To find out the optimum dose of N required for adsali planting under different varieties.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—G.M.—Sugarcane. (b) Sannhemp. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Cuddalore. (iii) 27.8.1959. (iv) (a) 5 ploughing. (b) Planted in furrows. (c) 15000 three-budded setts/ac. (d) 3.3' apart. (e) —. (v) 5000 lb./ac. of G.M. (vi) As per treatments. (vii) Irrigated. (viii) 3 weedings, earthing up twice, trashing and propping. (ix) 102.31%. (x) 16 to 20.12.1960.

2. TREATMENTS :**Main-plot treatments :**3 varieties : $V_1=CO-527$, $V_2=CO-658$ and $V_3=CC-785$.

Sub-plot treatments :

5 levels of N : $M_1=200$, $M_2=250$, $M_3=300$, $M_4=350$ and $M_5=400$ lb./ac.

N as A/S and G.N.C. in 2 : 1 ratio applied in 2 equal doses 45 and 100 days after planting.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) $33' \times 26.4'$. (b) $29.7' \times 19.8'$. (v) $3.3' \times 1.6'$ left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Cane yield. (iv) (a) 1959—1961. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 45.56 tons/ac. (ii) (a) 7.73 tons/ac. (b) 7.33 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of sugarcane in tons/ac.

	M_1	M_2	M_3	M_4	M_5	Mean
V_1	48.17	47.26	39.68	46.24	44.76	45.22
V_2	50.19	48.75	45.69	51.29	47.57	48.70
V_3	43.79	41.10	43.83	44.32	40.75	42.76
Mean	47.38	45.70	43.07	47.28	44.36	45.56

S.E. of difference of two

1. V marginal means = 2.4 tons/ac.
2. M marginal means = 3.0 tons/ac.
3. M means at the same level of V = 5.2 tons/ac.
4. V means at the same level of M = 5.2 tons/ac.

Crop :- Sugarcane.

Ref :- M. 58(128).

Site :- Central Sugarcane Res. Stn., Cuddalore.

Type :- 'C'.

Object :—To study the effect of trashing and propping on the yield of Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—Groundnut or *Ragi*—G.M. (b) Sannhemp. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Cuddalore. (iii) 17th to 20th March, 1958. (iv) (a) 5 ploughings. (b) Planting. (c) 15000 three budded setts/ac. (d) 3.3' between rows. (e) N.A. (v) N at 250 lb./ac. as A/S and G.N.C. in 2 : 1 ratio. (vi) CO—449. (vii) Irrigated. (viii) Weeding and earthing up twice. (ix) 38.0°. (x) 5th to 10th Feb., 1959.

2. TREATMENTS :

1. No trashing and no propping.
2. Trashing and no propping.
3. Trashing and propping by trash twists.
4. Trashing and propping by bamboos.

In treatments 2 to 4 trashing was done twice; propping was done in the 8th month of planting.

3. DESIGN :

i, R.B.D. (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) Cane yield. (iv) (a) 1958—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 42.45 tons/ac. (ii) 3.10 tons/ac. (iii) Treatment differences are significant. (iv) Av. yield of cane in tons/ac.

Treatment	1	2	3	4
Av. yield	47.6	42.8	38.9	40.5

S.E./mean = 1.55 tons/ac.

Crop :- Sugarcane.

Ref. :- M. 59(85).

Site :- Central Sugarcane Res. Stn., Cuddalore.

Type :- 'C'.

Object :—To study the effect of trashing and propping on the yield of Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—Groundnut or *Ragi*—G.M. (b) G.M. (Sannhemp). (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Cuddalore. (iii) 14.2.1959. (iv) (a) 5 ploughings. (b) N.A. (c) 15 000 three budded setts/ac. (d) 3.3' between rows. (e) N.A. (v) 10 tons/ac. of compost+250 lb./ac. of N in 2 equal doses, applied 45 and 90 days after planting. N as A/S and G.N.C. in 2 : 1 ratio was given. (vi) CO—449. (vii) Irrigated. (viii) Earthing up once and 3 weedings. (ix) 47.35%. (x) 22.1.1960.

2. TREATMENTS :

1. No trashing and no propping.
2. Trashing but no propping.
3. Trashing and propping by trash twist method.
4. Trashing and propping with bamboos.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 52.8'×33'. (b) 39.6'×33'. (v) 2 rows on either side of the plot. (vi) Yes.

4. GENERAL :

(i) Lodged. (ii) Early shoot-borer attack was noticed ; spraying Endrine. (iii) Cane yield. (iv) (a) 1958—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 49.87 tons/ac. (ii) 4.57 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of cane in tons/ac.

Treatment	1	2	3	4
Av. yield	51.73	49.68	50.21	47.86

S.E./mean = 1.87 tons/ac.

Crop :- Sugarcane.

Ref :- M. 59(84).

Site :- Central Sugarcane Res. Stn., Cuddalore.

Type :- 'CV'.

Object :—To test the efficacy of Hawaiian cultural practice on the yield of Sugarcane as compared to the local practices.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—Fallow. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Cuddalore. (iii) 17.9.1959. (iv) (a) As per treatments. (b) Planting in furrows. (c) N.A. (d) As per treatments. (e) N.A. (v) 5000 lb./ac. of G.L.+250 lb./ac. of N as G.N.C. and A/S in 1 : 2 ratio in 3 doses : 90, 90 and 70 lb. applied 45, 90 and 150 days after planting respectively. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 93.57%. (x) 11.12.1960.

2. TREATMENTS :

Main-plot treatments :

3 varieties : $V_1=CO-527$, $V_2=CO-658$ and $V_3=CO-785$.

Sub-plot treatments :

2 methods of planting : M_1 =Local method—planting in furrows of 4"×6" depth with 3.3' spacing between rows ; partial earthing up and high banking after final manuring. Trashing and trash twist propping, M_2 =Hawaiian method—planting in 18" deep furrows and spacing 4' apart. The crop will be allowed to lodge after May to rest on slopes of the ridges.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 39.6'×33'. (b) For M_1 : 33'×26.4' ; for M_2 : 31.6'×26.4'. (v) One row on either side of plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Cane yield. (iv) (a) 1959—1961. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 51.9 tons/ac. (ii) (a) 6.75 tons/ac. (b) 12.92 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of cane in tons/ac.

	V_1	V_2	V_3	Mean
M_1	50.3	53.7	44.1	49.4
M_2	52.1	60.3	50.9	54.4
Mean	51.2	57.0	47.5	51.9

S.E. difference of any two

1. V marginal means = 3.37 tons/ac.
2. M marginal means = 5.27 tons/ac.
3. M means at the same level of V = 9.14 tons/ac.
4. V means at the same level of M = 7.29 tons/ac.

Crop :- Sugarcane.

Ref :- M. 54(55).

Site :- Sugarcane Res. Stn., Gudiyattam.

Type :- 'CV'.

Object :—To find out the suitability of Rayungan as seed material in comparison with three budded setts.

1. BASAL CONDITIONS :

(i) (a) G.M.—Paddy—Sugarcane. (b) Paddy. (c) 5000 lb./ac. of G.M.+30 lb./ac. of P_2O_5 as Super+30 lb./ac. of N as A/S. (ii) (a) Sandy. (b) N.A. (iii) 4, 5.3. 1954. (iv) (a) 5 ploughings. (b) N.A. (c) 15000 three budded setts/ac. (d) 2'×2.5'. (e) N.A. (v) 10 tons/ac. of F.Y.M.+200 lb./ac. of N as A S as top dressing by placement method. (vi) As per treatments. (vii) Irrigated. (viii) 3 weedings. (ix) 40.30". (x) 12th to 28th April, 1955.

2. TREATMENTS :

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

- (1) 2 types of seed material : R_1 =Three-budded setts and R_2 =Rayungan.
- (2) 3 spacings within furrows : S_1 =6", S_2 =12" and S_3 =18".
- (3) 2 varieties : V_1 =CO—419 (late) and V_2 =CO—449 (medium).

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) 1/444.44 ac. (b) 1/714.29 ac. (v) 3.3'×1.6'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Attack of smuts—removal and burning of infested clumps. (iii) No. of canes, girth, length and yield. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 66.2 tons/ac. (ii) 13.4 tons/ac. (iii) None of the effects is significant. (iv) Av. yie'd of cane in tons/ac.

	S ₁	S ₂	S ₃	R ₁	R ₂	Mean
V ₁	65.8	73.6	70.6	71.7	68.3	70.0
V ₂	56.6	68.4	62.2	65.1	59.7	62.4
Mean	61.2	71.0	66.4	68.4	64.0	66.2
R ₁	59.8	74.7	70.7			
R ₂	62.6	67.3	62.1			

S.E. of V or R marginal mean	= 2.73 tons/ac.
S.E. of S marginal mean	= 3.35 tons/ac.
S.E. of body of V×R table	= 3.87 tons/ac.
S.E. of body of V×S or R×S table	= 4.74 tons/ac.

Crop :- Sugarcane.

Ref :- M. 55(66).

Site :- Sugarcane Res. Stn., Gudiyattam.

Type :- 'CV'.

Object :—To study the suitability of Rayungan as seed material as compared to setts in different spacings.

1. BASAL CONDITIONS :

- (i) (a) G.M.—Paddy—Sugarcane. (b) Paddy. (c) Nil. (ii) (a) Sandy loam. (b) N.A. (iii) 29.3.1955. (iv) (a) 5 to 6 ploughings. (b) N.A. (c) 15000 three-budded setts/ac. (d) and (e) As per treatments. (v) 10 tons of F.Y.M. as B.D.+200 lb./ac. of N as A/S and castorcake in 1 : 2 ratio applied in two equal doses first 45 days after planting and second at earthing up. (vi) As per treatments. (vii) Irrigated. (viii) 3 weedings ; 2 mummatty diggings, final earthing up once, partial earthing up once and trashing once. (ix) 28.20%. (x) 7.1.1956.

2. TREATMENTS :

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

- (1) 2 types of seed material : R₁=Setts and R₂=Rayungan.
 (2) 3 spacings within furrows : S₁=6", S₂=12" and S₃=18".
 (3) 2 varieties : V₁=CO-419 and V₂=CO-449.

3. DESIGN :

- (i) Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) 33'×23.1'. (b) 33'×17.5'. (v) One row left on either side. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Slight attack of shoot-borer, top-borer, smut and mosaic. (iii) Germination count and cane yield. (iv) (a) 1952-1956 (not conducted in 1953-1954). (b) N.A. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

- (i) 37.34 tons/ac. (ii) 10.45 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of cane in tons/ac.

	S ₁	S ₂	S ₃	R ₁	R ₂	Mean
V ₁	40.02	32.23	35.54	39.43	32.43	35.93
V ₂	42.01	38.35	35.89	42.21	35.28	38.75
Mean	41.91	35.29	35.72	40.82	33.86	37.34
R ₁	42.53	40.33	39.60			
R ₂	39.49	30.24	31.84			

S.E. of V or R marginal mean	= 2.1 tons/ac.
S.E. of S marginal mean	= 2.6 tons/ac.
S.E. of body of V×R table	= 3.0 tons/ac.
S.E. of body of V×S or R×S table	= 3.7 tons/ac.

Crop :- Sugarcane.

Ref :- M. 56(72).

Site :- Sugarcane Res. Stn., Gudiyathams.

Type :- 'CV'.

Object :—To find out the suitability of Rayungan as seed material as compared to setts in different spacings

1. BASAL CONDITIONS :

(i) (a) G.M.—Paddy—Sugarcane. (b) Paddy. (c) Nil. (ii) (a) Sandy loam. (b) N.A. (iii) 19.2.1956. (iv) (a) 5 to 6 ploughings. (b) In furrows. (c) 15000 three-budded setts/ac. (d) As per treatments. (e) N.A. (v) 10 tons/ac. of F.Y.M. as B.D.+200 lb./ac. of N as A/S and castorcake in 1 : 2 applied in two equal doses, 45 days after planting and at earthing up. (vi) As per treatments. (vii) Irrigated. (viii) 3 weedings, 2 *mummtaty* diggings, 2 earthings and 1 trashing. (ix) 35.81%. (x) 28.1.1957 to 15.2.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55 (66) on page 347.

5. RESULTS :

(i) 46.29 tons/ac. (ii) 4.55 tons/ac. (iii) V, R and V×S effects are significant. Other effects are not significant. (iv) Av. yield of cane in tons/ac.

	S ₁	S ₂	S ₃	R ₁	R ₂	Mean
V ₁	47.19	51.48	46.37	46.96	49.73	48.34
V ₂	47.35	41.51	43.85	42.54	45.93	44.24
Mean	47.27	46.49	45.11	44.75	47.83	46.29
R ₁	44.10	47.02	43.14			
R ₂	50.44	45.97	47.08			

S.E. of V or R marginal mean	= 0.9 tons/ac.
S.E. of S marginal mean	= 1.1 tons/ac.
S.E. of body of V×R table	= 1.3 tons/ac.
S.E. of body of R×S or V×S table	= 1.6 tons/ac.

Crop :- Sugarcane.

Ref. :- M. 57(109).

Site :- Central Sugarcane Res. Stn., Cuddalore.

Type :- 'IM'.

Object :—To study the effect of irrigations combined with different forms of manure on the yield of Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—Groundnut or *Ragi*—G.M. (b) Sannhemp. (c) Nil. (ii) (a) Clay loam. (b) Refer soil analysis, Cuddalore. (iii) 15, 16, 17.4 1957. (iv) (a) 5 ploughings. (b) —. (c) 15,000 3-budded setts/ac. (d) 3.3' between rows. (e) N.A. (v) As per treatments. (vi) Co—419 (late). (vii) As per treatments. (viii) 3 weedings and earthing up twice. (ix) 35.4%. (x) 11.3.1958.

2. TREATMENTS :

Main-plot treatments :

2 irrigations : I₁—Normal irrigation up to 5th week and thereafter once in 6 days up to harvest and I₂—Restricted irrigation *i.e.* normal irrigation upto 5th week and thereafter once in 12 days upto end of Dec., once in 18 days in Jan.—Feb. and no irrigation thereafter.

Sub-plot treatments :

All combinations of (1) and (2)

(1) 2 levels of N : $N_1=150$ and $N_2=250$ lb./ac.(2) 4 sources of N : $S_1=A/S$, $S_2=G.N.C.$, $S_3=Sannhemp$ at 5000 lb./ac. A/S and $S_4=100$ lb. of P_2O_5+A/S .**3. DESIGN :**

(i) Split-plot. (ii) (a) 2 main-plots/block ; 8 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 39.6'×30.8'. (b) 33'×24.4'. (v) 3.3' around. (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) 47.80 tons/ac. (ii) (a) 7.32 tons/ac. (b) 4.38 lb./ac. (iii) Main effects of N and S are significant. Other effects are not significant. (iv) Av. yield of cane in tons/ac.

	S_1	S_2	S_3	S_4	Mean	N_1	N_2
I_1	49.35	49.68	48.28	50.02	49.33	47.38	51.28
I_2	50.05	43.82	43.12	48.08	46.27	45.71	46.83
Mean	49.70	46.75	45.70	49.05	47.80	46.54	49.06
N_1	48.43	44.93	45.26	47.55			
N_2	50.98	48.56	46.15	50.54			

S.E. of difference of two

- | | | | |
|-----------------------------------|-----------------|-----------------------------------|-----------------|
| 1. I marginal means | = 1.58 tons/ac. | 5. I means at the same level of S | = 2.63 tons/ac. |
| 2. N marginal means | = 1.10 tons/ac. | 6. N means at the same level of I | = 1.55 tons/ac. |
| 3. S marginal means | = 1.55 tons/ac. | 7. I means at the same level of N | = 2.13 tons/ac. |
| 4. S means at the same level of I | = 2.20 tons/ac. | S.E. of body of N×S table | = 2.19 tons/ac. |

Crop :- Sugarcane.**Ref. :- M. 59(86).****Site :- Central Sugarcane Res. Stn., Cuddalore.****Type :- 'IM'.**

Object.—To compare the effect of trash mulch with the local practice of irrigation during summer.

1. BASAL CONDITIONS :(i) (a) Sugarcane—*Ragi*—G.M. (b) Sannhemp. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Cuddalore. (iii) 23.3.1959. (iv) (a) 5 ploughings. (b) Planted in furrows at 6" to 8" depth. (c) 15000 3-budded setts/ac. (d) 3.3' apart. (e) N.A. (v) 5000 lb./ac of G.L.+250 lb./ac. of N as A/S and G.N.C. in 2 : 1 ratio in 2 equal doses applied after 45th and 100th day. (vi) CO—785 (early). (vii) Irrigated. (viii) Weeding, digging, earthing up, trashing and propping. (ix) 47.08". (x) 17.3.1960.**2. TREATMENTS :**

All combinations of (1) and (2) + a control

(1) 2 methods of irrigations : I_1 =Trash mulching and irrigation given once in 5 days and I_2 =Trash mulching and irrigation once in 10 days till break of monsoon.(2) 2 levels of N as A/S : $N_0=0$ and $N_1=30$ lb./ac. of N at the time of incorporation of trash in site. Trash was applied at the rate of 4 tons/ac.**3. DESIGN :**

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 33'×26.4'. (b) 33'×19.8'. (v) One row on either side. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Spraying was done with Endrine against early shoot-borer attack. (iii) Cane yield. (iv) (a) 1959—1962. (b) No (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 43.18 tons/ac. (ii) 2.92 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of cane in tons/ac.

	N ₀	N ₁	Mean
I ₁	43.4	45.5	44.5
I ₂	43.9	41.9	42.6
Mean	43.6	43.7	43.7

S.E. of N or I marginal mean = 1.0 tons/ac.

S.E. of body of table = 1.5 tons/ac.

Crop :- Sugarcane.

Ref :- M. 57(113).

Site :- Central Sugarcane Res. Stn., Cuddalore.

Type :- 'D'.

Object :—To test the efficacy of different insecticides in controlling the early shoot-borer of Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—G.M.—Paddy. (b) Paddy. (c) 100 lb./ac. of N as A/S+G.L. at 5 tons/ac. (ii) (a) Sandy loam. (b) Refer soil analysis. Cuddalore. (iii) 20.4.1957. (iv) (a) 5 ploughings. (b) Planting in furrows. (c) 15000 three-budded setts/ac. (d) 3.3' between rows. (e) N.A. (v) Compost at 5000 lb./ac. (vi) CO—449. (vii) Irrigated. (viii) Weeding and earthing up once. (ix) 47.16". (x) 22, 24.2.1958.

2. TREATMENTS :

8 insecticides : C₀=Control, C₁=DDT 0.25%, C₂=BHC 0.5%, C₃=Endrine 0.1%, C₄=Folidol 0.05%, C₅=Aldrin 0.1%, C₆=Dieldrin 0.1% and C₇=Ryania 0.5%.

3 sprayings were given at an interval of 15 days from the early sign of appearance of the pest.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) 33'×264'. (iii) 6. (iv) (a) and (b) 1/40 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Incidence of early shoot borer noticed. (iii) Cane yield. (iv) (a) 1957—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 29.3 tons/ac. (ii) 8.33 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of cane in tons/ac.

Treatment	C ₀	C ₁	C ₂	C ₃	C ₄	C ₅	C ₆	C ₇
Av. yield	22.5	25.2	29.9	29.5	32.4	31.7	30.4	32.8

S.E./mean = 3.4 tons/ac.

Crop :- Sugarcane.

Ref :- M. 58(133).

Site :- Central Sugarcane Res. Stn., Cuddalore.

Type :- 'D'.

Object :—To test the efficacy of different insecticides in controlling the early borer of Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—G.M.—Paddy (b) Paddy. (c) 100 lb./ac. of N as A/S+G.L. at 5 tons/ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Cuddalore. (iii) 2.3.1958. (iv) (a) 5 ploughings. (b) Planting in furrows. (c) 15000 three-budded setts/ac. (d) 3.3' between rows. (e) N.A. (v) 5000 lb./ac. of G.L. (vi) CO—449. (vii) Irrigated. (viii) Weeding, earthing up, trashing and propping. (ix) 36.55". (x) Feb. 1959.

2. TREATMENTS :

9 insecticides : C₀=Control (No treatment), C₁=DDT 0.25%, C₂=BHC 0.5%, C₃=Endrine 0.1%, C₄=Folidol 0.05%, C₅=Aldrin 0.1%, C₆=Dieldrin 0.1%, C₇=Ryania 0.5% and C₈=Mechanical control.

3 sprayings given at 15 days intervals commencing from the early signs of appearance of the pest regulating the quantity of spray material used at 40 to 60 gallons/ac. according to the age of the crop.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) 99'×99'. (iii) 4. (iv) (a) and (b) 1/40 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Early shoot borer incidence noticed and control measures—As per treatments. (iii) Cane yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 50.2 tons/ac. (ii) 7.0 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of cane in tons/ac.

Treatment	C ₀	C ₁	C ₂	C ₃	C ₄	C ₅	C ₆	C ₇	C ₈
Av. yield	49.6	48.7	49.7	50.1	46.6	54.1	55.7	45.1	52.1

S.E./mean = 3.5 tons/ac.

Crop :- Sugarcane.

Ref :- M. 59(103).

Site :- Central Sugarcane Res. Stn., Cuddalore.

Type :- 'D'.

Object :—To study the efficacy of different insecticides against the early shoot borer.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—G.M.—Paddy. (b) Paddy. (c) 100 lb./ac. of N as A/S+G.L. 5 tons/ac. (ii) (a) Clayey loam. (b) Refer soil analysis, Cuddalore. (iii) 30.3.1959. (iv) (a) 5 ploughings. (b) N.A. (c) 15000 3-budded setts/ac. (d) 3.3' between rows. (e) N.A. (v) 5000 lb. of compost. (vi) CO-449. (vii) Irrigated. (viii) Weeding and earthing by once. (ix) 45.23". (x) 25.2.1960 to 3.3.1960.

2. TREATMENTS :

10 insecticides : C₀=Control (no treatment), C₁=DDT 0.25%, C₂=BHC 0.05%, C₃=Endrine 0.1%, C₄=Gamma BHC, C₅=Ryania 0.5%, C₆=Folidol 0.5%, C₇=Aldrin 0.1%, C₈=Dieldrin 0.1% and C₉=Mechanical control.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) 92.4'×165' (iii) 4. (iv) (a) 46.2'×33'. (b) 39.6'×26.4' (v) 3.3' around (vi) Yes.

4. GENERAL :

(i) Good. (ii) Early shoot borer attack noticed. (iii) Cane yield. (iv) (a) 1957—1959. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 45.19 tons/ac. (ii) 5.2 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of cane in tons/ac.

Treatment	C ₀	C ₁	C ₂	C ₃	C ₄	C ₅	C ₆	C ₇	C ₈	C ₉
Av. yield.	40.2	43.2	44.2	45.0	41.6	50.1	51.2	42.1	50.2	44.1

S.E./mean = 2.6 tons/ac.

Crop :- Sugarcane.

Ref :- M. 59(82).

Site :- Central Sugarcane Res. Stn., Cuddalore.

Type :- 'D'.

Object :—To study the efficacy of Chemicals for controlling weeds in Sugarcane fields.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Casarina. (c) Nil. (ii) (a) Clayey loam. (b) Refer soil analysis, Cuddalore. (iii) 6.3.1959. (iv) (a) 5 ploughings. (b) Planting. (c) 15000 three-budded setts/ac. (d) 3.3' between rows. (e) N.A. (v) 250 lb./ac. of N as A/S and G.N.C. in 2 : 1 ratio in 2 doses 45 and 100 days after planting. (vi) CO-419 (late). (vii) Irrigated. (viii) As per treatments. (ix) 47.08". (x) 3.3.1960.

2. TREATMENTS :

1. Fernoxone (2-4—D Sodium salt) at 3 lb./ac. in 100 gallons of water sprayed on the 5th day of planting.
2. Fernoxone (2-4—D Sodium salt) at 3 lb./ac. in 100 gallons of water sprayed on the 5th and 25th day of planting.
3. M.C.P.A. at 10 lb./ac. in 100 gallons of water sprayed on 25 days after planting.
4. Sandoz Extra—A at 4 lb./ac. in 100 gallons of water sprayed on 25 days after planting.
5. Trash blanket—after 1 digging and 5 line weeding—Sugarcane trash spread 2" thick in between cane rows on ridges 45 days after planting.
6. 2 hoeings and 2 diggings as per local practice.

3. DESIGN :

(i) R.B.D. (ii) (a) 6 (b) N.A. (iii) 6. (iv) (a) 33'×33'. (b) 26.4'×33'. (v) One row on either side of the plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Cane yield. (iv) (a) 1959—1962. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 43.28 tons/ac. (ii) 3.22 to 15/ac. (iii) Treatment differences are not significant. (iv) Av. yield of cane in tons/ac.

Treatment	1	2	3	4	5	6
Av. yield.	42.50	44.55	44.48	42.82	44.25	41.02

S.E./mean = 1.3 tons/ac.

Crop :- Cotton.

Site :- Agri. Res. Stn., Aduthurai.

Ref :- M. 55(86).

Type :- 'M'.

Object :- To find out the optimum dose and time of application of A/S to Cotton raised rice fallows.

1. BASAL CONDITIONS :

(i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Loamy. (b) Refer soil analysis, Aduthurai. (iii) 14 2.1955. (iv) (a) 3 ploughings. (b) to (e) N.A. (v) Nil. (vi) P-216 F (early). (vii) Irrigated. (viii) Weeding twice. (ix) 5.8". (x) 4.6.1955 to 20.7.1955.

2. TREATMENTS :

1. No manure.
2. 30 lb./ac. of N applied during 4th and 8th weeks after planting.
3. 45 lb./ac. of N applied during 4th and 8th weeks after planting.
4. 30 lb./ac. of N applied during 6th and 10th weeks after planting.
5. 45 lb./ac. of N applied during 6th and 10th weeks after planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 0.73 cent. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Attack of jassids, aphids and boll-worms noticed. (iii) Yield of cotton. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) Coimbatore, Palur. (vi) Nil. (vii) Expt. was conducted by Cotton Specialist, Coimbatore.

5. RESULTS :

(i) 534 lb./ac. (ii) 71.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of kapas in lb./ac.

Treatment	1	2	3	4	5
Av. yield	472	523	561	595	517

S.E./mean = 29.3 lb./ac.

Crop :- Cotton.

Ref :- M. 56(118).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'M'.

Object :- To find out the optimum dose and time of application of A/S to Cotton raised in rice fallows.

1. BASAL CONDITIONS :

(i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Loamy. (b) Refer soil analysis, Aduthurai. (iii) 12.2.1956. (iv) (a) 3 ploughings. (b) to (e) N.A. (v) Nil. (vi) P—216 F (early). (vii) Irrigated. (viii) Weeding twice. (ix) 9.05". (x) 1.6.1956 to 13.7.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(86) on page 352.

5. RESULTS :

(i) 613 lb./ac. (ii) 88.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	1	2	3	4	5
Av. yield	567	581	707	576	632

S.E./mean = 36.0 lb./ac.

Crop :- Cotton.

Ref :- M. 57(119).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'M'.

Object :- To find out the optimum dose and time of application of A/S to Cotton.

1. BASAL CONDITIONS :

(i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Loamy. (b) Refer soil analysis, Aduthurai. (iii) 8.2.1957. (iv) (a) 3 ploughings (b) to (e) N.A. (v) Nil. (vi) P—216 F (early). (vii) Irrigated. (viii) Weeding twice. (ix) 3.69". (x) 3.6.1957 to 8.7.1957.

2. TREATMENTS :

All combinations of (1) and (2) + a control (no manure).

(1) 4 levels of N as A/S : $N_1=30$, $N_2=45$, $N_3=60$ and $N_4=75$ lb./ac.

(2) 2 times of application of N : $I_1=$ During 4th and 8th weeks and $I_2=$ During 6th and 10th weeks after sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) and (b) 0.34 cent. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) *Kapas* yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) Coimbatore, Palur. (vi) Nil. (vii) Expt. was conducted by Cotton Specialist, Coimbatore.

5. RESULTS :

(i) 1259 lb./ac. (ii) 120 lb./ac. (iii) 'Control vs. others' effect alone is highly significant. (iv) Av. yield of *Kapas* in lb./ac.

Control = 976 lb./ac.

	N ₁	N ₂	N ₃	N ₄	Mean
T ₁	1203	1221	1407	1265	1274
T ₂	1247	1292	1343	1380	1316
Mean	1225	1257	1375	1323	1295

S.E. of N marginal mean = 42.4 lb./ac.

S.E. of T marginal mean = 30.0 lb./ac.

S.E. of body of table or control mean = 60.0 lb./ac.

Crop :- Cotton.**Ref. :- M. 58(145).****Site :- Agri. Res. Stn., Aduthurai.****Type :- 'M'.**

Object :- To find out the optimum dose and time of application of A/S to Cotton.

1. BASAL CONDITIONS :

(i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Loamy. (b) Refer soil analysis, Aduthurai. (iii) 19.2.1958. (iv) (a) 3 ploughings. (b) to 'e' N.A. (v) Nil. (vi) P-216.F (early). (vii) Irrigated. (viii) Weeding twice. (ix) 4.35". x) 13.6.1958 to 11.7.1958.

2. TREATMENTS :**Main-plot treatments :**

2 times of application of N : T₁=During 4th and 8th weeks and T₂=During 6th and 10th weeks after sowing.

Sub-plot treatments :

5 levels of N as A/S : N₀=0, N₁=30, N₂=45, N₃=60 and N₄=75 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 0.44 cent. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) *Kapas* yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) Pa'ur and Coimbatore. (vi) Nil. (vii) Expt. was conducted by Cotton Specialist, Coimbatore.

5. RESULTS :

(i) 1167 lb./ac. (ii) (a) 248.9 lb./ac. (b) 185.0 lb./ac. (iii) Main effect of N alone is significant. (iv) Av. yield of *Kapas* in lb./ac.

	N ₀	N ₁	N ₂	N ₃	N ₄	Mean
T ₁	1007	1200	1173	1172	1277	1166
T ₂	995	1110	1169	1235	1331	1168
Mean	1001	1155	1171	1204	1304	1167

S.E. of difference of two

1. T marginal means = 124.4 lb./ac.

2. N marginal means = 92.5 lb./ac.

3. N means at the same level of T = 130.8 lb./ac.

4. T means at the same level of N = 141.0 lb./ac.

Crop :- Cotton.**Ref :- M. 56(62).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'M'.**

Object :- To study the effect of growing legumes with and without phosphate and ploughing them in situ, on the yield of succeeding Cotton crop.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) G.M. (c) Nil. (ii) (a) Red gravelly loam. (b) N.A. (iii) 24.11.1956. (iv) (a) to (e) N.A. (v) As under treatments. (vi) MCU—1. (vii) Irrigated. (viii) One hand weeding and two *mummaty* hoeings. (ix) 2.52%. (x) 10.4.1957.

2. TREATMENTS :**Main-plot treatments :**

2 levels of P_2O_5 as Super : $P_0=0$ and $P_1=30$ lb./ac.

Sub-plot treatments :

6 G.M. crops : G_1 =Cowpea, G_2 =*Sesbania*, G_3 =Sannhemp, G_4 =Indigo, G_5 =Dewgram and G_6 =*Dhaincha*.

P_2O_5 applied to G.M. crops which were ploughed in *situ*. N as A/S at 200 lb./ac. top-dressed half 40 days after sowing and half at flowering.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 6 sub-plots/main-plot. (b) 132' x 72'. (iii) 4. (iv) (a) 66' x 12'. (b) 64' x 10'. (v) 1' x 1'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Attack of jassids, top-borers and boll-worms. Endrine sprayed as a control measure. (iii) Yield of cotton. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 651 lb./ac. (ii) (a) 37.24 lb./ac. (b) 98.98 lb./ac. (iii) Main effect of G is significant. (iv) Av. yield of *kapas* in lb./ac.

	G_1	G_2	G_3	G_4	G_5	G_6	Mean
P_0	616	512	651	710	763	643	649
P_1	709	486	730	708	698	582	652
Mean	662	499	690	709	731	612	651

S.E. of difference of two

1. P marginal means = 10.8 lb./ac.
2. G marginal means = 49.5 lb./ac.
3. G means at the same level of P = 70.0 lb./ac.
4. P means at the same level of G = 64.8 lb./ac.

Crop :- Cotton.**Ref :- M. 57(54).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'M'.**

Object :- To study the effect of growing legumes with and without phosphate and ploughing them in situ, on the yield of succeeding Cotton crop.

1. BASAL CONDITIONS:

(i) (a) N.A. (b) G.M. (c) As per treatments. (ii) (a) Red gravelly loam. (b) N.A. (iii) 17 to 19.9.1957. (iv) (a) to (e) N.A. (v) As per treatments. (vi) MCU—1. (vii) Irrigated. (viii) One hand weeding and two *mummaty* hoeings. (ix) 19.49%. (x) 20.4.1958.

2. TREATMENTS and 3. DESIGN:

Same as in expt. no. 56(62) above.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) G.M. (c) As per treatments. (ii) (a) Red gravelly loam ; poor in lime, phosphate and nitrogen. (b) N.A. (iii) 16 and 17.9.1957. (iv) (a) to (e) N.A. (v) As per treatments. (v) MCU—1. (vii) Irrigated. (viii) Weeding twice. (ix) 19.49°. (x) 17.3.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(61) on page 357.

4. GENERAL :

(i) The crop was affected adversely by heavy rains. (ii) Attack of jassids, aphids, top-borer and boll-worms. Endrine sprayed. (iii) *Kapas* yield. (iv) (a) 1956—contd. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 420 lb./ac. (ii) (a) 96.60 lb./ac. (b) 93.87 lb./ac. (iii) Main effect of L alone is highly significant. (iv) Av. yield of *kapas* in lb./ac.

	S ₁	S ₂	S ₃	S ₄	S ₅	Mean
L ₀	368	321	357	388	350	357
L ₁	436	396	421	422	432	421
L ₂	458	433	367	459	459	435
L ₃	502	413	455	466	504	468
Mean	441	391	400	434	436	420

S.E. of difference of two

- | | |
|-----------------------------------|----------------|
| 1. S marginal means | = 33.9 lb./ac. |
| 2. L marginal means | = 29.7 lb./ac. |
| 3. L means at the same level of S | = 66.4 lb./ac. |
| 4. S means at the same level of L | = 66.8 lb./ac. |

Crop :- Cotton.

Ref :- M. 58(58).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'M'.

Object :- To study the effect of G.L. manuring on Cotton crop.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 26 to 29.9.1958. (iv) (a) 2 to 3 ploughings. (b) Dibbled. (c) 15 to 20 lb./ac. (d) 2'×9". (e) 1. (v) As per treatments. (vi) MCU—1. (vii) Irrigated. (viii) Weeding, hoeing twice and earthing up once. (ix) 10.75°. (x) 14.2.1959 to 25.3.1959 (cotton pickings).

2. TREATMENTS :

Same as in expt. no. 56(61) on page 357.

3. DESIGN :

(i) Split-plot. (ii) (a) 5 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 25'×27'. (b) 21'×24'. (v) 2'×1½'. (vi) Yes.

4. GENERAL :

(i) Average. (ii) Nil. (iii) Yield of *kapas*. (iv) (a) 1956—Contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 412 lb./ac. (ii) (a) 93.6 lb./ac. (b) 56.5 lb./ac. (iii) Main effect of L alone is highly significant. (iv) Av. yield of *kapas* in lb./ac.

	S ₁	S ₂	S ₃	S ₄	S ₅	Mean
L ₀	344	374	300	335	408	352
L ₁	460	385	374	357	348	385
L ₂	482	456	411	443	393	437
L ₃	473	434	460	499	499	473
Mean	440	412	386	409	412	412

S.E. of difference of two

1. S marginal means = 33.1 lb./ac.
2. L marginal means = 17.9 lb./ac.
3. L means at the same level of S = 40.0 lb./ac.
4. S means at the same level of L = 47.9 lb./ac.

Crop :- Cotton.

Ref :- M. 59(50).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'M'.

Object :- To study the effect of G.L. manuring on Cotton crop.

1. BASAL CONDITIONS :

(i) (a) and (b) Nil. (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 17, 18.9.1959. (iv) (a) 2 to ploughings. (b) Dibbling (c) 15 to 20 lb./ac. (d) 2'×9". (e) 1. (v) As per treatments. (vi) MCU—1. (vii) Irrigated. (viii) Weeding and hoeing twice, earthing up once. (ix) 9.1". (x) 6.2.1960 to 1.4.1960.

2. TREATMENTS :

Same as in expt. no. 56(61) on page 357.

3. DESIGN :

(i) Split-plot. (ii) (a) 5 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 27'×25'. (b) 23'×22'. (v) 2'×1½'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) *Kapas* yield. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 433 lb./ac. (ii) (a) 71.4. lb./ac. (b) 57.9 lb./ac. (iii) Main effect of L alone is highly significant. (iv) Av. yield of *kapas* in lb./ac.

	S ₁	S ₂	S ₃	S ₄	S ₅	Mean
L ₀	372	372	357	334	342	355
L ₁	428	385	430	398	400	408
L ₂	420	484	461	458	486	462
L ₃	443	476	510	510	590	506
Mean	416	429	439	425	455	433

S.E. of difference of two

1. S marginal means = 25.2 lb./ac.
2. L marginal means = 18.3 lb./ac.
3. L means at the same level of S = 40.9 lb./ac.
4. S means at the same level of L = 43.5 lb./ac.

Crop :- Cotton.

Ref :- 56(59).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'M'.

Object :- To find out the effect of bulky organic manures applied at different levels to Cotton.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Sesbania*. (c) Nil. (ii) (a) Red gravelly loam. (b) The soils are poor in lime, phosphate and nitrogen. The soluble salts are below 0.1%. The pH value ranges from 8 to 9. (iii) 27.11.1956. (iv) (a) 2 to 3 ploughings. (b) to (e) N.A. (v) River silt at 10 C.L./ac. + A/S at 136 lb./ac. + Supper at 240 lb./ac. (vi) MCU—1. (vii) Irrigated. (viii) 1 hand weeding and 2 *mummatty* hoiengs. (ix) 19.49" (x) 6.4.1957.

2. TREATMENTS :

Main-plot treatments :

4 sources of bulky manures : S_1 =Sannhemp, S_2 =C.M., S_3 =F.W.C., and S_4 =*Glyricidia*.

Sub-plot treatments :

4 levels of manures ; $L_0=0$, $L_1=2500$, $L_2=5000$ and $L_3=7500$ lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 30'×24'. (b) 27'×20'. (v) 1½'×2' left as border (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Affected by jassids, aphids, top-borer and boll-worm. Spraying of endrine was done to control the pests. (iii) *Kapas* yield. (iv) (a) 1956—1957. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 982 lb./ac. (ii) (a) 200 lb./ac. (b) 196 lb./ac. (iii) Main effect of S alone is significant. (iv) Av. yeild of *Kapas*. in lb./ac.

	L_0	L_1	L_2	L_3	Mean
S_1	999	1069	1135	1274	1119
S_2	959	940	830	1104	958
S_3	877	1023	1037	940	969
S_4	913	805	923	880	880
Mean	937	959	981	1050	982

S.E. of difference of two

1. S marginal means = 71 lb./ac.
2. L marginal means = 69 lb./ac.
3. L means at the same level of S = 139 lb./ac.
4. S means at the same level of L = 139 lb./ac.

Crop :- Cotton.

Ref :- M. 57(51).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'M'.

Object :—To find out the effect of bulky organic manures applied at different levels to Cotton crop.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Ragi*. (c) As per treatments. (ii) (a) Red gravelly loam. (b) Same as in expt. no. 56(59) on page 359. (iii) 19, 20.9.1957. (iv) (a) to (e) N.A. (v) River silt at 10 C.L./ac. + A/S at 136 lb./ac. + Super at 240 lb./ac. (vi) MCU—1. (vii) Irrigated. (viii) Weeding once. (ix) 19.49". (x) 22.4.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 56(59) on page 359.

4. GENERAL :

(i) Not good. (ii) Nil. (iii) *Kapas* yield. (iv) (a) 1956—1957. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Poor yield due to adverse climatic conditions. (vii) Nil.

5. RESULTS :

(i) 380 lb./ac. (ii) (a) 4.68 lb./ac. (b) 9.36 lb./ac. (iii) Main effects and interaction are highly significant. (i<) Av. yeild of *kapas* in lb./ac.

	L ₀	L ₁	L ₂	L ₃	Mean
S ₁	387	338	308	357	348
S ₂	511	470	499	439	480
S ₃	347	385	303	374	352
S ₄	324	359	343	336	341
Mean	392	388	363	377	380

S.E. of difference of two

1. S marginal means = 1.6 lb./ac.
2. L marginal means = 3.3 lb./ac.
3. L means at the same level of S = 6.6 lb./ac.
4. S means at the same level of L = 6.0 lb./ac.

Crop :- Cotton.

Ref :- M. 58(70).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'M'.

Object :- To study the effect of different doses of bulky manures on Cotton.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 23, 24.9.1958. (iv) (a) 2 to 3 ploughings. (b) Dibbling. (c) 15 lb./ac. (d) 2'×9". (e) N.A. (v) As per treatments. (vi) MCU—1. (vii) Irrigated. (viii) 2 weedings, hoeings and 1 earthing up. (ix) N.A. (x) 13.2.1959 to 6.4.1959.

2. TREATMENTS :

Main-plot treatments :

4 sources of bulky manures : S₁=Sannhemp, S₂=*Glyricidia*, S₃=F.W.C. and S₄=Ordinary compost.

Sub-plot treatments :

4 levels of manures : L₀=0, L₁=2500, L₂=5000 and L₃=7500 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 30'×24'. (b) 26'×21'. (v) 2'×1½'. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) N.A. (iii) *Kapas* yield. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 285 lb./ac. (ii) (a) 73.3 lb./ac. (b) 56.1 lb./ac. (iii) Main effects and interaction are highly significant. (iv) Av. yield of *kapas* in lb./ac.

	L ₀	L ₁	L ₂	L ₃	Mean
S ₁	247	357	321	523	362
S ₂	241	201	251	219	228
S ₃	209	297	311	307	281
S ₄	247	261	261	307	269
Mean	236	279	286	339	285

S.E. of difference of two

1. S marginal means = 25.9 lb./ac.
2. L marginal means = 19.8 lb./ac.
3. L means at the same level of S = 36.6 lb./ac.
4. S means at the same level of L = 43.1 lb./ac.

Crop :- Cotton.**Ref :- M. 59(54).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'M'.**

Object :—To study the effect of different doses of bulky manures on Cotton.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 4, 5.9.1959. (iv) (a) 2 to 3 ploughings. (b) Dibbling. (c) 15 to 20 lb./ac. (d) 2'×6'. (e) N.A. (v) As per treatments. (vi) MCU-1. (vii) Irrigated. (viii) Weeding and hoeing twice, earthing up once. (ix) 9.1". (x) 29.1.1960 to 1.4.1960.

2. TREATMENTS :

Same as in expt. no. 58(70) on page 361.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 30'×24'. (b) 26'×22'. (v) 2'×1'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) *Kapas* yield. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 444 lb./ac. (ii) (a) 96.6 lb./ac. (b) 99.0 lb./ac. (iii) Effect of L is highly significant and effect of S is significant. (iv) Av. yield of *kapas* in lb./ac.

	L ₀	L ₁	L ₂	L ₃	Mean
S ₁	315	395	505	689	476
S ₂	366	510	452	431	440
S ₃	422	470	507	576	494
S ₄	305	370	363	421	365
Mean	352	436	457	529	444

S.E. of difference of two

1. S marginal means = 34.2 lb./ac.
2. L marginal means = 35.0 lb./ac.
3. L means at the same level of S = 17.5 lb./ac.
4. S means at the same level of L = 69.6 lb./ac.

Crop :- Cotton.**Ref :- M. 55(69).****Site :- Cotton Breeding Stn., Coimbatore.****Type :- 'M'.**

Object :—To determine the dosage and time of application of N to Cotton crop.

1. BASAL CONDITIONS :

(i) (a) Cotton—Paddy. (b) Paddy. (c) 150 lb./ac. of A/S + 150 lb./ac. of Super + B.D. of 5000 lb./ac. of G.L. (ii) (a) Black soil. (b) Refer soil analysis, Coimbatore. (iii) 14.3.1955. (iv) (a) 2 to 3 ploughings. (b) Dibbling. (c) 15 to 20 lb./ac. (d) 2'×6" (e) N.A. (v) 10 to 15 C.L./ac. of F.Y.M. + 40 lb. ac. of N top dressed. (vi) P 216. F. (vii) Irrigated. (viii) Hoeing and weeding twice, earthing up once. (ix) 9.23". (x) 5.7.1955 to 13.8.1955.

2. TREATMENTS :

1. No manure.
2. 30 lb./ac. of N applied during 4th and 8th weeks after sowing.
3. 30 lb./ac. of N applied during 6th and 10th weeks after sowing.
4. 40 lb./ac. of N applied during 4th and 8th weeks after sowing.
5. 40 lb./ac. of N applied during 6th and 10th weeks after sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) and (b) 0.44 cents. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Jassids, leaf-rollers, aphids and boll-worm. (iii) *Kapas* yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 870 lb./ac. (ii) 204 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	1	2	3	4	5
Av. yield	663	731	1132	936	889

S.E./mean = 102 lb./ac.

Crop :- Cotton.

Ref :- M. 56(76).

Site :- Cotton Breeding Stn., Coimbatore.

Type :- 'M'.

Object :—To find out the optimum dose and time of application of A/S to Cotton.

1. BASAL CONDITIONS :

(i) (a) Cotton—Paddy. (b) Paddy. (c) 150 lb./ac of A/S+150 lb./ac. of Super+B.D. of 5000 lb./ac. of G.L. (ii) (a) Black soil. (b) Refer soil analysis, Coimbatore. (iii) 15.3.1956. (iv) (a) 2 to 3 ploughings. (b) Dibbling. (c) 15 to 20 lb./ac. (d) 2'×6". (e) N.A. (v) 10 to 15 C.L./ac. of F.Y.M.+40 lb./ac. of N as top dressing. (vi) P—216. F. (vii) Irrigated. (viii) Hoeing and weeding twice, earthing up once. (ix) 8.44". (x) 9.7.1956 to 20.8.1956.

2. TREATMENTS :

Same as in expt. no. 55 (86) on page 352.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 0.40 cents. (v) Nil. (vi) Yes.

4. GENERAL :

Same as in expt. no. 55(86) on page 352.

5. RESULTS :

(i) 1086 lb./ac. (ii) 173.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	1	2	3	4	5
Av. yield	853	1023	1102	1157	1297

S.E./mean = 71 lb./ac.

Crop :- Cotton (Summer).

Ref :- M. 57(69).

Site :- Cotton Breeding Stn., Coimbatore.

Type :- 'M'.

Object :—To find the optimum dose and time of application of A/S to Cotton.

1. BASAL CONDITIONS :

(i) (a) Cotton—Paddy. (b) Paddy. (c) 150 lb./ac. of A/S+150 lb./ac. of Super+B.D. of 5000 lb./ac. of G.L. (ii) (a) Black soil. (b) Refer soil analysis, Coimbatore. (iii) 5.3.1957. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 15 to 20 lb./ac. (d) 2'×6". (e) 1 seedling/hole. (v) 10 to 15 C.L./ac. of F.Y.M.+40 lb./ac. of N as top-dressing. (vi) P—216. F. (vii) Irrigated. (viii) Hoeing and weeding twice, earthing up once. (ix) 9.13". (x) 2.7.1957 to 20.8.1957.

2. TREATMENTS :

All combinations of (1) and (2)+a control (no manure)

(1) 4 levels of N : $N_1=30$, $N_2=45$, $N_3=60$ and $N_4=75$ lb./ac.

(2) 2 times of application of N : T_1 =During 4th and 8th week and T_2 =During 6th and 10th week after sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 0.66 cents. (b) 0.37 cents. (v) 2 rows on each sides. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Attack of jassids, aphids and boll-worm. (iii) *Kapas* yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1572 lb./ac. (ii) 216 lb./ac. (iii) 'Control vs Others' effect alone is highly significant. (iv) Av. yield of *kapas* in lb./ac.

Control = 1017 lb./ac.

	N_1	N_2	N_3	N_4	Mean
T_1	1614	1657	1730	1879	1720
T_2	1504	1531	1519	1697	1563
Mean	1559	1594	1624	1788	1642

S.E. of marginal mean of N = 76 lb./ac.

S.E. of marginal mean of T = 54 lb./ac.

S.E. of body of table = 108 lb./ac.

Crop :- Cotton (Summer).

Ref :- M. 58(43).

Site :- Cotton Breeding Stn., Coimbatore.

Type :- 'M'.

Object :—To find out the optimum dose and time of application of A/S.

1. BASAL CONDITIONS :

(i) (a) Cotton—Paddy. (b) Paddy. (c) 150 lb./ac. of A/S+150 lb./ac. of Super over [a B.D. of 5000 lb./ac. of G.L. (ii) (a) Black soil. (b) Refer soil analysis, Coimbatore. (iii) 8.3.1958. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 15 to 20 lb./ac. (d) 2'×6". (e) N.A. (v) 10 to 15 C.L./ac. of F.Y.M.+ 40 lb./ac. of N as top-dressing. (vi) P—216 F. (vii) Irrigated. (viii) Hoeing and weeding twice, earthing up once. (ix) and (x) N.A.

2. TREATMENTS :

Main-plot Treatments :

2 times of application of N : T_1 =During 4th and 8th weeks and T_2 =During 6th and 10th weeks after sowing.

Sub-plot treatments :

5 levels of N : $N_0=0$, $N_1=30$, $N_2=45$, $N_3=60$, and $N_4=75$ lb./ac.

N applied as A/S in two equal doses.

3. DESIGN :

(i) Split-plot. (ii) 2 main-plots/block ; 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 0.69 cents. (b) 0.55 cents. (v) One row left as border on each side. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Slight incidence of jassids, aphids and boll-worm. (iii) Yield of *Kapas*. (iv) (a) to (c) N.A. (v) to (vii) Nil.

5. RESULTS :

(i) 1566 lb./ac. (ii) (a) 562.1 lb./ac. (b) 128.9 lb./ac. (iii) Main effect of N alone is highly significant. (iv) Av. yield of *kapas* in lb./ac.

	N ₀	N ₁	N ₂	N ₃	N ₄	Mean
T ₁	1017	1499	1589	1650	1810	1513
T ₂	1109	1579	1807	1734	1866	1619
Mean	1063	1539	1698	1692	1838	1566

S.E. of difference of two

1. T marginal means = 177.8 lb./ac.
2. N marginal means = 64.4 lb./ac.
3. N means at the same level of T = 91.1 lb./ac.
4. T means at the same level of N = 195.6 lb./ac.

Crop :- Cotton.

Ref :- M. 59(105).

Site :- Cotton Breeding Sta., Coimbatore.

Type :- 'M'.

Object:—To study the effect of A/S and plant protection measures on Cotton yield.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) N.A. (iii) 27.8.1959. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) 1½ × 9". (e) 1. (v) Nil. (vii) MCU—1 (vi) Irrigated. (viii) 1 thinning, 3 weedings and 3 hoeings. (ix) 10.75". (x) 29.12.1959 to 20.2.1960.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of N as A/S : N₀=0 and N₁=40 lb./ac.

(b) 2 levels of plant protection measures : P₀=Nil, and P₁=Application of Endrine once and Folidol twice.

A/S applied in two doses during 6th and 10th weeks after planting.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) and (v) N.A. (vi) Yes.

4. GENERAL :

(i) Vigorous. (ii) Severe attack of boll-worm, jassids and aphids in control plot. (iv) Boll size, leaf size, boll count and *kapas* yield. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

RESULTS :

(i) 1137 lb./ac. (ii) 184 lb./ac. (iii) Main effects of N and P are highly significant. Interaction is not significant. (iv) Av. yield of *kapas* in lb./ac.

	N ₀	N ₁	Mean
P ₀	914	1190	1052
P ₁	1102	1341	1222
Mean	1008	1266	1137

- S.E. of any marginal mean = 65.0 lb./ac.
 S.E. of body of table = 92.0 lb./ac.

Crop :- Cotton.**Ref :- M. 54(85).****Site :- Agri. Res. Stn., Koilpatti.****Type :- 'M'.**

Object :—To study the relative efficacy of A/S and C/N on Cotton crop.

1. BASAL CONDITIONS :

(i) (a) No. (b) Cotton. (c) No. (ii) (a) Black soil—loamy. (b) Refer soil analysis, Koilpatti. (iii) 14.10.1954. (iv) (a) Ploughing once with monsoon plough. (b) and (c) N.A. (d) 3'×3'. (e) N.A. (v) As per treatments. (vi) *Karunganni* (medium). (vii) Unirrigated. (viii) Hand weeding twice, working *danti* twice and thinning once. (ix) 24.58". (x) 13.3.1955 to 25.6.1955.

2. TREATMENTS :

9 manurial treatments : T₁=Lime at 450 lb./ac. as B.D.+C.M. at 3 tons/ac.+Super at 30 lb./ac. of P₂O₅, T₂=T₁+A/S at 40 lb./ac. of N, T₃=T₁+A,S at 60 lb./ac. of N, T₄=A,S at 40 lb./ac. of N, T₅=A/S at 60 lb./ac. of N, T₆=T₁+C/N at 40 lb./ac. of N, T₇=T₁+C/N at 60 lb./ac. of N, T₈=C/N at 40 lb./ac. of N and T₉=C/N at 60 lb./ac. of N. Super applied 4" to 6" deep by placement before planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a) 40'×18'. (b) 34'×12'. (v) One row left as border. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) *Kapas* yield. (iv) (a) 1952—1954. (b) Yes. (c) Nil. (v) (a) and (b) N A. (vi) and (vii) Nil.

5. RESULTS :

(i) 529 lb./ac. (ii) 144.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	T ₁	T ₂	T ₃	T ₄	T ₅	T ₆	T ₇	T ₈	T ₉
Av. yield	552	590	595	563	512	509	441	502	500

S.E./mean = 64.7 lb./ac.

Crop :- Cotton.**Ref :- M. 56(119).****Site :- Agri. Res. Stn., Palur.****Type :- 'M'.**

Object :—To find out the optimum dose and time of application of A/S to Cotton raised in rice fallows.

1. BASAL CONDITIONS :

(i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 17.2.1956. (iv) (a) 3 ploughings. (b) :o (e) N.A. (v) Nil. (vi) P 216 F (early). (vii) Irrigated. (viii) Thinning and weeding twice. (ix) 19.29". (x) 7.7.1956 to 6.9.1956.

2. TREATMENTS :

Same as in expt. no. 55(86) on page 352.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) and (b) 0.41 cent. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Attack of jassids and aphids noticed. (iii) Yield of cotton. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) Coimbatore, Aduthurai. (vi) Nil. (vii) Expt. was conducted by Cotton Specialist, Coimbatore.

5. RESULTS :

(i) 1091 lb./ac. (ii) 286 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	1	2	3	4	5
Av. yield	1004	1094	1222	1039	1097

S.E./mean = 143 lb./ac.

Crop :- Cotton,**Ref :- M. 57(120).****Site :- Agri. Res. Stn., Palur.****Type :- 'M'.**

Object :—To find out the optimum dose and time of application of A/S to Cotton.

1. BASAL CONDITIONS :

(i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 3.3.1957. (iv) (a) 3 ploughings. (b) to (e) N.A. (v) Nil. (vi) P—216. F (early). (vii) Irrigated. (viii) Thinning and weeding twice. (ix) 9.4". (x) 6.7.1957 to 23.8.1957.

2. TREATMENTS :

Same as in expt. no. 57(69) on page 363.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) and (b) 0.34 cent. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Mild incidence of jassids, aphids, mites and boll-worms. (iii) Yield of Cotton. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) Aduthurai; Coimbatore. (vi) N.A. (vii) Expt. was conducted by Cotton Specialist, Coimbatore. Expt. failed in 1955 and 1958.

5. RESULTS :

(i) 897 lb./ac. (ii) 166 lb./ac. (iii) Both the main effects, their interaction and 'control vs others' are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Control = 560 lb./ac.

	N ₁	N ₂	N ₃	N ₄	Mean
T ₁	993	558	811	969	833
T ₂	931	894	1084	1274	1046
Mean	962	726	948	1121	939

S.E. of N marginal mean = 59 lb./ac.

S.E. of T marginal mean = 42 lb./ac.

S.E. of body of table or control mean = 83 lb./ac.

Crop :- Cotton.**Ref :- M. 59(88).****Site :- Agri. Res. Stn., Palur.****Type :- 'M'.**

Object :—To find out the optimum dose and time of application of A/S to Cotton crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.L. at 5000 lb./ac.+A/S at 150 lb./ac.+Super at 150 lb./ac. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 1.1.1959. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) 2½'×6". (e) 2. (v) G.L. at 5000 lb./ac. (vi) MCU—1. (vii) Irrigated. (viii) Weeding twice. (ix) 10.5". (x) 24.4.1959 to 21.6.1959.

2. TREATMENTS :**Main-plot treatments :**

3 times of applications of N : T₁=Full dose at planting, T₂=½ at planting+½ six weeks later and T₃=½ at planting+½ four weeks+½ 8 weeks after planting.

Sub-plot treatments :5 levels of N as A/S : N₀=0, N₁=30, N₂=45, N₃=60 and N₄=75 lb./ac.**3. DESIGN :**

(i) Split-plot. (ii) (a) 3 main-plots/block ; 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 25'×12½'. (b) 20'×11½'. (v) 2½'×6" left as border. (vi) Yes.

2 TREATMENTS :

All combinations of (1), (2) and (3)+a control (no manure)

- (1) 2 levels of N as A/S : $N_1=30$ and $N_2=45$ lb./ac.
 (2) 2 levels of P_2O_5 : $P_0=0$ and $P_1=30$ lb./ac.
 (3) 2 levels of F.Y.M. : $F_0=0$ and $F_1=5000$ lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) $18' \times 8'$. (b) $13' \times 5'$. (v) $2\frac{1}{2}' \times 1\frac{1}{2}'$. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) *Kapas* yield. (iv) (a) 1955—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 880 lb./ac. (ii) 390 lb./ac. (iii) None of the effect is significant. (iv) Av. yield of *kapas* in lb./ac.

	N_1	N_2	P_0	P_1	Mean
F_0	750	966	892	824	858
F_1	1000	929	965	965	965
Mean	875	948	928	895	911
P_0	810	1046			
P_1	940	849			

S.E. of any marginal mean = 97.5 lb./ac.

S.E. of body of any table = 137.9 lb./ac.

Crop :- Cotton.

Ref :- M. 59(MAE).

Site :- M.A.E. Farm, Bhavanisagar.

Type :- 'M'.

Object :-Type II—To study the effect of applying N, P and K alone and in combination to Cotton and their interaction with F.Y.M.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Cholam*—Groundnut. (b) Groundnut. (c) As per treatments. (ii) (a) and (b) N.A. (iii) 18.9.1959. (iv) (a) 7 ploughings. (b) Dibbling. (c) 35 lb./ac. (d) $2' \times 6'$. (e) N.A. (v) Nil. (vi) MCU—1. (vii) Irrigated. (viii) Weeding and hoeing 5 times. (ix) N.A. (x) 5.2.1960 to 25.3.1960.

2. TREATMENTS :

All combinations of (1), (2), (3) and (4)

- (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.
 (4) 2 levels of F.Y.M. : $F_0=0$ and $F_1=5000$ lb./ac.

3. DESIGN :

(i) $3^3 \times 2$ Fact. confd. (ii) (a) 9 plots/block ; 6 blocks/replication. (b) N.A. (iii) 1. (iv) (a) $36' \times 15'$. (b) $34' \times 13'$. (v) One row on one side and 2 plants on either end of the rows left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (iii) Top-borer, jassids, aphids and bud-worms were noticed. (iii) *Kapas* yield. (iv) (a) 1957—contd. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Due to heavy rains, growth was affected during early stage of the crop. (vii) Expt. was conducted by Agronomist, Coimbatore.

5. RESULTS :

(i) 805.7 lb./ac. (ii) 140.8 lb./ac. (iii) N effect is highly significant, P effect is significant while other effects are not significant. (iv) Av. yield of grain in lb./ac.

	P ₀	P ₁	P ₂	K ₀	K ₁	K ₂	F ₀	F ₁	Mean
N ₀	400.3	481.9	388.4	447.8	440.8	382.1	421.7	425.4	423.5
N ₁	782.5	855.1	884.7	756.3	964.7	801.3	797.0	884.6	840.8
N ₂	993.2	1230.7	1234.7	1122.4	1146.4	1190.0	1048.4	1257.3	1152.9
Mean	725.3	855.9	835.9	775.5	850.6	791.1	755.7	855.8	805.7
F ₀	662.6	738.5	816.0	710.5	793.1	763.4			
F ₁	788.1	923.3	855.9	840.5	908.1	818.7			
K ₀	717.4	828.2	780.9						
K ₁	745.1	938.6	868.1						
K ₂	713.6	800.9	858.8						

S.E. of marginal mean of N, P or K = 33.2 lb./ac.
 S.E. of body of table N × P, N × K or P × K = 57.5 lb./ac.

Crop :- Cotton (Rabi).

Ref :- M. 57(MAE).

Site :- M.A.E. Farm, Bhavanisagar.

Type :- 'M'.

Object :- Type V—To find out the best time of application of N to Cotton.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Tenai*. (c) N.A. (ii) (a) and (b) N.A. (iii) 25.11.1957. (iv) (a) 5 ploughings. (b) Dibbling in lines. (c) 21 lb./ac. (d) 2' × 6". (e) 2 plants/hole. (v) 20 lb./ac. of P₂O₅ as Super and 5000 lb./ac. of F.Y.M. (vi) MCU—1. (vii) Irrigated. (viii) Hand weeding, hoeing and again weeding. (ix) 28.06". (x) 6 pickings from 29.3.1958 to 2.5.1958.

2. TREATMENTS :

All combinations of (1) and (2) + a control (no manure)

(1) 2 sources of 50 lb./ac. of N : S₁=Urea and S₂=A/S.

(2) 6 times of application of N : T₁=At sowing, T₂=At thinning, T₃=At flowering. T₄=½ at sowing + ½ at flowering, T₅=½ at sowing + ½ at thinning + ½ at flowering and T₆=½ at flowering + ½ one month after flowering.

3. DESIGN :

(i) R.B.D. (ii) (a) 13. (b) N.A. (iii) 3. (iv) (a) 36.3' × 15'. (b) 34.3' × 13'. (v) 1' around. (vi) Yes.

4. GENERAL :

(i) No lodging. (ii) Aphids, jassids and red cotton bug—spraying of Folidol. (iii) Cotton yield. (iv) (a) 1957—contd. (b) and (c) No. (v) and (vi) N.A. (vii) Expt. was conducted by Agronomist, Coimbatore.

5. RESULTS :

(i) 923 lb./ac. (ii) 214.1 lb./ac. (iii) Only 'control vs. others' effect and T effect are highly significant. (iv) Av. yield of cotton in lb./ac.

Control = 510 lb./ac.

	T ₁	T ₂	T ₃	T ₄	T ₅	T ₆	Mean
S ₁	1300	938	716	979	1086	749	961
S ₂	949	938	741	1070	1300	724	953
Mean	1123	938	728	1024	1193	736	957

S.E. of S marginal mean = 50.5 lb./ac.
 S.E. of T marginal mean = 87.4 lb./ac.
 S.E. of body of table = 123.6 lb./ac.

Crop :- Cotton (Rabi).**Ref :- M. 58(MAE).****Site :- M.A.E. Farm, Bhavanisagar.****Type :- 'M'.**

Object :—Type V—To find out the best time of application of N to Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) and (b) N.A. (iii) 3.10.1958. (iv) (a) 3 ploughings. (b) Dibbling. (c) 24 lb./ac. (d) 2'×6". (e) N.A. (v) 20 lb./ac. of P₂O₅ as Super and F.Y.M. at 5000 lb./ac. (vi) MCU—1. (vii) Irrigated. (viii) One weeding, two hoeings and one earthing. (ix) N.A. (x) 8 pickings on 15, 22 and 28.2.1959 ; 7, 14, 21 and 28.3.1959 and 4, 11.4.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(MAE) Type V on page 371.

4. GENERAL :

(i) Satisfactory. (ii) Affected by aphids, jassids at early stages—spraying of Folidol. Black-arm and root-rot noticed during the flowering period—spraying of Cupravit. (iii) Cotton yield. (iv) (a) 1957—contd. (b) No. (c) —. (v) (a) and (b) No. (vi) Nil. (vii) Expt. was conducted by Agronomist, Coimbatore.

5. RESULTS :

(i) 1287 lb./ac. (ii) 164.76 lb./ac. (iii) Only 'control vs. others' effect and T effect are highly significant. (iv) Av. yield of cotton in lb./ac.

Control=724 lb./ac.

	T ₁	T ₂	T ₃	T ₄	T ₅	T ₆	Mean
S ₁	1136	1374	1613	1284	1498	1424	1388
S ₂	872	1465	1539	1185	1168	1456	1281
Mean	1004	1420	1576	1234	1333	1440	1334

S.E. of S marginal mean = 38.8 lb./ac.
 S.E. of T marginal mean = 67.3 lb./ac.
 S.E. of body of table or control mean = 95.1 lb./ac.

Crop :- Cotton (Rabi).**Ref :- M. 59(MAE).****Site :- M.A.E. Farm, Bhavanisagar.****Type :- 'M'.**

Object :—Type V—To find out the best time of application of N to Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sannhemp. (c) Nil. (ii) (a) and (b) N.A. (iii) 29.9.1959. (iv) (a) 7 ploughings. (b) Dibbling. (c) 35 lb./ac. (d) 2'×6". (e) N.A. (v) 5000 lb./ac. of compost+30 lb./ac. of P₂O₅ as Super. (vi) MCU—1. (vii) Irrigated. (viii) 3 hoeings and 3 weedings. (ix) N.A. (x) Cotton pickings from 6.2.1960 to 26.3.1960.

2. TREATMENTS to 4. GENERAL :

Same as expt. no. 57(MAE) Type V on page 371.

5. RESULTS :

(i) 939 lb./ac. (ii) 104.73 lb./ac. (iii) 'Control vs others' and T effect are highly significant. (iv) Av. yield of cotton in lb./ac.

Control = 543 lb./ac.

	T ₁	T ₂	T ₃	T ₄	T ₅	T ₆	Mean
S ₁	584	1103	1053	946	979	1020	947
S ₂	848	971	1119	987	996	1061	997
Mean	716	1037	1086	966	987	1040	972

S.E. of S marginal mean	=	24.7 lb./ac.
S.E. of T marginal mean	=	42.8 lb./ac.
S.E. of body of table or control mean	=	60.5 lb./ac.

Crop :- Cotton (Summer),

Ref :- M. 56(117).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'C'.

Object :—To study the effect of spacing on the yield of early Cotton in rice fallows.

BASAL CONDITIONS :

(i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clay loam. (b) Refer soil analysis, Aduthurai. (iii) 18.2.1956. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 200 lb./ac. of A/S as top-dressing in 2 doses. (vi) P—216. F (early). (vii) Irrigated. (viii) Thinning and 2 weedings. (ix) 9.05%. (x) 6.6.1956 to 18.7.1956.

2. TREATMENTS :

Main-plot treatments :

2 row spacings : $R_1=1.5'$ and $R_2=2'$.

Sub-plot treatments :

All combinations of (1) and (2)

(1) 3 plant spacings : $S_1=4.5''$, $S_2=6''$ and $S_3=9''$.

(2) Number of seedlings/hole : $C_1=1$ and $C_2=2$.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) $24' \times 21'$. (b) $12' \times 15'$. (v) $6' \times 3'$. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Yield of cotton. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) Palur and Coimbatore. (b) N.A. (vi) Nil. (vii) Expt. was conducted by Cotton Specialist, Coimbatore.

5. RESULTS :

(i) 422 lb./ac. (ii) (a) 67.1 lb./ac. (b) 62.0 lb./ac. (iii) Main effects of R and C are significant. (iv) Av. yield of kapas in lb./ac.

	S_1	S_2	S_3	Mean	C_1	C_2
R_1	491	482	468	480	447	513
R_2	409	355	328	364	330	397
Mean	450	418	348	422	389	455
C_1	412	378	377			
C_2	488	459	319			

S.E. of difference of two

1. R marginal means	=	19.4 lb./ac.	5. R means at the same level of S	=	31.9 lb./ac.
2. S marginal means	=	21.9 lb./ac.	6. C means at the same level of R	=	25.3 lb./ac.
3. C marginal means	=	17.9 lb./ac.	7. R means at the same level of C	=	26.4 lb./ac.
4. S means at the same level of R	=	31.0 lb./ac.	S.E. of body of C×S table	=	21.9 lb./ac.

Crop :- Cotton.

Ref :- M. 57(118).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'C'.

Object :—To study the effect of spacing on the yield of early Cotton in rice fallows.

1. BASAL CONDITIONS :

(i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Loamy. (b) Refer soil analysis, Aduthurai. (iii) 7.2.1957. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 200 lb./ac. of A/S in 2 doses. (vi) P—216. F (early). (vii) Irrigated. (viii) Weeding twice. (ix) 3.69". (x) 1.6.1957 to 10.7.1957.

2. TREATMENTS :

Same as in expt. no. 56(117) on page 373.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 12'×15'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of cotton. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) Coimbatore and Palur. (vi) Nil. (vii) Expt. was conducted by Cotton Specialist, Coimbatore.

5. RESULTS :

(i) 1160 lb./ac. (ii) (a) 127.4 lb./ac. (b) 140.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of *kapas* in lb./ac.

	S ₁	S ₂	S ₃	Mean	C ₁	C ₂
R ₁	1214	1203	1088	1168	1157	1179
R ₂	1112	1216	1128	1152	1156	1148
Mean	1163	1210	1103	1160	1157	1164
C ₁	1137	1232	1102			
C ₂	1190	1187	1114			

S E. of difference of two

- | | | | |
|-----------------------------------|----------------|-----------------------------------|----------------|
| 1. R marginal means | = 36.8 lb./ac. | 5. R means at the same level of S | = 68.0 lb./ac. |
| 2. S marginal means | = 49.5 lb./ac. | 6. C means at the same level of R | = 57.1 lb./ac. |
| 3. C marginal means | = 40.4 lb./ac. | 7. R means at the same level of C | = 54.6 lb./ac. |
| 4. S means at the same level of R | = 70.0 lb./ac. | S.E. of body of S×C table | = 49.5 lb./ac. |

Crop :- Cotton.

Ref :- M. 58(144).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'C'.

Object :-To study the effect of spacing on the yield of early Cotton in rice fallows.

1. BASAL CONDITIONS :

(i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Loamy. (b) Refer soil analysis, Aduthurai. (iii) 3.2.1958. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 200 lb./ac. of A/S in 2 equal doses. (vi) P—216. F (early). (vii) Irrigated. (viii) Weeding twice. (ix) 4.35". (x) 3.6.1958 to 12.7.1958.

2. TREATMENTS :

Same as in expt. no. 56(117) on page 373.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 57(118) on page 373.

5. RESULTS :

(i) 1213 lb./ac. (ii) (a) 186.2 lb./ac. (b) 156.8 lb./ac. (iii) Main effect of C alone is significant. (iv) Av. yield of cotton in lb./ac.

	S ₁	S ₂	S ₃	Mean	C ₁	C ₂
R ₁	1149	1235	1171	1185	1253	1117
R ₂	1278	1271	1173	1242	1295	1186
Mean	1214	1253	1172	1213	1274	1152
C ₁	1283	1327	1213			
C ₂	1144	1179	1132			

S.E. of difference of two

- | | | | |
|-----------------------------------|----------------|-----------------------------------|----------------|
| 1. R marginal means | = 53.7 lb./ac. | 5. R means at the same level of S | = 83.6 lb./ac. |
| 2. S marginal means | = 55.4 lb./ac. | 6. C means at the same level of R | = 64.1 lb./ac. |
| 3. C marginal means | = 45.3 lb./ac. | 7. R means at the same level of C | = 70.3 lb./ac. |
| 4. S means at the same level of R | = 78.3 lb./ac. | S.E. of body of S×C table | = 55.4 lb./ac. |

Crop :- Cotton.

Ref :- M. 56(115).

Site:- Cotton Breeding Sta., Coimbatore.

Type :- 'C'.

Object :- To find out optimum spacings and number of seedlings per hole for Cotton.

1. BASAL CONDITIONS;

(i) (a) Nil. (b) *Tenai*. (c) N.A. (ii) (a) Sandy. (b) N.A. (iii) 8 to 10.9.1956. (iv) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) Farm compost at 4 tons/ac. (vi) G-9030. (vii) Irrigated. (viii) Thinning once and weeding twice. (ix) 19.86" (x) 26.1.1957 to 27.4.1957.

2. TREATMENTS :

Main-plot treatments :

3 row spacings : R₁=1.5', R₂=2' and R₃=2.5'.

Sub-plot treatments :

All combinations of (1) and (2)

(1) 2 plant spacings : S₁=6" and S₂=9".

(2) Number of seedlings/hole : C₁=1 and C₂=2.

3. DESIGN :

(i) (a) Split-plot. (ii) (a) 3 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 20'×5'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Moderate incidence of boll-worms and jassids. Endrine and Folidol sprayed. (iii) Yield of *kapas*. (iv) 1955-1956. (b) No. (c) Nil. (v) (a) Coimbatore, Avanashi and Tiruchengode. (vi) Nil. (vii) Experiment was conducted by Cotton specialist, Coimbatore.

5. RESULTS :

(i) 756 lb./ac. (ii) (a) 136.0 lb./ac. (b) 112.7 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of cotton in lb./ac.

	S ₁	S ₂	Mean	C ₁	C ₂
R ₁	796	735	765	748	783
R ₂	736	809	772	764	781
R ₃	724	738	731	718	743
Mean	752	761	756	743	769
C ₁	731	755			
C ₂	772	766			

S.E. of difference of two

1. R marginal means	= 48.1 lb./ac.
2. S or C marginal means	= 32.5 lb./ac.
3. S or C means at the same level of R	= 56.3 lb./ac.
4. R means at the same level of S or C	= 62.4 lb./ac.
S.E of body of S×C table	= 32.5 lb./ac.

Crop :- Cotton.**Ref :- M. 56(78).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'C'.**

Object :—To find out a suitable time of sowing Cotton.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Light gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) Dibbling. (c) 15 to 20 lb./ac. (d) 2'×9". (e) N.A. (v) 10 to 15 C.L. of F.Y.M.+40 lb./ac. of N as top dressing. (vi) MCU—1. (vii) Irrigated. (viii) Hoeing, weeding twice and earthing up once. (ix) N.A. (x) 24.1.1957 to 25.4.1957.

2. TREATMENTS :3 dates of sowing : D₁=10.9.1956, D₂=25.9.1956 and D₃=10.10.1956.**3. DESIGN :**

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 25'×10'. (b) 21'×7'. (v) N.A. (vi) Yes.

4. GENERAL :(i) Satisfactory. (ii) Nil. (iii) *Kapas* yield. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) to (vii) Nil.**5. RESULTS :**(i) 915 lb./ac. (ii) 95.55 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	D ₁	D ₂	D ₃
Av. yield	845	878	1021

S.E./mean = 39 lb./ac.

Crop :- Cotton.**Ref :- M. 57(70).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'C'.**

Object :—To find out a suitable time of sowing Cotton.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Light gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) Dibbling. (c) 15 to 20 lb./ac. (d) 2'×9". (e) N.A. (v) 10 C.L./ac. of F.Y.M.+40 lb./ac. of N as top-dressing. (vi) MCU—1. (vii) Irrigated. (viii) Hoeing and weeding twice and earthing up once. (ix) N.A. (x) 16.1.1958 to 13.2.1958.

2. TREATMENTS :3 dates of sowing : D₁=10.9.1957, D₂=25.9.1957 and D₃=10.10.1957.**3. DESIGN :**

R.B.D. (ii) (a) 3. (b) N.A. (iii) 10. (iv) (a) 42'×16'. (b) 40'×14'. (v) 1'×1'. (vi) Yes.

4. GENERAL :(i) Satisfactory. (ii) Slight attack of jassids and aphids. (iii) *Kapas* yield. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) to (vii) Nil.**5. RESULTS :**(i) 466 lb./ac. (ii) 116.9 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	D ₁	D ₂	D ₃
Av. yield	654	533	210
S.E./mean = 37 lb./ac.			

Crop :- Cotton.

Ref :- M. 58(50).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'C'.

Object :—To find out a suitable time of sowing Cotton.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Light gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) Dibbling. (c) 15 to 20 lb./ac. (d) 2'×6". (e) N.A. (v) 10 to 15 C.L./ac. of F.Y.M.+40 lb./ac. of N as A/S as top-dressing. (vi) MCU—1. (vii) Irrigated. (viii) Hoeing, weeding twice and earthing up once. (ix) N.A. (x) 19.2.1959 to 2.4.1959.

2. TREATMENTS :

3 dates of sowing : D₁=10.9.1958, D₂=25.9.1958 and D₃=10.10.1958.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 42'×16'. (b) 40'×14'. (v) 1'×1'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Slight attack of jassids. (iii) Yield of Cotton. (iv) (a) 1956—1959. (b) No. (b) Nil. (v) to (vi) Nil.

5. RESULTS :

(i) 437 lb./ac. (ii) 82.5 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	D ₁	D ₂	D ₃
Av. yield	443	510	357

S.E./mean = 29.2 lb./ac.

Crop :- Cotton.

Ref :- M. 59(39).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'C'.

Object :—To find out a suitable time of sowing Cotton.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Light gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) Dibbling. (c) 15 to 20 lb./ac. (d) 2'×9". (e) N.A. (v) 10 to 15 C.L./ac. of F.Y.M.+40 lb./ac. of N as top-dressing. (vi) MCU—1. (vii) Irrigated. (viii) Hoeing, weeding twice and earthing up once. (ix) N.A. (x) 29.1.1960 to 22.3.1960.

2. TREATMENTS :

3 dates of sowing : D₁=10.9.1959, D₂=25.9.1959 and D₃=10.10.1959.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 40'×14'. (b) 38'×12½'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) *Kapas* yield. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1113 lb./ac. (ii) 86.48 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	D ₁	D ₂	D ₃
Av. yield	1372	1280	686
S.E./mean = 30.58 lb./ac.			

Crop :- Cotton.

Ref :- M. 56(116).

Site :- Cotton Breeding Stn., Coimbatore.

Type :- 'C'.

Object :—To study the effect of spacing on the yield of early Cotton in the rice fallows.

1. BASAL CONDITIONS :

(i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) 19.3 1956. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 200 lb./ac. of A/S in 2 doses. (vi) P—216. F (early). (vii) Irrigated. (viii) Thinning and 2 weedings. (ix) 8.44". (x) 9.7.1956 to 20.8.1956.

2. TREATMENTS :

Same as in expt. no. 56(117) on page 373.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 0.37 cent. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of cotton. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) (a) Aduthurai, and Palur. (b) Nil. (vi) Nil. (vii) Expt. was conducted at Central Farm, Coimbatore.

5. RESULTS :

(i) 1163 lb./ac. (ii) (a) 112.7 lb./ac. (b) 236.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of kapas in lb./ac.

	S ₁	S ₂	S ₃	Mean	C ₁	C ₂
R ₁	1223	1149	1189	1187	1191	1183
R ₂	1107	1179	1133	1139	1120	1159
Mean	1165	1164	1161	1163	1156	1171
C ₁	1204	1158	1105			
C ₂	1126	1170	1217			

S.E. of difference of two

- | | | | |
|-----------------------------------|-----------------|-----------------------------------|-----------------|
| 1. R marginal means | = 32.5 lb./ac. | 5. R means at the same level of S | = 101.7 lb./ac. |
| 2. S marginal means | = 83.4 lb./ac. | 6. C means at the same level of R | = 96.3 lb./ac. |
| 3. C marginal means | = 68.1 lb./ac. | 7. R means at the same level of C | = 75.5 lb./ac. |
| 4. S means at the same level of R | = 118.0 lb./ac. | S.E. of body of S × C table | = 83.4 lb./ac. |

Crop :- Cotton.

Ref :- M. 57(117).

Site :- Cotton Breeding Stn., Coimbatore.

Type :- 'C'.

Object :—To study the effect of spacing on the yield of early Cotton in the rice fallows.

1. BASAL CONDITIONS :

(i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) 9.3.1957. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 200 lb./ac. of A/S in 2 doses as top-dressing. (vi) P—216. F (early). (vii) Irrigated. (viii) Weeding twice (ix, 9.13". (x) 16.7 1957 to 28.8.1957.

2. TREATMENTS :

Same as in expt. no. 56(117) on page 373.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 56(116) on page 378.

5. RESULTS :

(i) 1062 lb./ac. (ii) (a) 285.1 lb./ac. (b) 252.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of cotton in lb./ac.

	S ₁	S ₂	S ₃	Mean	C ₁	C ₂
R ₁	933	1119	1087	1046	975	1118
R ₂	939	1145	1149	1078	1007	1149
Mean	936	1132	1118	1062	991	1133
C ₁	896	991	1085			
C ₂	976	1274	1151			

S.E. of difference of two

- | | | | |
|-----------------------------------|-----------------|-----------------------------------|-----------------|
| 1. R marginal means | = 83.3 lb./ac. | 5. R means at the same level of S | = 131.7 lb./ac. |
| 2. S marginal means | = 89.1 lb./ac. | 6. C means at the same level of R | = 102.9 lb./ac. |
| 3. C marginal means | = 72.7 lb./ac. | 7. R means at the same level of C | = 109.8 lb./ac. |
| 4. S means at the same level of R | = 126.0 lb./ac. | S.E. of body of S×C table | = 89.1 lb./ac. |

Crop :- Cotton.

Ref :- M. 58(143).

Site :- Cotton Breeding Stn., Coimbatore.

Type :- 'C'.

Object :- To study the effect of spacing on the yield of early Cotton in rice fallows.

1. BASAL CONDITIONS :

(i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) 18.3.1958. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 200 lb./ac. of A/S as top-dressing. (vi) P—216. F (early). (vii) Irrigated. (viii) Weeding twice. (ix) 10.5". (x) 20.7.1958 to 30.8.1958.

2. TREATMENTS :

Same as in expt. no. 56(117) on page 373.

3. DESIGN :

Same as in expt. no. 56(116) on page 378.

4. GENERAL :

(i) Satisfactory. (ii) Attack of jassids, aphids and boll-worm was noticed. (iii) Yield of kapas. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) (a) Aduthurai, Palur. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1103 lb./ac. (ii) (a) 50.0 lb./ac. (b) 110.2 lb./ac. (iii) Main effect of R alone is significant. (iv) Av. yield of kapas in lb./ac.

	S ₁	S ₂	S ₃	Mean	C ₁	C ₂
R ₁	1069	1206	1141	1138	1142	1135
R ₂	1116	1094	990	1067	996	1137
Mean	1092	1150	1065	1103	1069	1136
C ₁	1113	1152	942			
C ₂	1072	1148	1189			

S.E. of difference of two

- | | | | |
|-----------------------------------|----------------|-----------------------------------|----------------|
| 1. R marginal means | = 14.4 lb./ac. | 5. R means at the same level of S | = 47.2 lb./ac. |
| 2. S marginal means | = 39.0 lb./ac. | 6. C means at the same level of R | = 45.0 lb./ac. |
| 3. C marginal means | = 31.8 lb./ac. | 7. R means at the same level of C | = 34.9 lb./ac. |
| 4. S means at the same level of R | = 55.1 lb./ac. | S.E. of body of S×C table | = 39.0 lb./ac. |

Crop :- Cotton.**Ref :- M. 56(112).****Site :- Cotton Breeding Stn., Coimbatore.****Type :- 'C'.**

Object :—To find out the optimum spacing and number of seedlings per hole for Cotton.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*—Sannhemp. (b) Sannhemp. (c) Nil. (ii) (a) Red loamy. (b) Refer soil analysis, Coimbatore. (iii) 31.8.1956. (iv) (a) 2 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) Nil. (vi) G—9030. (vii) Irrigated. (viii) Thinning, weeding twice. (ix) 9.6". (x) 10.1.1957 to 28.2.1957.

2. TREATMENTS :

Same as in expt. no. 56(115) on page 375.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 21'×20'. (b) 18'×15'. (v) One row left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Incidence of boll-worm noticed. Spraying of Endrine and Folidol. (iii) *Kapas* yield. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) (a) Avanashi, Tiruchengode and Bhavanisagar. (b) Nil. (vi, and (vii) Nil.

5. RESULTS :

(i) 720 lb./ac. (ii) (a) 327.6 lb./ac. (b) 175.2 (iii) Main effect of C is highly significant. (iv) Av. yield of *kapas* in lb./ac.

	S ₁	S ₂	Mean	C ₁	C ₂
R ₁	877	796	836	768	904
R ₂	658	700	679	578	780
R ₃	678	612	645	505	785
Mean	733	703	720	617	823
C ₁	642	592			
C ₂	833	813			

S.E. of difference of two

- | | |
|--|-----------------|
| 1. R marginal means | = 115.8 lb./ac. |
| 2. S or C marginal means | = 50.6 lb./ac. |
| 3. S or C means at the same level of R | = 87.6 lb./ac. |
| 4. R means at the same level of S or C | = 130.6 lb./ac. |
| S.E. of body of S×C table | = 50.6 lb./ac. |

Crop :- Cotton.**Ref :- M. 55(85).****Site :- Cotton Breeding Stn., Coimbatore.****Type :- 'C'.**

Object :—To study the effect of spacing and number of seedlings per hole on the yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red loamy soil. (b) Refer soil analysis, Coimbatore. (iii) 12.10.1955. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 200 lb./ac. of A/S in two splits during 6th and 10th weeks after sowing. (vi) MCU—1. (vii) Irrigated. (viii) Thinning and weeding twice. (ix) 11.8%. (x) 6.3.1956 to 17.4.1956.

2. TREATMENTS :

Same as in expt. no. 56(115) on page 375.

3. DESIGN :

(i) Split-Plot. (ii) (a) 3 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 20'×15'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Incidence of jassids and boll-worm. Endrine sprayed twice. (iii) Yield of *Kapas*. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) (a) Coimbatore, Tiruchengode and Bhavanisagar. (b) Nil. (vi) Nil. (vii) Expt. was conducted at Avanashi.

5. RESULTS :

(i) 1555 lb./ac. (ii) (a) 234.1 lb./ac. (b) 185.2 lb./ac. (iii) Main effect of C is highly significant. Main effect of S is significant. Other effects are not significant. (iv) Av. yield of *kapas* in lb./ac.

	S ₁	S ₂	Mean	C ₁	C ₂
R ₁	1687	1519	1603	1478	1727
R ₂	1562	1504	1533	1481	1585
R ₃	1623	1433	1528	1389	1667
Mean	1624	1485	1555	1449	1660
C ₁	1541	1357			
C ₂	1707	1613			

S.E. of difference of two

- | | |
|--|-----------------|
| 1. R marginal means | = 82.8 lb./ac. |
| 2. S or C marginal means | = 53.5 lb./ac. |
| 3. S or C means at the same level of R | = 92.5 lb./ac. |
| 4. R means at the same level of S or C | = 105.5 lb./ac. |
| S.E. of body of S×C table | = 53.5 lb./ac. |

Crop :- Cotton.

Ref :- M. 56(113).

Site :- Cotton Breeding Stn., Coimbatore.

Type :- 'C'.

Object :- To study the effect of spacing and number of seedlings per hole on the yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Ragi*. (c) 20 C.L./ac. of compost. (ii) (a) Red loamy soil. (b) N.A. (iii) 10, 11.10.1956. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 20 C.L./ac. of compost+40 lb./ac. of N as A/S. (vi) G—9030. (vii) Irrigated. (viii) Thinning and weeding twice. (ix) 15.87%. (x) 22.2.1957 to 12.4.1957.

2. TREATMENTS :

Same as in expt. no. 56(115) on page 375.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 24'×12'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Incidence of jassids, boll-worm, stem-weevil. Spraying of Endrine and Folidol. (iii) *Kapas* yield. (iv) (a) 1954-1956. (b) No. (c) Nil. (v) (a) Coimbatore, Tiruchengode and Bhavanisagar. (b) Nil. (vi) Nil. (vii) Expt. was conducted at Avanashi.

5. RESULTS :

(i) 1397 lb./ac. (ii) (a) 260.8 lb./ac. (b) 214.1 lb./ac. (iii) Main effect of C alone is significant. (iv) Av. yield of *kapas* in lb./ac.

	S ₁	S ₂	Mean	C ₁	C ₂
R ₁	1475	1469	1472	1425	15.8
R ₂	1404	1395	1399	1327	1472
R ₃	1307	1333	1320	1205	1435
Mean	1395	1399	1397	1319	1475
C ₁	1314	1324			
C ₂	1476	1474			

S.E. of difference of two

1. R marginal means	= 92.2 lb./ac.
2. S or C marginal means	= 61.8 lb /ac.
3. S or C means at the same level of R	= 107.0 lb./ac.
4. R means at the same level of S or C	= 119.3 lb /ac.
S.E. of body of S×C table	= 61.8 lb./ac.

Crop :- Cotton.

Site :- Cotton Breeding Stn., Coimbatore.

Ref :- M. 55(83).

Type :- 'C'.

Object :—To study the effect of spacing and number of seedlings per hole on the yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Ragi*. (c) 20 C.L./ac. of compost. (ii) (a) Calcareous soil. (b) N.A. (iii) 10.10.1955. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 10 C.L./ac. of C.M.+200 lb./ac. of A/S. (vi) MCU—1. (vii) Irrigated. (viii) Thinning and weeding twice. (ix) 7.98. (x) 20.2.1956 to 26.3.1956.

2. TREATMENTS :

Same as in expt. no. 56(115) on page 375.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 4 sub-plots/main-plot. (b) 60'×60'. (iii) 4. (iv) (a) and (b) 20'×15'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) *Kapas* yield. (iv) (a) 1954-1956. (b) No. (c) Nil. (v) (a) Avanashi, Coimbatore and Bhavanisagar. (b) Nil. (vi) Nil. (vii) Expt. was conducted at Tiruchengode.

5. RESULTS :

(i) 1339 lb./ac. (ii) (a) 170.7 lb./ac. (b) 156.7 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of *kapas* in lb./ac.

	S ₁	S ₂	Mean	C ₁	C ₂
R ₁	1374	1297	1335	1362	1309
R ₂	1318	1372	1345	1319	1371
R ₃	1314	1363	1338	1262	1414
Mean	1335	1344	1339	1314	1365
C ₁	1302	1327			
C ₂	1367	1362			

S.E. of difference of two

1. R marginal means = 60.3 lb./ac.
 2. S or C marginal means = 45.2 lb./ac.
 3. S or C means at the same level of R = 78.4 lb./ac.
 4. R means at the same level of S or C = 81.9 lb./ac.
- S.E. of body of S × C table = 45.2 lb./ac.

Crop :- Cotton.

Ref :- M. 56(114).

Site :- Cotton Breeding Stn., Coimbatore.

Type :- 'C'.

Object :—To study the effect of spacing and number of seedlings per hole on the yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Ragi*. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Red loam. (b) N.A. (iii) 24.10.1956. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 4 C.L./ac. of F.Y.M.+15 lb./ac. of P₂O₅ as Super+40 lb./ac. of N as A/S. (vi) G—9030. (vii) Irrigated. (viii) Thinning and weeding twice. (ix) 7.38". (x) 15.3.1957 to 22.4.1957.

2. TREATMENTS :

Same as in expt. no. 56(115) on page 375.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 24' × 12'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Incidence of jassids, aphids and boll-worm. Spraying of Endrine and Folidol. (iii) *Kapas* yield. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) (a) Coimbatore, Avanashi and Bhavanisagar. (b) Nil. (vi) Nil. (vii) Expt. was conducted at Tiruchengode.

5. RESULTS :

(i) 1188 lb./ac. (ii) (a) 216.0 lb./ac. (b) 171.5 lb./ac. (iii) Main effect of R is significant. (iv) Av. yield of *kapas* in lb./ac.

	S ₁	S ₂	Mean	C ₁	C ₂
R ₁	1370	1202	1286	1273	1300
R ₂	1130	1228	1179	1204	1155
R ₃	1146	1050	1098	1028	1167
Mean	1215	1160	1188	1168	1207
C ₁	1220	1116			
C ₂	1210	1204			

S.E. of difference of two

1. R marginal means	=	76.4 lb./ac.
2. S or C marginal means	=	49.5 lb./ac.
3. S or C means at the same level of R	=	85.8 lb./ac.
4. R means at the same level of S or C	=	97.6 lb./ac.
S.E. of body of S×C table	=	49.5 lb./ac.

Crop :- Cotton (Summer).**Ref :- M. 56(120).****Site :- Agri. Res. Stn., Palur.****Type :- 'C'.**

Object :—To study the effect of spacing on the yield of early Cotton in rice fallows.

1. BASAL CONDITIONS:

(i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 19.2.1956. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 200 lb. ac. of A/S. (vi) P—216. F (early). (vii) Irrigated. (viii) Thinning and weeding twice. (ix) 19.29'. (x) 9.7.1956 to 7.9.1956.

2. TREATMENTS:

Same as in expt. no. 56(117) on page 373.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) 'a' and (b) 17'×12'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Jassids and aphids noticed. (iii) Yield of *kapas*. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) Aduthurai and Coimbatore. (b) Nil. (vi) Nil. (vii) Expt. was conducted by Cotton Specialist, Coimbatore.

5. RESULTS :

(i) 1152 lb./ac. (ii) (a) 150.4 lb./ac. (b) 140.9 lb./ac. (iii) None of the effects is significant. (iv) Av. yield, of *kapas* in lb./ac.

	S ₁	S ₂	S ₃	Mean	C ₁	C ₂
R ₁	1209	1206	1242	1219	1232	1205
R ₂	1080	1117	1061	1086	1106	1066
Mean	1144	1162	1151	1152	1169	1136
C ₁	1182	1172	1154			
C ₂	1107	1152	1149			

S.E. of difference of two

1. R marginal means	=	43.5 lb./ac.	5. R means at the same level of S	=	72.0 lb./ac.
2. S marginal means	=	49.8 lb./ac.	6. C means at the same level of R	=	57.5 lb./ac.
3. C marginal means	=	40.8 lb./ac.	7. R means at the same level of C	=	59.5 lb./ac.
4. S means at the same level of R	=	70.5 lb./ac.	S.E. of body of S×C table	=	49.8 lb./ac.

Crop :- Cotton.**Ref :- M. 57(121).****Site :- Agri. Res. Stn., Palur.****Type :- 'C'.**

Object :—To study the effect of spacing on the yield of early Cotton in rice fallows.

1. BASAL CONDITIONS :

(i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 2.3.1957. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 200 lb./ac. of A/S. (vi) P—216. F (early). (vii) Irrigated. (viii) Thinning and weeding twice. (ix) 9.4". (x) 6.7.1957 to 23.8.1957.

2. TREATMENTS :

Same as in expt. no. 56(117) on page 373.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-pl block ; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 0.33 cent. (v) Nil. (vi) Yes.

4. GENERAL :

Same as in expt. no. 56(120) on page 384.

5. RESULTS .

(i) 804 lb./ac. (ii) (a) 206.4 lb./ac. (b) 151.9 lb./ac. (iii) Main effect of S is highly significant and interaction S×C is significant. (iv) Av. yield of *kapas* in lb./ac.

	S ₁	S ₂	S ₃	Mean	C ₁	C ₂
R ₁	1000	758	802	853	805	901
R ₂	855	761	649	755	748	762
Mean	927	759	725	804	777	832
C ₁	838	830	662			
C ₂	1017	689	789			

S.E. of difference of two

- | | | | |
|-----------------------------------|----------------|-----------------------------------|----------------|
| 1. R marginal means | = 59.6 lb./ac. | 5. R means at the same level of S | = 86.1 lb./ac. |
| 2. S marginal means | = 53.7 lb./ac. | 6. C means at the same level of R | = 61.9 lb./ac. |
| 3. C marginal means | = 43.8 lb./ac. | 7. R means at the same level of C | = 64.1 lb./ac. |
| 4. S means at the same level of R | = 76.0 lb./ac. | S.E. of body of S×C table | = 53.7 lb./ac. |

Crop :- Cotton.

Site :- Agri. Res. Stn., Palur.

Ref :- M. 58(146).

Type :- 'C'.

Object :-To study the effect of spacing on the yield of early Cotton in rice fallows.

BASAL CONDITIONS :

(i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 19.2.1958. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 200 lb./ac. of A/S. (vi) P—216.F (early). (vii) Irrigated. (viii) Thinning and weeding twice. (ix) 5.51". (x) 4.6.1958 to 24.7.1958.

TREATMENTS :

Same as in expt. no. 56(117) on page 373.

DESIGN :

Same as in expt. no. 57(121) on page 384.

4. GENERAL :

(i) Satisfactory. (ii) Slight incidence of jassids and boll-worm. (iii) Yield of *kapas*. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) Aduthurai and Coimbatore. (b) Nil. (vi) Nil. (vii) Expt. was conducted by Cotton Specialist, Coimbatore.

5. RESULTS :

(i) 1085 lb./ac. (ii) (a) 214.6 lb./ac. (b) 157.2 lb./ac. (iii) Main effect of C is significant. (iv) Av. yield of *kapas* in lb./ac.

	S ₁	S ₂	S ₃	Mean	C ₁	C ₂
R ₁	1067	1076	1161	1101	1124	1078
R ₂	1071	1080	1052	1068	1111	1024
Mean	1069	1078	1107	1085	1118	1051
C ₁	1074	1132	1147			
C ₂	1064	1024	1066			

S.E. of difference of two

- | | | | |
|-----------------------------------|----------------|-----------------------------------|----------------|
| 1. R marginal means | = 62.0 lb./ac. | 5. R means at the same level of S | = 89.2 lb./ac. |
| 2. S marginal means | = 55.6 lb./ac. | 6. C means at the same level of R | = 64.2 lb./ac. |
| 3. C marginal means | = 45.4 lb./ac. | 7. R means at the same level of C | = 76.5 lb./ac. |
| 4. S means at the same level of R | = 78.6 lb./ac. | S.E. of body of S×C table | = 55.6 lb./ac. |

Crop :- Cotton.

Ref :- M. 54(117).

Site :- Agri. Res. Stn., Satyamangalam.

Type :- 'C'.

Object :—To determine the optimum spacing and no. of seedlings per hole.

1. BASAL CONDITIONS :

(i) (a) Sorghum—G.M.—Cotton. (b) G.M. (c) Nil. (ii) (a) Gravelly soil. (b) N.A. (iii) 3.10.1954. (iv) (a) 4 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 20 lb./ac. of N as A/S as B.D. +20 lb./ac. of N as A/S at the time of flowering. (vi) MCU—1 (medium). (vii) Irrigated. (viii) Weeding and hoeing thrice. (iv) 25.43". (x) 5.2.1955 to 12.3.1955.

2. TREATMENTS :

Same as expt. no. 56(115) on page 375.

3. DESIGN :

(i) Split-plot. (b) (a) 3 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 20'×14'. (b) 17'×14'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Stunted growth. (ii) Slight incidence of jassids. (iii) Yield of *kapas* and fibre. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) and (vi) Nil. (vii) Expt. was conducted by Cotton Specialist, Coimbatore.

5. RESULTS :

(i) 757 lb./ac. (ii) (a) 216.0 lb./ac. (b) 107.8 lb./ac. (iii) Main effect of C alone is highly significant. (iv) Av. yield of *kapas* in lb./ac.

	S ₁	S ₂	Mean	C ₁	C ₂
R ₁	792	790	791	723	859
R ₂	848	762	805	716	895
R ₃	699	652	676	593	758
Mean	780	735	757	677	837
C ₁	694	660			
C ₂	865	809			

S.E. of difference of two

1. R marginal means	= 76.4 lb./ac.
2. S or C marginal means	= 31.1 lb./ac.
3. S or C means at the same level of R	= 53.9 lb./ac.
4. R means at the same level of S or C	= 85.4 lb./ac.
S.E. of body of S × C table	= 31.1 lb./ac.

Crop :- Cotton.**Ref :- M. 55(72).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'CV'.**

Object :—To find out a suitable date of sowing Cotton crop.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) Dibbling. (c) 15 to 20 lb./ac. (d) 2' × 9". (e) N.A. (v) 10 to 15 C.L./ac. of compost + 40 lb./ac. of N as A/S as top-dressing. (vi) As per treatments. (vii) Irrigated. (viii) Hoeing, weeding twice and earthing up once. (ix) 9.10". (x) N.A.

2. TREATMENTS :

Main-plot treatments :

3 dates of sowing : $D_1=10.9.1955$, $D_2=25.9.1955$ and $D_3=10.10.1955$.

Sub-plot treatments :

2 varieties : $V_1=MCU-1$ and $V_2=G-9030$.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 6 (iv) (a) and (b) 42' × 16' (v) Nil. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) N.A. (iii) *Kapas* yield. (iv) (a) 1955–1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 246 lb./ac. (ii) (a) 68.1 lb./ac. (b) 55.0 lb./ac. (iii) Main effect of D alone is significant. (iv) Av. yield of *kapas* in lb./ac.

	D_1	D_2	D_3	Mean
V_1	306	256	206	256
V_2	271	249	189	236
Mean	288	252	197	246

S.E. of difference of two

1. D marginal means	= 27.8 lb./ac.
2. V marginal means	= 18.3 lb./ac.
3. V means at the same level of D	= 31.8 lb./ac.
4. D means at the same level of V	= 35.8 lb./ac.

Crop :- Cotton.**Ref :- M. 55(84).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'CV'.**

Object :—To find out optimum spacing and number of seedlings per hole for different varieties of Cotton.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Sandy loam. (b) N.A. (iii) 20.9.1955. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) River silt at 75 C.L./ac. (vi) As per treatments. (vii) Irrigated. (viii) Thinning once ; weeding and hoeing thrice. (ix) 10.39". (x) 31.1.1956 to 28.3.1956.

2. TREATMENTS :

Main-plot treatments :

3 row spacings : $R_1=1.5'$, $R_2=2'$ and $R_3=2.5'$.

Sub-plot treatments :

All combinations of (1) and (2)

(1) 2 plant spacings : $S_1=6''$ and $S_2=9''$.

(2) Number of seedlings/hole : $C_1=Single$ and $C_2=Double$.

Sub-sub-plot treatments :

2 varieties : $V_1=MCU-1$ and $V_2=G-9030$.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 4 sub-plots/main-plot ; 2 sub-sub-plots/sub-plots. (b) N.A. (iii) 4. (iv) (a) and (b) $20' \times 14.5'$. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Attack of boll-worm, top-borer and jassids noticed. Endrine was sprayed thrice. (iii) Flower, boll count and yield of *kapas*. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) and (vi) Nil. (vii) Expt. was conducted by the Cotton specialist, Coimbatore.

5. RESULTS :

(i) 929 lb./ac. (ii) (a) 320.6 lb./ac. (b) 293.6 lb./ac. (c) 171.0 lb./ac. (iii) Interaction $S \times V$ alone is significant. (iv) Av. yield of *kapas* in lb./ac.

	R_1	R_2	R_3	C_1	C_2	S_1	S_2	Mean
V_1	904	991	961	940	964	890	1014	952
V_2	927	896	895	882	930	928	884	906
Mean	916	944	928	911	947	909	949	929
S_1	973	893	861	891	927			
S_2	858	994	995	932	966			
C_1	979	871	884					
C_2	852	1016	972					

S.E. of difference of two

- | | | | |
|--|-----------------|--|----------------|
| 1. R marginal means | = 80.2 lb./ac. | 6. V means at the same level of R | = 60.5 lb./ac. |
| 2. S or C marginal means | = 59.9 lb./ac. | 7. R means at the same level of V | = 90.8 lb./ac. |
| 3. V marginal means | = 34.9 lb./ac. | 8. V means at the same level of S or C | = 42.3 lb./ac. |
| 4. S or C means at the same level of R | = 103.8 lb./ac. | 9. S or C means at the same level of V | = 69.3 lb./ac. |
| 5. R means at the same level of S or C | = 108.7 lb./ac. | S.E. of body of $S \times C$ table | = 59.9 lb./ac. |

Crop :- Cotton.

Site :- Cotton Breeding Stn., Coimbatore.

Ref :- M. 55(82).

Type :- 'CV'.

Object :- To find out optimum spacing and number of seedlings per hole for different varieties of Cotton.

1. BASAL CONDITIONS :

(i) (a) Cotton—*Jowar*—*Sannhemp*. (b) *Sannhemp*. (c) Nil. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 6.9.1955. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 200 lb./ac. of A/S top-dressed in 6th and 10th week. (vi) As per treatments. (vii) Irrigated. (viii) Thinning once and 3 weedings. (ix) 9.67". (x) 9.2.1956 to 2.3.1956.

2. TREATMENTS :

Same as in expt. no. 55(84) on page 387.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 4 sub-plots/main-plot ; 2 sub-sub-plots/sub-plot. (b) N.A. (iii) 4. (iv) (a) 0.69 cent. (b) 0.44 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Incidence of jassids, aphids and boll-worm. Spraying of Endrine once and Folidol twice. (iii) Counts of flowers, buds and *kapas* yield. (iv) (a) 1954-1956. (b) No. (c) Nil. (v) and (vi) Nil. (vii) Expt. was conducted by the Cotton Specialist, Coimbatore.

5. RESULTS :

(i) 734 lb./ac. (ii) (a) 104.5 lb./ac. (b) 160.7 lb./ac. (c) 124.0 lb./ac. (iii) Main effect of V and interactions V×S and R×S are highly significant. (iv) Av. yield of *kapas* in lb./ac.

	R ₁	R ₂	R ₃	C ₁	C ₂	S ₁	S ₂	Mean
V ₁	863	797	774	805	817	812	810	811
V ₂	617	705	647	673	640	652	661	656
Mean	740	751	711	739	729	732	736	734
S ₁	746	673	776	738	726			
2	734	829	645	740	732			
C ₁	708	786	722					
C ₂	772	715	699					

S.E. of difference of two

- | | | | |
|--|----------------|--|----------------|
| 1. R marginal means | = 26.1 lb./ac. | 6. V means at the same level of R | = 43.8 lb./ac. |
| 2. S or C marginal means | = 32.8 lb./ac. | 7. R means at the same level of V | = 80.5 lb./ac. |
| 3. V marginal means | = 25.3 lb./ac. | 8. V means at the same level of S or C | = 31.0 lb./ac. |
| 4. S or C means at the same level of R | = 56.8 lb./ac. | 9. S or C means at the same level of V | = 41.4 lb./ac. |
| 5. R means at the same level of S or C | = 47.9 lb./ac. | S.E. of body of S×C table | = 32.8 lb./ac. |

Crop :- Cotton.

Ref :- M. 54(118).

Site :- Cotton Breeding Stn., Coimbatore.

Type :- 'CV'.

Object :- To study the effect of spacings on the yield of Cotton grown in rice fallows.

1. BASAL CONDITIONS :

(i) (a) Cotton-Paddy. (b) Paddy. (c) G.M. at 5000 lb./ac.+A/S and Super at 150 lb./ac. each. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) 17.2.1954. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) As per treatments. (e) N.A. (v) 200 lb./ac. of A/S. (vi) As per treatments. (vii) Irrigated. (viii) Weeding and hoeing twice. (ix) 11.14". (x) 21.6.1954 to 16.8.1954.

2. TREATMENTS :

Main-plot treatments :

2 row spacings : R₁=1.5' and R₂=2'.

Sub-plot treatments:

All combinations of (1) and (2)

(1) 3 plant spacings : S₁=4.5", S₂=6" and S₃=9".

(2) 2 varieties : V₁=P-216 F and V₂=P-23 F.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 6 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) 12'×12'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Attack of red-leaf, jassids, aphids and leaf-rollers. (iii) *Kapas* yield. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1258 lb./ac. (ii) (a) 330.9 lb./ac. (b) 179.5 lb./ac. (iii) Main effect of V is highly significant and main effect of R is significant. Others are not significant. (iv) Av. yield of *kapas* in lb./ac.

	S ₁	S ₂	Mean	V ₁	V ₂
R ₁	1583	1239	1411	1431	1391
R ₂	1332	1086	1209	1256	1161
R ₃	1304	1002	1153	1233	1068
Mean	1406	1109	1258	1308	1207
V ₁	1468	1149			
V ₂	1344	1069			

S.E. of difference of two

- | | | | |
|-----------------------------------|-----------------|-----------------------------------|----------------|
| 1. R marginal means | = 78.0 lb./ac. | 5. R means at the same level of V | = 88.7 lb./ac. |
| 2. S marginal means | = 51.8 lb./ac. | 6. S means at the same level of R | = 73.3 lb./ac. |
| 3. V marginal means | = 42.3 lb./ac. | 7. V means at the same level of R | = 59.8 lb./ac. |
| 4. R means at the same level of S | = 118.1 lb./ac. | S.E. of body of S × V table | = 51.8 lb./ac. |

Crop :- Cotton.

Ref :- M. 55(87).

Site :- Cotton Breeding Stn., Coimbatore.

Type :- 'CIM'.

Object :—To study the effect of tillage, manures and irrigation on Cotton crop.

1. BASAL CONDITIONS :

(i) (a) *Cholam*—Cotton—*Ragi*. (b) *Cholam*. (c) As per treatments. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 8.9.1955. (iv) (a) As per treatments. (b) and (c) N.A. (d) 2' × 6'. (e) N.A. (v) 5 tons/ac. of C.M. (vi) MCU—1 (medium). (vii) Irrigated. (viii) Hoeing, weeding and earthing up once. (ix) 7.39". (x) 9.5.1956.

2. TREATMENTS :

Strips in one direction :

3 levels of irrigation : I₁=24, I₂=30 and I₃=36 acre-inches.

Strips in perpendicular direction :

All combinations of (1) and (2)

(1) 2 levels of ploughing : C₁=Shallow and C₂=Deep ploughing.

(2) 3 levels of manure : M₁=30 lb./ac. of N+30 lb./ac. of P₂O₅, M₂=60 lb./ac. of N+45 lb./ac. of P₂O₅+50 lb./ac. of K₂O and M₃=90 lb./ac. of N+60 lb./ac. of P₂O₅+50 lb./ac. of K₂O.

3. DESIGN :

(i) Strip-plot. (ii) (a) 18. (b) N.A. (iii) 4. (iv) (a) 32' × 13'. (b) 28' × 11'. (v) 2' × 11'. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) Crop failed due to incidence of pests. Folidol at 1 oz. in 2½ gallons of water was sprayed against mealy-bugs. (iii) Yield of *kapas*. (iv) (a) 1954—contd. (b) Yes. (c) Nil. (v) to (vi) Nil.

RESULTS :

(i) 352 lb./ac. (ii) (a) 31.21 lb./ac. (b) 60.80 lb./ac. (c) 41.94 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of *kapas* in lb./ac.

	I ₁	I ₂	I ₃	M ₁	M ₂	M ₃	Mean
C ₁	358	345	382	381	367	336	362
C ₂	343	345	341	351	310	369	343
Mean	351	345	361	366	338	352	352
M ₁	361	366	372				
M ₂	342	337	336				
M ₃	349	332	376				

S.E. of difference of two

1. I marginal means = 9.0 lb./ac.
2. C marginal means = 14.3 lb./ac.
3. M marginal means = 17.6 lb./ac.
4. C means at the same level of I = 19.4 lb./ac.
5. I means at the same level of C = 20.0 lb./ac.
6. M means at the same level of I = 24.5 lb./ac.
7. I means at the same level of M = 15.1 lb./ac.

Crop :- Cotton.

Ref :- M. 54(16).

Site :- Agri. Res. Stn., Aduthurai.

Type :- 'D'.

Object :- To study the effect of fungicides in controlling boll-worm disease of Cotton.

1. BASAL CONDITIONS :

(i) (a) Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 30 lb./ac. of P₂O₅ as Super + 30 lb./ac. of N as A/S. (ii) (a) Clay soil. (b) Refer soil analysis, Aduthurai. (iii) 6.3.1954. (iv) (a) Ploughed twice. (b) to (e) N.A. (v) Top-dressing with A/S at 200 lb./ac. in two doses half at the time of 1st earthing and the rest a month later. (vi) P—216 F (early). (vii) Irrigated. (viii) Earthing up twice. (ix) 9.00". (x) 29.7.1954.

2. TREATMENTS :

4 fungicides : F₀=Control (no spray), F₁=Ekatox 0.025%. F₂=Folidol 0.025% and F₃= BHC 0.1%.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 78'×48'. (b) 64'×34'. (v) 2 rows left as border. (vi) Yes.

4. GENERAL :

(i) No lodging. (ii) Attack of boll-worm noticed—control measures as per treatments. (iii) Cotton yield and infestation count. (iv) (a) 1952—contd. (b) and (c) No. (v) (a) Coimbatore. (b) Nil. (vi) Nil. (vii) Expt. was conducted by Entomologist.

5. RESULTS :

(i) 576 lb./ac. (ii) 139.2 lb./ac. (ii) Treatment differences are not significant. (iv) Av. yield of kapas in lb./ac.

Treatment	F ₀	F ₁	F ₂	F ₃
Av. yield	515	565	600	625

S.E./mean = 69.6 lb./ac.

Crop :- Cotton.

Ref :- M 58(64).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'D'.

Object :- To study the effect of antibiotics on Cotton crop.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 11.9.1958. (iv) (a) 2 to 3 ploughings. (b) Dibbling. (c) 15 to 20 lb./ac. (d) 2'×9". (e) 1. (v) 10 C.L./ac. of compost. (vi) MCU-1. (vii) Irrigated. (viii) Hoeing, weeding twice and earthing up once. (ix) 10.05". (x) 19.2.1959 to 4.4.1959.

2. TREATMENTS :

7 antibiotics : A₀=Control, A₁=Ceresan, A₂=Agrosan, A₃=Tillex, A₄=Sperguson, A₅=Ceremex and A₆=Flit 406.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) 40'×12'. (b) 36'×10½'. (v) 2'×9". (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) N.A. (iii) *Kapas* yield. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 982 lb./ac. (ii) 198 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	A ₀	A ₁	A ₂	A ₃	A ₄	A ₅	A ₆
Av. yield	1001	926	965	924	1003	1001	1053

S.E./mean = 99.0 lb./ac.

Crop :- Cotton.

Ref :- M. 58(65).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'D'.

Object :- To study the effect of fungicides on Cotton crop.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 11.9.1958. (iv) (a) 2 to 3 ploughings. (b) Dibbling. (c) 15 to 20 lb./ac. (d) 2'×9". (e) 1. (v) 10 C.L./ac. of compost. (vi) MCU-1. (vii) Irrigated. (viii) Hoeing, weeding twice and earthing up once. (ix) 10.05". (x) 15.2.1959 to 10.4.1959.

2. TREATMENTS :

7 fungicides : F₀=Control, F₁=Agristrep, F₂=Phytomycin, F₃=Streptomycin, F₄=Agrimycin, F₅=Bordeaux mixture and F₆=Mycostatin.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) 24'×15'. (b) 20'×12'. (v) 2'×1½'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) N.A. (iii) *Kapas* yield. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 592 lb./ac. (ii) 156.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	F ₀	F ₁	F ₂	F ₃	F ₄	F ₅	F ₆
Av. yield	564	607	664	601	420	740	550

S.E./mean = 78.5 lb./ac.

Crop :- Cotton.

Ref :- M. 59(49).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'D'.

Object :- To study the effect of fungicides on Cotton crop.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 28.8.1959. (iv) (a) 2 to 3 ploughings. (b) Dibbling. (c) 15 to 20 lb./ac. (d) 2'×9". (e) 1. (v) 10 C.L./ac. of compost. (vi) MCU-1. (vii) Irrigated. (viii) Hoeing, weeding thrice and earthing up once. (ix) 9.1". (x) 4.2.1960 to 2.4.1960.

2. TREATMENTS :

10 fungicides : F₀=Control, F₁=Sperguson, F₂=Tillex, F₃=Agrosan, F₄=Agrosan 5w, F₅=Ceremex, F₆=Dout 9 B, F₇=2% Ceresan, F₈=Flit 406 and F₉=Ceresan dry.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 40'×12'. (b) 36'×10½'. (v) One row left around. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) N.A. (iii) *Kapas* yield. (iv) (a) to (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 2332 lb./ac. (ii) 217.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	F ₀	F ₁	F ₂	F ₃	F ₄	F ₅	F ₆	F ₇	F ₈	F ₉
Av. yield	2384	2438	2206	2389	2458	2224	2175	2334	2285	2424

S.E./mean = 109 lb./ac.

Crop :- Cotton.

Ref :- M. 54(29).

Site :- Agri. Res. Stn., Coimbatore.

Type :- 'D'.

Object:—To find out an effective insecticide for the control of spotted boll-worm of Cotton.

1. BASAL CONDITIONS :

(i) (a) No. (b) *Jowar*. (c) 5 tons/ac. of F.Y.M. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 2.9.1954. (iv) (a) to (e) N.A. (v) 10 tons/ac. of F.Y.M. and 200 lb./ac. of A/S. (vi) MCU—1. (vii) Irrigated. (viii) 5 weedings and 3 earthings. (ix) 16.29". (x) Jan. 1955 to April 1955.

2. TREATMENTS :

9 insecticides : I₀=Control, I₁=B.H.C. 10% dust, I₂=B.H.C. 0.1% spray, I₃=Aldrin 2.5% dust, I₄=Aldrin 0.1% spray, I₅=Dieldrin 2.5% dust, I₆=Dieldrin 0.1% spray, I₇=Folidol 0.025% spray and I₈=Endrine spray (1 oz in 6½ gallons.).

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 50'×20'. (b) 40'×16'. (v) 2 rows left as border. (vi) Yes.

4. GENERAL :

(i) Good growth. (ii) Slight incidence of boll-worm noticed—control measures as per treatments. (iii) Yield of *kapas* and infection count. (iv) (a) 1952—contd. (b) and (c) No. (v) (a) Aduthurai. (b) Nil. (vi) Nil. (vii) Expt. was conducted by Entomologist, Coimbatore.

5. RESULTS :

(i) 980 lb./ac. (ii) 235.5 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	I ₀	I ₁	I ₂	I ₃	I ₄	I ₅	I ₆	I ₇	I ₈
Av. yield	572	636	597	803	602	922	1508	1424	1758

S.E./mean = 117.8 lb./ac.

Crop :- Cotton.

Ref :- M. 54(31).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'D'.

Object:—To find out an effective insecticide for the control of spotted boll-worm of Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Jowar*. (c) 5 tons/ac. of F.Y.M. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 2.9.1954. (iv) (a) 3 ploughings and two *mummatty* hoeings. (b) to (e) N.A. (v) 10 tons/ac. of F.Y.M. + 200 lb./ac. of A/S. (vi) MCU—1 (medium). (vii) Irrigated. (viii) 5 weedings. (ix) 16.29". (x) January 1955 to April 1955.

2. TREATMENTS :

Same as in expt. no. 54(29) on page 393.

Treatments applied in three equal doses at 15 days interval from 6 weeks after sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 50'×20'. (b) 40'×15'. (v) 2 rows left on all sides. (vi) Yes.

4. GENERAL :

(i) No lodging ; good growth. (ii) Attack of boll-worm was noticed—control measures as per treatments. (iii) *Kapas* yield and infection count. (iv) (a) 1952—contd. (b) and (c) No. (v) (a) Aduthurai. (b) Nil. (vi) Nil. (vii) Expt. was conducted by Entomologist, Coimbatore.

5. RESULTS :

(i) 699 lb./ac. (ii) 144.5 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	I ₀	I ₁	I ₂	I ₃	I ₄	I ₅	I ₆	I ₇	I ₈
Av. yield	731	586	668	715	501	430	637	855	1171

S.E./mean = 72.3 lb./ac.

Crop :- Cotton (Monsoon).

Ref :- M. 58(42).

Site :- Agri. College & Res. Instt., Coimbatore.

Type :- 'D'.

Objcet :—To study the effect of dose and time of application of insecticides to Cotton crop.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) 'a' Black loam. (b) Refer soil analysis, Coimbatore. (iii) 30.9.1958. (iv) (a) 3 ploughings. (b) Dibbled. (c) N.A. (d) 2½'×1'. (e) 2. (v) 5 tons/ac. of F.Y.M. (vi) MCU-1. (vii) Irrigated. (viii) Weeding and interculture once. (ix) 11.87%. (x) 17.1.1959. to 25.3.1959.

2. TREATMENTS :

All combinations of (1), (2) and (3)+2 extra treatments.

(1) 3 insecticides : I₁=Metasystox, I₂=Systox and I₃=Pestox.

(2) 2 methods of application : M₁=Spray and M₂=With irrigation.

(3) 2 intensities of application : D₁=0.2% and D₂=0.1%.

Extra treatments : T₁=Water spray and T₂=No spray (control).

3. DESIGN:

(i) R.B.D. (ii) (a) 14. (b) N.A. (iii) 4. (iv) (a) 30'×18'. (b) 25'×16'. (v) 2½'×1'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Stem-weevil, mealy-bug and boll-worm noticed. Control measures as per treatments. (iii) *Kapas* yield and intensity of infestation. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) and (vi) Nil. (vii) Expt. was conducted by Entomologist, Coimbatore.

5. RESULTS :

(i) 520 lb./ac. (ii) 105.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of *kapas* in lb./ac.

T₁ = 577 lb./ac. and T₂ = 576 lb./ac.

	I ₁	I ₂	I ₃	M ₁	M ₂	Mean
D ₁	490	501	414	479	458	468
D ₂	544	566	546	535	568	552
Mean	517	533	480	507	513	510
M ₁	533	557	432			
M ₂	502	509	528			

S.E. of I marginal mean	= 26.6 lb./ac.
S.E. of D or M marginal mean	= 21.7 lb./ac.
S.E. of body of I×D or I×M table	= 37.6 lb./ac.
S.E. of body of D×M table	= 30.7 lb./ac.
S.E. of T ₁ or T ₂ mean	= 53.2 lb./ac.

Crop :- Cotton.

Ref. :- M. 59(34).

Site :- Agri. College and Res. Instt., Coimbatore.

Type :- 'D'.

Object :—To study the effect of dose and time of application of insecticides to Cotton crop.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Black soil. (b) Refer soil analysis, Coimbatore. (iii) 19.9.1959. (iv) 3 ploughings. (b) and (c) N.A. (d) 2½'×1½'. (e) N.A. (v) 5 tons/ac. of F.Y.M. (vi) MCU—1. (vii) Irrigated. (viii) N.A. (ix) 33.95". (x) 14.4.1960.

2. TREATMENTS :

Same as in expt. no. 58(42) on page 394.

3. DESIGN :

(i) R.B.D. (ii) (a) 14. (b) 175'×48'. (iii) 4. (iv) 25'×24'. (b) 20'×21'. (v) 2½'×1½'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Boll-worm noticed—control measures as per treatments. (iii) *Kapas* yield and infestation count. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) and (vi) Nil. (vii) Expt. was conducted by Entomologist, Coimbatore.

5. RESULTS :

(i) 2423 lb./ac. (ii) 300.0 lb./ac. (iii) Interaction I×D and 'T vs others' effects are highly significant. Main effect of I is significant. (iv) Av. yield of *Kapas* in lb./ac.

$$T_1 = 1981 \text{ lb./ac. and } T_2 = 1835 \text{ lb./ac.}$$

	I ₁	I ₂	I ₃	M ₁	M ₂	Mean
D ₁	2720	2362	2318	2533	2399	2467
D ₂	2341	2868	2293	2493	2541	2501
Mean	2530	2615	2305	2513	2470	2484
M ₁	2548	2677	2314			
M ₂	2563	2552	2296			

S.E. of I marginal mean	= 75.0 lb./ac.
S.E. of D or M marginal mean	= 61.2 lb./ac.
S.E. of body of I×D or I×M table	= 106.1 lb./ac.
S.E. of body of D×M table	= 86.6 lb./ac.
S.E. of T ₁ or T ₂ mean	= 150.0 lb./ac.

Crop :- Groundnut.

Ref :- M. 54(7).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'M'.

Object :—To find out the effect of different methods of application of different manure mixtures on Groundnut.

1. BASAL CONDITIONS :

(i) (a) Groundnut—Castor. (b) Castor. (c) Mixture of red-earth+tank silt+compost in 1 : 1 : 1 proportion at 15 C.L./ac. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 30.7.1954. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) 12"×6". (e) N.A. (v) As per treatments. (vi) TMV—3 (spreading, late). (vii) Unirrigated. (viii) Hoeing and weeding twice. (ix) 24.77". (x) 18.12.1954.

2. TREATMENTS :

All combinations of (1) and (2)+a control (no manure)

(1) 2 manure mixtures applied over a B.D. of 5 tons/ac. of C.M. : $T_1=10$ lb./ac. of N as A/S+20 lb./ac. of P_2O_5 as Super+50 lb./ac. of K_2O as Pot. Sul. and $T_2=20$ lb./ac. of N as A/S+30 lb./ac. of P_2O_5 as Super+50 lb./ac. of K_2O as Pot. Sul.

(2) 3 methods of application of manure mixtures : M_1 =Placement below the seed, M_2 =Broadcasting and M_3 =Placement by the side of the seed.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 6. (iv) (a) 68'×8'. (b) 60'×6'. (v) 4'×1'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Mild attack of *surul poochi* ; controlled by DDT 5% dusting. (iii) Flower count and pod yield. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 381.0 lb./ac. (ii) 71.3 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

Control = 383 b./ac.

	M_1	M_2	M_3	Mean
T_1	367	398	400	388
T_2	364	407	345	372
Mean	366	402	372	380

S.E. of M marginal mean = 20.6 lb./ac.

S.E. of T marginal mean = 16.8 lb./ac.

S.E. of body of table = 29.1 lb./ac.

Crop :- Groundnut.

Ref :- M. 55(13).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'M'.

Object :—To find out the effect of different methods of application of different manure mixtures on Groundnut.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Groundnut. (c) Mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion at 15 C.L./ac. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 30.7.1955. (iv) (a) Ploughing with tractor disc plough once, with Cooper—11 once, working *guntaka* once and digging with *mummatty* twice. (b) N.A. (c) 110 lb./ac. (d) 12"×6". (e) I. (v) Nil. (vi) TMV—3 (spreading, late). (vii) Unirrigated. (viii) Two hoeings and weedings. (ix) 27.09". (x) 18.12.1955.

2. TREATMENTS :

All combinations of (1) and (2)+2 extra treatments

(1) 2 manure mixtures : $T_1=10$ lb./ac. of N as A/S+20 lb./ac. of P_2O_5 as Super+50 lb./ac. of K_2O as Pot. Sul. and $T_2=20$ lb./ac. of N as A/S+30 lb./ac. of P_2O_5 as Super+50 lb./ac. of K_2O as Pot. Sul.

(2) 3 methods of application of manure mixtures : M_1 =Broadcasting, M_2 =Side placement and M_3 =Placement below the seed.

Extra treatments : C_1 =No manure and C_2 =5 tons/ac. of C.M.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 6. (iv) (a) 68'×8'. (b) 60'×6'. (v) 4'×1'. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Mild attack of *surul poochi*—controlled by dusting DDT 5%. (iii) Flower count and pod yield. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 754 lb./ac. (ii) 71.3 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

$C_1=691$ lb./ac. and $C_2=796$ lb./ac.

	M ₁	M ₂	M ₃	Mean
T ₁	756	792	751	766
T ₂	767	738	744	750
Mean	762	765	747	758

S.E. of M marginal mean = 20.6 lb./ac.

S.E. of T marginal mean = 16.8 lb./ac.

S.E. of body of table = 29.1 lb./ac.

Crop :- Groundnut.

Ref :- M. 56(16).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'M'.

Object :—To find out the effect of different methods of application of different manure mixtures on Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion at 15 C.L./ac. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 22.8.1956. (iv) (a) Ploughing with Cooper—11 thrice and digging with *mummatty* twice. (b) N.A. (c) 80 lb./ac. (d) 12"×6". (e) 1. (v) Nil. (vi) TMV—3 (spreading, late). (vii) Unirrigated. (viii) Two hoeings and weedings. (ix) 32.54". (x) 2.1.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(13) on page 396.

5. RESULTS :

(i) 418 lb./ac. (ii) 48.0 lb./ac. (iii) 'Extra treatments vs rest' alone is significant. (iv) Av. yield of pod in lb./ac.

$C_1=305$ lb./ac. and $C_2=349$ lb./ac.

	M ₁	M ₂	M ₃	Mean
T ₁	469	417	442	443
T ₂	470	436	454	453
Mean	470	427	448	448

S.E. of M marginal mean = 13.9 lb./ac.

S.E. of T marginal mean = 11.3 lb./ac.

S.E. of body of table = 19.6 lb./ac.

Crop :- Groundnut.

Ref :- M. 57(8).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'M'.

Object :—To find out the effect of different methods of application of manure mixtures on Groundnut.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Groundnut. (c) 15 C.L./ac. of manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 4.8.1957. (iv) (a) 4 ploughings with Cooper—11 and digging with *mummatty* once. (b) N.A. (c) 80 lb./ac. (d) 12"×6". (e) 1. (v) Nil. (vi) TMV—3 (spreading, late). (vii) Unirrigated. (viii) 2 hoeings and weedings. (ix) 20.15". (x) 26.12.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(13) on page 396.

4. GENERAL :

(i) Fair. (ii) Mild attack of *tikka* leaf-spot disease—controlled by dusting sulphur at 15 lb./ac. (iii) Flower count and pod yield. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Irregular rain fall during pod formation. (vii) Nil.

5. RESULTS :

(i) 639.6 lb./ac. (ii) 111.2 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

$C_1=525$ lb./ac. and $C_2=674$ lb./ac.

	M ₁	M ₂	M ₃	Mean
T ₁	725	577	660	654
T ₂	644	645	667	652
Mean	685	611	664	653

S.E. of M marginal mean = 32.1 lb./ac.
 S.E. of T marginal mean = 26.2 lb./ac.
 S.E. of body of table = 45.4 lb./ac.

Crop :- Groundnut.

Ref :- M. 58(13).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'M'.

Object :- To find out the effect of different methods of application of different manure mixtures on Groundnut.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Groundnut. (c) Mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion at 15 C.L./ac. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 5.8.1958. (iv) (a) Ploughing with Cooper—11 twice and working junior hoe twice. (b) N.A. (c) 80 lb./ac. (d) 12"×6". (e) 1. (v) Nil. (vi) TMV—3 (spreading, late). (vii) Unirrigated. (viii) 2 hoeings and weedings. (ix) 29.54". (x) 23.12.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(13) on page 396.

5. RESULTS :

(i) 292 lb./ac. (ii) 198.0 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

$C_1=260$ lb./ac. and $C_2=364$ lb./ac.

	M ₁	M ₂	M ₃	Mean
T ₁	299	311	278	296
T ₂	257	281	282	273
Mean	278	296	280	285

S.E. of M marginal mean = 57.2 lb./ac.
 S.E. of T marginal mean = 46.7 lb./ac.
 S.E. of body of table = 80.8 lb./ac.

Crop :- Groundnut.**Ref :- M. 59(11).****Site :- Agri. Res. Stn., Tindivanam.****Type :- 'M'.**

Object :—To find out the effect of different methods of application of different manure mixtures on Groundnut.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Groundnut. (c) 15 C.L./ac. of compost. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 26.8.1959. (iv) (a) 4 ploughings with Cooper—11 and working junior hoe twice. (b) N.A. (c) 80 lb./ac. (d) 12"×6". (e) 1. (v) Nil. (vi) TMV—3 (spreading, late). (vii) Unirrigated. (viii) 2 hoeings and weedings. (ix) 27.49%. (x) 7.1.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 55(13) on page 396.

5. RESULTS :

(i) 595 lb./ac. (ii) 78.6 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

$C_1=532$ lb./ac. and $C_2=568$ lb./ac.

	M ₁	M ₂	M ₃	Mean
T ₁	633	617	619	623
T ₂	634	549	608	597
Mean	634	583	614	610

S.E. of M marginal mean = 22.7 lb./ac.

S.E. of T marginal mean = 18.5 lb./ac.

S.E. of body of table = 32.1 lb./ac.

Crop :- Groundnut.**Ref :- M. 57(5).****Site :- Agri. Res. Stn., Tindivanam.****Type :- 'M'.**

Object :—To find out the effect of different methods of application of different manure mixtures on Groundnut.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Groundnut. (c) 15 C.L./ac. of manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 4.8.1957. (iv) (a) 4 ploughings with Cooper—11 and working twice with junior hoe. (b) N.A. (c) 120 lb./ac. (d) 6"×6". (e) 1. (v) Nil. (vi) TMV—2 (bunch, early). (vii) Unirrigated. (viii) Hand hoeing and weeding once. (ix) 18.65%. (x) 18.11.1957.

2. TREATMENTS :

Same as in expt. no. 55(13) on page 396.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 6. (iv) (a) 68'×9'. (b) 60'×7½'. (v) 4'×1¼'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Flower count, plant height measurements and yield of pod. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 699 lb./ac. (ii) 103.6 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

$C_1=642$ lb./ac. and $C_2=743$ lb./ac.

	M ₁	M ₂	M ₃	Mean
T ₁	643	742	731	705
T ₂	694	677	719	697
Mean	669	710	725	701

S.E. of M marginal mean	=	29.9 lb./ac.
S.E. of T marginal mean	=	24.4 lb./ac.
S.E. of body of table	=	42.3 lb./ac.

Crop :- Groundnut.

Ref :- M. 58(14).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'M'.

Object :—To find out the effect of different methods of application of different manure mixtures on Groundnut.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Groundnut. (c) Mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion at 15 C.L./ac. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 9.8.1958. (iv) (a) 3 ploughings with country plough and working junior hoe twice. (b) N.A. (c) 120 lb./ac. (d) 6"×6". (e) 1. (v) Nil. (vi) TMV—2 (bunch, early). (vii) Unirrigated. (viii) Two hand hoeings and weedings. (ix) 28.64". (x) 25.11.1958.

2. TREATMENTS :

Same as in expt. no. 55(13) on page 396.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 57(5) on page 399.

5. RESULTS :

(i) 376 lb./ac. (ii) 86.0 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

$C_1=356$ lb./ac. and $C_2=402$ lb./ac.

	M ₁	M ₂	M ₃	Mean
T ₁	398	374	359	377
T ₂	399	364	359	374
Mean	399	369	359	376

S.E. of M marginal mean	=	24.8 lb./ac.
S.E. of T marginal mean	=	20.3 lb./ac.
S.E. of body of table	=	35.1 lb./ac.

Crop :- Groundnut.

Ref :- M. 59(12).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'M'.

Object :—To find out the effect of different methods of application of different manure mixtures on Groundnut.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Groundnut. (c) 15 C.L./ac. of M.C. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 25.8.1959. (iv) 4 ploughings with Cooper—11 and working junior hoe twice. (b) N.A. (c) 120 lb./ac. (d) 6"×6". (e) 1. (v) Nil. (vi) TMV—2 (bunch, early). (vii) Unirrigated. (viii) 2 hoeings and weedings. (ix) N.A. (x) 3.12.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(5) on page 399.

5. RESULTS :

(i) 559 lb./ac. (ii) 54.9 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

$C_1=509$ lb./ac. and $C_2=579$ lb./ac.

	M_1	M_2	M_3	Mean
T_1	613	543	528	561
T_2	586	559	556	567
Mean	600	551	542	564

S.E. of M marginal mean = 15.8 lb./ac.

S.E. of T marginal mean = 12.9 lb./ac.

S.E. of body of table or extra treatment mean = 22.4 lb./ac.

Crop :- Groundnut (*Rabi*).

Ref :- M. 59(SFT).

Centre :- Madurai (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 medium black. (iii) N.A. (iv) February—March 1960. (v) (a) 4 to 5 ploughings. (b) to (e) N.A. (vi) Different varieties in different trials. (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) June 1960.

2. TREATMENTS :

0 =Control.

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 a *Kharif* cereal, 8 on a *Rabi* cereal, 8 on cash crop, 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 were 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) 1/20 ac. (b) 1/80 ac. (iv) Yes.

4. GENERAL :

(i) Normal. (ii) N.A. (iii) Pod yield. (iv) (a) 1959—contd. (b) and (c) No. (v) (a) and (b) As per design. (vi) and (vii) Nil.

5. RESULTS :

Treatment	0	n	p	np	k	nk	pk	npk
Av. yield	2032	1934	1983	2148	1983	2304	2074	2279

G.M. = 2092 lb./ac.; S.E. = 125.6 lb/ac. and no. of trials = 5.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 120 lb./ac. (d) 9"×6". (e) 1. (v) 10 C.L./ac. of F.Y.M. + 100 lb./ac. of A/S. (vi) TMV—2 (bunch, medium). (vii) Irrigated (viii) Weeding, hoeing and earthing up once. (ix) N.A. (x) As per treatments.

2. TREATMENTS :

3 dates of sowing/harvesting : $D_1=15.8.1956/4.12.1956$, $D_2=1.9.1956/22.12.1956$ and $D_3=15.9.1956/28.12.1956$.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) 45'×45'. (iii) 9. (iv) (a) 15'×45'. (b) 12'×42'. (v) 1½'×1½'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Pod yield. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 674 lb./ac. (ii) 84.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

Treatment	D_1	D_2	D_3
Av. yield	1011	570	441

S.E./mean = 28.0 lb./ac.

Crop :- Groundnut.

Ref :- M. 56(80).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'C'.

Object :—To find out the effect of different dates of sowing on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings (b) N.A. (c) 120 lb./ac. (d) 9"×6". (e) 1. (v) 10 C.L./ac. of F.Y.M. + 100 lb./ac. of A/S. (vi) TMV—2 (bunch, medium). (vii) Irrigated. (viii) Weeding, hoeing and earthing up once. (ix) N.A. (x) As per treatments.

2. TREATMENTS :

3 dates of sowing/harvesting : $D_1=15.12.1956/2.4.1957$, $D_2=1.1.1957/23.4.1957$ and $D_3=16.1.1957/3.5.1957$.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 56(79) on page 403.

5. RESULTS :

(i) 1767 lb./ac. (ii) 330.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	D_1	D_2	D_3
Av. yield	1966	1666	1670

S.E./mean = 134.8 lb./ac.

Crop :- Groundnut.

Ref :- M. 57(71).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'C'.

Object :—To find out the effect of different dates of sowing on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 120 lb./ac. (d) 9"×6". (e) 1. (v) 10 C.L./ac. of F.Y.M.+100 lb./ac. of A/S. (vi) TMV—2 (bunch, medium). (vii) Irrigated. (viii) Weeding, hoeing and earthing up once. (ix) N.A. (x) As per treatments.

2. TREATMENTS :

3 dates of sowing/harvesting : $D_1=21.8.1957/4.12.1957$, $D_2=1.9.1957/17.12.1957$ and $D_3=15.9.1957/3.1.1958$.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 45'×10'. (b) 42'×7'. (v) 1½'×1½'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Pod yield. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 277 lb./ac. (ii) 65.2 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of pod in lb./ac.

Treatment	D_1	D_2	D_3
Av. yield	386	278	167

S.E./mean = 26.6 lb./ac.

Crop :- Groundnut.

Ref :- M. 57(72).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'C'.

Object :—To find out the effect of different dates of sowing on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 120 lb./ac. (d) 6"×6". (e) 1. (v) 10 C.L./ac. of F.Y.M.+100 lb./ac. of A/S. (vi) TMV—2 (bunch, medium). (vii) Irrigated. (viii) Weeding, hoeing and earthing up once. (ix) and (x) N.A.

2. TREATMENTS :

3 dates of sowing : $D_1=15.12.1957$, $D_2=1.1.1958$ and $D_3=15.1.1958$.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 9. (iv) (a) 36'×15'. (b) 34'×13'. (v) 1'×1'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Pod yield. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1604 lb./ac. (ii) 88.5 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of pod in lb./ac.

Treatment	D_1	D_2	D_3
Av. yield	1681	1718	1412

S.E./mean = 29.5 lb./ac.

Crop :- Groundnut (Kharif).

Ref :- M. 58(49).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'C'.

Object :—To find out the effect of different dates of sowing on the yield of Groundnut.

1. BASAL CONDITIONS

(i) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 80 lb./ac. (d) 9"×9". (e) 1. (v) 10 C.L./ac. of F.Y.M.+100 lb./ac. of A/S. (vi) TMV—2 (bunch, medium). (vii) Irrigated. (viii) Weeding, hoeing and earthing up once. (ix) N.A. (x) As per treatments.

2. TREATMENTS :

3 dates of sowing/harvesting : $D_1=1.9.1958/19.12.1958$, $D_2=15.9.1958/2.1.1959$ and $D_3=1.10.1958/16.1.1959$.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 57(71) on page 404.

5. RESULTS :

(i) 482 lb./ac. (ii) 145.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	D_1	D_2	D_3
Av. yield	568	531	346

S.E./mean = 59.6 lb /ac.

Crop :- Groundnut.

Ref :- M. 58(52).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'C'.

Object :—To find out the effect of different dates of sowing on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 120 lb./ac. (d) 6"×6". (e) 1. (v) 10 C.L./ac. of F.Y.M.+100 lb./ac. of A/S. (vi) TMV-2 (bunch, medium). (vii) Irrigated. (viii) Weeding, hoeing and earthing up once. (ix) N.A. (x) As per treatments.

2. TREATMENTS :

3 dates of sowing/harvesting : $D_1=15.12.1958/1.4.1959$, $D_2=1.1.1959/15.4.1959$ and $D_3=15.1.1959/30.4.1959$.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 57(72) on page 405.

5. RESULTS :

(i) 585 lb./ac. (ii) 117.1 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of pod in lb./ac.

Treatment	D_1	D_2	D_3
Av. yield	536	483	736

S.E./mean = 39.0 lb./ac.

Crop :- Groundnut.

Ref :- M. 59(52).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'C'.

Object :—To find out the effect of different dates of sowing on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughing. (b) N.A. (c) 120 lb./ac. (d) 9"×6". (e) 1. (v) 10 C.L./ac. of compost. (vi) TMV-2 (bunch, medium.) (vii) Irrigated. (viii) Hoeing, weeding and earthing up once. (ix) 9.1". (x) As per treatments.

2. TREATMENTS :

3 dates of sowing/harvesting : $D_1=15.8.1959/2.12.1959$, $D_2=1.9.1959/24.12.1959$ and $D_3=19.9.1959/21.1.1960$.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 57(71) on page 404.

5. RESULTS :

(i) 429 lb./ac. (ii) 100.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

Treatment	D ₁	D ₂	D ₃
Av. yield	770	296	220

S.E./mean = 41.2 lb./ac.

Crop :- Groundnut.

Ref :- M. 59(38).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'C'.

Object :—To find out the effect of different dates of sowing on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 120 lb./ac. (d) 6"×6". (e) 1. (v) 10 C.L./ac. of F.Y.M.+100 lb./ac. of A/S. (vi) TMV—2 (bunch, medium). (vii) Irrigated. (viii) Weeding, hoeing and earthing up once. (ix) N.A. (x) As per treatments.

2. TREATMENTS :

3 dates of sowing/harvesting : D₁=15.12.1959/8.4.1960. D₂=1.1.1960/23.4.1960 and D₃=15.1.1960/7.5.1960.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 9. (iv) (a) 36'×15'. (b) 35'×14'. (v) One row left on all sides. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Pod yield. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1011 lb./ac. (ii) 160.2 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

Treatment	D ₁	D ₂	D ₃
Av. yield	859	1171	1011

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

Crop :- Groundnut.

Ref :- M. 58(47).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'C'.

Object :—To find out the effect of different dates of sowing on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 120 lb./ac. (d) 6"×6". (e) 1. (v) 5 tons/ac. of F.Y.M.+100 lb./ac. of A/S. (vi) TMV—2 (bunch, medium). (vii) Irrigated. (viii) Weeding, hoeing and earthing up once. (ix) N.A. (x) As per treatments.

2. TREATMENTS :

6 dates of sowing/harvesting : D₁=1.7.1958/23.10.1958, D₂=15.7.1958/13.11.1958, D₃=1.8.1958/24.11.1958, D₄=15.8.1958/12.12.1958, D₅=1.9.1958/24.12.1958, and D₆=15.9.1958/6.1.1959.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) and (b) 49'×9'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Pod yield. (iv) (a) 1958—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 381 lb./ac. (ii) 136.2 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	1062	667	291	155	101	12

S.E./mean = 68.1 lb./ac.

Crop :- Groundnut.

Ref :- M. 58(55).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'C'.

Object :—To find out the effect of different dates of sowing on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 80 lb./ac. (d) 9"×9". (e) 1. (v) 10 C.L./ac. of F.Y.M.+100 lb./ac. of A/S. (vi) TMV—4 (spreading, late). (vii) Irrigated. (viii) Weeding, hoeing and earthing up once. (ix) and (x) N.A.

2. TREATMENTS :

6 dates of sowing : D₁=1.7.1958. D₂=15.7.1958, D₃=1.8.1958, D₄=15.8.1958, D₅=1.9.1958 and D₆=15.9.1958.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 37½'×14'. (b) 36'×12½'. (v) One row around. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) N.A. (iii) Yield of pod. (iv) (a) 1958—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 363 lb./ac. (ii) 179.7 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	891	685	240	165	88	106

S.E./mean = 89.8 lb./ac.

Crop :- Groundnut.

Ref :- M. 58(53).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'C'.

Object :—To find out the effect of different dates of sowing on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 120 lb./ac (d) 9"×6". (e) 1. (v) 10 C.L./ac. of F.Y.M.+100 lb./ac. of A/S. (vi) TMV—2 (bunch, medium). (vii) Irrigated. (viii) Weeding, hoeing and earthing up once. (ix) N.A. (x) As per treatments.

2. TREATMENTS :

6 dates of sowing/harvesting : D₁=4.7.1958/25.10.1958, D₂=15.7.1958/13.11.1958, D₃=1.8.1958/24.11.1958, D₄=15.8.1958/1.12.1958, D₅=1.9.1958/15.12.1958 and D₆=15.9.1958/16.1.1959.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 49'×9'. (b) 46'×8'. (v) 1½'×½'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Pod yield. (iv) (a) 1958—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 457 lb./ac. (ii) 163.2 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	1274	795	349	187	120	19

S.E./mean = 81.6 lb./ac.

Crop :- Groundnut.

Ref :- M. 59(41).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'C'.

Object :—To find out the effect of different dates of sowing on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 80 lb./ac. (d) 9"×9". (e) 1. (v) 10 C.L./ac. of F.Y.M.+100 lb./ac. of A/S. (vi) TMV—4 (spreading, late) (vii) Irrigated. (viii) Weeding, hoeing and earthing up once. (ix) and (x) N.A.

2. TREATMENTS :

6 dates of sowing : D₁=1.7.1959, D₂=15.7.1959, D₃=1.8.1959, D₄=15.8.1959, D₅=1.9.1959 and D₆=15.9.1959.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 49'×9'. (b) 47½'×7½'. (v) 1 row left around. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Dusting of DDT 5% against *surul poochi*. (iii) Pod yield. (iv) (a) 1958—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 812 lb./ac. (ii) 185.6 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	1736	1538	880	352	223	144

S.E./mean = 92.8 lb./ac.

Crop :- Groundnut.

Ref :- M. 59(40).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'C'.

Object :—To find out the effect of different dates of sowing on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 120 lb./ac (d) 6"×9" (e) 1. (v) 10 C.L./ac. of compost+100 lb./ac. of A/S. (vi) TMV—2 (bunch, medium). (vii) Irrigated. (viii) Weeding, hoeing and earthing up once. (ix) and (x) N.A.

2. TREATMENTS :

6 dates of sowing : D₁=1.7.1959, D₂=15.7.1959, D₃=1.8.1959, D₄=15.8.1959, D₅=1.9.1959 and D₆=15.9.1959.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 49'×9'. (b) 46'×7'. (v) 2 rows left around. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Dusting of DDT 5% against *surul poochi*. (iii) Pod yield. (iv) (a) 1958—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1144 lb./ac. (ii) 958.5 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	2992	1792	960	672	384	64

S.E./mean = 479.3 lb./ac.

Crop :- Groundnut.

Ref :- M. 55(71).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'C'.

Object :—To find out the effect of different spacings between and within rows on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) N.I. (ii) Red gravelly loam. (b) N.A. (iii) 10.2.1955. (iv) (a) 2 to 3 ploughings. (b) and (c) N.A. (d) As per treatments. (e) 1. (v) 10 C.L./ac. of compost. (vi) TMV-2 (bunch, medium). (vii) Irrigated. (viii) Hoeing and weeding twice; earthing up once. (ix) 2.69". (x) 28.5.1955.

2. TREATMENTS :

5 spacings : S₁=6"×6", S₂=6"×9", S₃=9"×9", S₄=9"×12" and S₅=12"×12".

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 51'×15'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Pod yield. (iv) (a) 1955—1960. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Crop failed in 1956.

5. RESULTS :

(i) 928 lb./ac. (ii) 96.4 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

Treatment	S ₁	S ₂	S ₃	S ₄	S ₅
Av. yield	1081	1071	905	822	763

S.E./mean = 39.3 lb./ac.

Crop :- Groundnut.

Ref :- M. 57(74).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'C'.

Object :—To find out the effect of different spacings between and within rows on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 9.1.1957. (iv) (a) 2 to 3 ploughings. (b) and (c) N.A. (d) As per treatments. (e) 1. (v) 10 C.L./ac. of compost. (vi) TMV-2 (bunch, medium). (vii) Irrigated. (viii) Hoeing and weeding twice, earthing up once. (ix) 2.58". (x) 2.5.1957.

2. TREATMENTS :

Same as in expt. no. 55(71) above.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 9'×30'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Pod yield. (iv) (a) 1955—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2332 lb./ac. (ii) 347.8 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

Treatment	S ₁	S ₂	S ₃	S ₄	S ₅
Av. yield	2637	2657	2445	2018	1902

S.E./mean = 142.0 lb./ac.

Crop :- Groundnut.

Site :- Agri. Res. Stn., Bhavanisagar.

Ref :- M. 58(60).

Type :- 'C'.

Object :- To find out the effect of different spacings between and within rows on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 11.1.1958. (iv) (a) 2 to 3 ploughings. (b) and (c) N.A. (d) As per treatments. (e) 1. (v) 10 C.L./ac. of compost. (vi) TMV—2 (bunch, medium). (vii) Irrigated. (viii) Hoeing and weeding twice, earthing up once. (ix) 2.85%. (x) 29.4.1958.

2. TREATMENTS :

Same as in expt. no. 55(71) on page 410.

3. DESIGN

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 36' × 12'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Pod yield. (iv) (a) 1955—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2221 lb./ac. (ii) 217.8 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

Treatment	S ₁	S ₂	S ₃	S ₄	S ₅
Av. yield	2652	2485	2331	1958	1677

S.E./mean = 88.9 lb./ac.

Crop :- Groundnut.

Site :- Agri. Res. Stn., Bhavanisagar.

Ref :- M. 59(43).

Type :- 'C'.

Object :- To find out the effect of different spacings between and within rows on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 5.2.1959. (iv) (a) 2 to 3 ploughings. (b) and (c) N.A. (d) As per treatments. (e) 1. (v) 10 C.L./ac. of compost. (vi) TMV—2 (bunch, early). (vii) Irrigated. (viii) Hoeing and weeding twice ; earthing up once. (ix) 1.57%. (x) 22.5.1959.

2. TREATMENTS :

Same as in expt. no. 55(71) on page 410.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 58(60) above.

5. RESULTS :

(i) 903 lb./ac. (ii) 113.9 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of pod in lb./ac.

Treatment	S ₁	S ₂	S ₃	S ₄	S ₅
Av. yield	990	991	849	849	834

S.E./mean = 46.5 lb./ac.

Crop :- Groundnut.

Ref :- M. 56(84).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'C'.

Object :—To find out the effect of different spacings between and within rows on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 24.9.1956. (iv) (a) 2 to 3 ploughings. (b) and (c) N.A. (d) As per treatments. (e) 1. (v) 10 C.L./ac. of compost. (vi) TMV—4 (late). (vii) Irrigated. (viii) Weeding and hoeing twice ; earthing up once. (ix) 16.35°. (x) 14.2.1957.

2. TREATMENTS :

5 spacings : S₁=9'×9', S₂=9'×12', S₃=12'×12', S₄=12'×15' and S₅=15'×15'.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 15'×45'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Pod yield. (iv) (a) 1956—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 359 lb./ac. (ii) 97.2 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

Treatment	S ₁	S ₂	S ₃	S ₄	S ₅
Av. yield	519	376	336	312	250

S.E./mean = 39.7 lb./ac.

Crop :- Groundnut.

Ref :- M. 57(77).

Site :- Agri. Res. Stn., Bhavanisagar.

Type :- 'C'.

Object :—To find out the effect of different spacings between and within rows on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 11, 12.9.1957. (iv) (a) 2 to 3 ploughings. (b) and (c) N.A. (d) As per treatments. (e) 1. (v) 10 C.L./ac. of compost. (vi) TMV—1 (late). (vii) Irrigated. (viii) Weeding and hoeing twice, earthing up once. (ix) 12.35°. (x) 8.2.1958.

2. TREATMENTS :

Same as in expt. no. 56(84) above.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 30'×12'. (v) Nil. (vi) Yes.

4. GENERAL :

Same as in expt. no. 56(84) above.

5. RESULTS :

(i) 152 lb./ac. (ii) 39.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

Treatment	S ₁	S ₂	S ₃	S ₄	S ₅
Av. yield	218	156	145	117	126

S.E./mean = 16.0 lb./ac.

Crop :- Groundnut.**Ref :- M. 58(62).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'C'.**

Object :—To find out the effect of different spacings between and within rows on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 13, 14.9.1958. (iv) (a) 2 to 3 ploughings. (b) and (c) N.A. (d) As per treatments. (e) 1. (v) 10 C.L./ac. of com post. (vi) TMV—1 (late). (vii) Irrigated. (viii) Hoeing and weeding twice ; earthing up once. (ix) 10.25". (x) 12.2.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt no. 56(84) on page 412.

5. RESULTS :

(i) 249 lb./ac. (ii) 67.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	S ₁	S ₂	S ₃	S ₄	S ₅
Av. yield	293	287	260	209	195

S.E./mean = 27.5 lb./ac.

Crop :- Groundnut.**Ref :- M. 59(51).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'C'.**

Object :—To find out the effect of different spacings between and within rows on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 20.9.1959. (iv) (a) 2 to 3 ploughings. (b) and (c) N.A. (d) As per treatments. (e) 1. (v) 10 C.L./ac. of compost. (vi) TMV—1 (late) (vii) Irrigated. (viii) Hoeing and weeding twice ; earthing up once. (ix) 9.1". (x) 15.12.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 56(84) on page 412.

5. RESULTS :

(i) 313 lb./ac. (ii) 81.7 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

Treatment	S ₁	S ₂	S ₃	S ₄	S ₅
Av. yield	326	394	368	250	228

S.E./mean = 33.4 lb./ac.

Crop :- Groundnut.**Ref :- M. 57(19).****Site :- Agri. Res. Stn., Pattukkottai.****Type :- 'C'.**

Object :—To determine the optimum time of sowing Groundnut in rice fallows.

1. BASAL CONDITIONS :

(i) (a) Paddy—Groundnut. (b) Paddy. (c) G.L. at 5000 lb./ac.+100 lb./ac. of Super+100 lb./ac. of A/S. (ii) (a) Sandy loam. (b) N.A. (iii) As per treatments. (iv) (a) 3 to 4 ploughings. (b) N.A. (c) 100 lb./ac. (d) 6"×6". (e) 1. (v) 20 C.L./ac. of F.Y.M. applied a week before sowing. (vi) TMV—2 (bunch, medium). (vii) Irrigated. (viii) Hand hoeing and weeding twice. (ix) 3.56". (x) As per treatments.

2. TREATMENTS :6 dates of sowing/harvesting : D₁=1.2.1957/1.6.1957, D₂=15.2.1957/14.6.1957, D₃=1.3.1957/25.7.1957, D₄=15.3.1957/4.7.1957, D₅=3.4.1957/21.7.1957 and D₆=17.4.1957/6.8.1957.**3. DESIGN :**

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) and (b) 79'×4'6". (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Pod yield. (iv) (a) 1957—1958. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2175 lb./ac. (ii) 460.6 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	3634	2277	2144	2093	1674	1226

S.E./mean = 188.0 lb./ac.

Crop :- Groundnut.

Ref :- M. 58(1).

Site :- Agri. Res. Stn., Pattukkottai.

Type :- 'C'.

Object :—To determine the optimum time of sowing Groundnut in rice fallows.

1. BASAL CONDITIONS :

(i) (a) Paddy—Groundnut. (b) Paddy. (c) G.L. at 5000 lb./ac. + 100 lb./ac. of Super + 100 lb./ac. of A/S. (ii) (a) Sandy loam. (b) N.A. (iii) As per treatments. (iv) (a) 4 ploughings. (b) Sown in furrows behind the country plough. (c) 100 lb./ac. (d) 6" × 6". (e) 1. (v) 20 C.L./ac. of F.Y.M. (vi) TMV—2 (bunch, medium). (vii) Irrigated. (viii) Hand hoeing and weeding twice. (ix) 10.59". (x) N.A.

2. TREATMENTS :

6 dates of sowing : D₁=31.1.1958, D₂=16.2.1958, D₃=1.3.1958, D₄=15.3.1958, D₅=1.4.1958 and D₆=15.4.1958.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) and (b) 79' × 4½'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Pod yield. (iv) (a) 1957—1958. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1655 lb./ac. (ii) 360 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	2196	2088	1746	1603	1266	1031

S.E./mean = 147 lb./ac.

Crop :- Groundnut.

Ref :- M. 54(13).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'C'.

Object :—To determine the best method of preparatory cultivation for Groundnut crop.

1. BASAL CONDITIONS :

(i) (a) Groundnut—Castor. (b) Castor. (c) Manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion at 20 C.L./ac. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 27.7 1954. (iv) (a) As per treatments. (b) to (e) N.A. (v) Same as in (i) (c) above. (vi) TMV—3 (spreading, late). (vii) Unirrigated. (viii) Hoeing, weeding and thinning twice. (ix) 26.42". (x) 24.12.1954.

2. TREATMENTS :

9 methods of preparatory cultivation : M₁=Country plough twice, M₂=Country plough 4 times, M₃=Country plough 6 times, M₄=Mould board plough 2 times, M₅=Mould board plough 4 times, M₆=Mould board plough

once+Junior hoe twice, M₇=Mould board plough once+Junior hoe 4 times, M₈=Mould board plough twice+Junior hoe twice and M₉=Mould board plough twice and Junior hoe 4 times.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 82'×12'. (b) 66'×6'. (v) 8'×3'. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) *Surul poochi* attack was severe during the period of drought—controlled by dusting DDT 5%. (iii) Flower count and pod yield. (iv) (a) 1948—1956. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) (a) 228 lb./ac. (ii) 46.6 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	M ₆	M ₇	M ₈	M ₉
Av. yield	229	236	212	229	209	199	269	222	249

S.E./mean = 23.3 lb./ac.

Crop :- Groundnut.

Ref :- M. 55(9).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'C'.

Object :—To determine the best method of preparatory cultivation for Groundnut crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Manure mixture of red earth, tank silt and compost in 1 : 1 : 1 proportion at 20 C.L./ac. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 24.7.1955. (iv) (a) As per treatments. (b) to (e) N.A. (v) Manure mixture as in (i) (c) above applied by broadcast 3 weeks before sowing. (vi) TMV—3 (spreading, late). (vii) Unirrigated. (viii) Sown with the help of sowing rods ; hoeing and weeding twice. (ix) 27.38%. (x) 19.12.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(13) on page 414.

5. RESULTS :

(i) 596 lb./ac. (ii) 119.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of groundnut in lb./ac.

Treatment	M ₁	M ₂	M ₃	M ₄	M ₅	M ₆	M ₇	M ₈	M ₉
Av. yield	602	580	543	549	555	595	697	594	648

S.E./mean = 59.8 lb./ac.

Crop :- Groundnut.

Ref :- M. 56(13).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'C'.

Object :—To determine the best method of preparatory cultivation for Groundnut crop.

1. BASAL CONDITIONS :

(i) (a) Groundnut—Castor. (b) Castor. (c) Manure mixture of red earth, tank silt and compost in 1 : 1 : 1 proportion at 20 C.L./ac. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 12.8.1956. (iv) (a) As per treatments. (b) N.A. (c) 100 lb./ac. (d) 9"×9". (e) 1. (v) B.D. as in (i) (c) above applied by broadcast a fortnight before sowing. (vi) TMV—3 (spreading, late). (vii) Unirrigated. (viii) Hoeing and weeding twice. (ix) 34.24%. (x) 31.12.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(13) on page 414.

5. RESULTS :

(i) 288 lb./ac. (ii) 124.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of groundnut in lb./ac.

Treatment	M ₁	M ₂	M ₃	M ₄	M ₅	M ₆	M ₇	M ₈	M ₉
Av. yield	261	360	304	268	330	328	272	229	243

S.E./mean = 62.2 lb./ac.

Crop :- Groundnut.

Ref :- M. 57(9).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'C'.

Object :- To determine the best method of preparatory cultivation for Groundnut crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 20 C.L./ac. of manure mixture of red earth, tank silt and compost in 1 : 1 : 1 proportion. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 1.8.1957. (iv) (a) As per treatments. (b) N.A. (c) 80 lb./ac. (d) 1'×4". (e) 1. (v) Same as in (i) (c) above applied 10 days before sowing. (vi) TMV-3 (spreading, late). (vii) Unirrigated. (viii) N.A. (ix) 21.87%. (x) 30.12.1957.

2. TREATMENTS :

Main-plot treatments :

All combinations of (1) and (2)

(1) 2 types of ploughs : T₁=Country plough and T₂=Mould board plough.

(2) No. of ploughings : C₁=4 and C₂=8 ploughings.

Sub-plot treatments :

Frequency of working *danthis* : W₁=twice and W₂=4 times.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) Main-plot : 70'×40½' Sub-plot : 70'×19½'. (b) 70'×18'. (v) One row on either side left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Flower counts and pod yield. (iv) (a) 1957-1959. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 727 lb./ac. (ii) (a) 149.0 lb./ac. (b) 52.7 lb./ac. (iii) W effect alone is significant. (iv) Av. yield of pod in lb./ac.

	T ₁	T ₂	C ₁	C ₂	Mean
W ₁	805	715	752	768	760
W ₂	699	687	681	706	693
Mean	752	701	716	737	727
C ₁	713	720			
C ₂	791	682			

S.E. of difference of two

1. T or C marginal means = 52.7 lb./ac.
2. W marginal means = 22.8 lb./ac.
3. W means at the same level of T or C = 64.4 lb./ac.
4. T or C means at the same level of W = 57.4 lb./ac.

Crop :- Groundnut.**Ref :- M. 58(12).****Site :- Agri. Res. Stn., Tindivanam.****Type :- 'C'.**

Object :- To determine the best method of preparatory cultivation for Groundnut crop.

1. BASAL CONDITIONS :

(i) (a) Groundnut—Groundnut. (b) Groundnut. (c) 20 C.L./ac. of manure mixture of red-earth, compost and tank silt in 1 : 1 : 1 proportion. (ii) (a) Red loamy. (b) Refer soil analysis, Tindivanam. (iii) 9.8.1958. (iv) (a) As per treatments. (b) N.A. (c) 80 lb./ac. (d) 18"×4". (e) 1. (v) 20 C.L./ac. of manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion applied 12 days before sowing and incorporated during the last ploughing. (vi) TMV-3 (spreading, late). (vii) Unirrigated. (viii) Intercultivated with *danthis* as per treatments. (ix) 28.59". (x) 29.12.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(9) on page 416.

4. GENERAL :

(i) Fair. (ii) Severe attack of *Surul poochi*; controlled by dusting DDT 5%. (iii) Flower count and pod yield. (iv) (a) 1957—1960. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 728 lb./ac. (ii) (a) 50.98 lb./ac. (b) 64.99 lb./ac. (iii) Main effects of T and W and interactions T×C and T×W are highly significant. (iv) Av. yield of pod in lb./ac.

	T ₁	T ₂	C ₁	C ₂	Mean
W ₁	807	717	755	769	762
W ₂	701	689	682	708	695
Mean	754	703	718	739	728
C ₁	715	721			
C ₂	793	685			

S.E. of difference of two

1. T or C marginal means = 18.0 lb./ac.
2. W marginal means = 23.0 lb./ac.
3. W means at the same level of T or C = 32.5 lb./ac.
4. T or C means at the same level of W = 29.2 lb./ac.

Crop :- Groundnut.**Ref :- M. 59(10).****Site :- Agri. Res. Stn., Tindivanam.****Type :- 'C'.**

Object :- To determine the best method of preparatory cultivation for Groundnut crop.

1. BASAL CONDITIONS :

(i) (a) Groundnut—Groundnut. (b) Groundnut. (c) 15 C.L./ac. of M.C. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 19.8.1959. (iv) (a) As per treatments. (b) N.A. (c) 80 lb./ac. (d) 18"×4". (e) 1. (v) 15 C.L./ac. of M.C. applied 9 days before sowing and incorporated during the last ploughing. (vi) TMV-3 (spreading, late). (vii) Unirrigated. (viii) As per treatments. (ix) 24.80". (x) 31.12.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 57(9) on page 416.

4. GENERAL :

Same as in expt. no. 58(12) above.

5. RESULTS :

(i) 912 lb./ac. (ii) (a) 88.2 lb./ac. (b) 48.6 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

	T ₁	T ₂	C ₁	C ₂	Mean
W ₁	885	927	896	916	906
W ₂	905	933	908	930	919
Mean	895	930	902	923	912
C ₁	903	901			
C ₂	886	959			

S.E. of difference of two

1. T or C marginal means = 31.2 lb./ac.
2. W marginal means = 17.2 lb./ac.
3. W means at the same level of T or C = 24.3 lb./ac.
4. T or C means at the same level of W = 35.6 lb./ac.

Crop :- Groundnut.

Ref :- M. 57(10).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'C'.

Object :—To determine the economic spacing for the bunch variety of Groundnut.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) and (c) 15 C.L./ac. of manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 30.7.1957. (iv) (a) Ploughing 4 times with Cooper—11 and working once with junior hoe. (b) N.A. (c) 100 lb./ac. (d) As per treatments. (e) 1. (v) 15 C.L./ac. of manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion applied 20 days before sowing and incorporated by working junior hoe. (vi) TMV—2 (bunch, early). (vii) Unirrigated. (viii) Intercultivation with *danthis* 6 times. (ix) 20.07". (x) 14.11.1957.

2. TREATMENTS :

4 spacings : S₁=6"×6", S₂=9"×4", S₃=12"×3" and S₄=18"×2".

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 68'×18'. (b) 60'×12'. (v) 4'×3'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Mild attack of *surul poochi*; controlled by dusting DDT 5%. (iii) Flower count and yield of pod. (iv) (a) 1957—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 844 lb./ac. (b) 98.7 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of pod in lb./ac.

Treatment	S ₁	S ₂	S ₃	S ₄
Av. yield	833	887	920	734

S.E./mean = 40.3 lb./ac.

Crop :- Groundnut.

Ref :- M. 58(16).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'C'.

Object :—To determine the economic spacing for the bunch variety of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 15 C.L./ac. of manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion. (ii) (a) Red loamy. (b) Refer soil analysis, Tindivanam. (iii) 11.8.1958. (iv) (a) 4

ploughings with Cooper—11 and working junior hoe thrice. (b) N.A. (c) 120 lb./ac. (d) As per treatments. (e) 1. (v) 15 C.L./ac. of manure mixture of red-earth, tank silt and compost, 1 : 1 : 1 proportion applied 18 days before sowing and incorporated into the soil by working junior hoe. (vi) TMV—2 (bunch, early). (vii) Unirrigated. (viii) *Danthis* worked twice in S_3 and S_4 plots. Two hand hoeings and weedings in S_1 and S_2 plots. (ix) 28.64". (x) 28.11.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(10) on page 418.

5. RESULTS :

(i) 453 lb./ac. (ii) 63.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	S_1	S_2	S_3	S_4
Av. yield	488	479	423	420

S.E./mean = 26.0 lb./ac.

Crop :- Groundnut.

Ref :- M. 59(14).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'C'.

Object :—To determine the economic spacing to be adopted for the bunch variety of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Groundnut—Groundnut. (b) Groundnut. (c) 15 C.L./ac. of compost. (ii) (a) Red loam. (b) Refer soil analysis. Tindivanam. (iii) 14.8.1959. (iv) (a) 4 ploughings with Cooper—11 and working with junior hoe twice. (b) N.A. (c) 120 lb./ac. (d) As per treatments. (e) 1. (v) 15 C.L./ac. of M.C. applied 10 days before sowing and incorporated in the soil by working junior hoe. (vi) TMV—2 (bunch, early). (vii) Unirrigated. (viii) N.A. (ix) 20.17". (x) 9.12.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(10) on page 418.

5. RESULTS :

(i) 794 lb./ac. (ii) 64.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	S_1	S_2	S_3	S_4
Av. yield	786	800	792	797

S.E./mean = 26.4 lb./ac.

Crop :- Groundnut.

Ref :- M. 54(11).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'C'.

Object :—To determine the optimum spacing to be adopted for irrigated Groundnut.

1. BASAL CONDITIONS :

(i) (a) Groundnut—Paddy. (b) Gingelly. (c) 10 C.L./ac. of compost. (ii) (a) Light clayey loam. (b) Refer soil analysis, Tindivanam. (iii) 2.4.1954. (iv) (a) Ploughing twice with Cooper—11 plough. (b) and (c) N.A. (d) As per treatments. (e) 1. (v) 10,000 lb./ac. of F.Y.M. applied 10 days before sowing. (vi) TMV—4 (spreading, late). (vii) Irrigated. (viii) Hoeing and weeding twice. (ix) 17.62". (x) 2.9.1954.

2. TREATMENTS :

5 spacings : $S_1=9'' \times 9''$, $S_2=12'' \times 9''$, $S_3=12'' \times 12''$, $S_4=15'' \times 12''$ and $S_5=15'' \times 15''$.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) $38' \times 16.5'$ (for S_1), $38' \times 17'$ (for S_2 , S_3) and $38' \times 17.5'$ (for S_4 , S_5). (b) $30' \times 15'$. (v) Outer rows left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Groundnut yield. (iv) (a) 1953—1957. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 579.4 lb./ac. (ii) 163.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	S ₁	S ₂	S ₃	S ₄	S ₅
Av. yield	598	513	619	529	638

S.E./mean = 66.6 lb/ac.

Crop :- Groundnut.

Ref :- M. 55(10).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'C'.

Object :—To determine the optimum spacing to be adopted for irrigated Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Gingelly. (c) 15 C.L./ac. of compost. (ii) (a) Light clayey loam. (b) Refer soil analysis, Tindivanam. (iii) 9.4.1955. (iv) (a) Ploughing twice with Cooper—11 plough. (b) N.A. (c) 80 lb./ac. (d) As per treatments. (e) 1. (v) 10,000 lb./ac. of C.M. applied to the field 10 days before sowing. (vii) TMV—4 (spreading, late). (viii) Irrigated. (ix) Hoeing and weeding twice. (x) 27.59". (xi) 15.9.1955.

2. TREATMENTS :

Same as in expt. no. 54(11) on page 419.

3. DESIGN :

(i) R.B.D. (ii) (a) and (b) 5. (iii) 5. (iv) (a) and (b) Same as in expt. no. 54(11) on page 419. (v) Outer rows left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Groundnut yield. (iv) (a) 1953—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 633 lb./ac. (ii) 131.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	S ₁	S ₂	S ₃	S ₄	S ₅
Av. yield	748	613	622	616	565

S.E./mean = 59.0 lb./ac.

Crop :- Groundnut.

Ref :- M. 56(14).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'C'.

Object :—To determine the optimum spacing to be adopted for irrigated Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Gingelly. (c) 15 C.L./ac. of compost. (ii) (a) Light clayey loam. (b) Refer soil analysis, Tindivanam. (iii) 13.3.1956. (iv) (a) Ploughing thrice with Cooper—11 plough. (b) N.A. (c) 80 lb./ac. (d) As per treatments. (e) 1. (v) 10,000 lb./ac. of C.M. was applied a fortnight before sowing and incorporated by ploughing. (vi) TMV—4 (spreading, late). (vii) Irrigated. (viii) Weeding once. (ix) 7.30". (x) 25.7.1956.

2. TREATMENTS :

Same as in expt. no. 54(11) on page 419.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) Varying from plot to plot. (b) 30'×15'. (v) One row left as border. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Flower count and pod yield. (iv) (a) 1953—1957. (b) No. (c) Nil. (v) to (vii) Nil

5. RESULTS :

(i) 578 lb./ac. (ii) 207.7 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of pod in lb./ac

Treatment	S ₁	S ₂	S ₃	S ₄	S ₅
Av. yield	862	633	444	501	448

S.E./mean = 92.9 lb./ac.

Crop :- Groundnut.

Ref :- M. 57(7).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'C'.

Object :- To determine the optimum spacing to be adopted for irrigated Groundnut.

1. BASAL CONDITIONS

(i) (a) Paddy—Groundnut. (b) Paddy. (c) 15 C.L./ac. of C.M.+5000 lb./ac. of G.L.+100 lb./ac. of Super. (ii) (a) Light clayey loam. (b) Refer soil analysis, Tindivanam. (iii) 27.12.1957. (iv) (a) Ploughing thrice with Cooper—11 plough and working once with H.M. *guntaka* No. 2. (b) N.A. (c) 80 lb./ac. (d) As per treatments. (e) 1. (v) 10,000 lb./ac. of C.M. applied a fortnight before sowing and spreading over and incorporating by working *guntaka*. (vi) TMV—4 (spreading, late). (vii) Irrigated. (viii) Weeding once. (ix) 6.49%. (x) 20.7.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(11) on page 419.

5. RESULTS :

(i) 498 lb./ac. (ii) 118.6 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

Treatment	S ₁	S ₂	S ₃	S ₄	S ₅
Av. yield	621	576	482	516	293

S.E./mean = 48.4 lb./ac.

Crop :- Groundnut.

Ref :- M.54(12).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'C'.

Object :- To determine the optimum spacing to be adopted for irrigated Groundnut.

1. BASAL CONDITIONS :

(i) (a) Paddy—Groundnut. (b) Paddy. (c) 5000 lb./ac. of *glyricidia*+150 lb./ac. of Super and 175 lb./ac. of A/S. (ii) (a) Light clayey loam. (b) Refer soil analysis, Tindivanam. (iii) 22.3.1954. (iv) (a) Ploughing twice with Cooper—11 plough. (b) and (c) N.A. (d) As per treatments. (e) 1. (v) 10,000 lb./ac. of compost applied 15 days before sowing and ploughed in. (vi) TMV—2 (bunch, early). (vii) Irrigated. (viii) Hoeing and weeding thrice. (ix) 6.13%. (x) 19.7.1954.

2. TREATMENTS :

5 spacings : S₁=6"×6", S₂=9"×6", S₃=9"×9", S₄=12"×9" and S₅=12"×12".

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) Varies with treatments. (b) 24'×6'. (v) One row left around. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Pod yield. (iv) (a) 1953—1955. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 1162 lb./ac. (ii) 154.1 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of pod in lb./ac.

Treatment	S ₁	S ₂	S ₃	S ₄	S ₅
Av. yield	1474	1172	1159	1046	958

S.E./mean = 62.9 lb./ac.

Crop :- Groundnut.

Ref :- M. 55(11).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'C'.

Object :-To determine the optimum spacing to be adopted for irrigated Groundnut.

1. BASAL CONDITIONS :

(i) (a) Paddy—Groundnut. (b) Paddy. (c) 10 C.L./ac. of compost+5000 lb./ac. of G.L.+100 lb./ac. of Super. (ii) (a) Light clayey loam. (b) Refer soil analysis, Tindivanam. (iii) 13.3.1955. (iv) (a) Working Cooper—11 plough five times, junior hoe and Cambridge roller once. (b) N.A. (c) 110 lb./ac. (d) 6'×6'. (e) 1. (v) 13 C.L./ac. of F.Y.M. applied and spread over the field 21 days before sowing. (vi) TMV—2 (bunch, early). (vii) Irrigated. (viii) Hoeing and weeding twice. (ix) 12.68". (x) 17.7.1955.

2. TREATMENTS :

Same as in expt. no. 54(12) on page 421.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 30'×(8' for S₁, 9' for S₂, S₃ and 10' for S₄, S₅). (b) 24'×6'. (v) N.A. (vi) Yes.

4. GENERAL .

(i) Fair. (ii) Mild attack of *surul poochi*—controlled by dusting DDT 5%. (iii) Pod yield. (iv) (a) 1953—1955. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 451 lb./ac. (ii) 76.4 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of pod in lb./ac.

Treatment	S ₁	S ₂	S ₃	S ₄	S ₅
Av. yield	571	562	399	408	314

S.E./mean = 31.2 lb./ac.

Crop :- Groundnut.

Ref :- M. 54(10).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'C'.

Object :-To determine the economic spacing for Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 20 C.L./ac. of manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion. (ii) (a) Red loamy soil. (b) Refer soil analysis, Tindivanam. (iii) 28.7.1954. (iv) (a) Ploughing once with Cooper—11 and once with tractor drawn *guntaka*. (b) N.A. (c) 80 lb. ac. (d) As per treatments. (e) 1. (v) As in (i) (c) above applied 15 days before sowing. (vi) TMV—3 (spreading, late). (vii) Unirrigated. (viii) Hoeing and weeding thrice. (ix) 24.88". (x) 20.12.1954.

2. TREATMENTS :

4 spacings : S₁=9"×8", S₂=12"×6", S₃=18"×4" and S₄=24"×3".

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 68'×18'. (b) 60'×12'. (v) 4'×3'. (vi) Yes.

4. GENERAL :

(i) Poor due to ill distribution of rainfall. (ii) Mild attack of *surul poochi*—controlled by dusting DDT 5%. (iii) Flower count, plant measurements and yield of pod. (iv) (a) 1954—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 323.8 lb./ac. (ii) 69.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	S ₁	S ₂	S ₃	S ₄
Av. yield	283	289	321	402

S.E./mean = 28.3 lb./ac.

Crop :- Groundnut.

Ref :- M. 55(12).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'C'.

Object :—To determine the economic spacing for Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 20 C.L./ac. of manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion. (ii) (a) Red loamy. (b) Refer soil analysis, Tindivanam. (iii) 26.7.1955. (iv) (a) Ploughing with Cooper—11 plough once, with country plough once and junior hoe once. (b) N.A. (c) 80 lb./ac. (d) As per treatments. (e) 1. (v) 15 C.L./ac. of manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion applied 37 days before sowing. (vi) TMV—3 (spreading, late). (vii) Unirrigated. (viii) Working *danthi* 4 times and weeding twice. (ix) 27.29". (x) 22.12.1955.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(10) on page 422.

4. GENERAL :

(i) Poor due to unfavourable climatic conditions. (ii) Mild attack of *surul poochi*—controlled by dusting DDT .5%. (iii) Flower count, plant measurement and pod yield. (iv) (a) 1954—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 474 lb./ac. (ii) 52.9 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of pod in lb./ac.

Treatment	S ₁	S ₂	S ₃	S ₄
Av. yield	446	409	488	552

S.E./mean = 21.6 lb./ac.

Crop :- Groundnut.

Ref :- M. 56(15).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'C'.

Object :—To determine the economic spacing for Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 20 C.L./ac. of manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 20.8.1956. (iv) (a) Ploughing with Cooper—11 plough twice and working junior hoe twice. (b) N.A. (c) 80 lb./ac. (d) Spacing as per treatments. (e) 1. (v) As in (i) (c) above applied a fortnight before sowing. (vi) TMV—3 (spreading, late). (vii) Unirrigated. (viii) *Danthi* worked in between rows five times. (ix) 33.09". (x) 1.1.1957.

TREATMENTS :

Same as in expt. no. 54(10) on page 422.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 68'×18'. (b) 60'×12'. (v) 4'×3'. (vi) Yes.

4. GENERAL :

(i) Poor due to ill distribution of rainfall. (ii) Mild attack of *surul poochi*—controlled by dusting DDT 5%. (iii) Flower count and pod yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 399 lb./ac. (ii) 23.8 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of pod in lb./ac.

Treatment	S ₁	S ₂	S ₃	S ₄
Av. yield	398	376	423	400

S.E./mean = 9.7 lb./ac.

Crop :- Groundnut.

Ref. :- M. 57(6).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'C'.

Object :—To determine the economic spacing for Groundnut.

1. BASAL CONDITIONS :

(i) (a) and (b) Groundnut. (c) 15 C.L./ac. of manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 31.7.1957. (iv) (a) Working with Cooper—11 three times and junior hoe once. (b) N.A. (c) 80 lb./ac. (d) As per treatments. (e) 1. (v) As in (i) (c) above applied a fortnight before sowing. (vi) TMV—3 (spreading, late). (vii) Un-irrigated. (viii) *Danthi* was worked in between the rows six times. (ix) 21.45*. (x) 27.12.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(10) on page 422.

4. GENERAL :

(i) Fair. (ii) Mild attack of *surul poochi*; controlled by dusting DDT 5%. (iii) Flower count, plant measurements and pod yield. (iv) (a) 1954—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 551 lb./ac. (ii) 94.8 lb./ac. (iii) Treatment differences are no significant. (iv) Av. yield of pod in lb./ac.

Treatment	S ₁	S ₂	S ₃	S ₄
Av. yield	534	496	550	625

S.E./mean = 38.7 lb./ac.

Crop :- Groundnut.

Ref. :- M. 58(15).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'C'.

Object :—To determine the economic spacing for Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 15 C.L./ac. of manure mixture as compost+ tank silt+red-earth in 1 : 1 : 1 proportion. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 13.8.1958. (iv) (a) 3 ploughings with Cooper—11 and working with junior hoe twice. (b) N.A. (c) 80 lb./ac. (d) As per treatments. (e) 1. (v) As in (i) (c) above applied a fortnight before sowing. (vi) TMV—3 (spreading, late). (vii) Un-irrigated. (viii) *Danthi* was worked twice in S₃ and S₄ plots. Hoeing and weeding by manual labour. (ix) 29.03*. (x) 2.1.1959.

2. TREATMENTS :

Same as in expt. no. 54(10) on page 422.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 68'×18'. (b) 60'×12'. (v) 4'×3'. (vi) Yes.

4. GENERAL :

Same as in expt. no. 57(6) on page 424.

5. RESULTS :

(i) 368 lb./ac. (ii) 45.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of groundnut in lb./ac.

Treatment	S ₁	S ₂	S ₃	S ₄
Av. yield	363	369	370	369

S.E./mean = 18.6 lb./ac.

Crop :- Groundnut.

Ref :- M. 59(13).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'C'.

Object :—To determine the economic spacing for Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 15 C.L./ac. of compost. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 26.8.1959. (iv) (a) Ploughing with Cooper—11 thrice and junior hoe twice. (b) N.A. (c) 80 lb./ac. (d) As per treatments. (e) 1. (v) 15 C.L./ac. of compost applied a fortnight before sowing; (vi) TMV—3 (spreading, late). (vii) Unirrigated. (viii) In S₁ plots two hand hoeings and weedings were given; in others *danthi* was worked twice. (ix) 27.49%. (x) 5.1.1960.

2. TREATMENTS :

Same as in expt. no. 54(10) on page 422.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 68'×18'. (b) 60'×12'. (v) 4'×3'. (vi) Yes.

4. GENERAL :

Same as in expt. no. 57(6) on page 424.

5. RESULTS :

(i) 685 lb./ac. (ii) 70.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	S ₁	S ₂	S ₃	S ₄
Av. yield	646	675	691	729

S.E./mean = 28.7 lb./ac.

Crop :- Groundnut.

Ref :- M. 54(22).

Site :- Agri. College and Res. Instt., Coimbatore.

Type :- 'D'.

Object :—To study the beneficial effect of insecticides on the yield of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Castor. (c) 5 tons/ac. of F.Y.M. (ii) (a) Red loamy soil. (b) Refer soil analysis, Coimbatore. (iii) 4.10.1954. (iv) (a) 3 ploughings. (b) to (c) N.A. (v) Nil. (vi) TMV—2 (bunch, early). (vii) Irrigated. (viii) 1 weeding. (ix) 3.3%. (x) 21.1.1955.

2. TREATMENTS :

8 insecticides : C₀=Control, C₁=DDT 5% dust, C₂=DDT 0.1% spray, C₃=BHC 5% dust, C₄=BHC 0.1% spray, C₅=Dieldrin 1% dust, C₆=Dieldrin 0.05% spray and C₇=Folidol 0.025% spray. 1st application was done three weeks after sowing and the second a fortnight later.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 6½' × 6½'. (v) and (vi) Yes.

4. GENERAL :

(i) Good. (ii) *Surul poochi* was observed—control measures as per treatments. (iii) Yield of groundnut. (iv) a, b, c, No. c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2878 lb./ac. (ii) 904.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	C ₁	C ₂	C ₃	C ₄	C ₅	C ₆	C ₇	C ₈
Av. yield	2528	2560	3494	2657	2930	2962	2673	3220

S.E./mean = 452.1 lb./ac.

Crop :- Castor.

Ref. :- M. 54(3).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'M'.

Object :—To determine the effect of N, P and K alone and in combinations on the yield of Castor.

1. BASAL CONDITIONS :

(i) (a) Castor—Groundnut. (b) Groundnut. (c) Manure mixture (red-earth, tank silt and compost) at 15 C.L./ac. (ii) (a) Red loamy soil. (b) Refer soil analysis, Tindivanam. (iii) 31.7.1954. (iv) (a) 5 ploughings with Cooper—11 and *mummatty*. (b) and (c) N.A. (d) 3' × 3'. (e) N.A. (v) As per treatments. (vi) TMV—2 (late). (vii) Unirrigated. (viii) 2 hoeings and weedings. (ix) 20.82". (x) 20.12.1954 to 30.1.1955.

2. TREATMENTS :

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

(1) 2 levels of N as A/S : N₀=0 and N₁=30 lb./ac.

(2) 2 levels of P₂O₅ as Super : P₀=0 and P₁=20 lb./ac.

(3) 2 levels of K₂O as Pot. Sul. : K₀=0 and K₁=30 lb./ac.

B.D. of 2½ tons/ac. of F.Y.M. to all plots except control. N applied as top-dressing 1 month after planting and P, K at the time of planting.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 57' × 15'. (b) 51' × 9'. (v) 3' × 3'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Mild attack of semi-looper—controlled by dusting DDT 5%. (iii) Yield of castor seed and plant height. (iv) (a) 1954—56. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 708 lb./ac. (ii) 95 lb./ac. (iii) N effect is highly significant and interaction N × P is significant. (iv) Av. yield of seed in lb./ac.

	N ₀	N ₁	Mean	K ₀	K ₁
P ₀	659	678	669	636	701
P ₁	611	884	747	712	783
Mean	635	781	708	674	742
K ₀	562	786			
K ₁	708	776			

S.E. of any marginal mean = 23.8 lb./ac.
S.E. of body of any table = 33.6 lb./ac.

Crop :- Castor.

Ref. :- M. 55(5).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'M'.

Object :—To determine the effect of N, P and K alone and in combinations on the yield of Castor.

1. BASAL CONDITIONS :

(i) (a) Castor—Groundnut. (b) Groundnut and Jowar. (c) Manure mixture (red-earth, tank silt and compost) at 20 C.L./ac. (ii) (a) Red loamy soil. (b) Refer soil analysis, Tindivanam. (iii) 27.7.1955. (a) 1 ploughing with Cooper—11, 2 diggings with *mummaty* and levelling. (b) N.A. (c) 6 lb./ac. (d) 3'×3'. (e) 1. (v) Nil. (vi) TMV—2 (late). (vii) Unirrigated. (viii) Nil. (ix) 28.2". (x) 16.11.1955 to 8.2.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(3) on page 426.

4. GENERAL :

(i) Fair, but yield was low due to unseasonal rains. (ii) Severe attack of castor borer—controlled by dusting BHC 5%. (iii) Castor yield and plant height. (iv) (a) 1954—1956. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 575 lb./ac. (ii) 110.6 lb./ac. (iii) Only N effect is highly significant. (iv) Av. yield of seed in lb./ac.

	N ₀	N ₁	Mean	K ₀	K ₁
P ₀	437	711	574	509	639
P ₁	525	627	576	556	597
Mean	481	669	575	532	618
K ₀	445	620			
K ₁	517	719			

S.E. of any marginal mean = 27.6 lb./ac.
S.E. of body of any table = 39.1 lb./ac.

Crop :- Castor.

Ref :- M. 56(12).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'M'.

Object :—To determine the effect of N, P and K alone and in combinations on the yield of Castor.

1. BASAL CONDITIONS :

(i) (a) Castor—Groundnut. (b) Groundnut. (c) Manure mixture (Red earth+ tank silt+compost) at 20 C.L./ac. (ii) (a) Red loamy soil. (b) N.A. (iii) 14.8.1956. (iv) (a) Ploughing with Cooper—11 thrice and 2 hoeings with junior hoe. (b) N.A. (c) 8 to 10 lb./ac. (d) 3'×3'. (e) 1. (v) Nil. (vi) TMV—2 (late). (vii) Unirrigated. (viii) 1 weeding. (ix) 34.28". (x) 20.12.1956 to 18.3.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(3) on page 426.

4. GENERAL :

(i) Fair, yield was poor due to abnormal weather. (ii) Nil. (iii) Yield of castor and plant height. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 160.0 lb./ac. (ii) 26.0 lb./ac. (iii) N effect is highly significant. P effect and interaction N×K are significant. (iv) Av. yield of seed in lb./ac.

	N ₀	N ₁	Mean	K ₀	K ₁
P ₀	127	169	148	139	157
P ₁	148	197	172	181	164
Mean	138	183	160	160	161
K ₀	125	195			
K ₁	150	171			

S.E. of any marginal mean = 6.5 lb./ac.

S.E. of body of any table = 9.2 lb./ac.

Crop :- Castor.

Ref :- M. 57(3).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'M'.

Object :—To determine the effect of N, P and K alone and in combinations on the yield of Castor.

1. BASAL CONDITIONS :

(i) (a) Groundnut—Castor. (b) Groundnut. (c) Manure mixture (red-earth+tank silt+compost) at 20 C.L./ac. (ii) (a) Red loamy soil (b) Refer soil analysis, Tindivanam. (iii) 27.7.1957. (iv) (a) Ploughing 4 times with Cooper—11 and 2 hoeings with junior hoe. (b) N.A. (c) 8 to 10 lb./ac. (d) 3'×3'. (e) 1. (v) 2½ tons/ac. of C.M. (vi) TMV—2 (late). (vii) Unirrigated. (viii) 1 weeding. (ix) 27.72". (x) 19.11.1957. to 10.3.1958.

2. TREATMENTS :

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

(1) 2 levels of N as A/S : N₀=0 and N₁=30 lb./ac.

(2) 2 levels of P₂O₅ as Super : P₀=0 and P₁=20 lb./ac.

(3) 2 levels of K₂O as Pot. Sul. : K₀=0 and K₁=30 lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 57'×15'. (b) 51'×9'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Mild attack of semi-looper—controlled by dusting BHC 10%. (iii) Plant height and yield of castor. (iv) (a) 1957—1959. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 727 lb./ac. (ii) 112.4 lb./ac. (iii) Only N effect is highly significant. (iv) Av. yield of seed in lb./ac

	N ₀	N ₁	Mean	K ₀	K ₁
P ₀	537	919	728	727	729
P ₁	567	885	726	723	729
Mean	552	902	727	725	729
K ₀	564	887			
K ₁	540	917			

S.E. of any marginal mean = 28.1 lb./ac.

S.E. of body of any table = 39.7 lb./ac.

Crop :- Castor.**Ref :- M. 58(19).****Site :- Agri. Res. Stn., Tindivanam.****Type :- 'M'.**

Object:—To determine the effect of N, P and K alone and in combination on the yield of Castor.

1. BASAL CONDITIONS:

(i) (a) Castor—Groundnut. (b) Castor. (c) Nil. (ii) (a) Red loamy soil. (b) Refer soil analysis, Tindivanam. (iii) 4.8.1958. (iv) (a) 4 ploughings with Cooper—11 plough and 2 hoeings with junior hoe. (b) N.A. (c) 5 lb./ac. (d) 3'×3'. (e) 2. (v) 2½ tons/ac. of F.Y.M. (vi) TMV—2 (late). (vii) Unirrigated. (viii) 3 hoeings and weedings with junior hoe. (ix) 30.80%. (x) 12.2.1959.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(3) on page 428.

5. RESULTS :

(i) 422 lb./ac. (ii) 50.9 lb./ac. (iii) Only N and K effects are highly significant. (iv) Av. yield of castor in lb./ac.

	N ₀	N ₁	Mean	K ₀	K ₁
P ₀	340	520	430	378	482
P ₁	336	492	414	404	424
Mean	338	506	422	391	453
K ₀	307	475			
K ₁	369	537			

S.E. of any marginal mean = 12.7 lb./ac.
S.E. of body of any table = 18.0 lb./ac.

Crop :- Castor.**Ref :- M. 59(17).****Site :- Agri. Res. Stn., Tindivanam.****Type :- 'M'.**

Object:—To determine the effect of N, P and K alone and in combinations on the yield of Castor.

1. BASAL CONDITIONS :

(i) (a) Castor—Groundnut. (b) Castor. (c) Nil. (ii) (a) Red loamy soil. (b) Refer soil analysis, Tindivanam. (iii) 15.8.1959. (iv) (a) 2 ploughings with Cooper—11 plough and 3 hoeings with junior hoe. (b) Dibbling. (c) 5 lb./ac. (d) 3'×3'. (e) 2. (v) 2½ tons/ac. of C.M. (vi) TMV—2 (late). (vii) Unirrigated. (viii) Thinning to one seedling per hole and two hoeings and weedings with junior hoe. (ix) 30.63%. (x) 25.12.1959 to 19.3.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(3) on page 428.

5. RESULTS :

(i) 535 lb./ac. (ii) 91.9 lb./ac. (iii) Only P effect is significant. (iv) Av. yield of castor in lb./ac.

	N ₀	N ₁	Mean	K ₀	K ₁
P ₀	333	668	501	457	545
P ₁	428	710	569	571	567
Mean	381	689	535	514	556
K ₀	340	688			
K ₁	422	690			

S.E. of any marginal mean = 23.0 lb./ac.
S.E. of body of any table = 32.5 lb./ac.

Crop :- Gingelly.

Ref :- M. 54(14).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'M'.

Object :—To determine the feasibility of manuring Gingelly with C/N in comparison with A/S.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Fodder *cholam*. (c) 15 C.L./ac. of manure mixture of red earth + tank silt + compost. (ii) (a) Red loamy soil. (b) Refer soil analysis, Tindivanam. (iii) 31.3.1954. (iv) (a) Ploughing with Cooper—11. (b) and (c) N.A. (d) 1'×1'. (e) N.A. (v) As per treatments. (vi) TMV—3 (medium). (vii) Irrigated. (viii) Hoeing and weeding twice ; thinning twice. (ix) 9.06". (x) 23.6 1954.

2. TREATMENTS :

All combinations of (1), (2) and (3) + 2 extra treatments.

(1) 2 levels of N : $N_1=30$ and $N_2=45$ lb./ac.

(2) 2 sources of N : $S_1=A/S$ and $S_2=C,N$.

(3) 2 levels of B.D. : $B_0=0$ and $B_1=3$ tons/ac. of C.M. + 30 lb./ac. of P_2O_5 as Super.

Extra treatments : $T_1=$ No manure and $T_2=3$ tons/ac. of C.M. + 30 lb./ac. of P_2O_5 as Super.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 5. (iv) (a) 23'×15'. (b) 21'×13'. (v) 1'×1'. (vi) Yes.

4. GENERAL :

(i) Poor. (ii) Mild attack of shoot-webber (*Antigastra catalaunalis*). Heavy rains received during the maturity stage kept down the shoot-webber attack. (iii) Yield of gingelly seed. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 103.1 lb./ac. (ii) 38.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of seed in lb./ac.

$$T_1 = 107 \text{ lb./ac. and } T_2 = 132 \text{ lb./ac.}$$

	S_1	S_2	B_0	B_1	Mean
N_1	110	93	91	112	102
N_2	104	87	102	89	96
Mean	107	90	97	101	99
B_0	111	82			
B_1	103	98			

S.E. of any marginal mean = 8.7 lb./ac.
S.E. of body of any table = 12.3 lb./ac.

Crop :- Gingelly (Summer).

Ref :- M. 55(8).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'M'.

Object :—To determine the feasibility of manuring Gingelly with C/N in comparison with A/S.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Fodder *cholam*. (c) 20 C.L./ac. of manure mixture of red-earth, tank silt and compost + 50 lb./ac. of A/S. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 27.2.1955. (iv) (a) 3 ploughings

with Cooper—11 and junior hoe once. (b) and (c) N.A. (d) 1'×1'. (e) N.A. (v) As per treatments. (vi) TMV—3 (medium). (vii) Irrigated. (viii) 2 hoeings and weedings. (ix) 4.48". (x) 14.5.1955.

2. TREATMENTS :

Same as in expt. no. 54(14) on page 430.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 5. (iv) (a) 25'×15'. (b) 21'×13'. (v) 2'×1'. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Mild attack of shoot-webber pest—controlled by dusting DDT 5%. (iii) Gingelly yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Severe draught during capsule formation stage. (vii) Nil.

5. RESULTS :

(i) 110.9 lb./ac. (ii) 42.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of seed in lb./ac.

$$T_1 = 127 \text{ lb./ac. and } T_2 = 100 \text{ lb./ac.}$$

	S ₁	S ₂	B ₀	B ₁	Mean
N ₁	103	110	100	113	107
N ₂	114	108	109	113	111
Mean	109	109	105	113	109
B ₀	106	103			
B ₁	111	115			

$$\begin{aligned} \text{S.E. of any marginal mean} &= 9.4 \text{ lb./ac.} \\ \text{S.E. of body of any table} &= 13.3 \text{ lb./ac.} \end{aligned}$$

Crop :- Gingelly (Summer).

Ref:- M. 56(11).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'M'.

Object :—To determine the feasibility of manuring Gingelly with C/N in comparison with A/S.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Cholam* fodder. (c) 20 C.L./ac. of manure mixture (red-earth+tank silt+compost). (ii) (a) Red loamy soil. (b) Refer soil analysis, Tindivanam. (iii) 27.2.1956. (iv) (a) 3 ploughings with Cooper—11 and junior hoe twice. (b) N.A. (c) 5 lb./ac. (d) 1'×1'. (e) 1. (v) Nil. (vi) TMV—3 (medium). (vii) Irrigated. (viii) 3 hoeings and weedings. (ix) 1.32". (x) 17.5.1956.

2. TREATMENTS :

Same as in expt. no. 54(14) on page 430.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 5. (iv) (a) 28'×15'. (b) 21'×13'. (v) 3½'×1'. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Mild attack of shoot-webber pest—controlled by dusting DDT 5%. (iii) Yield of seed. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 291.9 lb./ac. (ii) 73.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of seed in lb./ac.

$T_1=339$ lb./ac. and $T_2=276$ lb./ac.

	S_1	S_2	B_0	B_1	Mean
N_1	283	274	246	311	279
N_2	326	268	294	300	297
Mean	305	271	270	306	288
B_0	264	276			
B_1	345	266			

S.E. of any marginal mean = 16.5 lb./ac.
S.E. of body of any table = 15.1 lb./ac.

Crop :- Gingelly (Summer).

Ref :- M. 57(4).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'M'.

Object :—To determine the feasibility of manuring Gingelly with C/N in comparison with A/S.

1. BASAL CONDITIONS :

- (i) (a) N.A. (b) *Cholam* fodder. (c) 20 C.L./ac. of manure mixture (red-earth+tank silt+compost)
(ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 4.3.1957. (iv) (a) 4 ploughings with Copper-11 and junior hoe once. (b) N.A. (c) 1. (d) 1'×1'. (e) 5 lb./ac. (v) Nil. (vi) TMV-3 (medium).
(vii) Irrigated. (viii) Hoing and weeding thrice. (ix) 0.36". (x) 22.5.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54 (14) on page 430.

4. GENERAL :

Same as in expt. no. 56 (11) on page 431.

5. RESULTS :

- (i) 396.6 lb./ac. (ii) 85 lb./ac. (iii) Main effect of B and 'control vs. others' are significant. (iv) Av. yield of seed in lb./ac.

$T_1 = 358$ lb./ac. and $T_2 = 336$ lb./ac.

	S_1	S_2	B_0	B_1	Mean
N_1	403	382	358	427	393
N_2	393	456	373	477	425
Mean	398	419	366	452	409
B_0	377	354			
B_1	419	484			

S.E. of any marginal mean = 19.0 lb./ac.
S.E. of body of any table = 26.9 lb./ac.

Crop :- Gingelly.**Ref :- M. 58(17).****Site :- Agri. Res. Stn., Tindivanam.****Type :- 'M'.**

Object :- To find out the effect of N, P and K on the yield of Gingelly.

1. BASAL CONDITIONS :

(i) (a) Gingelly—Sannhemp—Paddy. (b) Paddy. (c) 3 tons/ac. of F.Y.M. (ii) (a) Light clayey. (b) Refer soil analysis, Tindivanam. (iii) 16.3.1958. (iv) (a) 4 ploughings with Cooper—11. (b) Dibbling. (c) 4 lb./ac. (d) 1'×1'. (e) 1. (v) 2½ tons/ac. of F.Y.M. (vi) TMV—3 (early). (vii) Irrigated. (viii) Hand weeding and hoeing thrice. (ix) 0.59%. (x) 4.6.1958.

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 $P_1=20$ lb./ac.
 (3) 2 levels of K_2O as Pot. Sul. : $K_0=0$ and $K_1=20$ lb./ac.

3. DESIGN :

(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 5. (iv) (a) 22'×14'. (b) 20'×12'. (v) One row left as border on all sides. (vi) Yes.

4. GENERAL :

(i) Good. (ii) A mild attack of shoot-webber, *antigastna catautaunalis* which was controlled by dusting DDT 5%. (iii) Flower counts and plant height measurements were taken. (iv) (a) 1958—1960. (b) N.A. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 562 lb./ac. (ii) 95.48 lb./ac. (iii) Main effect of N is significant. Other effects are not significant. (iv) Av. yield of seed in lb./ac.

	P_0	P_1	K_0	K_1	Mean
N_0	512	534	527	519	523
N_1	614	585	621	579	600
Mean	563	560	574	549	562
K_0	547	579			
K_1	601	518			

S.E. of any marginal mean = 21.3 lb./ac.
 S.E. of body of any table = 30.2 lb./ac.

Crop :- Gingelly.**Ref :- M. 59(15).****Site :- Agri. Res. Stn., Tindivanam.****Type :- 'M'.**

Object :- To find out the effect of N, P and K on the yield of Gingelly.

1. BASAL CONDITIONS :

(i) (a) Gingelly—Paddy. (b) Paddy. (c) 3 tons/ac. of F.Y.M. (ii) (a) Light clayey. (b) Refer soil analysis, Tindivanam. (iii) 3.3.1959. (iv) (a) Ploughing with cooper—11 plough twice and working with junior hoe twice. (b) Dibbling. (c) 4 lb./ac. (d) 1'×1'. (e) 1. (v) 2½ tons/ac. of F.Y.M. (vi) TMV—3 (early). (vii) Irrigated. (viii) 2 weedings and hoeing thrice. (ix) 0.75%. (x) 23.5.1959.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 58(17) above.

4. GENERAL :

(i) Good. (ii) A mild attack of shoot-webber ; controlled by dusting DDT 5%. (iii) Flower counts, plant height measurements and gingelly yield. (iv) (a) 1958—1960. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 582 lb./ac. (ii) 64.5 lb./ac. (iii) Main effect of N is highly significant ; interaction N × P is significant. Other effects are not significant. (iv) Av. yield of seed in lb./ac.

	P ₀	P ₁	K ₀	K ₁	Mean
N ₀	532	498	505	525	515
N ₁	617	681	628	671	649
Mean	575	589	566	598	582
K ₀	561	571			
K ₁	588	608			

S.E. of any marginal mean = 14.4 lb./ac.
S.E. of body of any table = 20.4 lb./ac.

Crop :- Gingelly.

Site :- Agri. Res. Stn., Bhavanisagar.

Ref :- M. 55(70).

Type :- 'C'.

Object :—To find out the effect of different spacings on Gingelly crop.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 18, 19.11.1955. (iv) (a) 2 to 3 ploughing (b) and (c) N.A. (d) As per treatments (e) N.A. (v) 10 C.L./ac. of compost. (vi) TMV—3. (vii) Irrigated. (viii) 1 weeding. (ix) 2.09%. (x) 13.3.1956.

2. TREATMENTS :

5 spacings : S₁=6" × 6", S₂=9" × 9", S₃=12" × 12", S₄=15" × 15" and S₅=18" × 18".

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 45' × 18'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Yield of Gingelly. (iv) (a) 1955—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 39.6 lb./ac. (ii) 5.49 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of seed in lb./ac.

Treatment	S ₁	S ₂	S ₃	S ₄	S ₅
Av. yield	44	48	49	30	27

S.E./mean = 2.2 lb./ac.

Crop :- Gingelly.

Site :- Agri. Res. Stn., Bhavanisagar.

Ref :- M. 57(73).

Type :- 'C'.

Object :—To find out the effect of different of spacings on Gingelly crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 1.2.1957. (iv) 2 to 3 ploughings. (b) N.A. (c) N.A. (d) As per treatments. (e) N.A. (v) 10 C.L./ac. of compost. (vi) TMV-3. (vii) Irrigated. (viii) Hoeing and weeding once. (ix) 1.35". (x) 28.4.1957.

2. TREATMENTS :

Same as in expt. no 55(70) on page 434.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 9'×30'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of Gingelly. (iv) (a) 1955-1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 534 lb./ac. (ii) 31.6 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of seed in lb./ac.

Treatment	S ₁	S ₂	S ₃	S ₄	S ₅
Av. yield	506	533	635	519	479

S.E./mean = 12.9 lb./ac.

Crop :- Gingelly.

Site :- Agri. Res. Stn., Bhavanisagar.

Ref :- M. 58(59).

Type :- 'C'.

Object:—To find out the effect of different spacings on Gingelly crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 8.2.1958. (iv) (a) 2 to 3 ploughings. (b) and (c) N.A. (d) As per treatments. (e) N.A. (v) 10 C.L./ac. of compost. (vi) TMV-3. (vii) Irrigated. (viii) Hoeing and weeding once. (ix) 2.85". (x) 9.5.1958.

2. TREATMENTS :

Same as in expt. no. 55(70) on page 434.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 15'×30'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Yield of gingelly. (iv) (a) 1955-1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 89 lb./ac. (ii) 27.5 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of seed in lb./ac.

Treatment	S ₁	S ₂	S ₃	S ₄	S ₅
Av. yield	107	105	101	67	65

S.E./mean = 11.2 lb./ac.

Crop :- Gingelly.

Site :- Agri. Res. Stn., Bhavanisagar.

Ref :- M. 59(42).

Type :- 'C'.

Object:—To find out the effect of different spacings on Gingelly crop.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 13.1.1959. (iv) (a) 2 to 3 ploughings. (b) and (c) N.A. (d) As per treatments. (e) N.A. (v) 10 C.L./ac. of compost. (vi) TMV-3. (vii) Irrigated. (viii) Weeding and hoeing once. (ix) 1.57". (x) 19.4.1959.

2. TREATMENTS :

Same as in expt. no. 55(70) on page 434.

3. DESIGN and 4. GENERAL :

Same as in expt. no. 58(59) on page 435.

5. RESULTS:

(i) 43 lb./ac. (ii) 20 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of seed in lb./ac.

Treatment	S ₁	S ₂	S ₃	S ₄	S ₅
Av. yield	42	56	40	37	40

S.E./mean = 8.2 lb./ac.

Crop :- Gingelly.

Ref :- M. 54(18).

Site :- Agri. College and Res. Instt., Coimbatore.

Type :- 'C'.

Object :—To determine the optimum time of sowing of summer crop of Gingelly.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) Compost at 6½ tons/ac. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) As per treatments. (iv) (a) One ploughing with mould board plough, one with country plough and levelling. (b) Dibbling in lines. (c) 4 to 5 lb./ac. (d) 1'×1'. (e) N.A. (v) 4 tons/ac. of well decomposed F.Y.M. applied broadcast and ploughed in with country plough on 28.1.1954. (vi) TMV-3 (improved). (vii) Irrigated. (viii) Hand hoeing and weeding thrice. (ix) 9.69". (x) N.A.

2. TREATMENTS :

6 dates of sowing : D₁=First fortnight of February (10.2.1954), D₂=Second fortnight of February (25.2.1954), D₃=First fortnight of March (10.3.1954), D₄=Second fortnight of March (25.3.1954), D₅=First fortnight of April (10.4.1954) and D₆=Second fortnight of April (25.4.1954).

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 22'×6'. (b) 18'×4'. (v) One row along the length and two rows along breadth. (vi) Yes.

4. GENERAL :

(i) Crop sown in late March and April was comparatively poor. (ii) Incidence of the shoot-webber and Gall fly attack severe in the later sowings. Three dustings, one spraying of BHC 5% given to control the shoot-webber pest. (iii) Branching, length of stem and bunches, no. of capsules, period of 1st. and last flowering, no. of flowers produced and yield of seed. (iv) (a) 1952-1954. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS :

(i) 393.6 lb./ac. (ii) 88.98 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of seed in lb./ac.

Treatment	D ₁	D ₂	D ₃	D ₄	D ₅	D ₆
Av. yield	648.6	600.6	469.1	317.8	266.8	58.7

S.E./mean = 36.3 lb./ac.

Crop :- Gingelly.

Ref :- M. 54(72).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'C'.

Object :—To determine the optimum cultural operations required for Gingelly raised under irrigated conditions.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Paddy. (c) 5 tons/ac. of F.Y.M. (ii) (a) Light clay. (b) Refer soil analysis, Tindivanam. (iii) 25.3.1954. (iv) (a) As per treatments. (b) Dibbling. (c) 4 lb./ac. (d) 1'×1'. (e) 1. (v) 5 tons/ac. of F.Y.M. (vi) Ploughed in at the time of last ploughing. (vii) Irrigated. (viii) Hoing and weeding with manual labour. (ix) 9.06". (x) 15.6.1954.

2. TREATMENTS :

1. Ploughing with country plough twice.
2. Ploughing with country plough four times.
3. Ploughing with country plough six times.
4. Ploughing with mould board plough twice.
5. Ploughing with mould board plough four times.
6. Ploughing with mould board plough twice and junior hoe twice.
7. Ploughing with mould board plough twice and junior hoe four times.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) 37'×10', (b) 33'×6'. (v) Two rows left as border. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Moderate attack of shoot-webber ; controlled by dusting DDT 5%. (iii) Plant height measurements, flower count and gingelly yield. (iv) (a) 1954—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 295 lb./ac. (ii) 78.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of seed in lb./ac.

Treatment	1	2	3	4	5	6	7
Av. yield	294	232	273	344	369	293	259

S.E./mean = 39.0 lb./ac.

Crop :- Gingelly.

Ref :- M. 55(65).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'C'.

Object :—To determine the optimum cultural operations to be given to irrigated crop of Gingelly.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Paddy. (c) 5 tons/ac. of F.Y.M. (ii) (a) Light Clay. (b) Refer soil analysis, Tindivanam. (iii) 11.3.1955. (iv) (a) As per treatments. (b) Dibbling. (c) 4 lb./ac. (d) 1'×1'. (e) 1. (v) 10,000 lb./ac. of C.M. ploughed in at the time of last ploughing. (vi) TMV—3 (early). (vii) Irrigated. (viii) Three hand hoeings and weedings. (ix) 2.41". (x) 15.6.1955.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(72) on page 436.

5. RESULTS :

(i) 162 lb./ac. (ii) 40.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of seed in lb./ac.

Treatment	1	2	3	4	5	6	7
Av. yield	145	142	146	167	184	217	136

S.E./mean = 20.3 lb./ac.

Crop :- Gingelly.

Ref :- M. 56(69).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'C'.

Object :—To determine the optimum cultural operations required for the irrigated crop of Gingelly.

	D ₁	D ₂	D ₃	Mean
V ₁	356	322	305	328
V ₂	363	384	330	359
Mean	360	353	318	344

S.E. of difference of two

1. D marginal means = 34.2 lb./ac.
2. V marginal means = 20.3 lb./ac.
3. V means at the same level of D = 35.2 lb./ac.
4. D means at the same level of V = 42.3 lb./ac.

Crop :- Gingelly.**Ref. :- M. 57(78).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'CV'.**

Object :- To find out the effect of different dates of sowing on different varieties of Gingelly.

BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 3 lb./ac. (d) 9"×9". (e) 1. (v) 10 C.L./ac. of compost. (vi) As per treatments. (vii) Irrigated. (viii) Weeding and hoeing once. (ix) 6.05." (x) N.A.

2. TREATMENTS :**Main-plot treatments :**3 dates of sowing : D₁=15.12.1957, D₂=1.1.1958 and D₃=15.1.1958.**Sub-plot treatments :**2 varieties : V₁=TMV-2 and V₂=TMV-3.**3. DESIGN ;**

(i) Split-plot. (ii) (a) 3 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 24'×15'. (b) 21'×12'. (v) 1½'×1½'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of gingelly. (iv) (a) 1955—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 218 lb./ac. (ii) (a) 38.8 lb./ac. (b) 28.3 lb./ac. (iii) Main effect of D and interaction D×V are highly significant. Effect of V is significant. (iv) Av. yield of seed in lb./ac.

	D ₁	D ₂	D ₃	Mean
V ₁	175	270	173	206
V ₂	223	238	227	229
Mean	199	254	200	218

S.E. of difference of two

1. D marginal means = 15.8 lb./ac.
2. V marginal means = 9.4 lb./ac.
3. V means at the same level of D = 16.3 lb./ac.
4. D means at the same level of V = 19.6 lb./ac.

Crop :- Gingelly.**Ref. :- M. 58(54).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'CV'.**

Object :—To find out the effect of different times of sowing harvest on different varieties of Gingelly.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 5 lb./ac. (d) 9"×9". (e) Nil. (v) 15 C.L./ac. of F.Y.M. + 100 lb./ac. of A/S. (vi) As per treatments. (vii) Irrigated. (viii) Weeding and hoeing once. (ix) N.A. (x) As per treatments.

2. TREATMENTS :**Main-plot treatments :**

3 dates of sowing/harvesting : $D_1=15.12.1958/15.4.1959$, $D_2=1.1.1959/26.4.1959$ and $D_3=15.1.1959/4.5.1959$

Sub-plot treatments :

2 varieties : $V_1=TMV-2$ and $V_2=TMV-3$.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 24'×15'. (b) 21'×12'. (v) 2 rows left on all sides. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of gingelly. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 2478 lb./ac. (ii) (a) 696.1 lb./ac. (b) 508.5 lb./ac. (iii) Main effect of D is highly significant and of V is significant. Interaction D×V is not significant. (iv) Av. yield of seed in lb./ac.

	D ₁	D ₂	D ₃	Mean
V ₁	1700	2362	2679	2247
V ₂	1988	2795	3342	2708
Mean	1844	2579	3012	2478

S.E. of difference of two

- | | |
|-----------------------------------|-----------------|
| 1. D marginal means | = 284.2 lb./ac. |
| 2. V marginal means | = 169.5 lb./ac. |
| 3. V means at the same level of D | = 293.5 lb./ac. |
| 4. D means at the same level of V | = 351.9 lb./ac. |

Crop :- Gingelly.**Ref :- M. 59(48).****Site :- Agri. Res. Stn., Bhavanisagar.****Type :- 'CV'.**

Object :—To find the effect of different times of sowing/harvest on different varieties.

1. BASAL CONDITIONS :

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 2 to 3 lb./ac. (d) 9"×9". (e) 1. (v) 10 C.L./ac. of F.Y.M. (vi) As per treatments. (vii) Irrigated. (viii) Weeding and hoeing once. (ix) 1.57". (x) As per treatments.

2. TREATMENTS :**Main-plot treatments :**

3 dates of sowing/harvesting : $D_1=15.12.1959/22, 23.3.1960$, $D_2=1.1.1960/2, 7.4.1960$ and $D_3=15.1.1960/15, 20.4.1960$.

Sub-plot treatments :

2 varieties : $V_1=TMV-2$ and $V_2=TMV-3$.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 24'×15'. (b) 22½'×13½'. (v) One row left around the plot. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) N.A. (iii) Yield of gingelly. (iv) (a) 1955—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 94 lb./ac. (ii) (a) 36.3 lb./ac. (b) 26.2 lb./ac. (iii) Main effect of D is highly significant. Effect of V and interaction V×D are not significant. (iv) Av. yield of seed in lb./ac.

	D ₁	D ₂	D ₃	Mean
V ₁	118	113	32	88
V ₂	149	109	46	101
Mean	132	111	39	94

S.E. of difference of two

1. D marginal means = 14.8 lb./ac.
2. V marginal means = 8.7 lb./ac.
3. V means at the same level of D = 15.1 lb./ac.
4. D means at the same level of V = 18.3 lb./ac.

Crop :- Cholam + Pulses.

Ref :- M. 54(115).

Site :- Millet Breeding Stn., Coimbatore.

Type :- 'X'.

Object :—To find out the proper and definite system of mixed cropping.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Pulses. (c) 5 tons/ac. of F.Y.M. (ii) (a) Red soil. (b) Refer soil analysis, Coimbatore. (iii) 6.8.1954. (iv) (a) 4 ploughings. (b) N.A. (c) Pulses : *Cholam*=1 : 3 ; *Cholam* at 15 lb./ac. (d) and (e) N.A. (v) 5 tons/ac. of F.Y.M. before last ploughing. (vi) *Cholam* CO—1 (late) ; Lab-lab : D.L.L. 231 ; Cow-pea ; C—57 ; Dew gram (local). (vii) Rainfed. (viii) 2 weedings and hoeing. (ix) 14.6%. (x) 26.12.1954.

2. TREATMENTS :

1. *Cholam* alone.
2. *Cholam*+Lab-lab
3. *Chalam*+Cow-pea.
4. *Cholam*+Dew gram.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 33'×66'. (b) 26.4'×59.4'. (v) 3.3'×3.3'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954—contd. (b) Yes. (c) Nil. (v) (a) Tirupathur. (b) Nil. (vi) In the case of pulses raised, besides grain, importance is given to straw also since they are used as fodder. (vii) Nil.

5. RESULTS :

(i) 132.6 Rs./ac. (ii) 24.75 Rs./ac. (iii) Treatment differences are not significant. (iv) Av. value of produce in Rs./ac.

Treatment	1	2	3	4
Av. value	158.3	120.8	118.5	132.9

S.E./mean = 10.1 Rs./ac.

Crop :- Cholam + Pulses.**Ref :- M. 55(48).****Site :- Millet Breeding Stn., Coimbatore.****Type :- 'X'.**

Object :—To find out a proper and definite system of mixed cropping.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Pulses. (c) 2.5 tons/ac. of farm compost. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 13.9.1955. (iv) (a) 4 ploughings. (b) N.A. (c) Pulses : *Cholam*=1:3; *Cholam* at 15 lb./ac. (d) 0.7'×1.2'. (e) N.A. (v) 5 tons/ac. of F.Y.M. (vi) *Periamanjil Cholam* (late). (vii) Rain-fed. (viii) Weeding and hoeing. (ix) 8.95". (x) 30.1.1956.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54 (115) on page 442.

5. RESULTS :

(i) 667 lb./ac. (ii) 142.8 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of *cholam* grain in lb./ac..

Treatment	1	2	3	4
Av. yield	717	794	512	644

S.E./mean = 58.3 lb./ac.

Crop :- Cholam + Pulses.**Ref :- M. 57(38).****Site :- Millet Breeding Stn., Coimbatore.****Type :- 'X'.**

Object :—To find out the proper and definite system of mixed cropping.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Pulses. (c) 2½ ton/ac. of farm compost. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 8.7.1957. (iv) (a) 4 ploughings. (b) N.A. (c) Pulses : *Cholam*=1:3; *Cholam* at 15 lb./ac. (d) 1.2'×0.7'. (e) N.A. (v) 5 tons/ac. of F.Y.M. (vi) *Periamanjil Cholam* (late). (vii) Unirrigated. (viii) Weeding and hoeing. (ix) 23.87". (x) 8.1.1958.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54 (115) on page 442.

5. RESULTS :

(i) 518 lb./ac. (ii) 95.55 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *cholam* grain in lb./ac.

Treatment	1	2	3	4
Av. yield	646	493	607	326

S.E./mean = 39.0 lb./ac.

Crop :- Cotton, Groundnut, Horse gram & Coriander.**Ref :- M. 54(84).****Site :- Agri. Res. Stn., Koilpatti.****Type :- 'X'.**

Object :—To study the effect of growing Cotton and other short duration crops as mixed crops.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) As per treatments. (c) G.N.C. at 20 lb./ac. of N+A/S at 20 lb./ac. of N. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) Sowing 15.10.1954. (iv) (a) 3 ploughings. (b) to (e) N.A. (v) G.N.C. and A/S at 20 lb./ac. of N each. (vi) Cotton : K₂ : Groundnut : TMV-2 ; Coriander—731 bulk ; Horse gram : local. (vii) Unirrigated. (viii) Weeding once. (ix) 24.58". (x) Cotton 15.2.1955 to 28.5.1955 and other crops 14 to 16.2.1955.

2. TREATMENTS :

1. Cotton alone.
2. Cotton+Groundnut.
3. Cotton+Horse gram.
4. Cotton+Coriander.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) 66'×125'. (iii) 4. (iv) (a) 66'×31'. (b) 53'×22'. (v) 6.5'×4.5'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) *Kapas* yield. (iv) (a) 1950—1954. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 457.5 lb./ac. (ii) 91.2 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	1	2	3	4
Av. yield	620	505	135	570

S.E. mean = 45.6 lb./ac.

Crop :- Ragi, Cotton & Groundnut.

Ref :- M. 54(56).

Site :- Agri. Res. Stn., Palur.

Type :- 'X'.

Object :—To find out if growing Ragi, Groundnut and Cotton as mixed crops will bring in better returns than growing them alone.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Ragi*. (c) 5 ton/ac. of compost. (ii) (a) Loam. (b) Refer soil analysis, Palur. (iii) *Ragi* : 5.12.1954/31.12.1954; Groundnut : 14.2.1955; Cotton : 12.1.1955. (iv) (a) 3 to 4 ploughings. (b) to (e) N.A. (v) 5 tons/ac of compost+100 lb./ac. of A/S as top-dressing. (vi) *Ragi* : PLR-1; Cotton : P. 216 F and groundnut : TMV-4. (vii) Irrigated. (viii) 2 weedings to *Ragi* and Groundnut and one earthing to cotton. (ix) 43.88%. (x) 56.9.1955.

2. TREATMENTS :

7 treatments : T₁=*Ragi* alone, T₂=Cotton alone, T₃=Groundnut alone, T₄=*Ragi*+Cotton, T₅=*Ragi*+Groundnut, T₆=Cotton+Groundnut and T₇=*Ragi*+Cotton+Groundnut.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) and (b) 25'×35'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Cotton in T₄ remained lean until the harvest of *Ragi*. (ii) Spraying of chemicals was done to protect cotton crop against boll-worms. (iii) General stand, growth and yields of crops. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :

(i) 367.6 Rs./ac. (ii) 35.4 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. value of produce in Rs./ac.

Treatment	T ₁	T ₂	T ₃	T ₄	T ₅	T ₆	T ₇
Av. value	234	282	359	333	518	413	434

S.E./mean = 17.7 Rs./ac.

Crop :- Ragi, Cotton and Groundnut.**Ref :- M. 55(54).****Site :- Agri. Res. Stn., Palur.****Type :- 'X'.**

Object :—To find out if growing Ragi, Groundnut and Cotton as mixed crops will bring in better returns than growing them alone.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Ragi*. (c) 5 tons/ac. of compost. (ii) (a) Loam. (b) Refer soil analysis, Palur. (iii) *Ragi* 5.12.1955/7.1.1956 ; *Groundnut* 29.2.1956 ; *Cotton* 13.1.1956. (iv) (a) to (e) N.A. (v) 5 tons/ac. of compost + 100 lb./ac. of A/S as top-dressing. (vi) As in expt. no. 54 (56) on page 444. (vii) Irrigated. (viii) 2 weedings for *ragi* and groundnut and earthing to cotton. (ix) 27.54". (x) 23.9.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54 (56) on page 444.

4. GENERAL :

(i) Satisfactory. (ii) Spraying of chemicals was done to the cotton crop against boll-worms. (iii) General stand, growth and yields of crops. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) to (vi) Nil. (vii) Raw data N.A.

5. RESULTS :

(i) 783 Rs./ac. (ii) N.A. (iii) Treatment differences are not significant. (iv) Av. value of produce in Rs./ac.

Treatment	T ₁	T ₂	T ₃	T ₄	T ₅	T ₆	T ₇
Av. value	499	600	765	710	1287	564	1058

S.E./mean = N.A.

Crop :- Ragi, Cotton and Groundnut.**Ref :- M 56(52).****Site :- Agri. Res. Stn., Palur.****Type :- 'X'.**

Object :—To find out if growing Ragi, Groundnut and Cotton as mixed crops will bring in better returns than growing them alone.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Ragi*. (c) 5 tons/ac. of compost per acre. (ii) (a) Loam. (b) Refer soil analysis, Palur. (iii) *Ragi* 15.12.1956/7.1.1956, *Groundnut* 28.1.1957 ; *Cotton* 28.1.1957. (iv) (a) to (e) N.A. (v) 5 ton/ac. of compost + 100 lb./ac. of A/S as top-dressing. (vi) Same as in expt. no. 54(56) on page 444. (vii) Irrigated. (viii) 2 weedings for *ragi* and groundnut; earthing to cotton. (ix) 19.53". (x) 6.8.1957.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(56) on page 444.

4. GENERAL :

Same as in expt. no. 55(54) as above.

5. RESULTS :

(i) 597 Rs./ac. (ii) 77.0 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. value of produce in Rs./ac.

Treatment	T ₁	T ₂	T ₃	T ₄	T ₅	T ₆	T ₇
Av. value	445	251	626	605	861	547	844

S.E./mean = 38.5 Rs./ac.

Treatment	1	2	3	4
Av. value	125	121	164	85

S.E./mean = 5.0 Rs./ac.

Crop :- Groundnut.

Ref :- M. 54(4).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'R'.

Object :-To study the effect of growing Groundnut in rotation with other crops like Cholam, Cumbu, Varagu and Gingelly.

1. BASAL CONDITIONS :

(i) (a) and (b) As per treatments. (c) Manure mixture consisting of red-earth, tank silt and compost at 15 C.L./ac. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 20.7.1954. (iv) (a) Ploughing with Cooper-11 twice, working *guntaka* once, junior hoe once and tractor drawn *guntaka* once. (b) and (c) N.A. (d) Groundnut—9"×9"; cereals—12"×6". (e) N.A.(v) 15 C.L./ac. of manure mixture 27 days before sowing. (vi) Groundnut TMV-3 (late); *Cholam* local (medium); *Varagu* local (medium); *Cumbu* local (early). (vii) Unirrigated. (viii) Cereals were thinned. Two hoeings and weeding were given to Groundnut crop. (ix) 26.22". (x) Groundnut 8.12.1954; *Cholam* 5.1.1955; *Varagu* 25.1.1955; *Cumbu* 24.9.1954.

2. TREATMENTS :

- | | |
|------------------------------------|-------------------------------------|
| 1. Groundnut—Groundnut. | 7. Groundnut— <i>Cholam</i> . |
| 2. Groundnut— <i>Cholam</i> . | 8. <i>Cumbu</i> — <i>Cumbu</i> . |
| 3. Groundnut— <i>Cumbu</i> . | 9. Groundnut— <i>Cumbu</i> . |
| 4. Groundnut— <i>Varagu</i> . | 10. <i>Varagu</i> — <i>Varagu</i> . |
| 5. Groundnut—Gingelly. | 11. Groundnut— <i>Varagu</i> . |
| 6. <i>Cholam</i> — <i>Cholam</i> . | |

3. DESIGN :

(i) R.B.D. (ii) (a) 11. (b) N.A. (iii) 4. (v) (a) 68'×13'. (b) 60'×6'. (v) 4'×3½'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Mild attack of *surul poochi* was noticed—controlled by dusting DDT 5%. (iii) Grain and pod yield. (iv) (a) 1945—1956. (b) Yes. (c) No. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

I Groundnut.

(i) 806 lb./ac. (ii) 132 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	1	2	3	4	5
Av. yield	776	757	885	790	820

S.E./mean = 66.0 lb./ac.

II Cereals.

Treatment	6	7	8	9	10	11
Av. yield	410	424	310	363	104	153

Crop :- Groundnut.

Ref :- M. 55(7).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'R'.

Object :-To study the effect of growing Groundnut in rotation with other crops like Cholam, Cumbu, Varagu and Gingelly.

1. BASAL CONDITIONS :

(i) (a) and (b) As per treatments. (c) Manure mixture consisting of red-earth, tank silt and compost at 15 C.L./ac. (ii) (a) Red loamy soil. (b) Refer soil analysis, Tindivanam. (iii) 11.7.1955. (iv) (a) Working *guntaka* thrice and ploughing with Cooper-11 plough four times. (b) and (c) N.A. (d) Groundnut—9"×9"; cereals—12"×6". (e) N.A. (v) Manure mixture at 15 C.L./ac. applied 29 days before sowing.

(vi) As in expt. no. 54(4) on page 448. (vii) Unirrigated. (viii) Cereals were thinned twice, 2 hoeings and weedings. (ix) 28.99" (x) Groundnut 17.12.1955 ; *Cumbu* 26.9.1955 ; *Cholam* 3.1.1956 and *Varagu* 4.1.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(4) on page 448.

4. GENERAL :

(i) Fair. (ii) Mild attack of *surul poochi* on groundnut—controlled by DDT 5%. *Striga* infestation in *cholam*—pulling out by hands. (iii) Grain and pod yield. (iv) (a) (a) 1945—1956. (b) and (c) Yes. (v) (a) and (b) Nil. (vi) Nil. (vii) Treatments 10 and 11 failed.

5. RESULTS :

I Groundnut.

(i) 1136 lb./ac. (ii) 126 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	1	2	3	4	5
Av. yield	1010	1181	1161	1225	1104

S.E./mean = 63 lb./ac.

II Cereals.

Treatment	6	7	8	9	10	11
Av. yield	599	254	423	464	Nil	Nil

Crop :- Groundnut.

Ref :- M. 56(74).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'R'.

Object :—To study the effect of growing Groundnut in rotation with other crops like *Cholam*, *Cumbu*, *Varagu* and *Gingelly*.

1. BASAL CONDITIONS :

(i) (a) and (b) As per treatments. (c) 15 C.L./ac. of manure mixture. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 11.8.1956. (iv) (a) Ploughing with Cooper—11 plough five times and working junior hoe twice. (b) N.A. (c) Groundnut at 80 lb./ac. ; *Cholam*, *Cumbu* and *Varagu* at 15 to 20 lb./ac. (d) Groundnut 9" × 9" and cereals at 13½" × 6". (e) N.A. (v) 15 C.L./ac. of manure mixture of red earth, tank silt and compost in equal proportions. (vi) As in expt. no. 54(4) on page 448. (vii) Unirrigated. (viii) Two hoeings and weedings. (ix) 36.65". (x) *Cumbu* and *Varagu* on 25.12.1956 ; Groundnut on 1.1.1957 and *Cholam* on 3.1.1957.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 54(4) on page 448.

5. RESULTS :

I Groundnut.

(i) 459 lb./ac. (ii) 82.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	1	2	3	4	5
Av. yield	419	486	469	532	390

S.E./mean = 41.3 lb./ac.

II Cereals.

Treatment	6	7	8	9	10	11
Av. yield	340	395	479	610	274	553

Crop :- Groundnut.**Ref :- M. 54(5).****Site :- Agri. Res. Stn., Tindivanam.****Type :- 'R'.**

Object :—To study the effect of growing Groundnut in rotation with other crops like Cholam, Cumbu, Varagu and Gingelly.

1. BASAL CONDITIONS :

(i) (a) and (b) As per treatments. (c) Manure mixture of tank silt, red-earth and compost at 15 C.L./ac. (ii) (a) Red loamy soil. (b) Refer soil analysis, Tindivanam. (iii) 20.7.1954. (iv) Ploughing with Cooper—11 twice, working *guntaka* once, junior hoe once and tractor drawn *guntaka* once. (b) and (c) N.A. (d) Groundnut : 6'×6' ; cereals : 1'×6'. (e) N.A. (v) Manure mixture at 15 C.L./ac. 27 days before sowing incorporated by working junior hoe. (vi) Groundnut TMV—2 (early) ; *Cholam* local (medium) ; *Varagu* local (medium) ; *Cumbu* local (early). (vii) Unirrigated. (viii) Cereals thinned ; two hoeings, weedings and *danthis* were worked in *Varagu* plots. (ix) 26.22'. (x) Groundnut 1.12.1954 ; *Cumbu* 23.9.1954 ; *Cholam* 5.1.1955 and *Varagu* 25.1.1955.

2. TREATMENTS :

Same as in expt. no. 54(4) on page 448.

3. DESIGN :

(i) R.B.D. (ii) (a) 11. (b) N.A. (iii) 4. (iv) (a) 60'×13'. (b) 56'×6'. (v) 2'×3½'. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Mild attack of *surul poochi*—controlled by dusting DDT 5%. (iii) Grain yield. (iv) (a) 1945—1956. (b) and (c) Yes. (v) to (vii) Nil.

5. RESULTS :**I Groundnut.**

(i) 637 lb./ac. (ii) 104.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of groundnut in lb./ac.

Treatment	1	2	3	4	5
Av. yield	530	588	697	735	634

S.E./mean = 52.4 lb./ac.

II Cereals.

Treatment	6	7	8	9	10	11
Av. yield	414	516	129	300	123	170

Crop :- Groundnut.**Ref :- M. 55(6).****Site :- Agri. Res. Stn., Tindivanam.****Type :- 'R'.**

Object :—To study the effect of growing groundnut in rotation with other crops like Cholam, Cumbu, Varagu and Gingelly.

1. BASAL CONDITIONS :

(i) (a) and (b) As per treatments. (c) Manure mixture of red-earth, tank silt, and compost at 15 C.L./ac. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 19.7.1955. (iv) (a) Working tractor, disc plough once, *guntaka* twice and working with Cooper—11 five times. (b) and (c) N.A. (d) Groundnut : 6'×6' ; cereals : 12'×6'. (e) N.A. (v) Manure mixture at 15 C.L./ac. applied 29 days before sowing. (vi) TMV—2 ; (early). (vii) Unirrigated. (viii) Hoeing and weeding twice. (ix) 18.28'. (x) Groundnut : 27.10.1955 ; *Cumbu* : 26.9.1955 ; *Cholam* : and *Varagu* : 3.1.1956.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 54(5) above.

4. GENERAL :

(i) Satisfactory. (ii) Mild attack of *surul poochi* ; DDT dust at 5% applied. Striga infestation. Removed by hand. (iii) Grain yield. (iv) (a) 1945—1956. (b) Yes. (c) Nil. (v) and (vi) Nil. (vii) Treatments 10 and 11 failed.

5. RESULTS:

I. Groundnut.

(i) 1014 lb./ac. (ii) 120 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

Treatment	1	2	3	4	5
Av. yield	988	1037	980	1088	979

S.E./mean = 60.0 lb./ac.

II Cereals.

Treatment	6	7	8	9	10	11
Av. yield	530	684	318	437	Nil	Nil

Crop :- Groundnut.

Ref :- M. 54(103).

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'R'.

Object :- To find out the effect of introducing legumes in crop rotation with Groundnut.

1. BASAL CONDITIONS:

(i) (a) As per treatments. (b) Groundnut. (c) 15 C.L./ac. of manure mixture, red-earth, tank silt and compost in equal proportions. (ii) (a) Red loamy. (b) Refer soil analysis, Tindivanam. (iii) 1.8.1954, 25.8.1955 and 28.8.1956. (iv) to (viii) Refer table on page 454*. (ix) About 27", 14" to 22" and 19" to 32.5" in 1954, 1955 and 1956 respectively. (x) Groundnut : 24.12.1954, 15.1.1956 and 12.1.1957; *Cholam* : 3.1.1955, 12.1.1956 and 25.1.1957; Red gram : 12.1.1955, 6.2.1956 and 12.2.1957; Castor : 1.4.1955, 17.4.1956, 5.2.1957; Lab-lab : 12.4.1955, 4.5.1956 and 16.4.1957; Cotton : 13.4.1955, 3.5.1956 and 20.3.1957; Horse gram : 3.1.1955, 26.1.1956 and 5.2.1957; Gingelly : 16.11.1954, 10.12.1955 and failed; Cowpea : 17.11.1954, 24.1.1956 and 4.1.1957; Sannhemp : 29.10.1954, 18.11.1955 and 22.10.1956 and Green gram : 23.12.1954, 3.11.1955 and failed. Wild indigo failed in all the years.

2. TREATMENTS:

9 four course rotational treatments with all the 4 phases in the sub-plots.

Main-plot treatments:

	I Year	II Year	III Year	IV Year
1.	Cotton	Green gram	<i>Cholam</i>	Sannhemp and Cowpea.
2.	Cotton	Horse gram	<i>Cholam</i>	-do-
3.	Cotton	Red gram	<i>Cholam</i>	-do-
4.	Cotton	Groundnut	<i>Cholam</i>	-do-
5.	Gingelly and Red gram	Cowpea	Cotton	-do-
6.	Gingelly and Wild indigo	<i>Cholam</i>	Cotton	-do-
7.	Castor and Lab-lab	<i>Cholam</i> and Cowpea	Cotton	-do-
8.	<i>Cholam</i> and Cowpea	Gingelly and Cotton	Castor and Lab-lab	-do-
9.	<i>Cholam</i> and Gingelly	Cotton	-do-	Sannhemp, Cowpea and Red gram.

3. DESIGN:

(i) Split-plot. (ii) (a) 9 main-plots/block; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 18' x 16'. (v) Nil. (vi) Yes.

4. GENERAL:

(i) Gingelly and wild indigo failed completely. (ii) *Surul poochi* in groundnut, pod borer in red gram and lab-lab, jassid in cotton and semi-looper in castor. (iii) *Kapas*, pod, grain and fodder yields. (iv) (a) 1954-1956. (b) Yes. (c) Nil. (v) to (vi) Nil. (vii) Analysis was done as R.B.D.

5. RESULTS:

1954

I Cotton.

(i) 54.4 lb./ac. (ii) 31.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	1	2	3	4	5	6	7	8	9
Av. yield	89.2	39.6	45.2	76.3	48.7	77.2	49.1	16.1	48.6

S.E./mean = 15.6 lb./ac.

II Cholam.

(i) 1314 lb./ac. (ii) 407.5 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	1	2	3	4	6	7	8	9
Av. yield	1401	1472	1520	1855	1238	1342	862	824

S.E./mean = 203.7 lb./ac.

III Sannhemp.

(i) 10008 lb./ac. (ii) 1978 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of fodder in lb./ac.

Treatment	1	2	3	4	5	6	7	8	9
Av. yield	10739	9302	12138	9718	9982	9869	8621	10663	9037

S.E./mean = 989 lb./ac.

IV Cowpea.

(i) 19.53 lb./ac. (ii) 17.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of cowpea in lb./ac.

Treatment	1	2	3	4	5	6	7	8	9
Av. yield	16.26	17.84	20.84	31.59	20.96	19.42	7.80	27.30	13.75

S.E./mean (treatments 1, 2, 3, 4, 6, 9) = 8.5 lb./ac.

S.E./mean (treatments 5, 7, 8) = 6.0 lb./ac.

V Red gram.

(i) 644.0 lb./ac. (ii) 160.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of red gram in lb./ac.

Treatment	3	5	9
Av. yield	731.9	610.2	589.8

S.E./mean = 80.2 lb./ac.

VI Castor.

(i) 266.1 lb./ac. (ii) 146.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of castor in lb./ac.

Treatment	7	8	9
Av. yield	261.3	270.1	266.9

S.E./mean = 73.3 lb./ac.

VII Lab-lab.

(i) 727.1 lb./ac. (ii) 263.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of lab-lab in lb./ac.

Treatment	7	8	9
Av. yield	744.4	713.6	723.2

S.E./mean = 131.6 lb./ac.

1955

I Cotton.

(i) 26.3 lb./ac. (ii) 14.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of kapas in lb./ac.

Treatment	1	2	3	4	5	6	7	8
Av. yield	30.4	20.0	36.7	23.3	20.8	26.3	38.8	8.8

S.E./mean = 7.3 lb./ac.

II Cholam.

(i) 943 lb./ac. (ii) 452.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *cholam* in lb./ac.

Treatment	1	2	3	4	6	7	8	9
Av. yield	954	730	1464	773	858	1304	788	675

S.E./mean = 226.1 lb./ac.

III Sannhemp.

(i) 3815 lb./ac. (ii) 1160 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of fodder in lb./ac.

Treatment	1	2	3	4	5	6	7	8	9
Av. yield	3516	4424	3706	3970	3781	3441	3706	3517	4273

S.E./mean = 580 lb./ac.

IV Cowpea.

(i) 294 lb./ac. (ii) 38.5 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of cowpea in lb./ac.

Treatment	1	2	3	4	5	6	7	8	9
Av. yield	348	272	318	356	306	318	201	229	298

S.E./mean (treatments 1, 2, 3, 4, 6, 9) = 19.3 lb./ac.

S.E./mean (treatments 5, 7, 8) = 13.6 lb./ac.

V Red gram

(i) 256 lb./ac. (ii) 138.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of red gram in lb./ac.

Treatment	3	5	9
Av. yield	318	161	290

S.E./mean = 69.1 lb./ac.

VI Castor.

(i) 36.54 lb./ac. (ii) 7.65 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of castor in lb./ac.

Treatment	7	8	9
Av. yield	30.84	36.68	42.10

S.E./mean = 3.82 lb./ac.

VII Lab-lab.

(i) 162.8 lb./ac. (ii) 27.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of lab-lab in lb./ac.

Treatment	7	8	9
Av. yield	154.2	190.1	144.2

S.E./mean = 13.5 lb./ac.

1956

I Cotton.

(i) 32.8 lb./ac. (ii) 22.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	1	2	3	4	5	6	7	8	9
Av. yield	29.3	33.7	32.3	39.7	34.0	32.8	20.1	10.6	63.1

S.E./mean = 11.4 lb./ac.

II Cholam.

(i) 53.6 lb./ac. (ii) 193.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *cholam* in lb./ac.

Treatment	1	2	3	4	6	7	8	9
Av. yield	479	505	637	553	486	431	527	671

S.E./mean = 96.7 lb./ac.

III Sannhemp

(i) 8852 lb./ac. (ii) 2366 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of fodder in lb./ac.

Treatment	1	2	3	4	5	6	7	8	9
Av. yield	9340	8999	8886	12365	7827	7865	8470	8697	7222

S.E./mean = 1183 lb./ac.

IV Cowpea.

(i) 71.1 lb./ac. (ii) 30.7 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of cowpea in lb./ac.

Treatment	1	2	3	4	5	6	7	8	9
Av. yield	92.1	10.4	67.1	65.0	56.5	103.8	97.5	79.8	67.5

S.E./mean (treatments 1, 2, 3, 4, 6, 9) = 15.4 lb./ac.

S.E./mean (treatments 5, 7, 8) = 10.9 lb./ac.

V Red gram.

(i) 123 lb./ac. (ii) 81.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of red gram in lb./ac.

Treatment	3	5	9
Av. yield	160	142	66

S.E./mean = 40.9 lb./ac.

VI Castor.

(i) 61.6 lb./ac. (ii) 167.6 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of castor in lb./ac.

Treatment	7	8	9
Av. yield	64.4	40.8	79.6

S.E./mean = 83.8 lb./ac.

VII Lab-lab.

(i) 73.9 lb./ac. (ii) 229.6 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of lab-lab in lb./ac.

Treatment	7	8	9
Av. yield	76.7	41.7	103.4

S.E./mean = 114.8 lb./ac.

*Reference for item no. (iv) to (viii) of Basal Conditions for expt. no. 54(103) on page 451.

Crop	Method of sowing	Variety	Seed rate	No. of hoeings and weeding
Groundnut	Dibbled in holes 9" apart either way.	TMV—3	80 lb./ac.	Twice
<i>Cholam</i>	Sown in lines 18" apart and thinned to 8" in the row.	CO—19	15 lb./ac.	Thrice
Red gram	Dibbling in holes 6' apart with 3' within the row.	S.A.—1	4 lb./ac.	Twice
Castor	Dibbling in holes 3' either way.	TMV—2	7 lb./ac.	Twice
Lab-lab	Dibbling in holes 3' apart with 1' within the row.	D.S. 231	12 lb./ac.	Twice
Cotton	Dibbling in holes 1½' apart with 6" within the row.	P 216—F	10 lb./ac.	Twice
Horse gram	Broadcast.	Local	20 lb./ac.	Twice
Gingelly	—do—	TMV—1	6 lb./ac.	Twice
Cowpea	—do—	CO—419	12 lb./ac.	Twice
Sannhemp	—do—	Local	15 lb./ac.	Once
Green gram	—do—	Local	8 lb./ac.	Once

3 ploughings with Cooper—11 and working junior hoe twice uniformly in all plots. The field is unirrigated

**Crop :- Groundnut, Redgram, Cholam, Castor, Ref :- M. 57 to 59(68).
Lab-lab, Cotton and Sannhemp.**

Site :- Agri. Res. Stn., Tindivanam.

Type :- 'R'.

Object :—To find out the effect of introduction of a legume in crop rotation with groundnut and other crop.

1. BASAL CONDITIONS :

(i) (a) As per treatments. (b) N.A. (c) 15 C.L./ac. of manure mixture. (ii) (a) Red loamy. (b) Refer soil analysis, Tindivanam. (iii) 2.8.1957, 11.8.1958 and 26.8.1959 for all excepting sannhemp. Sannhemp on 10.1.1958, 6.2.1959 and 4.2.1960. (iv) to (viii) Refer to table on page 458.* (ix) 27" in 1957, 33" in 1958 and 30" in 1959. (x) Groundnut : 8.1.1958, 24.12.1958, 8.1.1960 ; Redgram : 4.2.1958, 20.1.1959, 15.1.1960 ; Cholam : 8.1.1958, 27.12.1958, 7.1.1960 ; Castor : [6.3.1958, 17.2.1959, 20.4.1960 ; Lab-lab, 16.3.1958, 22.2.1959, 10.3.1960 ; Cotton : 16.3.1958, 22.2.1959 and 26.3.1960 ; Sannhemp : 6.3.1958, failed, failed.

2. TREATMENTS :

Main-plot Treatments :

6 three course rotations with all the 3 phases in sub-plots.

I Year	II Year	III Year
1. Cotton	Groundnut	Cholam and Sannhemp.
2. Cotton	Redgram	Cholam and Sannhemp.
3. Castor and Lab-lab	Groundnut	Cholam and Sannhemp.
4. Castor and Lab-lab	Redgram	Cholam and Sannhemp.
5. Castor and Lab-lab	Groundnut	Cotton
6. Castor and Lab-lab	Redgram	Cotton

3. DESIGN :

(i) Split-plot. (ii) (a) 6 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 24'×18'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) The yield in general of all the crops was poor due to drought. (ii) Wild attack on cotton and pod-borer on lab-lab in 1957. *Surul poochi* in groundnut, semi-looper in castor, wilt and jassids in cotton in 1958 and 1959. (iii) *Kapas*, pod, grain and fodder yields. (iv) (a) 1957—1959. (b) Yes. (c) Nil. (v) to (vi) Nil. (vii) Analysis was done as R.B.D.

5. RESULTS :

1957

I Cotton.

(i) 36.2 lb./ac. (ii) 1.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	1	2	5	6
Av. yield	37.8	36.0	35.4	35.6

S.E./mean = 0.9 lb./ac.

II Groundnut.

(i) 323.0 lb./ac. (ii) 219.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of groundnut in lb./ac.

Treatment	1	2	3
Av. yield	270.8	405.3	293.0

S.E./mean = 109.8 lb./ac.

III Cholam.

(i) 893 lb./ac. (ii) 141.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *cholam* in lb./ac.

Treatment	1	2	3	4
Av. yield	874	854	1017	828

S.E./mean = 70.6 lb./ac.

IV Red gram.

(i) 590.8 lb./ac. (ii) 257.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of red gram in lb./ac.

Treatment	2	4	6
Av. yield	502.3	632.3	637.7

S.E./mean = 128.7 lb./ac.

V Castor

(i) 182.0 lb./ac. (ii) 80.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of castor in lb./ac.

Treatment	3	4	5	6
Av. yield	250.0	166.5	174.6	137.0

S.E./mean = 40.1 lb./ac.

VI Lab-lab.

(i) 84.4 lb./ac. (ii) 51.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of lab-lab in lb./ac.

Treatment	3	4	5	6
Av. yield	93.1	79.2	77.3	88.0

S.E./mean = 25.8 lb./ac.

1958

I Cotton.

(i) 146.8 lb./ac. (ii) 33.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of kapas in lb./ac.

Treatment	1	2	5	6
Av. yield	144.6	116.9	172.9	152.6

S.E./mean = 17.0 lb./ac.

II Groundnut.

(i) 386.1 lb./ac. (ii) 56.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of groundnut in lb./ac.

Treatment	1	3	5
Av. yield	412.6	360.3	385.3

S.E./mean = 28.4 lb./ac.

III Cholam.

(i) 833 lb./ac. (ii) 240.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of cholam in lb./ac.

Treatment	1	2	3	4
Av. yield	895	741	750	945

S.E./mean = 120.2 lb./ac.

IV Red gram.

(i) 719 lb./ac. (ii) 192.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of red gram in lb./ac.

Treatment	2	4	6
Av. yield	723	760	673

S.E./mean = 96.3 lb./ac.

V Castor.

(i) 296 lb./ac. (ii) 141.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of castor in lb./ac.

Treatment	3	4	5	6
Av. yield	410	286	305	184

S.E./mean = 70.6 lb./ac.

VI Lab-lab

(i) 301 lb./ac. (ii) 84.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of lab-lab in lb./ac.

Treatment	3	4	5	6
Av. yield	310	270	318	305

S.E./mean = 42.4 lb./ac.

1959

I Cotton.

(i) 106.1 lb./ac. (ii) 55.26 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	1	2	5	6
Av. yield	122.9	108.7	73.4	119.6

S.E./mean = 27.6 lb./ac.

II Groundnut.

(i) 493 lb./ac. (ii) 164.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of groundnut in lb./ac.

Treatment	1	3	5
Av. yield	506	546	428

S.E./mean = 82.4 lb./ac.

III Cholam.

(i) 1760 lb./ac. (ii) 291.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *cholam* in lb./ac.

Treatment	1	2	3	4
Av. yield	1634	1592	1898	1915

S.E./mean = 145.6 lb./ac.

IV Red gram.

(i) 273.6 lb./ac. (ii) 110.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of red-gram in lb./ac.

Treatment	2	4	6
Av. yield	320.5	268.3	232.1

S.E./mean = 55.2 lb./ac.

V Castor.

(i) 370 lb./ac. (ii) 154.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of castor in lb./ac.

Treatment	3	4	5	6
Av. yield	330	439	386	326

S.E./mean = 77.4 lb./ac.

VI Lab-lab.

(i) 195.7 lb./ac. (ii) 59.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of lab-lab in lb./ac.

Treatment	3	4	5	6
Av. yield	230.7	181.5	156.5	214.3

S.E./mean = 29.7 lb./ac.

Crop :- As per rotations.
Site :- Agri. Res. Stn., Koilpatti.

Ref :- M. 1955 to 57(N.A.).
Type :- 'R'.

Object :—To find out the role of legumes in crop rotation in rainfed areas of the tract for increasing soil fertility.

1. BASAL CONDITIONS :

(i) (a) to (c) As per treatments. (ii) (a) Black. (b) Refer soil analysis, Koilpatti. (iii) 6.11.1955, 12.10.1956 and 25.10.1957. (iv) (a) One ploughing with Victory plough. Intercultivation with *dantube*. (b) to (e) N.A. (v) Nil. (vi) 1955—18.54°; 1956—26.87°; 1957—25.53°. (vii) Unirrigated. (viii) Two or three weedings according to the presence of weeds. (ix) Cotton—K₂, Groundnut—TMV—2, Horsegram—DB-35; *Cumbu*—K', Blackgram—local. (x) 6.2.1956 to 20.3.1956; 14.2.1957 to 23.2.1957 and 16.1.1958 to 9.4.1958.

2. TREATMENTS :

All phases of the 4 rotations

1. Cotton—*Cumbu*—Cotton—*Cumbu*.
2. Cotton—*Cumbu*—Cotton—Blackgram.
3. Cotton—*Cumbu*—Cotton—Groundnut.
4. Cotton—*Cumbu*—Cotton—Horsegram.

3. DESIGN :

(i) R.B.D. (ii) (a) 16. (b) N.A. (iii) 4. (iv) (a) 40'×18'. (b) 34'×12'. (v) 3'×3'. (vi) Yes.

4. GENERAL :

(i) 1955—Poor; 1956—Satisfactory; 1957—Pulses failed. Cotton and *Cumbu* were normal. (ii) No serious pests or diseases. But groundnut was a failure throughout due to *tikka* disease and *surul poochi* attack (iii) Yield of *kapas* and stalks, *cumbu* grain and straw, groundnut pods and haulms, blackgram seed and *bhusa*, and horsegram seed and *bhusa*. (iv) (a) 1954—1957. (b) As per rotations. (c) No. (v) (a) and (b) No. (vi) Nil. (vii) Expt. failed in 1954.

5. RESULTS :

1955

I Cotton.

(i) 404.5 lb./ac. (ii) 111.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	2	4	6	8	10	12	14
Av. yield	346.3	495.9	453.6	360.1	361.7	358.4	455.2

S.E./mean (except treatment 2) = 55.7 lb./ac.

S.E./mean (for treatment 2) = 39.4 lb./ac.

II Cumbu.

(i) 227.2 lb./ac. (ii) 58.96 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *cumbu* in lb./ac.

*Reference for item nos (iv) to (vii) of basal conditions for expt. no. 57-59(68) on page 455.

Crop	Method of sowing	Variety	Seed rate	No. of hoeings and weedings.
Groundnut	Dibbled in holes 9" apart in either way.	TMV—3	80 lb./ac.	Twice
Red gram	Dibbled in rows 6' apart with 3' within the row.	S.A. 1	4 lb./ac.	Twice
<i>Cholam</i>	Sown in lines 18" apart and thinned to 8" in the row.	CO—19	15 lb./ac.	Thrice
Castor	Dibbling in holes 3' apart in either way.	TMV—2	12 lb./ac.	Twice
Lab-lab	Dibbling in holes 3' apart with 1' within the row.	D.L. 231	12 lb./ac.	Twice
Cotton	Dibbling in holes 18" apart with 6" in the row.	MCU—2	10 lb./ac.	Twice
Sannhemp	Broadcast.	Local	15 lb./ac.	Once.

2 ploughings with Cooper—11, one each with junior hoe and country plough uniformly to all plots. The field is unirrigated.

Treatment	1	3	7	11
Av. yield	250.6	252.7	224.2	181.5

S.E./mean (except treatment 1) = 29.5 lb./ac.

S.E./mean (for treatment 1) = 20.8 lb./ac.

1956

III Cotton.

(i) 223.4 lb./ac. (ii) 55.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	1	3	5	7	9	11	13
Av. yield	203.0	247.8	251.1	210.3	256.5	171.2	224.2

S.E./mean (except treatment 1) = 27.5 lb./ac.

S.E./mean (for treatment 1) = 19.5 lb./ac.

IV Cumbu.

(i) 334.3 lb./ac. (ii) 38.6 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of *cumbu* in lb./ac.

Treatment	1	3	7	11
Av. yield	277.6	388.9	370.1	400.8

S.E./mean (except treatment 1) = 19.3 lb./ac.

S.E./mean (for treatment 1) = 13.6 lb./ac.

1957

V Cotton.

(i) 406.2 lb./ac. (ii) 73.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *kapas* in lb./ac.

Treatment	2	4	6	8	10	12	14
Av. yield	369.4	376.9	400.8	463.6	422.6	440.0	369.9

S.E./mean (except treatment 2) = 36.6 lb./ac.

S.E./mean (for treatment 2) = 25.9 lb./ac.

VI. Cumbu.

(i) 518.2 lb./ac. (ii) 77.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of *cumbu* in lb./ac.

Treatment	1	5	9	13
Av. yield	476.4	462.0	589.2	545.1

S.E./mean (except treatment 1) = 38.5 lb./ac.

S.E./mean (for treatment 1) = 27.2 lb./ac.

Crop :- Lucerne.

Ref :- M. 57(90).

Site :- Agri. College and Res. Instt., Coimbatore.

Type :- 'M'.

Object :- To find out a suitable manure for Lucerne grass.

1. BASAL CONDITIONS :

(i) 15 C.L./ac. of F.Y.M. applied to previous crop *Ragi*. 4 to 5 ploughings before sowing. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) N.A. (iv) Lucerne. (v) Sown on 19.8.1957 at spacing of 2' x 6". (vi) N.A. (vii) Nil. (viii) Weeding once a month. (ix) Nil. (x) Irrigated. (xi) 27.85". (xii) 11 monthly harvests starting from 14.10.1957.

2. TREATMENTS:

- Control (no manure).
- B.M. at 1½ cwt./ac.
- B.M. at 3 cwt./ac.
- Super at 30 lb./ac. of P₂O₅.
- Super at 60 lb./ac. of P₂O₅.

3. DESIGN :

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

4. GENERAL :

(i) Poor. (ii) Nil. (iii) Yield of green grass. (iv) (a) No. (b) Nil. (v) Nil. (vi) Expt. was conducted by the Systematic Botanist, Coimbatore.

5. RESULTS :

(i) 15926 lb./ac. (ii) 2592 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grass in lb./ac.

Treatment	1	2	3	4	5
Av. yield	15408	16192	16336	16352	15344

S.E./mean = 1296 lb./ac.

Crop :- Grasses.

Ref :- M. 57(91), 58(91), 59(70).

Site :- Agri. College & Res. Instt., Coimbatore. Type :- 'MV'.

Object:—To find out suitable manure to increase the yielding capacity of different perennial grasses.

1. BASAL CONDITIONS :

(i) *Ragi* was raised in the field in previous season and 15 C.L./ac. of F.Y.M. was applied to it. (ii) (a) Loamy. (b) N.A. (iii) Transplanted from nursery. (iv) As per treatments. (v) Planted on 26.3.1957 at a spacing of 3'×1.5' in a plot of 36'×6'. (vi) One month approximately. (vii) Nil. (viii) 5 to 6 times ploughed with country plough and 4 to 5 times with Victory plough. Hand weeding once in 2 or 3 months. (ix) Nil. (x) Irrigated. (xi) 1957—35.21". (xii) Monthly harvest starting from 15th May each year to 15th April of the next year (for one year).

2. TREATMENTS :

Main-plot treatments :

5 species of grasses : $V_1 = \text{Panicum antidotale}$, $V_2 = \text{Panicum maximum}$, $V_3 = \text{Bracharia mutica}$, $V_4 = \text{Blou buffel}$ and $V_5 = \text{Cenchrus ciliaris}$.

Sub-plot treatments :

9 manures : $M_1 = \text{Control}$ (no manure), $M_2 = \text{B.M. at 1 cwt./ac.}$, $M_3 = \text{A/S at 30 lb./ac. of N}$, $M_4 = \text{Super at 30 lb./ac. of } P_2O_5$, $M_5 = \text{F.Y.M. at 5 tons/ac.}$, $M_6 = \text{F.Y.M. at 5 tons/ac. + B.M. at 1 cwt./ac.}$, $M_7 = \text{F.Y.M. at 5 tons/ac. + Super at 30 lb./ac. of } P_2O_5$, $M_8 = \text{F.Y.M. at 5 tons/ac. + A/S at 30 lb./ac. of N}$ and $M_9 = \text{A/S at 30 lb./ac. of N + Super at 30 lb./ac. of } P_2O_5$.

Manures applied in the month of April each year.

3. DESIGN :

(i) Split-plot. (ii) (a) 5 main-plots/block ; 9 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) About 8,800 slips/ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grass yield. (iv) (a) 1957—1959. (b) Nil. (v) Nil. (vi) Expt. was conducted by Botany Section.

5. RESULTS :

1957

(i) 35329 lb./ac. (ii) (a) 10932 lb./ac. (b) 5488 lb./ac. (iii) All effects are highly significant. (iv) Av. yield of grass in lb./ac.

	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8	M_9	Mean
V_1	25049	23738	25301	26006	27266	25150	24998	31550	25402	26051
V_2	31550	34978	34675	31903	36943	38405	32609	39262	34171	34944
V_3	36742	20866	39211	37346	39161	41177	37800	43294	37447	37005
V_4	45259	48182	48082	52315	49745	49997	41983	55490	51106	49129
V_5	30442	29131	31097	31954	27569	24646	26611	33012	31198	29518
Mean	33808	31379	35673	35905	36137	35875	32800	40522	35865	35329

S.E. of difference of two

1. V marginal means = 2576 lb./ac.
2. M marginal means = 1735 lb./ac.
3. M means at the same level of V = 3881 lb./ac.
4. V means at the same level of M = 4473 lb./ac.

1958

(i) 28732 lb./ac. (ii) (a) 8909 lb./ac. (b) 3122 lb./ac. (iii) Main effects of M and V are highly significant. Interaction M×V is not significant. (iv) Av. yield of grass in lb./ac.

	M ₁	M ₂	M ₃	M ₄	M ₅	M ₆	M ₇	M ₈	M ₉	Mean
V ₁	19102	18547	21218	23940	20261	20916	19706	23436	20160	20810
V ₂	27720	27317	30038	27670	31954	31097	29484	37044	30996	30369
V ₃	32054	35482	35633	36691	32105	32407	33970	35935	32911	34132
V ₄	36288	36792	41026	39463	37548	37901	34726	42790	43243	38864
V ₅	18043	19324	21874	22529	20009	21218	20362	22781	9173	19483
Mean	26641	27498	29958	30059	28375	28708	27650	32397	27297	28732

S.E. of difference of two

1. V marginal means = 2100 lb./ac.
2. M marginal means = 1396 lb./ac.
3. M means at the same level of V = 2209 lb./ac.
4. V means at the same level of M = 2957 lb./ac.

1959

(i) 17198 lb./ac. (ii) (a) 5557 lb./ac. (b) 2038 lb./ac. (iii) Main effect of M alone is significant. (iv) Av. yield of grass in lb./ac.

	M ₁	M ₂	M ₃	M ₄	M ₅	M ₆	M ₇	M ₈	M ₉	Mean
V ₁	9778	9022	10685	11189	10685	11390	10483	12398	5292	10102
V ₂	20462	18950	19354	18547	18446	9878	22529	19354	17186	18301
V ₃	18950	21773	19303	19102	20412	21672	19555	22478	18547	20199
V ₄	25402	24394	26712	22025	24192	25150	26611	28274	28426	25687
V ₅	10786	10987	13003	11340	11138	12197	10836	12348	12650	11698
Mean	17076	17025	17811	16441	16975	16057	18003	18970	16420	17198

S.E. of difference of two

1. V marginal means = 1310 lb./ac.
2. M marginal means = 644 lb./ac.
3. M means at the same level of V = 1441 lb./ac.
4. V means at the same level of M = 1888 lb./ac.

Crop :- Glyricidia.

Ref :- M. 54(23).

Site :- Agri. College and Res. Instt., Coimbatore.

Type :- 'D'.

Object :- To study the efficacy of the insecticides in controlling aphids on Glyricidia plants.

1. BASAL CONDITIONS :

(i) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) N.A. (iv) Glyricidia. (v) December, 1953. (vi) N.A. (vii) to (ix) Nil. (x) Irrigated. (xi) and (xii) N.A.

2. TREATMENTS :

6 insecticides : I_0 =Control, I_1 =BHC 10% dust, I_2 =BHC 0.1% spray, I_3 =Lindane 5% dust, I_4 =Lindane 0.1% spray and I_5 =Bharat Pulverising Mill's Malathion 1 oz. in 10 gallons of water spray.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) 4 plants/plot. (v) Two buffer plants were left in between two treatments. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Aphids were noticed. Control measures as per treatments. (iii) Aphid population counts were taken from 4 random twigs in each plant. (iv) (a) No. (b) Nil. (v) and (vi) Nil.

5. RESULTS :

(i) to (iv) Av. population count of aphids 48 hours after application of treatments.

Treatment	I_0	I_1	I_2	I_3	I_4	I_5	G.M.	S.E./plot	S.E./mean	Significance
Population count	331.00	3.25	23.25	50.50	25.50	1.25	72.46	—	—	—
Transformed value in $\log(x+1)$	2.4670	0.4758	0.9343	1.6991	1.3134	0.1946	1.1807	0.4464	0.2232	Highly significant.

Crop :- Banana.

Ref :- M. 56(108).

Site :- Central Banana Res. Stn., Aduthurai.

Type :- 'C'.

Object :—To determine the optimum cultural practice to secure a better stand and growth of Banana bunches.

1. BASAL CONDITIONS :

(i) Banana grown previously. (ii) (a) Clayey loam. (b) Refer soil analysis, Aduthurai. (iii) By suckers. (iv) *Poovan*. (v) 24.8.1956. Planting in rows with 8'×8' spacing. (vi) 4 months. (vii) 25 lb./pit of C.M. before planting. (viii) 4 shallow diggings and one deep digging during Jan. ; fortnightly desuckering and manuring twice during 3rd and 5th month after planting and periodical weeding. (ix) Nil. (x) Irrigated. (xi) 53.10". (xii) N.A.

2. TREATMENTS :

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

(1) Cutting of suckers : C_0 =No cutting and C_1 =Cutting.

(2) Drying of suckers : D_0 =No drying and D_1 =Drying in sun for 15 days.

(3) 2 levels of dipping : T_0 =No dipping and T_1 =Dipping in thick cowdung solution.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) 6 experimental plants. (v) 60 plants were left as guard row. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Height and girth of the plants, number of leaves, weight of the bunch, number of fruit, date of flowering etc. (iv) (a) and (b) 1956—1957. (v) and (vi) Nil.

5. RESULTS :

(i) 24.6 lb./plant. (ii) 2.4 lb./plant. (iii) None of the effects is significant. (iv) Av. yield of banana in lb./plant.

	C_0	C_1	Mean	T_0	T_1
D_0	25.9	24.1	25.0	25.1	24.9
D_1	23.8	24.5	24.1	23.9	24.4
Mean	24.8	24.3	24.6	24.5	24.6
T_0	24.8	24.2			
T_1	24.9	24.4			

S.E. of any marginal mean = 0.6 lb./plant.
S.E. of the body of table = 0.8 lb./plant.

Crop :- Banana.

Ref :- M. 56(109).

Site :- Central Banana Res. Stn., Aduthurai.

Type :- 'C'.

Object :- To determine the optimum spacing and depth of planting for Banana.

1. BASAL CONDITIONS :

(i) The area was under banana previously. (ii) (a) Clayey loam. (b) Refer soil analysis, Aduthurai. (iii) By suckers. (iv) *Poovan*. (v) 24.8.1956. Planting of suckers in rows. (vi) 4 months. (vii) 25 lb. of C.M./pit before planting. (viii) 4 shallow diggings and one deep digging during January. Desuckering twice a month. (ix) Nil. (x) Unirrigated. (xi) 38.61". (xii) N.A.

2. TREATMENTS :

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

(1) 2 depths of planting : $D_1 = \frac{3}{4}'$ and $D_2 = 1\frac{1}{2}'$.

(2) Spacings : $S_1 = 9' \times 9'$ and $S_2 = 10' \times 10'$.

(3) 2 levels of desuckering : $T_1 =$ First sucker allowed to grow and $T_2 =$ First sucker produced at flowering allowed.

3. DESIGN :

(t) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) 25 trees. (v) 16 plants. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Height and girth of the plants, weight of the bunch, no. of hands, no. of fruit, average spacing between hands, dates of flowering and date of harvest etc. (iv) (a) 1956-1961. (b) Nil. (v) and (vi) Nil.

5. RESULTS :

(i) 13003 lb./ac. (ii) 1537 lb./ac. (iii) S effect in highly significant ; T effect is significant. Other effects are not significant. (iv) Av. yield of banana in lb./ac.

	D_1	D_2	Mean	T_1	T_2
S_1	14688	13591	14139	13517	14762
S_2	12088	11647	11867	10911	12834
Mean	13388	12619	13003	12214	13793
T_1	12088	12340			
T_2	14687	12898			

S.E. of any marginal mean = 384.2 lb./ac.
S.E. of body of any table = 543.4 lb./ac.

Crop :- Banana.

Ref :- M. 57(115).

Site :- Central Banana Res. Stn., Aduthurai.

Type :- 'C'.

Object :- To derive the optimum desuckering practice for Banana crop.

1. BASAL CONDITIONS :

(i) The area was under banana previously. (ii) (a) Clayey loam. (b) Refer soil analysis, Aduthurai. (iii) By suckers. (iv) *Poovan*. (v) 25.9.1957, planted in rows with a spacing of $8' \times 8'$. (vi) 4 months. (vii) 25 lb./pit [of F.Y.M. before planting. (viii) 4 shallow diggings and 1 deep digging during January. (ix) Nil. (x) Unirrigated. (xi) 49.78". (xii) N.A.

2. TREATMENTS :

1. All the daughter suckers are allowed to grow.
2. Removal of all except the 1st daughter sucker.
3. Removal of all except the 1st and the 3rd suckers.
4. Removal of all except the first sucker after flowering.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) 25 plants. (v) 16 plants. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height, girth of the plants, no. of leaves, wt. of the bunches. (iv) (a) and (b) 1957—N.A. (v) Desuckering operations were being carried out periodically once in 15 days. (vi) Nil.

5. RESULTS :

(i) 12155 lb./ac. (ii) 911.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of banana in lb./ac.

Treatment	1	2	3	4
Av. yield	10132	13396	11084	14008

S.E./mean = 372.2 lb./ac.

Crop :- Banana.

Ref :- M. 58(141).

Site :- Central Banana Res. Stn., Aduthurai.

Type :- 'C'.

Object :—To compare the suitability of mother corms against the daughter corms as planting material.

1. BASAL CONDITIONS :

(i) Previously banana was grown in the field. (ii) (a) Clayey loam. (b) Refer soil analysis, Aduthurai. (iii) By suckers. (iv) Mauritius. (v) 27.9.1958/27.1.1959. (vi) 4 months. (vii) One basket/pit of C.M. before planting. (viii) 5 diggings and fortnightly desuckering. (ix) Nil. (x) Unirrigated. (xi) 30.95" (xii) N.A.

2. TREATMENTS :

4 types of planting material : T_1 =Whole mother corm, T_2 =Bits from mother corm, T_3 =Whole daughter corm and T_4 =Bits from daughter corm.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) 6. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height and girth measurements of the plant, no. of leaves, wt. of the bunches, no. of hands and no. of fruit etc. (iv) (a) and (b) 1959. (v) and (vi) Nil.

5. RESULTS :

(i) 19.6 lb./plant. (ii) 2.4 lb./plant. (iii) Treatment differences are not significant. (iv) Av. yield of banana in lb./plant.

Treatment	1	2	3	4
Av. yield	18.3	20.1	19.9	20.1

S.E./mean = 1.0 lb./plant.

Crop :- Banana.

Ref :- M. 58(142).

Site :- Central Banana Res. Stn., Aduthurai.

Type :- 'C'.

Object :—To compare the suitability of mother corms against the daughter corms as planting material.

1. BASAL CONDITIONS :

(i) Banana was the previous crop. (ii) (a) Clayey loam. (b) Refer soil analysis, Aduthurai. (iii) By suckers. (iv) *Rasthali*. (v) 27.9.1958/27.1.1959. (vi) 4 months. (vii) One basket/pit of C.M. before planting (viii) Five diggings and fortnightly desuckering and manuring twice during 3rd and 5th month after planting. (ix) Nil. (x) Irrigated. (xi) 30.95". (xii) N.A.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 58 (141) on page 464.

5. RESULTS :

(i) 22.6 lb./plant. (ii) 2.3 lb./plant. (iii) Treatment differences are not significant. (iv) Av. yield of banana in lb./plant.

Treatment	1	2	3	4
Av. yield	23.7	21.2	23.0	22.3

S.E./mean = 0.9 lb./plant.

Crop :- Banana.

Ref :- M. 56(110).

Site :- Central Banana Res. Stn., Aduthurai.

Type :- 'CV'.

Object :—To determine the optimum month for planting banana.

1. BASAL CONDITIONS :

(i) The area was under banana previously. (ii) (a) Clayey loam. (b) Refer soil analysis, Aduthurai. (iii) By suckers. (iv) As per treatments. (v) Planted as per treatments in rows with spacing 8' x 8'. (vi) As per treatments. (vii) 25 lb. of C.M. applied in the pit before planting. (viii) 4 shallow diggings and one deep digging during January; desuckering twice a month. (ix) Nil. (x) Irrigated. (xi) 38.61". (xii) Oct. 1958.

2. TREATMENTS :

Main-plot treatments :

12 dates of planting : T_1 to T_{12} = During the months January to December, 1956.

Sub-plot treatments :

All combinations of (1) and (2)

(1) 2 varieties : $V_1 = \text{Rasthali}$ and $V_2 = \text{Monihan}$.

(2) 2 ages of suckers : $A_1 = 3$ months and $A_2 = 4$ months.

3. DESIGN :

(i) Split-plot. (ii) (a) 12 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) 4 plants/sub-plot ; 16 plants/main-plot. (v) Guard row is left only all round the area. (vi) Yes.

4. GENERAL :

Same as in expt. no. 56(109) on page 463.

5. RESULTS :

See page 466 under expt. no. 57(114).*

Crop :- Banana, Sugarcane and Paddy.

Ref :- M. 57(114).

Site :- Central Banana Res. Stn., Aduthurai.

Type :- 'R'.

Object :—To find out the suitable rotation practice for Banana to secure higher monetary return.

1. BASAL CONDITIONS :

(i) Banana. (ii) (a) Clayey loam. (ii) (b) Refer soil analysis, Aduthurai. (iii) Banana by suckers. Sugarcane by sets and paddy by transplanting. (iv) *Poovan* banana ; sugarcane CO—419 ; paddy CO—25. (v) 14.9.1957. (vi) 4 months old suckers. (vii) 25 lb./pit of C.M. before planting. (viii) 5 diggings and fortnightly desuckering and periodical weeding. (ix) Nil. (x) Irrigated. (xi) 1957—53.10", 1958—30.95" and 1959—27.40". (xii) N.A.

2. TREATMENTS :

1. Plant crop of banana followed by sugarcane, G.M. and paddy in 3½ years.
2. 2 crops of banana followed dry sugarcane in 3½ years.
3. Sugarcane followed by banana, G.M. crop and paddy in 3½ years.
4. 2 crops of banana followed by G.M. and paddy in 3½ years.
5. 3 crops of banana in 3½ years.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) 36 plants. (v) and (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of banana, sugarcane and paddy. (iv) (a) and (b) 1957—1961. (v) and (vi) Nil.

5 RESULTS :

(i) 2923 Rs./ac. (ii) 191.2 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. value of produce in Rs./ac.

Treatment	1	2	3	4	5
Av. value	3218	3628	2968	2109	2632

S.E._v mean = 85.5 Rs./ac.

*Results of expt. no. 56, 110) from page 465.

(i) 21.3 lb./plant. (ii) (a) 3.6 lb./plant. (b) 2.2 lb./plant. (iii) T and V effects and interaction T×V are highly significant. Others are not significant. (iv) Av. yield of banana in lb./plant.

	V ₁	V ₂	Mean	A ₁	A ₂
T ₁	17.78	26.06	21.92	21.74	22.10
T ₂	19.86	23.49	21.68	21.98	21.38
T ₃	17.79	21.54	19.66	20.18	19.15
T ₄	19.46	21.22	20.34	19.16	21.52
T ₅	15.75	21.99	18.87	18.44	19.30
T ₆	14.84	19.98	17.41	17.60	17.22
T ₇	16.60	21.02	18.81	19.01	18.61
T ₈	17.00	26.76	22.18	22.18	22.18
T ₉	18.75	27.76	23.26	23.39	23.12
T ₁₀	21.42	27.94	24.68	24.29	25.08
T ₁₁	20.52	25.90	23.21	22.99	23.44
T ₁₂	19.40	27.04	23.22	23.05	23.39
Mean	18.31	24.22	21.27	21.16	21.37
A ₁	18.38	23.94			
A ₂	18.25	24.54			

S.E. of difference of two

1. T marginal means = 1.3 lb./plant
2. V or A marginal means = 0.3 lb./plant
3. V or A means at the same level of T = 1.1 lb./plant
4. T means at the same level of V or A = 1.5 lb./plant