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सत्यमेव जयते

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FOREWORD

It is a well recognized fact that the level of agricultural production in India is one of the lowest in the world and it is only by the exploitation of scientific methods of agriculture that we can hope to increase our agricultural production to the level necessary for providing a reasonable standard of living to the country's population. Properly planned and conducted field experiments provide a reliable basis for propagating improved agricultural techniques among farmers. A number of research institutes and other experimental centres are functioning under the Central Ministry of Agriculture, the Commodity Committees and the State Governments, in which research on agricultural problems is going on. The need for an integrated account of the researches done in these organisations and institutions in the country has been felt for a long time, particularly in the context of planning. The absence of such a unified account has often led to duplication of work and delay in the utilisation of the results for practical farming. The Institute of Agricultural Research Statistics of the Indian Council of Agricultural Research has, therefore, rendered a most timely service by preparing a compendium of all agricultural field experiments conducted in India upto 1953 and similar compendia are under preparation by the Institute for subsequent years.

The present compendium contains critical summaries of results of experiments bearing on important agronomic factors such as the responses 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. I am sure that these results will be fully utilised by agricultural institutions, research workers, planners and extension organisations. The chief merit of the present publication is that it brings together in one place the results of experimentation carried out under diverse soil, climatic and agricultural conditions obtaining in India. Workers in one State can thus supplement data for their own area by results from other regions where conditions may be similar and thereby re-inforce their own conclusions. For the same reason I hope that this publication will be of use to workers in other countries also.

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 whole hearted 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 publication 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,
August 20, 1962.

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

PREFACE

A large number of agricultural field experiments on different problems is being conducted in the country by Central and State Governments, Research Institutes, Commodity Committees and other organisations engaged in agricultural research. In addition, a number of schemes involving field experimentation is sponsored by the Indian Council of Agricultural Research in different States. The absence of a unified record of the results of these various experiments has considerably handicapped planning of further research and development and has often led to duplication of efforts.

Vaidyanathan brought out in 1933 a useful catalogue of manurial experiments conducted in India till then. Considering that Vaidyanathan's work was confined to manurial experiments and the fact that an enormous increase has taken place in the number and scope of agronomic experiments in recent years in India, the Indian Council of Agricultural Research launched the scheme of National Index of Field Experiments in 1954. The object of the scheme was two-fold :

(i) the preparation of compendium of all the field experiments for the period 1935-53 and

(ii) the preparation of index cards for individual experiments from 1954 onwards.

Under the scheme, results of all agricultural field experiments other than purely varietal trials were to be consolidated. Subsequently at the time of the extension of the scheme in 1959 it was decided that the compendium would be prepared in the first instance for the period 1948-53 and a similar compendium would be prepared for the period 1954-59. The present series for the period 1948-53 has been prepared in pursuance of this decision.

The compendium 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 & Kashmir and Himachal Pradesh (12) Rajasthan (13) Uttar Pradesh (14) West Bengal and (15) all Central Institutes. In each volume back-ground information of the respective State regarding its physical features, soils, rainfall and climate, agricultural production and area under different crops is given. A map showing different regions of the State, soils and agricultural research farms is also included. The experiments reported in each volume have been arranged cropwise 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 fertilisers (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 given together (e.g., MV as Manurial-cum-Varietal). The results of an experiment are given along with other basic information such as rotation of crops followed, cultural practices adopted, etc.

For making maximum use of the experimental data all the important tables giving the average yields of various treatments along with the appropriate standard errors have been presented. No attempt has, however, been made to summarise the data of groups of experiments on any particular item and to draw any general conclusions. This will be done for the period 1948-59 while publishing the compendium for the period 1954-59.

This publication is the result of the co-operative endeavour of a large number of persons both at the Centre and in the States. I should particularly mention in this connection, guidance and help rendered in the formulation of the scheme by Dr. D.J. Finney F.R.S. of Aberdeen University, Scotland, during his stay at the Institute of Agricultural Research Statistics as an F.A.O. Statistical Expert in 1952-53.

(ii)

At the Institute of Agricultural Research Statistics, the work under the scheme was carried out under the supervision and guidance of Shri T.P. Abraham, Assistant Statistical Adviser. Shri G.A. Kulkarni, Statistician, looked after the detailed working of the scheme. These officers have been largely responsible for the preparation of the manuscript of the compendium and it is a pleasure to thank them for the hard work they have put in for getting this compendium ready. Messrs O.P. Kathuria, B.V. Srikantiah, M.L. Sahni, B.P. Dyundi, S.D. Bal and P.K. Jain of the statistical staff of the Institute deserve special mention for their careful scrutiny of the data and preparation of the material for the compendium. Thanks are also due to Dr. Uttam Chand, Professor of Statistics, now with the Central Statistical Organisation, Shri K.S. Avadhany, Assistant Statistician, also now with the Central Statistical Organisation, and Shri K.C. Raut, Statistician in this office who were associated with the scheme in its initial stages.

The burden of collecting data from original records by visiting different research stations and the analysis of a large number of experiments, only the primary data for which had been recorded in the files, fell on the regional staff appointed by the Indian Council of Agricultural Research in different States. They deserve to be congratulated for the patient work they have put in. The State Departments of Agriculture, Central Institutes and Commodity Committees made data for the experiments conducted within their jurisdiction readily available. The Indian Council of Agricultural Research acknowledges this willing co-operation without which the consolidation of the results would not have been possible. Various State officers who helped the project by making the data accessible to the statistical staff of the project and worked as the regional supervisors for the scheme also deserve thanks by the Council for their active help. The list of names of the regional supervisors is given on the following page.

V.G. PANSE

Statistical Adviser

NEW DELHI,

August 16, 1962.

Institute of Agricultural Research Statistics,

(I.C.A.R.)

**REGIONAL SUPERVISORS FOR THE NATIONAL INDEX
OF FIELD EXPERIMENTS**

Region and headquarters	Regional Supervisors :
1. ANDHRA PRADESH (HYDERABAD)	<p>SHRI D.V.G. KRISHNAMOORTHY, Deputy Director of Food Production, Andhra Pradesh.</p> <p>SHRI JAGANNATH RAO, Joint Director of Agriculture (Research), Andhra Pradesh.</p> <p>DR. KHADRUDDIN KHAN, Joint Director of Agriculture (Research), Andhra Pradesh.</p> <p>DR. WAHIUDDIN, Headquarters Deputy Director of Agriculture (Research), Andhra Pradesh.</p>
2. ASSAM, MANIPUR AND TRIPURA (SHILLONG)	<p>SHRI L.K. HANDIQUE, Director of Agriculture, Assam.</p> <p>SHRI S. MAJID, Director of Agriculture, Assam.</p> <p>DR. S.R. BAROOHA, Director of Agriculture, Assam.</p>
3. BIHAR (SABOUR)	<p>DR. R. RICHARIA, Principal, Agriculture College, Sabour.</p> <p>SHRI R.S. ROY, Principal, Agriculture College, Sabour.</p>
4. KERALA (TRIVANDRUM)	<p>SHRI N. SHANKARA MENON, Director of Agriculture, Kerala.</p> <p>SHRI P.D. NAIR, Director of Agriculture, Kerala.</p>
5. MADHYA PRADESH (GWALIOR)	<p>DR. T.R. MEHTA, Principal, Agriculture College, Gwalior.</p>
6. MADRAS (COIMBATORE)	<p>SHRI C.R. SHESHADRI, Vice-Principal & Secretary, Research Council, Agriculture College, Coimbatore.</p> <p>SHRI P.A. VENKATESWARAN, Vice-Principal & Secretary, Research Council, Agriculture College, Coimbatore.</p> <p>LATE SHRI M. BHAVANI SANKARA RAO, Vice-Principal & Secretary, Research Council, Agriculture College, Coimbatore.</p> <p>SHRI T. NATARAJAN, Agronomist & Secretary, Research Council, Agriculture College, Coimbatore.</p> <p>SHRI A.H. SARMA, Extension Specialist & Secretary, Research Council, Agriculture College, Coimbatore.</p>
7. MAHARASHTRA & GUJARAT (FORMER BOMBAY STATE) (POONA)	<p>SHRI D.S. RANGA RAO, Statistician, Department of Agriculture, Poona.</p>

*Owing to transfers and other changes more than one Regional Supervisor have been shown against several states as these officers have acted as Regional Supervisors during different periods from 1955 to 1962.

(iv)

8. **MYSORE**
(BANGALORE) **SHRI A. ANANT PADMANABHA RAU,**
State Statistician, Mysore State.
9. **ORISSA**
(BHUBANESHWAR) **DR. U.N. MOHANTY,**
Dy. Director of Agriculture (H.Q.), Orissa.
10. **PUNJAB, JAMMU &**
KASHMIR AND HIMACHAL **SHRI P.S. SAHOTA,**
PRADESH (CHANDIGARH) Statistician, Department of Agriculture, Punjab.
11. **RAJASTHAN**
(JAIPUR) **SHRI H.C. KOTHARI,**
Statistician, Department of Agriculture, Rajasthan.
12. **UTTAR PRADESH**
(LUCKNOW) **DR. K. KISHEN,**
Chief Statistician to Govt. of U.P.,
Department of Agriculture, U.P.
13. **WEST BENGAL**
(CALCUTTA) **SHRI S.N. MUKHERJEE,**
Statistical Officer,
Directorate of Agriculture,
West Bengal.
DR. S. BASU,
Statistical Officer,
Directorate of Agriculture,
West Bengal.

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

Crop :- 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 :-

A.P.	Andhra Pradesh	Mn.	Manipur
As.	Assam	Mh.	Maharashtra
Bh.	Bihar	Ms.	Mysore
Di.	Delhi	M.P.	Madhya Pradesh
Gj.	Gujarat	Or.	Orissa
H.P.	Himachal Pradesh	Pb.	Punjab
J.K.	Jammu & Kashmir	Rj.	Rajasthan
K.	Kerala	Tr.	Tripura
M.	Madras	U.P.	Uttar Pradesh
		W.B.	West Bengal

Repetition of the experiment in other years is indicated in the same line against 'reference' by stating the year and serial number for each repetition side by side e.g. U.P. 53(19)/52(42)/51(20) etc.

Site :- Name of the Research Station is mentioned along with 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 Indian Agricultural Research Institute.

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.

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

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

Abbreviations used in the text of the experiments :-

ac.—acre.	C.L.—Cart load.
Ammo. Phos.—Ammonium Phosphate.	C.M.—Cattle Manure.
A/N—Ammonium Nitrate.	C/N—Chilean Nitrate.
A/S—Ammonium Sulphate.	C/S—Copper Sulphate.
B.D.—Basal Dressing.	F.M.—Fish Meal or Fish Manure.
B.M.—Bone Meal.	F.W.C.—Farm Waste Compost.

F.Y.M.—Farm Yard Manure.	N.—Nitrogen.
G.M.—Green Manure.	Nitro phos—Nitro phosphate.
G.N.C.—Groundnut cake.	P.—Phosphate.
K.—Potash.	Pot. Sul.—Potassium Sulphate.
lb.—Pounds.	Super—Super Phosphate.
M.C.—Municipal Compost.	T.C.—Town compost.
Mur. Pot.—Muriate of Potash.	Zn. Sul.—Zinc Sulphate.

BASAL CONDITIONS

Information under the above heading to be read against the following items :

A. For annual crops :

(i) (a) Crop rotation if any. (b) Previous crop. (c) Manuring of previous crops. (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 (State name of the season along with the month). (x) Date of harvest.

B. For 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 seedling 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 per hold. (vii) Irrigated or Unirrigated. (viii) Post-sowing/planting cultural operations. (ix) Rainfall during crop season. (x) Period of harvesting.

DESIGN

Information under this heading to be read against the following items :

A. For annual crops :

(i) Abbreviations for designs : 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 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.

(vii)

GENERAL

Information under this heading to be read against the following items :—

A. For 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. (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 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 along with reference. (vi) Abnormal occurrences, like heavy rains, frost, storm etc., if any. (vii) Any other important information.

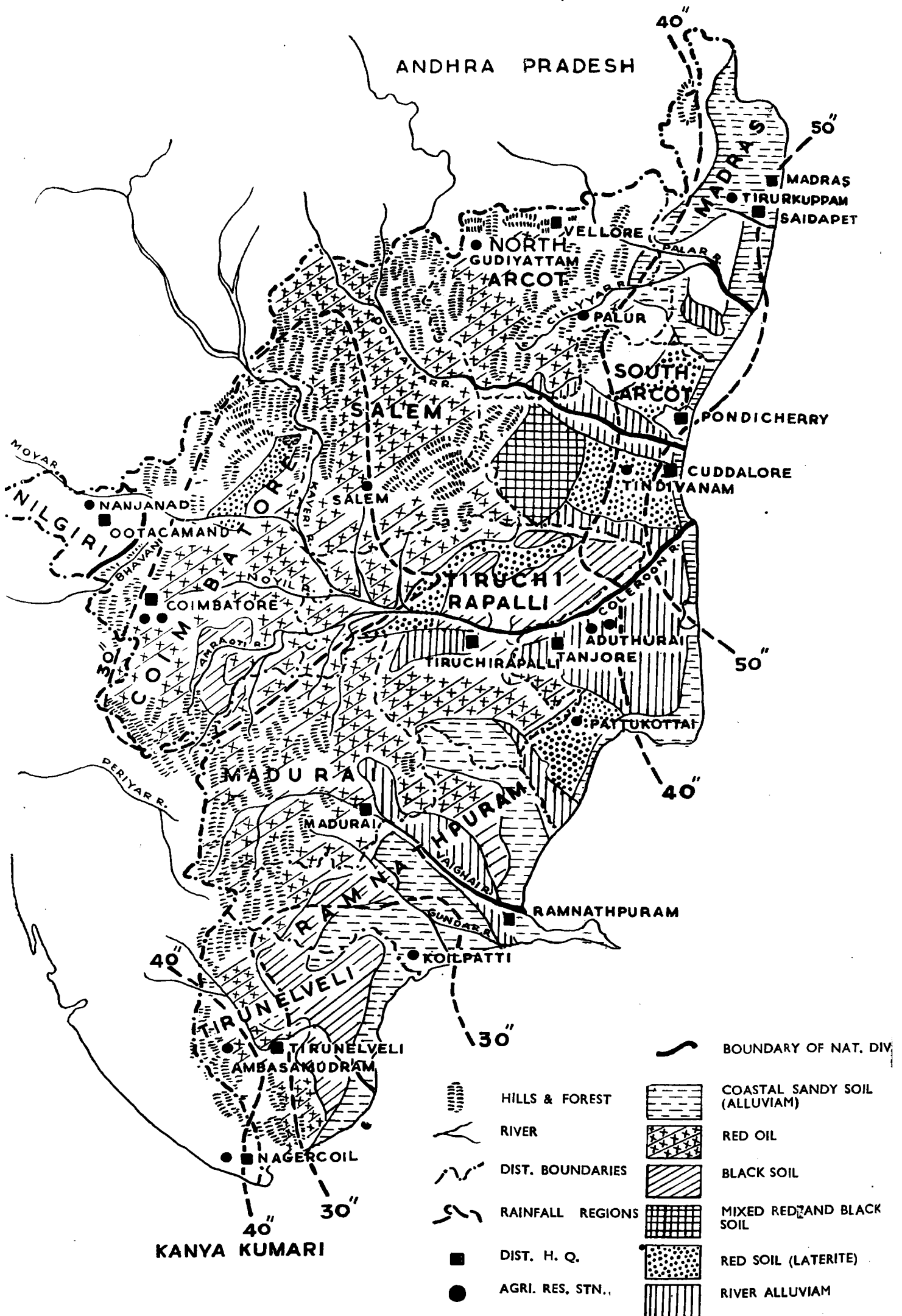
GLOSSARY OF VERNACULAR NAMES OF CROPS

Sl. No.	Name of Crop	Botanical name	Assamese	Bengali	Oriya	Telugu	Tamil	Malayalam	Kannada	Marathi	Gujarati	Hindi	Punjabi
1.	Paddy	<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> Brot ; <i>Sorghum vulgare</i> Pers.	—	Jowar	Juara	Jonna	Cholam	Cholam	Jola	Jowari ; Jondhla	Jowari ; Juar	Jowar ; Jaur	Jowar
3.	Ragi	<i>Eleusine coracana</i> Gaertn.	—	Marwa	Mandia	Ragi, choi	Keppai ; Ragi	Muthari ; Ragi	Ragi	Nagli ; Nachni	Nagli ; Bavto	Ragi ; Mand'ka ; Marwah	Mandhuka ; Mandhal
4.	Cholam	<i>Andropogon sorghum</i> Brot.	—	Jowar	Juara	Jonna	Cholam	Cholam	Jola	Jowari ; Jondhla	Jawari ; Juar	Jowar ; Juar	Mandhuka ; Mandhal
5.	Cumbu	<i>Echinochloa frumentacea</i> Linn.	—	Bajra	Bajra	Sajja	Kambu	Kambu	Sajje	Bajri	Bajri	Bajra	Jowar ; Bajra
6.	Tenai	<i>Sorghum vulgare</i> Pers.	—	Kaon	Kanghu ; Kangam ; Kara Boot	Korra	Tenai	Thena	Nayane	Kang ; Rala	Kang	Kakum	Kangni
7.	Gram	<i>Cicer arietinum</i> L.	Butmah	Chola	—	Sanagalu	Kadalai ; Sundal ; Kada	Kadala	Kadale	Harbara	Chana	Chana	Chhole ; Chana
8.	Sugarcane	<i>Saccharum officinarum</i> L.	Kuhlar	Akh	—	Cheruku	Karumbu	Karumbu	Kabbu	Oos	Sherdi	Ganna ; Kamad ; Naishakar	Kamad ; Ganna ; Eakh
9.	Cotton	<i>Gossypium</i> spp.	Kapah	Karpas ; Tula	Kapa	Pratti	Paruthi	Paruthi	Hatti	Kapus	Kapas	Kapas	Kapah
10.	Groundnut	<i>Arachis hypogaea</i> L.	China badam	Cheena badam	China badam	Nelash-anga	Nilakadalai	Nilakkadla	Kadale kayi	Bhui-mug	Magafali	Mung-phali	Mungfali
11.	Gingelly	<i>Sesamum orientale</i> L. ; <i>Sesamum indicum</i> L.	Til	Til	Rasi	Nuvvulu	Ellu	Ellu	Yellu	Til, Tili	Tal	Til	Til
12.	Potato	<i>Solanum tuberosum</i> L.	Alooguti	Alu	Bilati Alu	Bangladumpa ; Urlagadda	Uruzhai kilangu	Urala kizangu	Alu-gedde	Batata	Aloo, Batata	Aaloo	Alu
13.	Sweetpotato	<i>Ipomoea batata</i> Lam.	Mitha Alloo	Misthi Alu	Kanda-mula	Chilaga-dadumpa	Seeni kilangu	Cheeni kizangu	Genasu	Ratalu	Shakaria	Shakar-kandi	Shakarkandi
14.	Tapioca	<i>Manihot utilissima</i> ; <i>Manihot esculanta</i> Crantz.	Simolu Alu	Simul alu	—	Kerra Penda-lammu	Maravalli Kizhaagu ; Kuchi Kizhangu	Mara-cheeni	Mara-genasu	Tapioca	—	Tapioca	Tapioca

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



MADRAS STATE

1. GENERAL

The State of Madras lies approximately between 14° and 8° North latitudes and 77° and 80° East longitudes. It is a compact area forming the southern most State in the Indian Union, linguistically and culturally homogeneous and geographically contiguous.

Bounded on the north by Mysore and Andhra Pradesh, on the east by Bay of Bengal, on the south by the Indian Ocean and on the west by Kerala, Madras State has an uninterrupted coast line of 620 miles.

For administrative purposes the State is divided into 13 districts with the city of Madras constituting one of the districts, each under a collector.

The area of the State is nearly 32 million acres. Nearly 14 million acres or 44% of the total area of the State is under cultivation; forests occupy nearly 4.4 million acres (13.7%).

2. PHYSICAL FEATURES

The State has two natural divisions—the vast flat country along the eastern coast line and the mountainous region in the north and the west. The Eastern Ghats enter Madras State from Andhra Pradesh in the north and run across the State till it merges with the Nilgiris.

The Shevroys in Salem, the Palnis in Madurai, the Pachaimalais and Kollimalais in Salem and Tiruchirapalli, Javadu hills in North Arcot district are the other prominent hills of the State. Important rivers are Cauvery, Vaighai, Palar and Tambraparni.

3. SOILS

Soils of the eastern region consisting of districts of Chingleput, Northern Talukas of South Arcot district, and North Arcot district are predominantly red soils, sandy loam in texture. Black soils are found in South Arcot and also in the neighbourhood of the principal rivers in North Arcot, in the southern part of Madurai, Central Talukas of Ramanathapuram and North eastern regions of Tirunelveli district. They are deficient in organic matter and poor in plant nutrient. In Chingleput, soils near the sea coast are high in salts especially sodium chloride.

The deltaic region comprises of Tanjore district and Northern Taluka of South Arcot. Deep rich alluvial soils lie along the banks of the river Cauvery in Tiruchirapalli and in the deltaic areas of Tanjore district. They are deep, rich and vary from clay loam to heavy clay soils and are alkaline. The nitrogen content is low (less than 0.06 percent; half of the area having less than 0.04 percent nitrogen). Soils rich in nitrogen content are, however, usually found on the banks of the Coleroon river. Available phosphate is very low. Phosphate rich soils which do not require phosphate manuring are also found on the banks of Coleroon river. Potassium is adequate.

Central region consists of Salem, Coimbatore, Nilgiris and Tiruchirapalli districts. Red, black and mixed types of soils are found in this area; in Coimbatore district, the soils are predominantly clay loam with good drainage.

Southern region comprises of Madurai, Tirunelveli, Ramanathapuram and the new district of Kanyakumari. The soils are red, black and mixed type in the Periyar tract in Madurai. Nitrogen status in the soil is fairly satisfactory. Phosphate (total and available) is inadequate but potash is sufficient. In Tirunelveli and Ramanathapuram tract the soils are generally red sandy loam which are well drained with a sub-stratum of gravel. In Kanyakumari region the soils are blue grey in colour, heavy in texture and rich in plant food materials. It is somewhat alkaline, but one of the best rice growing tracts of the region.

4. Rainfall and Climate

The districts of Chingleput, South Arcot, Tanjore, Madurai, Ramanathapuram and Tirunelveli are dependent mainly on the north-east monsoon. The districts of North Arcot, Salem, Coimbatore and Tiruchirapalli in the central region depend on both the monsoons. The Nilgiris in the western portion of the State mainly depends on the south-

west monsoon. The State can be divided into five rainfall regions. Seasonwise normal rainfall for different regions is given in Table 1.

The normal annual rainfall in the State varies from 30" in Tirunelveli district to about 52" to 70" in Nilgiris and Kanyakumari.

The hottest zone is the central plateau with a long dry summer and short cool winter, resembling the continental type of climate. The coastal areas have moderate temperatures and a moist climate all through the year, typical of tropical conditions.

TABLE 1

Seasonwise normal rainfall in inches for regions of Madras State.

Sl. No.	Region.	Monsoon June-Sept.' 58	Post Monsoon Oct.-Dec.' 58	Winter Jan.-Feb.' 59	Pre-monsoon March-May' 59	Total
1.	East Coast (Chingleput, South Arcot and Tanjore districts).	12.70	35.00	0.14	2.58	50.42
2.	Northern Region (North Arcot district).	19.96	17.08	0.12	3.34	40.50
3.	Central Region (Salem, Tiruchirappalli, Madurai, Ramanathpuram & Tirunelveli districts).	9.66	17.77	0.17	5.15	32.75
4.	Coimbatore district.	5.98	11.69	0.08	4.33	22.08
5.	(Nilgiris and Kanyakumari districts).	26.25	16.02	0.27	10.16	52.70
	State (simple average)	14.91	19.51	0.15	5.11	39.68

1"=2.54 cm

5. IRRIGATION

Madras State has been the pioneer in the field of irrigation from very ancient times. The grand Anicut across the river Cauvery and the Uyyakondan channel—a contour canal are well known from those days. The main sources of irrigation in the State are canals, tanks and wells. The irrigated area in the State is 4.5 million acres ; 3.44 lakh more acres were brought under irrigation during the last seven years.

6. AGRICULTURAL PRODUCTION AND NORMAL CROPPING PATTERN

Agriculture is the main occupation of the people. Not less than 60 percent of the population in the State depends on agriculture for their livelihood.

The area under cultivation is 14.27 million acres representing 44 percent of the total area of the State. The principal crops grown are paddy, millets, groundnut, cotton and sugarcane. The table below gives the area under different crops, the production and average yield per acre.

TABLE-2

Area and production of principal crops in Madras (1957-58)

Crop	Area (000 acres)	Production (000 tons)	Yield (lb./ac.)
1. Paddy.	5,605	3,134	1252
2. Millets.	5,575	1,525	613
3. Groundnut.	1,795	860	1073
4. Cotton.	1,165	392*	132
5. Sugarcane (gur)	121	340	6294

* in 000 bales of 392 lb. each

Rice :—Rice is grown in about 6 million acres with an annual production of about 3.1 million tons.

Madras State can be divided into three distinct rice growing zones comprising of (i) the Central and Southern districts (Salem, Coimbatore, Madurai, Ramanathapuram and Tirunelveli) with low rainfall not exceeding 30 percent from both south-west and north-east monsoons where rice is grown with irrigations, (ii) the east coast districts with a higher rainfall of 40" where rice is grown mostly during the north-east monsoon and (iii) deltaic

areas of Cauvery river where nearly half the entire production of the State is concentrated. Rice is grown in these areas with the aid of an efficient canal irrigation system supplemented by rainfall from both the monsoons.

No regular rotations exist in areas where rice is cultivated under swamp conditions and the bulk of area is cropped year after year with only rice.

Sorghum : - Chief sorghum growing districts are Coimbatore, Madurai, Tiruchirappalli and Salem. The practice of growing Sorghum under irrigation is more common in these districts.

Bajra : - Chief bajra growing districts are Coimbatore, Salem, Tiruchirappalli and Tirunelveli accounting for about 90 percent of area under crop in the State.

Ragi : - Salem and Coimbatore are the chief ragi growing districts. The crop can be grown practically in all seasons of the year.

Cotton, Oilseeds and Spices : - The crops are raised almost throughout the State except in the district of Nilgiris. Chingleput and Coimbatore are the chief growing districts of these crops.

7. AGRICULTURAL RESEARCH AND RESEARCH STATIONS

Agricultural research and education are two essential activities of the Agricultural Department. Research is carried out at the Agricultural Research Institute, Coimbatore and the research stations located in different parts of the State. Crop improvement, agronomy, crop protection, soil improvement and design of improved agricultural machinery are the main fields of research. There were 14 experimental research stations besides the Agricultural Research Institute at Coimbatore which has different sections responsible for carrying out research under different subjects. Research on paddy is concentrated at Aduthurai, Ambasamudram, Coimbatore, Pattukottai and Tirurkuppam. Experiments on sugarcane are carried out at Gudiyattam Farm and on oilseeds in Tindivanam. Research on potato is mainly carried out at Nanjanad. The list of experimental stations which reported experiments for the period 1948-53 alongwith their other details is appended. Most of these research stations are having irrigation facilities.

8. EXPERIMENTS

There were 545 experiments reported for the period 1948-53. The distribution of these experiments according to crops and types of treatments tried is given in Table 3 below.

TABLE 3

Distribution of experiments according to crops and types of treatments tried.

Sl. No.	Crop	M	MV	C	CM	CV	CMV	I	CI	VI	D	DV	Total
1.	Paddy	149	60	27	4	6	7	1	10	—	18	1	283
2.	Ragi	22	—	—	—	—	—	4	—	—	1	—	27
3.	Jowar	4	—	2	—	—	—	2	—	—	—	—	8
4.	Cotton	8	—	7	3	3	—	2	—	3	—	—	26
5.	Sugarcane	10	—	—	—	8	—	—	—	3	—	—	21
6.	Groundnut	8	—	9	—	—	—	3	—	—	—	—	20
7.	Gingelly	—	—	6	—	—	—	—	—	—	—	—	6
8.	Potato	45	—	25	—	—	—	—	—	—	18	—	88
9.	Sweet Potato	5	—	9	—	—	—	—	—	—	2	—	16
10.	Tapioca	3	—	2	—	—	—	—	—	—	—	—	5
11.	Banana	1	—	—	—	—	—	—	—	—	—	—	1
12.	Others	2	—	2	—	—	—	—	—	—	—	—	4
13.	Rotational	—	—	—	—	—	—	—	—	—	—	—	20
14.	Mixed crops	—	—	—	—	—	—	—	—	—	—	—	14
Total		259	60	89	7	17	7	12	10	6	39	1	545

More than 60 percent of the experiments were carried out on paddy which is the principal crop of the State. Next in order comes the potato crop accounting for about 22 percent of the total. On both these crops nearly 50 percent of the experiments were with manurial treatments.

Most of the manurial experiments carried out on paddy included the organic manures and green manures along with the inorganic manures like ammonium sulphate and super phosphate etc. Tirurkuppam, Pattukottai, Ambasamudram and Aduthurai had the manurial-cum-varietal experiments with three varieties of paddy in sub-plots and heavy manuring with green leaf at the rate of 2000 lb./ac. in main-plots. There were very few experiments with inorganic manures only. The treatments in these experiments were 20 to 60 lb./ac. of nitrogen in the form of ammonium sulphate and 20 to 60 lb./ac. of P_2O_5 in the form of super phosphate. The rate of application of manures like F.Y.M. and Compost varied from 6 tons per acre to 10 ton/ac. and that of green manures from 2000 lb. to 7500 lb. per acre. Experiments having combinations of different factors were few in number. The most common among them were manurial experiments on cereals having three treatments viz., Night soil, Compost and F.Y.M. each to supply 60 lb. of nitrogen per acre and a control.

The 46 manurial experiments on potato crop had the treatment known as Nanjanad mixture. In almost all these experiments, the other treatment was slaked lime applied at the rate varying from 1 ton per acre to 4 tons per acre.

The design adopted in majority of the experiments was randomised block. The number of plots per block varied from 2 to 12 and in few cases this number was even 18 or 36. The net plot size in these experiments varied from 1/40th to 1/200th of an acre and in few exceptional cases this was as small as 1/829th of an acre. The number of replications varied from 2 to 6. There were no confounded factorial experiments. The split plot design was used in only 71 experiments. This design was used in both manurial and cultural experiments on different crops. The number of main-plots per replication varied from 2 to 4 and the number of sub-plots per main-plot from 2 to 8. The main-plot treatments were usually heavy manures like green manures, cattle manures and farm yard manure. The doses of these manures varied from 2000 lb./ac. to 7500 lb./ac. The sub-plot treatments were either varieties in some experiments or treatments like ammonium sulphate and superphosphate to supply plant nutrients at the rate of 20 to 40 lb./ac. In few cultural experiments where this design was used the interval of irrigation, spacing or method of planting were main-plot treatments. The number of replications varied from 2 to 4.

The results of the experiments conducted on cultivators' fields under Stewarts' Scheme and T.C.M. trials [during 1952—53 and 1953—54] are also presented in the compendium. The details of the T.C.M. trials are given in the two reports published by I.C.A.R. (1955) on paddy and wheat. The experiments under Stewarts' Scheme were conducted on cultivators' fields in Tanjore district during 1952—53 and 1953—54. The number of experiments conducted were 44 and 52 during these two years respectively. The results of these experiments have been presented in a summarised form for each centre.

STATEMENT SHOWING DETAILS OF EXPERIMENTAL STATIONS

Sl. No.	Name of the experimental Stations.	District in which located.	Tract it represents.	Year of establishment.	Major crops.	Soil Type.	Normal Rainfall. (in inches)	Irrigation facilities & any proper drainage system.	No. of experiments.	General description of topography.
1	2	3	4	5	6	7	8	9	10	11
1.	Aduthurai, Agri. Res. Stn.	Tanjore, 4 furlongs from Aduthurai Rly. Stn.	Alluvial clay.	1922	Paddy	1. Broad soil type :— Clayey. 2. Depth :—7' to 10' 3. Colour :—Brownish black. 4. Structure :— Heavy soil that creaks deep in summer months. 5. Soil analysis : (i) Chem. analysis : (%) Moisture N P ₂ O ₅ K ₂ O Lime 6.35 0.075 0.099 0.472 1.22 (ii) Mech analysis : (%) Clay Silt Fine sand 44.06 15.04 27.23 Coarse sand Acid. 11.95 1.72	June 2.15 July 4.91 Aug. 4.95 Sept. 6.93 Oct. 7.60 Nov. 5.04 Dec. 1.22 Jan. 0.63 Feb. 0.31 Mar. 0.27 April 2.64 May 1.27 <hr/> Total 38.92 (1949 to 58)	Flow of irrigation from river Cauvery from the inception of farm. The area is well drained.	44—Paddy 1—Potato ——— 45—Total	A plane surface with a slight gradient from West to East and North to South.

STATEMENT SHOWING DETAILS OF EXPERIMENTAL STATIONS (Contd.)

1	2	3	4	5	6	7	8	9	10	11
2.	Aduthurai, Central Banana Res. Stn.	Tanjore, P.O. Aduthurai.	Deltaic area.	1949	Banana	1. Broad soil types :—Clay loam. 2. Depth :—Very deep soil. No hard sub-stratum is found up to a considerable depth. 3. Colour :—Slightly blackish. 4. Structure :—Clayey loam. 5. Soil Analysis :— (i) Chemical Analysis (%) N K ₂ O(Total) K ₂ O(Avl). 0.077 0.1378 0.0038 P ₂ O ₅ (Total) P ₂ O ₅ (Avl.) 0.1169 0.0166 (ii) Mechanical Analysis (%) Fine sand Coarse sand 30.57 12.47 Clay Silt. 40.56 16.49	June 2.15 July 4.91 Aug. 4.95 Sep. 6.93 Oct. 7.60 Nov. 5.04 Dec. 1.22 Jan. 0.63 Feb. 0.31 Mar. 0.27 April 2.64 May 1.27 Total. 38.92 (1949 to 1958)	From June to January water flows from river Cauvery. During other months pump irrigation from wells and filter points can be done. Facilities available from in- ception. The soil is well drained and water is led only in tren- ches.	1-Banana	Plains at slight gradation from West to East.

STATEMENT SHOWING DETAILS OF EXPERIMENTAL STATIONS

1	2	3	4	5	6	7	8	9	10	11
3.	Ambasamudram, Rice Res. Station.	Tirunelveli. 2 miles from Ambasamudram Rly. Station.	Tambraparni tract.	1937	Paddy	1. Broad soil types:- loamy, sandy and clayey. 2. Depth—5'—10'. 3. Colour—Black Clay. 4. Structure—Black Clay. 5. Soil Analysis:— (i) <i>Chemical Analysis.</i> N.A. (ii) <i>Mech. Analysis.</i> N.A.	June 1.01 July 0.90 Aug. 0.31 Sept. 1.38 Oct. 4.71 Nov. 8.46 Dec. 4.73 Jan. 2.69 Feb. 1.50 Mar. 1.87 April 3.40 May 2.09 Total 33.05 (1949—50 to 1958—59).	Nathunni channel from Tambraparni river. The water available from Tambraparni river prior to completion of project. Proper drainage system available.	46—Paddy	The soil is mostly loamy with a fair admixture of sand resulting in easy sub-soil drainage.
4.	Coimbatore, Paddy Breeding Str.	Coimbatore, 3½ miles from Coimbatore Rly. Station.	N.A.	1913	Paddy	1. Broad soil types:— Clay loam. 2. Depth—5'. 3. Colour—Greyish black. 4. Structure—Brown. 5. <i>Soil Analysis.</i> (i) <i>Chem. Analysis.</i> N.A. (ii) <i>Mech. Analysis.</i> N.A.	June 0.92 July 2.11 Aug. 1.76 Sep. 1.41 Oct. 3.38 Nov. 2.78 Dec. 1.16 Jan. 0.09 Feb. 0.28 Mar. 0.40 April 3.72 May 1.21 Total 20.59 Av. for 1948 to 1952	Tank irrigation available for about two months in the year and for the rest of the period it is supplemented by well irrigation. Facilities available from the inception. The soil is fairly well drained. So no special drainage system has been constructed.	40—Paddy	The slope of land is north to south and the experimental area is surrounded by garden lands intensively cropped with crops like sugarcane, banana, paddy, ragi etc. Irrigated mostly from wells.

STATEMENT SHOWING DETAILS OF EXPERIMENTAL STATIONS

1	2	3	4	5	6	7	8	9	10	11
5.	Coimbatore. (i) Central Farm, Agri. College and Research Institute, Coimbatore. (ii) Agri. Chemist, Millet specialist and Horticulturist, Coimbatore.	Coimbatore 3½ miles from Coimbatore Rly. Station.	It represents the tract of black soil in the dry tract of Madras State and also represents the tract of wet cultivation.	1906	In black soil Cholan, Cotton and Bengal gram as pure crop in a regular three year rotation-Cholan, Cotton and Tenai are generally sown either as mixed crop or as pure crop. In red soil :- Cholan-lab-lab mixture, red-gram ground nut mixture. In garden lands-Cholan, Combodia cotton, Ragi or any green manure crop, in a two year rotation.	As given below.	June 1.42 July 1.45 Aug. 1.44 Sep. 1.36 Oct. 6.50 Nov. 2.50 Dec. 1.46 Jan. 1.46 Feb. 0.33 March 0.44 April 2.67 May 1.80 <hr/> Total 27.17 Av. for the period 1938-47.	Irrigation facilities since the establishment are available from wells in garden lands and in wet lands the channel water supply from Chitraichavadi channel. Drainage system exists and there is no water-logging condition.	9—Paddy 14—Ragi 5—Jowar 2—S. cane 16—Sweet-Potato 5—Tapioca 9—Cotton <hr/> 60— Total <hr/> 23—Paddy 1—Cotton 3—Jowar 2—Tenai 1—Potato 2—Ragi <hr/> 32— Total	In the experimental area the land is uniformly levelled and then the plots are permitted. In the dry lands the general contour of the land presents a gentle slope from north to south and partly from west to east.

1. Soil type :—Dry land, Garden land and Wet land.
2. Depth 4'—10'.
3. Colour—Red and black, Red soil and Clay loam respectively.
4. Structure— —do—
5. Soil Analysis.
(i) Chemical Analysis

(ii) Mechanical Analysis

	N	K ₂ O (Avl)	P ₂ O ₅ (Avl)	Fe ₂ O ₃	Al ₂ O ₃	Ca O	Mg O	K ₂ O	Co ₂	P ₂ O ₅	So ₂	Sand and insoluble	Fine gravel	Coarse sand	Fine sand	Silt	Fine silt	Clay	Moisture
<i>Garden</i>	0.056	0.018	0.036	6.680	1.500	0.920	0.530	0.120	0.115	0.030	3.795	79.040	<i>Garden</i> 6.3	17.9	19.1	7.5	21.1	25.7	3.9
<i>Red</i>	0.037	0.008	0.011	4.19	1.52	0.49	0.21	0.18	0.028	0.011	3.681	96.78	<i>Red</i> 18.3	41.1	15.1	2.1	9.8	12.4	1.2
<i>Black</i>	0.034	0.008	Trace	7.06	3.67	1.49	0.39	0.18	Trace	1.30	4.24	78.58	<i>Black</i> 9.5	25.0	15.1	6.4	28.1	12.0	2.8
								0.540				4.730							
								0.66				2.25							
								0.05				3.00							

STATEMENT SHOWING DETAILS OF EXPERIMENTAL STATIONS (Contd.)

1	2	3	4	5	6	7	8	9	10	11
6	Gudiyattam, Sugarcane Res. Stn.	North Arcot 1½ miles from Milalallin Rly. Stn.	Garden land area with mostly sandy loam and mainly under lift irrigation.	1935	2 year rotation with sugarcane paddy and an intervening green manure crop is adopted.	1. Broad soil type :—Sandy loam. 2. Depth :—N.A. 3. Colour :—N.A. 4. Structure :—N.A. 5. Soil analysis. (i) Chem. Analysis. N.A. (ii) Mech. Analysis. N.A.	June 3.90 July 4.98 Aug. 4.83 Sept. 4.42 Oct. 6.95 Nov. 3.89 Dec. 2.41 Jan. 1.39 Feb. 1.27 Mar. 0.69 April 1.43 May 3.09	Facilities available by well from inception of the farm. Tank irrigation available for 3—4 months in a year depending on the rainfall. Well drained.	14—Sugarcane.	Plain level fields small hillocks are scattered in the eastern and northern side at a distance of about 2 to 3 miles.
7	Koilpatti, Agri. Res. Stn.	Tirunelveli. 3 furlongs from Koilpatti Rly. Stn.	Black Cotton soil.	1901	Irungu Cholam and Vellai Cholam	Types*	June 1.46 July 1.09 Aug. 0.73 Sept. 2.20 Oct. 7.38 Nov. 7.50 Dec. 2.96 Jan. 0.23 Feb. 0.52 March 0.64 April 2.03 May 1.45	Irrigation facilities available for the red soil block only from the inception of the station. Well drained.	14—Cotton. 9—Mixed cropping with cotton. 10—Rotation 33—Total	N.A.
		*Types	Depth	Colour	Structure					
		(1) Black cotton	5'—7'	Black	Fine.					
		(2) Red.	5'—7'	Red	Medium.					
		(B) Soil Analysis :								
		(i) Chemical Analysis (Black soils).								
	Moisture	Loss on ignition	N	Ca O	Total P ₂ O ₅	Avl. P ₂ O ₅	Total K ₂ O	Avl. K ₂ O		
	9.19	3.79	0.022	4.03	0.095	0.018	0.36	0.019		
							Total	28.21		
							Av. of 3 years	1955 to 1957.		

STATEMENT SHOWING DETAILS OF EXPERIMENTAL STATIONS

1	2	3	4	5	6	7	8	9	10	11
	Nagercoil Paddy Farm	N.A.	N.A.	N.A.	N.A.	Heavy clay alkaline in patches.	N.A.	Tank Irrigation.	2—Paddy.	N.A.
9	Nanjanad, Agri. Res. Sta)	Nilgiris.	Hilly tract.	1917	Potato	1. Broad soil types :— 2. Depth :—N.A. Laterite 3. Colour :—Red. 4. Structure :—N.A. 5. Soil Analysis. (i) Chemical Analysis % : Moisture Loss on ignition 4.70 14.04 Insolubles Iron 55.22 9.95 Alumina Lime 14.62 0.07 K ₂ O (Total) K ₂ O (avl.) 0.10 0.015 Soda CO ₂ 0.41 0.04 P ₂ O ₅ (Total) P ₂ O ₅ (avl.) 0.07 0.089 N 0.32 (ii) Mech. Analysis % : Fine gravel Coarse sand 6.5 7.5 Fine sand Silt 16.5 16.5 Fine silt Clay 29.9 16.9 Moisture. 6.3	June 6.18 July 11.37 Aug. 5.61 Sept. 5.65 Oct. 9.14 Nov. 3.30 Dec. 1.29 Jan. 0.37 Feb. 0.67 March 1.04 April 4.07 May 6.08 Total 55.87 (No. of years on which Av. is based :—N.A.)	Perennial jungle stream. Proper drainage have been opened in the fields.	87—Potato.	Elevation-2700 feet. Land is slopy and has been terraced.

STATEMENT SHOWING DETAILS OF EXPERIMENTAL STATIONS

1	2	3	4	5	6	7	8	9	10	11		
10	Palur, Agri. Res. Stn. and Central Sugarcane Res. Stn.	Palur, Nellikuppam, Dist : South Arcot 5 miles from Nellikuppam Rly. Stn.	East coast.	1905	Sugarcane, Ragi, Groundnut, Paddy and Cumbu.	1. Broad soil type :-Clay loam 2. Depth :-12". 3. Colour :-Gray. (Top-soil) 4. Structure :-open. 5. Soil analysis. (As below)	June 2.74 July 3.48 Aug. 5.56 Sept. 3.58 Oct. 8.73 Nov. 6.49 Dec. 5.23 Jan. 0.88 Feb. 0.22 March 0.34 April 0.58 May 3.39	Irrigation facilities available from Gidilam river and wells since 1905.	39—Paddy. 4—Groundnut 3—Mixed crop. 8—Ragi. 2—Cumbu. 5—Sugarcane. 1—Cotton.	The wet lands are of lower level. The garden lands including orchard are of higher level with good facility for drainage.		
				(i) Chem. Analysis :		Available (lb./ac.)						
				Depth	pH.	N	P ₂ O ₅	K ₂ O				
				0"—6"	7.6	210	20.0	498				
				6"—12"	7.7	210	20.0	344				
				(ii) Mechanical Analysis :-N.A.								
								Total	41.22			
								Av. based on rainfall figures from 1949 to 1958 (10 years).				
								62—Total.				
								5—Paddy. 2—Ragi. At Central Sugarcane Res. Stn.				

STATEMENT SHOWING DETAILS OF EXPERIMENTAL STATIONS

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
11. Pattukottal, Agri. Res. Station.	Nil.	The station represents the Cauvery Mettur project area of Tanjore district.	1935	Short duration paddy followed by a long duration in the double crop lands and long duration paddy in single crop areas.	1. Broad soil types :- Sandy loam. 2. Depth :- 6' to 8'. 3. Colour :- Reddish. 4. Structure :- Sandy. 5. Soil Analysis. (i) Chem. Analysis. N.A. (ii) Mech Analysis. N.A.	June 1.34 July 3.34 Aug. 4.43 Sep. 3.34 Oct. 6.47 Nov. 7.35 Dec. 5.96 Jan. 1.91 Feb. 0.63 Mar. 0.72 Apr. 1.59 May 1.01	Cauvery water from the Cauvery Mettur project canal supplemented by wells from 1937. Well drained.	27-Paddy	Plain land without much undulation with sandy loam brought under cultivation within the past 25 years.	
12. Satyamanglam Agri. Res. Station.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	1-Cotton 1-Ragi <hr/> 2-Total.	N.A.

Total.: 38.09
(Av. based on 10 years data).

STATEMENTS SHOWING DETAILS OF EXPERIMENTAL STATIONS

1.	2				3		4	5		
13.	Tindivanam, Agri. Res. Stn.	South Arcot.	A great portion of the land in the tract is arid and dry with red sandy loams. Garden lands though limited in extent are found on the lower slopes of the dry lands where water could be easily tipped.	1935	Oilseeds viz. Groundnut, Gingelly & Castor.	1. Broads oils types :- sandy loam with red loamy sub-soil. 2. Depth—9"—1". 3. Colour—Light red loam. 4. Structure—Red sandy loam. 5. Soil Analysis. (i) Chem Analysis. N.A. (ii) Mech. Analysis. N.A.	June 1.68 July 3.73 Aug. 5.91 Sept. 3.50 Oct. 7.31 Nov. 4.98 Dec. 2.69 Jan. 0.83 Feb. 0.26 March 0.48 April 1.07 May 2.23 <hr/> Total. 34.67 (Av. of 10 years figures from 1949 to 1958)	Eight irrigation wells and one perennial spring fitted with oil engine pump sets. 3 wells from 1935 and 8 wells from 1947. In each block of land, wherever necessary proper drainage channels are provided along the gradient.	16—Groundnut. 6—Gingelly. 10—Rotation. 3—Mixed-Cropping <hr/> 35 Total	The experimental area is situated on the Tindirana Kilianoor. Pondicherry road two miles east of Tindivanam Rly station. The area is slightly sloping from West to East.
14.	Tirukkuppum Rice Res. Stn.	Chingleput	Dry and semi-dry area	1942	Paddy	1. Broad soil type :- Sandy loam. 2. Depth :-6" to 9". 3. Colour—Light gray. 4. Structure—Friable. 5. Soil Analysis. (i) Chem. analysis. P ₂ O ₅ —0.035 to 0.041 N —0.073 to —0.074 pH —7.00 to —8.75 (ii) Mech Analysis. N.A.	June 3.39 July 4.64 Aug, 5.28 Sept. 6.13 Oct. 7.18 Nov. 7.64 Dec. 3.87 Jan. 0.43 Feb. Nil March Nil April 1.07 May 1.21 <hr/> Total 40.84 (Av. of 3 years 1955 to 1957).	Tank and well irrigation from inception of the station. Soil is naturally well drained.	50—Paddy	The difference in level between the Western and the Eastern end of the station is about 2'.

Crop :- Paddy (*Samba*).

Ref :- M. 50(38)

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

Type :- 'M'.

Object :- To compare the effect of Alphonon with that of A/S.

1. BASAL CONDITIONS :

(i) (a) Paddy-Fallow. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 9.8.50/25.9.50. (iv) (a) 2 ploughings. (b) N.A. (c) — (d) 6" x 6". (e) 2. (v) 4,000 lb./ac. of G.L. as basal dressing. (vi) CO. 25 (late). (vii) Irrigated. (viii) Weeding once. (ix) 24.5". (x) 21.2.51.

2. TREATMENTS :

1. A/S at 100 lb/ac
 2. Alphonon at 10 lb/ac.
 3. Alphonon at 20 lb/ac.
- Other details N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a), (b) 15' x 24'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) No. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

- (i) 3957 lb/ac.
- (ii) 514.7 lb/ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb/ac.

Treatment	Av. yield
1.	3750
2.	4120
3.	4000
S.E/mean	181.3 lb/ac.

Crop :- Paddy (*Kuruvai*).

Ref :- M. 48(7).

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

Type :- 'M'.

Object :- To compare Hyper phosphate with Super and B.M.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Paddy. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 2.7.48/25.7.48. (iv) (a) 2 ploughings (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) G.L. at 5000 lb/ac applied 15 days before planting. (vi) CO. 13. (early) (vii) Irrigated. (viii) Nil. (ix) 4.7". (x) 10.10.48.

2. TREATMENTS :

All combinations of (1) and (2) + a Control (no manure)

- (1) 2 levels of P_2O_5 :- $P_1=30$ and $P_2=45$ lb/ac.
- (2) 4 sources of P_2O_5 :- $S_1=Hyper$ phosphate (26-27%), $S_2=Hyper$ phosphate (28-29%), $S_3=Super$ and $S_4=B.M.$

Phosphate applied at the time of planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a), (b) 18' x 16'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948 to 1949 (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 20.4 lb/ac.
- (ii) 188.4 lb/ac.
- (iii) Main effects, interaction and control vs. others are not significant.

(iv) Av. yield of grain in lb./ac.

Control=1852 lb/ac.

	S ₁	S ₂	S ₃	S ₄	Mean
P ₁	2070	1986	1975	2070	2025
P ₂	1919	1900	2098	2165	2021
Mean	1994	1943	2037	2117	2023

S.E. of marginal mean of source =66.6 lb/ac.
 S.E. of marginal mean of level =47.1 lb/ac.
 S.E. of body of table =94.2 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 48(8).

Site :- Agri. Res. Stn. Aduthurai.

Type :- 'M'.

Object :- To compare Hyper phosphate with Super and B.M.

1. BASAL CONDITIONS :

(i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 21.8.48/20.9.48. (iv) (a) Ploughed twice with iron plough. (b) Transplanting. (c) —. (d) 6'×6". (e) 2 (v) G.L. at 5000 lb./ac. (vi) CO. 25 (late). (vii) Irrigated. (viii) Nil. (ix) 21.5" (x) 20.2.49.

2. TREATMENTS :

All combinations of (1) and (2)+a Control (no manure)

(1) 2 levels of P₂O₅ : P₁=30 and P₂=45 lb./ac.(2) 4 sources of P₂O₅ : S₁=Hyper phosphate (26-27%), S₂=Hyper phosphate (28-29%), S₃=Super and S₄=B.M.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) & (b) 18'×16'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948 to 1949. (b) No. (c) N.A.
 (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

(i) 3937 lb./ac.
 (ii) 482.7 lb./ac.
 (iii) Main effects, interaction and control vs. others are not significant.
 (iv) Av. yield of grain in lb./ac.

Control=3848 lb./ac.

	S ₁	S ₂	S ₃	S ₄	Mean
P ₁	3943	4047	4151	3933	4018
P ₂	3537	3952	3839	4189	3879
Mean	3740	3999	3995	4061	3949

S.E. of marginal mean of source =170.7 lb./ac.
 S.E. of marginal mean of level =120.7 lb./ac.
 S.E. of body of table =241.4 lb./ac.

Crop :- Paddy.

Ref :- M. 52(30).

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

Type :- 'M'.

Object :- To study the effects of continued application of various fertilizers and manures.

1. BASAL CONDITIONS :-

(i) (a) Paddy—Paddy—Fallow. (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) 25, 26.11.52. (iv) (a) 2 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) CO. 25 (late). (vii) Irrigated. (viii) Nil. (ix) 22.2". (x) 30.3.53.

2. TREATMENTS :

Main-plot treatments :-

5 manures :

(A) No manure.

(B) 60 lb./ac. of N as F.Y.M.

(C) 60 lb./ac. of N as F.W.C.

(D) 60 lb./ac. of N as G.M.

(E) 60 lb./ac. of N as A/S.

Sub-plot treatments :-

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

(1) 2 levels of P_2O_5 : $P_0=0$ and $P_1=60$ lb./ac.(2) 2 levels of K_2O : $K_0=0$ and $K_1=60$ lb./ac.(3) 2 levels of Lime : $L_0=0$ and $L_1=1500$ lb./ac. P_2O_5 as Super and K_2O as Pot. Sul.

3. DESIGN :

(i) Split-plot. (ii) (a) 5 main-plots/block ; 8 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 45'×7½'. (b) 44'×6½' sub-plot. 45'×60' main-plot. (v) About 6" around. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yields. (iv) (a) 1952—continued. (b) Yes. (c) N.A. (v) (a) N.A. (b) N.A. (vi) Nil. (vii) 1953 Kurvai and thaladi failed.

5. RESULTS :

(i) 2826 lb./ac.

(ii) (a) 532.9 lb./ac.

(b) 316.2 lb./ac.

(iii) Main effects of manure, main effect of P and interaction PK are highly significant. Others are not significant.

(iv) Av. yield of grain in lb./ac.

	A	B	C	D	E	Mean
P_0	1885	2359	1915	3782	3477	2684
P_1	2023	2511	2311	3923	3769	2907
K_0	1949	2513	2181	3812	3401	2771
K_1	1959	2356	2045	3893	3845	2820
L_0	1955	2370	2199	3905	3681	2822
L_1	1953	2499	2026	3800	3565	2769
Mean	1954	2435	2113	3853	3623	2826

	K ₀	K ₁	Mean	L ₀	L ₁
P ₀	2574	2793	2684	2737	2630
P ₁	2968	2847	2907	2907	2908
Mean	2771	2820	2826	2822	2769
L ₀	2805	2840	2822		
L ₁	2738	2799	2769		

S.E. of difference of two

1. manure means = 133.2 lb./ac.
2. P or K or L means = 50.0 lb./ac.
3. P or K or L means at the same level of manure = 111.8 lb./ac.
4. manure means at the same level of P or K or L = 154.9 lb./ac.
5. means in the body of table P×K or P×L or L×K = 70.7 lb./ac.

Crop :- Paddy (Thaladi).

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

Ref. :- M/50(35).

Type :- 'M'.

Object :- To compare F.W.C. with F.Y.M. on equal N basis.

1. BASAL CONDITIONS :

- (i) (a) Paddy-Paddy-Fallow. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of Super + 150 lb./ac. as A/S.
- (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 20.9.50/4.11.50, (iv) (a) 2 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) CO. 25 (late). (vii) Irrigated. (viii) Nil. (ix) 24.5". (x) 7.3.51.

2. TREATMENTS :

1. No Manure.
 2. F.Y.M. at 60 lb./ac. of N.
 3. F.W.C. at 60 lb./ac. of N.
- Manures applied 15 days before transplanting.

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a), (b) 32'×27'. (v) Nil. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949 to 1951. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Nil. (vii) For the year 1949 for all the three seasons no basic records available for yield data. Hence not included.

5. RESULTS :

- (i) 2206 lb./ac.
- (ii) 121.3 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2097
2.	2324
3.	2196
S.E./mean.	= 49.5 lb./ac.

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

Ref:- M. 50(36)/50(35).
Type :- 'M'.

Object :- To compare F.W.C. with F.Y.M. on equal N basis.

1. BASAL CONDITIONS:

(i) (a) Paddy-Fallow. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 2.8.50/15.9.50 (iv) (a) 2 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) CO. 25 (late). (vii) Irrigated. (viii) Nil. (ix) 22.2". (x) 31.1.51.

2. TREATMENTS:

1. No manure.
 2. F.Y.M. at 60 lb./ac. of N.
 3. F.W.C. at 60 lb./ac. of N.
- Manures applied 15 days before transplanting.

3. DESIGN:

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a), (b) 32'×27'. (v) Nil. (vi) Yes.

4. GENERAL:

(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949 to 1951. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Nil. (vii) For the year 1949 (all three seasons) no basic records available for yield data. Hence not included.

5. RESULTS:

- (i) 3049 lb./ac.
- (ii) 185.3 lb./ac.
- (iii) Treatment differences are highly significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2734
2.	3270
3.	3144
S.E./mean	=75.6 lb./ac.

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

Ref :- M. 51 (15)/50 (35, 36).
Type :- 'M'.

Object :- To compare F.Y.M. with F.W. C. on equal N basis.

1. BASAL CONDITIONS:

(i) (a) Paddy-Fallow. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 18.7.51/26.8.51. (iv) (a) 2 ploughings with iron plough. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) CO. 25 (late). (vii) Irrigated. (viii) Nil. (ix) 29.0". (x) 7.2.52.

2. TREATMENTS:

1. No manure.
 2. F.Y.M. at 60 lb./ac. of N.
 3. F.W.C. at 60 lb./ac. of N.
- Applied 15 days prior to planting.

3. DESIGN:

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a), (b) 27'×25'. (v) Nil. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949—1951. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Nil. (vii) For the year 1949 (all three seasons) no basic records available for yield data. Hence not included.

5. RESULTS:

- (i) 4401 lb./ac.
- (ii) 449.0 lb./ac.
- (iii) Treatment differences are not significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	4138
2.	4520
3.	4547
S.E./mean	= 183.3 lb./ac.

Crop :- Paddy (*Thaladi*).

Ref :- M. 51 (18)/51 (15)/50 (35, 36).

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

Type :- 'M'.

Object :- To compare F.Y.M. with F.W.C. on equal N basis.

1. BASAL CONDITIONS :

(i) (a) Paddy-Paddy Fallow. (b) Paddy (bulk). (c) G.L. at 5000 lb./ac. + 150 lb./ac. of Super + 150 lb./ac. of A/S. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 17.9.51/24.10.51. (iv) (a) 2 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) Nil. (vi) CO. 25 (late). (vii) Irrigated. (viii) Nil. (ix) 22". (x) 17.3.52.

2. TREATMENTS :

1. No manure.
 2. F.Y.M. at 60 lb./ac. of N.
 3. F.W.C. at 60 lb./ac. of N.
- N applied as basal dressing 30 days before planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a), (b) 27' x 25'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949—1951. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Nil. (vii) For the year 1949 (all three seasons) no basic records available for yield data. Hence not included.

5. RESULTS :

- (i) 2287 lb./ac.
- (ii) 223.0 lb./ac
- (iii) Treatment differences are significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2031
2.	2485
3.	2341
S E./mean	= 91.0 lb./ac.

Crop :- Paddy (*Samba*).

Ref :- M. 48(9).

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

Type :- 'M'.

Object :- To compare different kinds of G.L. as green manure.

1. BASAL CONDITIONS :

(i) (a) Fallow-Paddy. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 11.8.48/17.9.48. (iv) (a) 2 ploughings. (b) Transplanting. (c) — (d) 6" x 6". (e) 2. (v) Nil. (vi) No. 3840 (late). (vii) Irrigated. (viii) Nil. (ix) 21.5". (x) 9.2.49.

2. TREATMENTS :

- | | |
|---------------|-----------------|
| 1. Control | 6. Pillipersara |
| 2. Glyricidia | 7. Daincha |
| 3. Pungam | 8. Sunnhemp |
| 4. Ealotropis | 9. Sesbania |
| 5. Adathoda | 10. Kolinji |

Each G.L. applied at 4000 lb./ac. one month before planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a), (b) 20' x 14'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948-1949. (b) No. (c) N.A. (v) (a) Nil (b) NA. (vi) & (vii) Nil.

5. RESULTS :

- (i) 3721 lb./ac.
 (ii) 214.3 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3569
2.	3608
3.	3977
4.	3703
5.	3724
6.	3664
7.	3713
8.	3637
9.	3821
10.	3802
S.E/mean	= 107.2 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 49(52).

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

Type :- 'M'

Object :- To compare different kinds of leaves as G.M.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Clayey loam. (b) Refer soil analysis, Aduthurai. (iii) 17.7.49/22.8.49.
 (iv) (a) 5 ploughings. (b) Transplanting. (c) — (d) 6' x 6". (e) 2. (v) Nil. (vi) CO. 26 (late). (vii) Irrigated.
 (viii) Weeding once. (ix) 26.12". (x) 7.2.50.

2. TREATMENTS :

- | | |
|---------------|----------------|
| 1. No leaf | 6. Pillipesara |
| 2. Glyricidia | 7. Daincha |
| 3. Pungam | 8. Sunnhemp |
| 4. Calotropis | 9. Sesbania |
| 5. Adathoda | 10. Kolinji |

Each applied at the rate of 5000 lb./ac. as basal dressing.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 21' x 15'. (b) 20' x 14'. (v) About 6' around. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1948-1949. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 3470 lb./ac.
 (ii) 221.8 lb./ac.
 (iii) Treatment differences are significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3178
2.	3444
3.	3577
4.	3398
5.	3709
6.	3398
7.	3517
8.	3471
9.	3316
10.	3691
S.E./mean	= 110.9 lb./ac.

Crop :- Paddy (*Thaladi*)

Ref :- M. 49(53)

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

Type :- M.

Object :- To compare different kinds of leaves as G.M.

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, Aduthurai. (iii) 15.9.49/12.10.49. (iv) (a) 3 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) Nil. (vi) Adt. 2 (late). (vii) Irrigated. (viii) Weeding once. (ix) 15.23. (x) 24.2.50.

2. TREATMENTS :

1. No leaf.
2. Calotropis.
3. *Glyricidia*.
4. *Croton spasi florus*.
5. *Pungam*.
6. *Kolinji*.
7. *Adathoda*.

Each G.L. applied at 5000 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) 21' x 13'. (b) 20' x 12'. (v) About 6" all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1948—1949. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2609 lb./ac.
- (ii) 216.8 lb./ac.
- (iii) Treatment differences are significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2295
2.	2507
3.	2529
4.	2571
5.	2730
6.	2784
7.	2847
S.E./mean	= 108.4 lb./ac.

Crop :- Paddy (*Thaladi*).

Ref :- M. 52(27).

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

Type :- 'M'.

Object :- To compare N and P_2O_5 singly and in combinations.

1. BASAL CONDITIONS :

- (i) (a) Paddy—Paddy—Fallow. (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) 25.9.52/21.11.52. (iv) (a) 2 ploughings. (b) Transplanting. (c) —. (d) 6' x 6". (e) 2. (v) Nil. (vi) CO. 25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 22.2".
 (x) 26.3.53.

2. TREATMENTS :

All combinations of (1) and (2)

- (1) 4 levels of N: $N_0=0$, $N_1=30$, $N_2=45$ and $N_3=60$ lb./ac.
 (2) 4 levels of P_2O_5 : $P_0=0$, $P_1=30$, $P_2=45$ and $P_3=60$ lb./ac.

N as A/S and P_2O_5 as Super. Super applied just before planting and A/S one month after, by broadcast.

3. DESIGN :

- (i) 4 x 4 Fact. in R.B.D. (ii) (a) 16. (b) N.A. (iii) 4. (iv) (a) 44' x 8". (b) 44' x 8". (v) Nil. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1952 to 1953. In 1952 (*Kurvai, Thaladi*) and 1953 (*Thaladi*) expt. failed. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Nil. (vii) Expt. failed in *Kurvai* in 1952 and in both the seasons in 1953.

5. RESULTS :

- (i) 2770 lb./ac.
 (ii) 399.7 lb./ac.
 (iii) The main effect of N is highly significant. Main effect of P and interaction NP are not significant.
 (iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	P_3	Mean
N_0	1949	2157	1881	1942	1982
N_1	2628	2809	3011	2909	2839
N_2	2937	2882	3240	3258	3079
N_3	3295	3152	3294	2971	3178
Mean	2702	2750	2856	2770	2769

S.E. of marginal mean = 99.9 lb./ac.

S.E. of body of table = 199.5 lb./ac.

Crop :- Paddy (*Samba*).

Ref :- M. 50(31).

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

Type :- 'M'.

Object :- To compare Fused phosphate against Super in presence of G.L. or A/S.

1. BASAL CONDITIONS :

- (i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 9.8.50/23.9.50. (iv) (a) 2 ploughings. (b) Transplanting. (c) —. (d) 6' x 6". (e) 2. (v) Nil. (vi) CO.26 (late). (vii) Irrigated. (viii) Nil. (ix) 22.2". (x) 16.1.51.

2. TREATMENTS :

All combinations of (1) and (2)

- (1) 3 sources of N : (a) G.L. at 2,500 lb./ac.
 (b) A/S at 30 lb./ac. of N.
 (c) G.L. at 2500 lb./ac+A/S at 30 lb./ac. of N.

- (2) 3 sources of P_2O_5 : P_0 =No P_2O_5 .
 P_1 =Super at 30 lb./ac. of P_2O_5 .
 P_1 =Fused phosphate at 30 lb./ac. of P_2O_5 .

G.L. applied 15 days before planting and A/S a month after planting. P_2O_5 applied at the time of planting.**3. DESIGN :**

- (i) 3x3 Fact. in R.B.D. (ii) a) 9. (b) N.A. (iii) 4. (iv) (a) & (b) 15'x22'. (v) Nil. (vi) Yes.

4. GENERAL :

- (i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1950 to 1951. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

(i) 3710 lb./ac.

(ii) 291.5 lb./ac.

(iii) Main effect of N alone is highly significant. P and NP are not significant.

(iv) Av. yield of grain in lb./ac.

	G.L.	A/S.	G.L.+A/S.	Mean
P_0	3465	3664	3993	3707
P_1	3465	3828	4059	3784
P'_1	3629	3697	3597	3641
Mean	3520	3730	3883	3710

S.E. of marginal mean = 84.1 lb./ac.

S.E. of body of table = 145.7 lb./ac.

Crop :- Paddy.**Ref :- M. 51(16)/50(31).****Site :- Agri. Res. Stn. Aduthurai.****Type :- 'M'.****Object :- To compare Fused phosphate against Super in presence of G.L. or A/S.****1. BASAL CONDITIONS :**

- (i) (a) Paddy—Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai.
 (iii) 27.7.51/28.8.51. (iv) (a) 2 ploughings. (b) Transplanting. (c) —. (d) 6'x6'. (e) 2. (v) Nil.
 (vi) CO. 26 (late). (vii) Irrigated. (viii) Nil. (ix) 22.0° (x) 11.2.52.

2. TREATMENTS :

All combinations of (1) and (2)

- (1) 3 sources of N : (a) G.L. at 2500 lb./ac.
 (b) A/S at 30 lb./ac. of N.
 (c) G.L. at 2500 lb./ac.+A/S at 30 lb./ac. of N.

- (2) 3 sources of P_2O_5 : P_0 =No P_2O_5 .
 P_1 =Super at 30 lb./ac. of P_2O_5 .
 P'_1 =Fused phosphate at 30 lb./ac. of P_2O_5 .

G.L. applied 15 days prior to planting ; Phosphates at the time of planting, A/S 35 days after planting.

3. DESIGN :

- (i) 3x3 Fact. in R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) & (b) 15'x22'. (v) Nil. (vi) Yes.

4. GENERAL :

- (i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1950 to 1951. (b) Yes. (c) N.A. (v) (a) N.A. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 3529 lb./ac.
- (ii) 269.2 lb./ac.
- (iii) Main effects and interaction are not significant.
- (iv) Av. yield of grain in lb./ac.

	G.L.	A/S.	G.L.+A/S.	Mean
P ₀	3542	3309	3497	3449
P ₁	3542	3511	3637	3563
P ₁	3511	3614	3598	3574
Mean	3532	3478	3577	3529

S.E. of marginal mean = 76.9 lb./ac.
 S.E. of body of table = 134.6 lb./ac.

Crop :- Paddy (Thaladi).

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

Object :- To compare M.C. with F.W.C. and F.Y.M.

Ref :- M. 49(60).

Type :- 'M'.

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, Aduthurai. (iii) 15.9.49/25.10.49. (iv) (a) 3 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) Adt. 2. (vii) Irrigated. (viii) Weeding once. (ix) 15.23". (x) 14.2.50.

2. TREATMENTS :

- 1. No manure.
- 2. F.Y.M. at 10 ton/ac.
- 3. F.W.C. at 10 ton/ac.
- 4. M.C. at 10 ton/ac.

3. DESIGN :

- (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 21'×21'. (b) 20'×20'. (v) About 6' all round. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1949 to 1951. (b) Yes. (c) N.A. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS :

- (i) 2329 lb./ac.
- (ii) 139.6 lb./ac.
- (iii) Treatment differences are significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2168
2.	3508
3.	2305
4.	2333
S.E./mean	= 69.8 lb./ac.

Crop :- Paddy (*Thaladi*).

Ref :- M. 50(37)/49(60)

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

Type :- 'M'

Object: To compare M.C. with F.W.C. and F.Y.M.

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) Refer soil analysis, Aduthurai. (iii) 20.9.50/11.11.50. (iv) (a) 2 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) CO. 25 (late) (vii) Irrigated. (viii) Nil. (ix) 24.5". (x) 9.3.51.

2. TREATMENTS :

1. No manure.
 2. F.Y.M. at 8 ton/ac.
 3. F.W.C. at 8 ton/ac.
 4. M.C. at 8 ton/ac.
- Applied 15 days before planting.

3. DESIGN :

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

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949 to 1951. (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2269 lb./ac.
- (ii) 171.5 lb./ac.
- (iii) Treatment differences are significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2140
2.	2400
3.	2389
4.	2148
S.E./mean	= 85.7 lb./ac.

Crop :- Paddy (*Thaladi*).

Ref :- M. 51 (17)/50 (37)/49 (60).

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

Type :- 'M'.

Object:—To compare M.C. with F.Y.M. and F.W.C.

1. BASAL CONDITIONS :

(i) (a) Paddy-Paddy-Fallow. (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) 17.9.51/24.10.51. (iv) (a) 2 ploughings. (b) Transplanting. (c)—. (d) 6"×6". (e) 2. (v) Nil. (vi) CO. 25 (late). (vii) Irrigated. (viii) Nil. (ix) 22.0". (x) 17.3.52.

2. TREATMENTS :

1. No manure.
 2. F.Y.M. at 10 ton/ac.
 3. F.W.C. at 10 ton/ac.
 4. M.C. at 10 ton/ac.
- Manures applied 15 days before planting, and ploughed in.

3. DESIGN :

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

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949 to 1951. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 3000 lb./ac.
- (ii) 164.4 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2954
2.	3032
3.	3032
4.	2981
S.E./mean	= 82.2 lb./ac.

Crop :- Paddy (*Samba*).

Ref :- M. 53 (51).

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

Type :- 'M'.

Object :- To compare various treatments for maximising the yield.

1. BASAL CONDITIONS :

- (i) (a) Paddy-Fallow. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 30.7.52/28.9.53. (iv) (a) 2' ploughings. (b) Transplanting. (c) —. (d) 6' x 6". (e) 2'. (v) Nil. (vi) CO 25. (vii) Irrigated. (viii) Nil. (ix) 31.0". (x) 9.2.54.

2. TREATMENTS :

- 1. 2000 lb./ac. of G.L.
- 2. 5000 lb./ac. of G.L. + 150 lb./ac. of Super + 150 lb./ac. of A/S.
- 3. 10,000 lb./ac. of G.L. + 300 lb./ac. of Super.
- 4. As in 3 + 100 lb./ac. of A/S.
- 5. As in 3 + 1000 lb./ac. of lime.
- 6. As in 4 + 1000 lb./ac. of lime.

3. DESIGN :

- (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 46' x 10½'. (b) 46' x 9½'. (v) One row of plants left. (vi) Yes.

4. GENERAL :

- (i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953 (3 seasons) (Expts. for *Kurvai* and *Thaladi* failed) (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Nil. (vii) Expt. failed for *Kurvai* and *Thaladi* in 1953.

5. RESULTS :

- (i) 5064 lb./ac.
- (ii) 240.0 lb./ac.
- (iii) Treatment differences are significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	4960
2.	5238
3.	4679
4.	5379
5.	4890
6.	5238
S.E./mean	= 120.0 lb./ac.

Crop :- Paddy (*Samba*).

Ref :- M. 49(54).

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

Type :- 'M'.

Object :- To find out whether the application of Super along with C.M. is better than C.M. alone.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) [Clayey loam. (b) Refer soil analysis, Aduthurai. (iii) 21.7.49/21.8.49. (iv) (a) 3 ploughings. (b) Transplanting. (c) — (d) 6'×6". (e) 2. (v) Nil. (vi) CO. 25 (late). (vii) Irrigated. (viii) Weeding once. (ix) 25.54". (x) 5.2.50.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of C.M. : $M_0=0$ and $M_1=8$ ton/ac.(2) 2 levels of P_2O_5 : $P_0=0$ and $P_1=40$ lb./ac. P_2O_5 as Super. C.M. applied one week before planting and Super at the time of planting.

3. DESIGN :

(i) 2×2 Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 26'×23'. (b) 25'×22'. (v) About 6" all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1948 to 1950 (1948 *Samba* failed). (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

(i) 4181 lb./ac.

(ii) 139.2 lb./ac.

(iii) Main effects and interaction are not significant.

(iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
P_0	3814	4393	4104
P_1	3986	4532	4259
Mean	3900	4463	4181

S.E. of marginal means = 49.2 lb./ac.

S.E. of body of table = 56.8 lb./ac.

Crop :- Paddy (*Samba*).

Ref :- M. 50(30)/49(54).

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

Type :- 'M'.

Object :- To find out whether the application of Super along with C.M. is better than C.M. alone.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 9.8.50./16.9.50. (iv) (a) 2 ploughings. (b) Transplanting. (c) — (d) 6'×6". (e) 2. (v) Nil. (vi) Co. 25 (late). (vii) Irrigated. (viii) Nil. (ix) 22.2". (x) 30.1.51.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of C.M. : $M_0=0$, and $M_1=8$ ton/ac.(2) 2 levels of P_2O_5 : $P_0=0$ and $P_1=40$ lb./ac. P_2O_5 as Super. C.M. applied 15 days before planting and Super at the time of planting.

3. DESIGN :

(i) 2×2 Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a), (b) 21'×25'. (v) Nil. (vi) Yes.

4. GENERAL: (i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948 to 1950. (1948: Samba failed). (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS:

- (i) 3664 lb./ac.
- (ii) 161.5 lb./ac.
- (iii) Main effects of C.M., Super and interaction Super x C.M. are highly significant.
- (iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	Mean
P ₀	2921	4141	3531
P ₁	3428	4166	3797
Mean	3175	4154	3664

S.E. of marginal means = 46.2 lb./ac.

S.E. of body of table = 65.9 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 48(10).

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

Type :- 'M'.

Object :- To compare different Phosphatic manures.

1. BASAL CONDITIONS:

- (i) (a) Paddy-Fallow. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 31.748/14.948. (iv) (a) Ploughed twice with iron plough. (b) Transplanting. (c) —. (d) 6' x 6'. (e) 2. (v) A/S at 20 lb./ac. of N. (vi) Adt-1 (late). (vii) Irrigated. (viii) Nil. (ix) 21.5°. (x) 8.2.49.

2. TREATMENTS:

- 1. Control (no manure)
- 2. Raw Phos. at 20 lb./ac. of P₂O₅.
- 3. Processed Phos. at 20 lb./ac. of P₂O₅.
- 4. Super at 20 lb./ac. of P₂O₅.

Manures applied just before planting by broadcast.

3. DESIGN:

- (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) 33' x 22. (b) 31' x 20'. (v) About 1' all round the net plot size. (vi) Yes.

4. GENERAL:

- (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1946 to 1948. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS:

- (i) 3341 lb./ac.
- (ii) 102.1 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3344
2.	3260
3.	3414
4.	3344
S.E./mean	= 135.0 lb./ac.

Crop :- Paddy (*Kuruvai*).

Ref :- M. 48(11)/48(10).

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

Type :- 'M'.

Object :- To compare different Phosphatic manures.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 28.6.48/15.7.48. (iv) (a) 2 ploughings with iron-plough. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) A/S at 20 lb./ac. of N. (vi) Adt-3 (Early). (vii) Irrigated. (viii) Nil. (ix) 4.7" (x) 3.10.48.

2. TREATMENTS :

1. Control (no manure)
2. Raw Phos. at 20 lb./ac. of P_2O_5 .
3. Processed Phos. at 20 lb./ac. of P_2O_5 .
4. Super at 20 lb./ac. of P_2O_5 .

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) 33'×22'. (b) 31'×20'. (v) 1' border all, round the net plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1946-1948. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 2500 lb./ac.
- (ii) 184.9 lb./ac.
- (iii) Treatment differences are highly significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2283
2.	2500
3.	2607
4.	2610
S.E./mean	= 82.6 lb./ac.

Crop :- Paddy.

Ref :- M. 52(29).

Site :- Agri. Res. Stn. Aduthurai.

Type :- 'M'.

Object :- To study the organic matter requirements of soil in the form of C.M., F.W.C. and G.M.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (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) 25.9.52/18.11.52. (iv) (a) 2 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) 45 lb./ac. of N as A/S and 60 lb./ac. of P_2O_5 as Super. (vi) CO.25 (late). (vii) Irrigated. (viii) Nil. (ix) 22.2". (x) 27.3.53.

2. TREATMENTS :

All combinations of (1) and (2) + a Control (no manure).

- (1) 3 levels of manure : $M_1=2500$ $M_2=5000$ and $M_3=7500$ lb./ac.
- (2) 3 sources of organic manure : (a)=C.M., (b)=F.W.C. and (c)=G.M.
F.W.C. and G.M. applied equivalent to the organic matter of C.M. which is applied at the above-three levels.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 44'×14'. (b) 43'×13'. (v) About 6" all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1952 to 1953. (b) Yes. (c) Nil. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3505 lb./ac.

(ii) 460.6 lb./ac.

(iv) Only the main effect of source of organic manure is highly significant. Others are not significant.

(iv) Av. yield of grain in lb./ac.

Control = 3477

	M ₁	M ₂	M ₃	Mean
C.M.	3293	3575	3606	3491
F.W.C.	3327	3350	3464	3380
G.M.	3499	3707	3752	3653
Mean	3373	3544	3607	3508

S.E. of marginal mean = 133.0 lb./ac.

S.E. of body of table = 230.3 lb./ac.

Crop :- Paddy.

Ref :- M. 53(46)/52(29).

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

Type 'M'.

Object :- To study the organic matter requirements of the soil in the form of C.M., F.W.C. and G.M.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 21.9.53/27.11.53. (iv) (a) 2 ploughings. (b) Transplanting. (c) —. (d) 6" × 6". (e) 2. (v) 45 lb./ac. of N as A/S + 60 lb./ac. of P₂O₅ as Super. A/S as top dressing one month after planting; Super just before planting. (vi) CO. 25 (late). (vii) Irrigated. (viii) Weeding once. (ix) 31.0". (x) 31.3.54.

2. TREATMENTS :

All combinations of (1) and (2) + a control (no manure).

(1) 3 levels of manure : M₁=2500, M₂=5000 and M₃=7500 lb./ac.

(2) 3 sources of organic matter : (a)=F.Y.M., (b)=F.W.C. and (c)=G.M.

F.W.C. and G.M. applied equivalent to the organic matter of C.M. which is applied at the above 3 levels.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a), (b) 44' × 14'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Slight incidence of stem-borer. No control measures taken. (iii) Grain and straw yield. (iv) (a) 1952 to 1953. (b) Yes. (c) N.A. (v) (a) N.A. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2809 lb./ac.

(ii) 352.0 lb./ac.

(iii) Main effect of 'levels of manures' is significant and interaction 'levels × sources' is highly significant. Others are not significant.

(iv) Av. yield of grain in lb./ac.

Control = 2815 lb./ac.

	M ₁	M ₂	M ₃	Mean
F.Y.M.	3116	3059	2846	3007
F.W.C.	2750	2479	3108	2779
G.M.	3120	2546	2250	2639
Mean	2995	2695	2735	2808

S.E. of marginal mean = 102.0 lb./ac.

S.E. of body of table = 176.0 lb./ac.

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

Ref :- M. 50(32)
Type :- 'M'.

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

1. BASAL CONDITIONS :

(i) (a) Paddy-Fallow. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 28.7.50/8.9.50 (iv) (a) Two ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) CO. 25 (late). (vii) Irrigated. (viii) Nil. (ix) 22.2". (x) 30.1.51.

2. TREATMENTS :

1. Control (no spray).
2. C/S sprayed at 20 lb/ac. in 100 gallons of water.
3. Mn. Sul. sprayed at 10 lb/ac. in 100 gallons of water.
4. Zn. Sul. sprayed at 10 lb/ac. in 100 gallons of water.
5. C/S as in (2)+Mn. Sul. as in (3).
6. C/S as in (2)+Mn. Sul. as in (3)+Zn. Sul. as in (4).
 Elements sprayed 2 weeks after planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 82'×8'. (b) 72'×6'. (v) 5'×1' left as border. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

- (i) 3132 lb/ac.
- (ii) 189.5 lb/ac.
- (iii) Treatment differences are significant.
- (iv) Av. yield of grain in lb/ac.

Treatment	Av. yield
1.	3087
2.	3000
3.	2983
4.	3296
5.	3208
6.	3217
S.E./mean	= 77.3 lb/ac.

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

Ref :- M. 50(33).
Type :- 'M'.

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

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—Fallow. (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) 2.11.50. (iv) (a) 2 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) CO. 25 (late). (vii) Irrigated. (viii) Nil. (ix) 22.2". (x) 2.3.51.

2. TREATMENTS :

1. Control (no spray).
2. C/S sprayed at 20 lb./ac. in 100 gallons of water.
3. Mn. Sul. sprayed at 10 lb./ac. in 100 gallons of water.
4. Zn. Sul. sprayed at 10 lb./ac. in 100 gallons of water.
5. C/S as in (2)+Mn. Sul. as in (3).
6. C/S as in (2)+Mn. Sul. as in (3)+Zn. Sul. as in (4).
 Elements sprayed 2 weeks after planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 82'×8'. (b) 72'×6'. (v) 5'×1' border left. (vi) Yes.

4. GENERAL:

- (i) Fairly good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) Nil, (b) Nil, (c) N.A. (v) (a) Nil, (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

(i) 2240 lb./ac.

(ii) 218.0 lb./ac.

(iii) Treatment differences are not significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2254
2.	2200
3.	2300
4.	2142
5.	2250
6.	2292
S.E./mean	= 89.0 lb./ac.

Crop :- Paddy (*Kuruwai*).

Ref :- M.50(34)

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

Type :- 'M'

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

1. BASAL CONDITIONS:

- (i) (a) Nil. (b) Fallow, (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 11.7.50/31.7.50. (iv) (a) 2 ploughings. (b) Transplanting. (c) —. (d) 4'x4'. (e) 2. (v) Nil. (vi) Adt-4 (early). (vii) Irrigated. (viii) Nil. (ix) 9.6". (x) 25, 27.10.50.

2. TREATMENTS:

- Control (no spray).
 - C/S sprayed at 20 lb./ac. in 100 gallons of water.
 - Mn. Sul. sprayed at 10 lb./ac. in 100 gallons of water.
 - Zn. Sul. sprayed at 10 lb./ac. in 100 gallons of water.
 - C/S as in (2)+Mn. Sul. as in (3).
 - C/S as in (2)+Mn. Sul. as in (3)+Zn. Sul. as in (4).
- Elements sprayed 2 weeks after planting.

3. DESIGN:

- (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 82'x8'. (b) 72'x6'. (v) 5'x1' left as border. (vi) Yes.

4. GENERAL:

- (i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) Nil, (b) Nil, (c) N.A. (v) (a) Nil, (b) N.A. (vi) & (vii) Nil.

5. RESULTS:

(i) 3695 lb./ac.

(ii) 470.5 lb./ac.

(iii) Treatment differences are not significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3480
2.	3730
3.	3800
4.	3670
5.	3770
6.	3720
S.E./mean	= 192.0 lb./ac.

Crop :- Paddy (*Thaladi*).

Ref :- M. 49 (62).

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

Type :- 'M'.

Object :- To study the effect of Super in combination with G.L. and A/S.

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, Aduthurai. (iii) 15.11.49. (iv) (a) 3 ploughings. (b) Transplanting. (c) —. (d) 6' x 6'. (e) 2. (v) Nil. (vi) Adt—2. (vii) Irrigated. (viii) Weeding once. (ix) 13.95. (x) 17.3.50.

2. TREATMENTS :

All combinations of (1) and (2)

- (1) 3 levels of N : $N_0=0$, $N_1=G.L.$ at 2000 lb./ac. and $N_2=N_1+A/S$ at 20 lb./ac. of N_1 .
 (2) 2 levels of P_2O_5 as Super : $P_0=0$ and $P_1=40$ lb./ac..

3. DESIGN :

(i) 3 x 2 Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 15' x 10'. (b) 14' x 9'. (v) About 6' around. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) No. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Nil. (vii) Raw data N.A.

5. RESULTS :

- (i) 2200 lb./ac.
 (ii) 235.2 lb./ac.
 (iii) Main effects and interaction are not significant.
 (iv) Av. yield of grain in lb./ac.

	N_0	N_1	N_2	Mean
P_0	1919	2018	2474	2137
P_1	1924	2264	2599	2263
Mean	1922	2141	2537	2200

S.E. of the marginal mean of N = 83.2 lb./ac.
 S.E. of the marginal mean of P = 67.9 lb./ac.
 S.E. of body of table = 117.6 lb./ac.

Crop :- Paddy (*Kuruwai*).

Ref :- M. 48 (12).

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

Type :- 'M'.

Object :- To find out the best time of application of G.N.C. and A/S over a basal dressing of G.M. and B.M. or Super.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 17, 18.7.48. (iv) (a) 2 ploughings. (b) Transplanting. (c) —. (d) 6' x 6'. (e) 2. (v) Nil. (vi) Adt—3 (early). (vii) Irrigated. (viii) Nil. (ix) 4.7. (x) 4.10.48.

2. TREATMENTS :

- No manure.
- G.M. at 5000 lb./ac.
- G.M. at 5000 lb./ac. + G.M. at 24 lb./ac. of P_2O_5 at planting.
- As in 3 + G.N.C. at 20 lb./ac. of N at planting.
- As in 3 + G.N.C. at 20 lb./ac. of N one month after planting.
- As in 3 + A/S at 20 lb./ac. of N at planting.
- As in 3 + A/S at 20 lb./ac. of N one month after planting.
- As in 2 + Super at 24 lb./ac. of P_2O_5 at planting.
- As in 8 + G.N.C. at 20 lb./ac. of N at planting.
- As in 8 + G.N.C. at 20 lb./ac. of N one month after planting.
- As in 8 + A/S at 20 lb./ac. of N at planting.
- As in 8 + A/S at 20 lb./ac. of N one month after planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) and (b) 45' x 13'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1946-1948. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2216 lb./ac.
 (ii) 148.1 lb./ac.
 (iii) Treatment differences are highly significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield	Treatment	Av. yield
1.	1718	7.	2409
2.	2034	8.	2154
3.	2049	9.	2447
4.	2290	10.	2328
5.	2240	11.	2424
6.	2189	12.	2309
S.E./mean		=74.0 lb/ac.	

Crop :- Paddy (*Samba*).

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

Ref :- M. 51(21).

Type :- 'M'.

Object :- To study the direct and indirect application of P_2O_5 to Paddy.

1. BASAL CONDITIONS :-

(i) (a) Paddy-Fallow. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 3.8.51/9, 10.9.51. (iv) (a) 2 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) Nil. (vi) CO. 25 (Late). (vii) Irrigated. (viii) Nil. (ix) 29.0°. (x) 20.2.52.

2. TREATMENTS :

3 Main-plot treatments :-

G.M. crops

G₁ *Sunnhemy*.

G₂ *Sesbania*.

G₃ *Daincha*.

8 Sub-plot treatments :-

1. No manure.

2. G.M. alone.

3. 30 lb./ac. of P_2O_5 as Super to G.M.

4. 30 lb./ac. of P_2O_5 to Paddy

5. 45 lb./ac. of P_2O_5 to G.M.

6. 45 lb./ac. of P_2O_5 to Paddy.

7. 60 lb./ac. of P_2O_5 to G.M.

8. 60 lb./ac. of P_2O_5 to Paddy.

3. DESIGN :

(i) Split plot. (ii) (a) 3 main-plots/replication, 8 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) N.A. (b) sub-plot. 44½' x 5½' main-plot. 44½' x 18' (v) 6" between sub-plots. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

(i) 4117 lb./ac.
 (ii) N.A.
 (iii) N.A.

(iv) Av. yield of grain in lb./ac.

	G ₁	G ₂	G ₃	Mean
1	3402	3292	3114	3269
2	4505	3970	3491	3989
3	4270	4537	4003	4270
4	4335	4370	3859	4188
5	4771	4348	4015	4378
6	4392	4165	3848	4135
7	4636	4537	4283	4485
8	4604	4144	3917	4222
Mean	4364	4170	3816	4117

Crop :- Paddy (*Pishanam*).

Ref :- M. 49(71).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'M'.

Object :- To see the efficacy of Palmyrah leaf as G.M.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 1.10.49/6.11.49. (iv) (a) 3 ploughings. (b) Transplanting. (c) —. (d) 6' x 6'. (e) 2. (vi) Asd-5 (late). (vii) Irrigated. (viii) Weeding once. (ix) 22.07". (x) 5.3.50.

2. TREATMENTS :

1. No manure.
2. Palmyrah leaf at 2000 lb./ac.
3. *Glyricidia* leaf at 5000 lb./ac.

Leaf applied and ploughed in about 15 days prior to planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) 21' x 89". (iii) 8. (iv) (a) 21' x 10'. (b) 20' x 9'. (v) 6' left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1949—contd. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

- (i) 2345 lb./ac.
- (ii) 166.9 lb./ac.
- (iii) Treatment differences are significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2265
2.	2364
3.	2406
S.E./mean	= 59.0 lb./ac.

Crop :- Paddy.

Ref :- M. 50(11).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'M'.

Object :- To study the efficacy of Palmyrah leaf as G.M.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Red sandy loam. (b) Refer soil analysis, Ambasamudram. (iii) 20.6.50/11.7.50. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) Asd-1 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 9.6". (x) 10.10.50.

2. TREATMENTS :

1. No manure.
2. Palmyrah leaf at 2000 lb./ac.
3. *Daincha* leaf at 5000 lb./ac.
Applied one month before planting and ploughed in.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 20½'×9'. (b) 20'×8.5". (v) About 3" all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949 to 1950. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

(i) 3501 lb./ac.
(ii) 37.2 lb./ac.
(iii) Treatment differences are highly significant.
(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3375
2.	3522
3.	3607
S.E./mean	= 39.9 lb./ac.

Crop :- Paddy.

Ref :- M. 50(12).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'M'.

Object :- To study the efficacy of Palmyrah leaf as G.M.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Red sandy loam. (b) Refer soil analysis, Ambasamudram. (iii) 2.11.50/24.11.50. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) N.A. (v) Nil. (vi) Asd-5 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 22.8". (x) 21.3.51.

2. TREATMENTS :

1. No manure
2. Palmyrah leaf at 2000 lb./ac.
3. *Daincha* leaf at 5000 lb./ac.
Applied one month before planting and ploughed in.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 20½'×9'. (b) 20'×8½". (v) About 3" all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949 to 1950. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

(i) 3179 lb./ac.
(ii) 88.3 lb./ac.
(iii) Treatment differences are highly significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3035
2.	3173
3.	3337
S.E./mean	= 31.2 lb./ac.

Crop :- Paddy (Kar.)

Ref. :- M. 48(79)

Site :- Rice Res. Stn., Ambasamudram

Type :- 'M'

Object :- To compare Hyper phosphate with Super and B.M.

BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 30. 6. 48/19. 7. 48. (iv) (a) 3 ploughings. (b) Transplanting. (c) — (d) 6' x 6'. (e) 2. (v) 5000 lb./ac. of G.L. (vi) Asd.-1 (early). (vii) Irrigated. (viii) Weeding once. (ix) 1.43'. (x) 11.9.48.

2. TREATMENTS :

All combinations of (1) and (2) + a Control (no manure).

(1) 4 sources of P_2O_5 :- S_1 =Hyper phosphate (26-27%), S_2 =Hyper phosphate (28-29%), S_3 =Super and S_4 =B.M.(2) 2 levels of P_2O_5 :- P_1 =30 and P_2 =45 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 21' x 14'. (b) 20' x 13'. (v) About 6' left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1948 to 1949. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

(i) 1043 lb./ac.
 (ii) 96.30 lb./ac.
 (iii) Main effects, interaction and control vs. others are not significant.
 (iv) Av. yield of grain in lb./ac.

	Control = 1009 lb./ac.				Mean
	S_1	S_2	S_3	S_4	
P_1	1056	996	1134	1053	1060
P_2	1074	1035	939	1069	1034
Mean	1065	1016	1047	1061	1047

S.E. of marginal mean of source = 34.05 lb./ac.
 S.E. of marginal mean of level = 24.07 lb./ac.
 S.E. of body of table = 48.15 lb./ac.

Crop :- Paddy (Kar.)

Ref. :- M. 49(80)

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'M'

Object :- To compare Hyper phosphate with Super and B.M.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 10.6.49/11.7.49. (iv) (a) 3 ploughings (b) Transplanting. (c) — (d) 6' x 6'. (e) 2. (v) 5000 lb./ac. of G.L. (vi) Asd.-1 (medium). (vii) Irrigated. (viii) Weeding once. (ix) 4.16'. (x) 9.10.49.

2. TREATMENTS :

All combinations of (1) and (2) + a Control (no manure)

(1) 4 sources of P_2O_5 : S_1 = Hyper phos. (26—27%), S_2 = Hyper Phos. (28—29%), S_3 = Super and S_4 = B.M.

(2) 2 levels of P_2O_5 : P_1 = 30 and P_2 = 45 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) 63'×42'. (iii) 4. (iv) (a) 21'×14'. (b) 20'×13'. (v) 6" all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1948—1949. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

(i) 3093 lb./ac.

(ii) 152.8 lb./ac.

(iii) Control vs. others is highly significant; others are not significant.

(iv) Av. yield of grain in lb./ac.

Control = 3024 lb./ac.

	S_1	S_2	S_3	S_4	Mean
P_1	3093	3121	3147	3049	3102
P_2	3056	3130	3198	3016	3100
Mean	3074	3125	3172	3032	3101

S.E. of marginal mean of source = 54.03 lb./ac.

S.E. of marginal mean of level = 38.20 lb./ac.

S.E. of body of table = 76.40 lb./ac.

Crop :- Paddy (*Pishanam*).

Ref :- M. 49(72).

Site :- Rice Res. Stn. Ambasamudram.

Type :- 'M'.

Object :- To see the effect of A/S and Super alone and in combination with and without G.L.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 1.10.49/7.11.49. (iv) (a) 3 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) Asd—5 (late.) (vii) Irrigated. (viii) Weeding once. (ix) 22.07". (x) 5.3.50.

2. TREATMENTS :

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

(1) 2 levels of G.L.: $G_0=0$ & $G_1=5000$ lb./ac.

(2) 2 levels of P_2O_5 : $P_0=0$ & $P_1=30$ lb./ac.

(3) 2 levels of N: $N_0=0$ & $N_1=50$ lb./ac.

N as G.N.C. and P_2O_5 as Super.

G.L. applied 15 days after planting; A/S one month after planting and Super at planting.

3. DESIGN :

(i) 2³ Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 16'×14'. (b) 15'×13'. (v) 6" all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1949 to 1951. (b) Yes. (c) N.A. (v) (a) N.A. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

(i) 2666 lb./ac.

(ii) 305.2 lb./ac.

(iii) Only main effects of N & leaf are significant.

(iv) Av. yield of grain in lb./ac.

	G ₀	G ₁	Mean	N ₀	N ₁
P ₀	2513	2787	2650	2466	2834
P ₁	2542	2825	2683	2692	2674
Mean	2527	2806	2666	2579	2754
N ₀	2435	2723			
N ₁	2620	2888			

S.E. of any marginal mean = 76.3 lb./ac.

S.E. of body of table = 107.9 lb./ac.

Crop :- Paddy.

Ref :- M. 50(17)/49(72).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'M'.

Object :- To study the effect of A/S and Super alone and in combination with and without G.L.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy (c) As under treatments. (ii) (a) Red sandy loam. (b) Refer soil analysis, Ambasamudram. (iii) 2.11.50/25.11.50. (iv) (a) Ploughing twice with iron plough and twice with country plough and once with levelling board. (b) Transplanting. (c) —. (d) 6'×6'. (e) N.A. (v) Nil. (vi) Asd—6 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 22.5°. (x) 23.3.51.

2. TREATMENTS :

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

(1) 2 levels of G.L. : G₀=0 and G₁=5000 lb./ac.(2) 2 levels of P₂O₅ : P₀=0 and P₁=30 lb./ac.(3) 2 levels of N : N₀=0 and N₁=50 lb./ac.N as A/S ; P₂O₅ as Super. Leaf & P₂O₅ applied one month before planting. N applied one month after planting as top dressing.

3. DESIGN :

(i) 2³ Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 15'×13'. (b) 14'×12'. (v) About 6' around. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949—1951. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (ii) Nil.

5. RESULTS :

(i) 2781 lb./ac.

(ii) 202.2 lb./ac.

(iii) Main effect of N is significant ; main effect of G is highly significant. Others are not significant.

(iv) Av. yield of grain in lb./ac.

	G ₀	G ₁	Mean	N ₀	N ₁
P ₀	2983	2543	2763	2663	2862
P ₁	3063	2533	2798	2757	2840
Mean	3023	2538	2781	2710	2851
N ₀	2968	2452			
N ₁	3078	2624			

S.E. of any marginal mean = 50.5 lb./ac.

S.E. of body of table = 71.4 lb./ac.

Crop :-Paddy.

Ref :-M. 50(19)/50(17)/49(72).

Site :-Rice Res. Sta., Ambasamudram.

Type :-'M'.

Object :-To study the effect of A/S and Super alone and in combination with and without G.L.

1. BASAL CONDITIONS :

(i) (a) Nil, (b) Paddy, (c) As under treatments. (ii) (a) Red sandy loam. (b) Refer soil analysis, Ambasamudram. (iii) 22.6.50/11, 12.7.50. (iv) (a) 2 iron ploughings, 2 with country plough once with levelling board. (b) Transplanting. (c) —, (d) 6" x 6". (e) N.A. (v) Nil. (vi) Asd—1 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 9.5". (x) 15.10.50.

2. TREATMENTS :

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

(1) 2 levels of G.L. : $G_0=0$ and $G_1=5000$ lb./ac.(2) 2 levels of P_2O_5 : $P_0=0$ and $P_1=30$ lb./ac.(3) 2 levels of N : $N_0=0$ and $N_1=50$ lb./ac. P_2O_5 as Super, N as G.N.C.G.L. and P_2O_5 applied one month before planting and N applied one month after planting as top dressing.

3. DESIGN :

(i) 2³ Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 15' x 13'. (b) 14' x 12'. (v) 16' all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949—1951. (b) Yes. (c) Nil. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3128 lb./ac.
 (ii) 364.5 lb./ac.
 (iii) None of the effects is significant.
 (iv) Av. yield of grain in lb./ac.

	G_0	G_1	Mean	N_0	N_1
P_0	3070	3219	3144	3040	3249
P_1	3032	3191	3112	3097	3125
Mean	3051	3205	3128	3068	3187
N_0	2967	3169			
N_1	3134	3240			

S.E. of any marginal mean = 91.2 lb./ac.

S.E. of body of table = 128.9 lb./ac.

Crop :-Paddy.

Ref :-M. 51(11)/50(17, 19)/49(72).

Site :-Rice Res. Sta., Ambasamudram. Type :-'M'.

Object :-To study the effect of Super and A/S alone and in combination with and without G.L.

1. BASAL CONDITIONS :

(i) (a) Nil, (b) Paddy, (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Ambasamudram. (iii) 4.6.51/9.7.51. (iv) (a) 5 ploughings. (b) Transplanting. (c) —, (d) 6" x 6". (e) 2". (v) Nil. (vi) Asd—1 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 9.5". (x) 9.10.52.

2. TREATMENTS :

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

(1) 2 levels of G.L. : $G_0=0$ and $G_1=5000$ lb./ac.

(2) 2 levels of P_2O_5 : $P_0=0$ and $P_1=30$ lb./ac.

(3) 2 levels of N : $N_0=0$ and $N_1=50$ lb./ac.

P_2O_5 as Super ; N as A/S.

G.L. applied at the time of last ploughing, Super applied at the time of planting and A/S applied one month after planting.

3. DESIGN :

(i) 2³ Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 15'—6"×15'—6". (b) 15'×15'. (v) About 3" left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949 to 1951. (b) Yes. (c) Nil. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3071 lb./ac.

(ii) 132.5 lb./ac.

(iii) Effect of G is highly significant and N effect is significant. P-effect and interactions are not significant.

(iv) Av. yield of grain in lb./ac.

	G_0	G_1	Mean	N_0	N_1
P_0	3252	2929	3091	3051	3130
P_1	3126	2976	3051	2936	3166
Mean	3189	2953	3071	2993	3148
N_0	3126	2800			
N_1	3252	3044			

S.E. of any marginal mean = 33.2 lb./ac.

S.E. of body of table = 46.9 lb./ac.

Crop :- Paddy.

Site :- Rice Res. Stn., Ambasamudram.

Ref :- M. 50(24).

Type :- 'M'.

Object :- To study the effect of Fused Phosphate as compared with Super on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Fallow. (c) Nil. (ii) (a) Red sandy loam. (b) Refer soil analysis, Ambasamudram. (iii) 129.6.50/21.7.50. (iv) (a) 5 ploughings ; levelling once. (b) Transplanting. (c) —. (d) 6"×6". (e) N.A. (v) Nil. (vi) Asd—1 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 9.5". (x) 23.10.50.

2. TREATMENTS :

All combinations of (1) and (2)+a Control (no manure)

(1) 3 doses of P_2O_5 : $P_0=0$, $P_1=30$ lb./ac. of P_2O_5 as Super and $P_2=30$ lb./ac. of P_2O_5 as Fused Phos.

(2) 3 doses of N : $N_1=G.L.$ at 5000 lb./ac., $N_2=A/S$ at 30 lb./ac. of N and $N_3=G.L.$ at 5000 lb./ac.+A/S at 30 lb./ac. of N.

G.L. and P_2O_5 applied a month before planting and A/S applied one month after planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 25½'×13½'. (b) 25'×13'. (v) About 3" left as border. (vi) Yes.

4. GENERAL:

- (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1950-1951. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS:

- (i) 3591 lb./ac.
 (ii) 134.9 lb./ac.
 (iii) Main effect of N and control vs. others are highly significant. Effect of P and interaction N×P are not significant.
 (iv) Av. yield of grain in lb./ac.

Control=3304 lb./ac.

	N ₁	N ₂	N ₃	Mean
P ₀	3331	3716	3712	3586
P ₁	3451	3699	3799	3650
P ₂	3386	3752	3767	3635
Mean	3389	3722	3759	3624

S.E. of any marginal mean =38.94 lb./ac.

S.E. of body of table =67.45 lb./ac.

Crop :- Paddy.

Site :- Rice Res. Stn., Ambasamudram.

Ref :- M. 50(15)/50(24).

Type :- 'M'.

Object :- To study the effect of Fused phos. as compared with Super on the yield of Paddy.

1. BASAL CONDITIONS

- (i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Red sandy loam. (b) Refer soil analysis, Ambasamudram. (iii) 14.10.50/6.7.11.50. (iv) (a) 5 ploughings; levelling once. (b) Transplanting. (c) —. (d) 6'×6'. (e) N.A. (v) Nil. (vi) Asd-6 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 22.5°. (x) 7.3.50.

2. TREATMENTS:

All combinations of (1) and (2)+a Control (no manure)

- (1) 3 doses of P₂O₅: P₀=0, P₁=30 lb./ac. of P₂O₅ as Super and P₂=30 lb./ac. of P₂O₅ as fused Phos.

- (2) 3 doses of N: N₁=G.L. at 5000 lb./ac., N₂=A/S at 30 lb./ac. of N and N₃=G.L. at 5000 lb./ac.+A/S at 30 lb./ac. of N.

G.L. and P₂O₅ applied a month before planting and A/S applied one month after planting.

3. DESIGN:

- (i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 25½'×13½'. (b) 25'×13'. (v) About 3" around. (vi) Yes.

4. GENERAL:

- (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1950-1951. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS:

(i) 2669 lb./ac.

(ii) 95.60 lb./ac.

- (iii) Main effect of N, and control vs. others are highly significant. Others are not significant.

(iv) Av. yield of grain in lb./ac.

Control = 2320 lb./ac.

	N ₁	N ₂	N ₃	Mean
P ₀	2476	2727	2889	2697
P ₁	2443	2736	2886	2688
P ₂	2521	2767	2932	2740
Mean	2480	2743	2902	2708

S.E. of any marginal mean = 27.59 lb./ac.

S.E. of body of table = 47.78 lb./ac.

Crop :- Paddy.

Ref :- M. 51(10)/50(24, 15)

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'M'.

Object :- To study the effect of Fused phos. as compared with Super on the yield of Paddy.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Red sandy loam. (b) Refer soil analysis, Ambasamudram.
 (iii) 4.6.51/6.7.51. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6' x 6'. (e) 2'. (v) Nil.
 (vi) Asd-1(early). (vii) Irrigated. (viii) 2 weedings. (ix) 10.2". (x) 12.10.51.

2. TREATMENTS :

All combinations of (1) and (2) + a Control (no manure).

- (1) 3 doses of P₂O₅ : P₀=0, P₁=30 lb. /ac. of P₂O₅ as Super and P₂=30 lb. P₂O₅/ac as fused phos.
 (2) 3 doses of N : N₁=G.L. at 5000 lb./ac., N₂=A/S at 30 lb. N/ac. and N₃=G.L. at 5000lb./ac.+A/S.
 at 30 lb. /ac. of N.

G.L. and P₂O₅ applied a month before planting and A/S applied one month after planting.

3. DESIGN :

- (i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 25½' x 13½'. (b) 25' x 13'. (v) 3' left as border.
 (vi) Yes.

4. GENERAL :

- (i) Fair. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1950—1951. (b) Yes. (c) N.A. (v) (a) Nil.
 (b) N.A. (vi) & (vii) Nil.

5. RESULTS ;

- (i) 2465 lb./ac.
 (ii) 108.5 lb./ac.
 (iii) Main effect of N and control vs. others are highly significant. Others are not significant.
 (iv) Av. yield of grain in lb./ac.

Control = 2092 lb/ac.

	N ₁	N ₂	N ₃	Mean
P ₀	2105	3642	2711	2486
P ₁	2206	2589	2961	2485
P ₂	2178	2715	2752	2548
Mean	2163	2648	2708	2506

S.E. of any marginal mean = 31.32 lb./ac.

S.E. body of table = 54.25 lb./ac.

Crop :- Paddy.

Ref. :- M. 51(12)/51(10)/50(24,15).

Site :- Rice Res. Stn., Ambasamudram. Type :- 'M'.

Object :- To study the effect of Fused phos. as compared with Super on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Ambasamudram. (iii) 20.9.51/3.11.51. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) Nil. (vi) Asd-5 (medium). (vii) Irrigated. (viii) Two weedings. (ix) 22.5". (x) 19.2.52.

2. TREATMENTS :

All combinations of (1) and (2) + a Control (no manure)

(1) 3 doses of P_2O_5 : $P_0 = 0$, $P_1 = 30$ lb. P_2O_5 /ac. as Super. and $P_2 = 30$ lb./ac P_2O_5 , of as Fused phos.(2) 3 doses of N: $N_1 = G.L.$ at 5000 lb./ac. $N_2 = A/S$ at 30 lb./ac. of N. and $N_3 = G.L.$ at 5000 lb./ac. + A/S at 30 lb./ac. of N.G.L. and P_2O_5 applied a month before planting and A/S applied one month after planting.**3. DESIGN :**

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 25' x 13'. (b) 25' x 13'. (v) about 3" around. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1950-1951. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

(i) 2180 lb./ac.

(ii) 240.8 lb./ac

(iii) Main effect of N and control vs. others are highly significant. Others are not significant.

(iv) Av. yield of grain in lb./ac.

Control = 1803 lb./ac.

	N_1	N_2	N_3	Mean
P_0	1948	2388	2388	2213
P_1	1895	2411	2415	2240
P_2	1898	2419	2314	2210
Mean	1914	2406	2344	2221

S.E. of any marginal mean = 69.5 lb./ac.

S.E. of body of table = 120.4 lb./ac.

Crop :- Paddy (Pishanam).

Ref :- M. 48 (81).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'M'.

Object :- To find out the usefulness of applying lime to the soil of the Tambraparni valley, deficient in lime.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 27.10.48./8.12.48. (iv) (a) 3 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) Nil. (vi) Asd-5. (vii) Irrigated. (viii) Weeding once. (ix) 20.0". (x) 19.3.49.

2. TREATMENTS :

Main-plot treatments :

2 levels of G.L. : $G_0=0$ and $G_1=4000$ lb./ac.

Sub-plot treatments :

4 levels of lime : $L_0=0$, $L_1=500$, $L_2=1000$ and $L_3=1500$ lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block and 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) $21' \times 14'$. (b) $20' \times 13'$. (v) About 6" left. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1948-1950. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 703 lb./ac.

(ii) (a) 211.8 lb./ac.

(b) 98.8 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_0	694	665	634	686	670
G_1	689	692	812	752	736
Mean	692	679	723	719	703

S.E. of difference of two

1. G means = 74.9 lb./ac.
2. L means = 49.4 lb./ac.
3. L means at the same level of G = 69.9 lb./ac.
4. G means at the same level of L = 96.3 lb./ac.

Crop :- Paddy (*Pishanam*).

Ref :- M. 49 (74)/48 (81).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'M'.

Object :- To find out the usefulness of application of lime to the soils which show slight deficiency of lime.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 21.9.49/1.11.49. (iv) (a) 3 ploughings. (b) Transplanting. (c) —. (d) $6' \times 6'$. (e) 2. (v) Nil. (vi) Asd-5 (late). (vii) Irrigated. (viii) Weeding once. (ix) 23.47". (x) 3.3.50.

2. TREATMENTS :

Main-plot treatments :

2 levels of G.L. : $G_0=0$ and $G_1=4000$ lb./ac.

Sub-plot treatments :

4 levels of lime : $L_0=0$, $L_1=500$, $L_2=1000$ and $L_3=1500$ lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block, 4 sub-plots/main-plot. (b) $42' \times 56'$. (iii) 4. (iv) (a) $21' \times 14'$. (b) $20' \times 13'$. (main) $21' \times 56'$. (v) 6" left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1948-1950. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2437 lb./ac.

(ii) (a) 206.4 lb./ac.

(b) 206.1 lb./ac.

(iii) Main effects of G and L are significant. Interaction is not significant.

(iv) Av. yield of grain in lb./ac.

	L ₀	L ₁	L ₂	L ₃	Mean
G ₀	2175	2482	2474	2315	2362
G ₁	2471	2511	2511	2558	2513
Mean	2323	2497	2493	2437	2437

S.E. of difference of two

1. G means = 73.0 lb./ac.

2. L means = 103.1 lb./ac.

3. L means at the same level of G = 145.8 lb./ac.

4. G means at the same level of L = 145.8 lb./ac.

Crop :- Paddy (Kar).

Ref :- M. 49(79)/49(74)/48(81).

Site :- Rice Res. Stn., Ambasamudram. Type :- 'M'.

Object :- To find out the usefulness of application of lime to the soils which show slight deficiency of lime.

1. BASAL CONDITIONS :

(i) (a) Nil, (b) Paddy, (c) As per treatments. (ii) (a) Clayey loam, (b) Refer soil analysis, Ambasamudram. (iii) 10.6.49/10.7.49. (iv) (a) 3 ploughings, (b) Transplanting, (c) —, (d) 6' × 6', (e) 2. (v) Nil. (vi) Asd-1 (early), (vii) Irrigated, (viii) Weeding once, (ix) 4.16', (x) 8.10.49.

2. TREATMENTS :

Main-plot treatments :-

2 levels of G.L. : G₀=0 and G₁=4000 lb./ac.

Sub-plot treatments :-

4 levels of lime : L₀=0, L₁=500, L₂=1000 and L₃=1500 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 4 sub-plots/main-plot. (b) 42' × 56'. (iii) 4. (iv) (a) 21' × 14', (b) 20' × 13' (21' × 56' main-plot). (v) 6' left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield, (iv) (a) 1948—1950, (b) Yes, (c) No. (v) (a) N.A. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

(i) 3183 lb./ac.

(ii) (a) 132.8 lb./ac.

(b) 132.6 lb./ac.

(iii) Main effects of G and L are significant. Interaction is not significant.

(iv) Av. yield of grain in lb./ac.

	L ₀	L ₁	L ₂	L ₃	Mean
G ₀	3031	2975	3186	3198	3098
G ₁	3189	3248	3304	3334	3269
Mean	3110	3112	3245	3266	3183

S.E. of difference of two

1. G means =47.0 lb./ac.
2. L means =66.3 lb./ac.
3. L means at the same level of G =93.8 lb./ac.
4. G means at the same level of L =93.8 lb./ac.

Crop :- Paddy.

Ref :- M. 50(14)/49(79, 74)/48(81).

Site :- Rice Res. Stn., Ambasamudram. Type :- 'M'.

Object :- To find the usefulness of application of lime to the soils which are deficient in lime.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Red sandy loam. (b) Refer soil analysis, Ambasamudram. (iii) 29.6.50/18.7.50. (iv) (a) Ploughing twice with iron plough, twice with country plough and levelling once with levelling board. (b) Transplanting. (c) —. (d) 6" × 6". (e) N.A. (v) Nil. (vi) Asd-1. (vii) Irrigated. (viii) 2 weedings. (ix) 9.5". (x) 22.10.50.

2. TREATMENTS :

Main-plot treatments :-

2 levels of G.L. : G₀=0 and G₁=4000 lb./ac.

Sub-plot treatments :-

4 levels of lime : L₀=0, L₁=1000, L₂=1500 and L₃=2000 lb./ac.Manures applied a month before planting and ploughed in. G.L. as *Glyricidia* leaf.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 20' × 13'. main-plot size = 19' × 48'. (b) 19' × 12'. (v) About 6" on all sides. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain & straw yield. (iv) (a) 1948—1950. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 3323 lb./ac.
- (ii) (a) 345.7 lb./ac.
- (b) 369.2 lb./ac.
- (iii) Only main effect of G is significant.
- (iv) Av. yield of grain in lb./ac.

	L ₀	L ₁	L ₂	L ₃	Mean
G ₀	3102	2946	3133	3326	3127
G ₁	3206	3661	3552	3650	3518
Mean	3154	3303	3342	3487	3323

S.E. of difference of two

1. G means =122.3 lb./ac.
2. L means =184.6 lb./ac.
3. L means at the same level of G =261.0 lb./ac.
4. G means at the same level of L =256.9 lb./ac.

Crop :- Paddy.

Ref :- M. 50(16)/50(14)/49(79,74)/48(81).

Site :- Rice Res. Stn., Ambasamudram. Type :- 'M'.

Object :- To find the usefulness of application of lime to the soils which are deficient in lime.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Red sandy loam. (b) Refer soil analysis, Ambasamudram. (iii) 2.11.50/26.11.50. (iv) (a) Ploughing twice with iron plough, twice with country plough and levelling once with a levelling board. (b) Transplanting. (c) —. (d) 6' x 6'. (e) N.A. (v) Nil. (vi) Asd—5 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 22.5". (x) 22.3.51.

2. TREATMENTS :

Main-plot treatments :-

2 levels of G.L. : $G_0=0$ and $G_1=4000$ lb./ac.

Sub-plot treatments :-

4 levels of lime : $L_0=0$, $L_1=1000$, $L_2=1500$ and $L_3=2000$ lb./ac.Manures applied a month before planting. G.L. as *Glyricidia* leaf.

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) 20' x 13'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948—1950. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

(i) 2993 lb./ac.

(ii) (a) 215.8 lb./ac.

(b) 239.3 lb./ac.

(iii) Main effect of G alone is highly significant. Others are not significant.

(iv) Av. yield of grain in lb./ac.

	L_0	L_1	L_2	L_3	Mean
G_0	2683	2963	2803	2842	2823
G_1	3170	3159	3245	3082	3164
Mean	2927	3061	3024	2962	2993

S.E. of difference of two

1. G means

= 76.3 lb./ac.

2. L means

= 119.7 lb./ac.

3. L means at the same level of G

= 169.3 lb./ac.

4. G means at the same level of L

= 165.2 lb./ac.

Crop :- Paddy (*Pishanam*).

Ref :- M. 49(73).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'M'.

Object :- To see the possibility of treating seed materials with chemicals instead of applying chemical fertilizers to the soil.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 21.9.49/28.10.49. (iv) (a) 3 ploughings. (b) Transplanting. (c) —. (d) About 6' x 6'. (e) N.A. (v) Nil. (vi) CO. 19 (late). (vii) Irrigated. (viii) Weeding once. (ix) 23.47". (x) 9.3.50.

2. TREATMENTS :

1. Seed treated with 20 % tri-basic Pot. Phosphate.

2. Seed treated with 10 % tri-basic Pot. Phosphate.

3. Seed treated with water only.

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) 21'×33'. (iii) 8. (iv) (a) 21'×11'. (b) 20'×10'. (v) About 6" left all round. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

- (i) 2642 lb./ac.
 (ii) 197.1 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2714
2.	2604
3.	2609
S.E./mean	= 69.7 lb./ac.

Crop :- Paddy.

Ref :- M. 48(111).

Site :- Paddy Breeding Stn. Coimbatore.

Type :- 'M'.

Object :- To study the effect of N, P₂O₅ and K₂O alone and in combinations on the yield of Paddy.

1. BASAL CONDITIONS :

- (i) (a) Paddy—Paddy. (b) Paddy. (c) As under treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) 11.8.48/6.10.48. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) CO. 26 (late). (vii) Irrigated. (viii) Weeding twice. (ix) 8.75". (x) 30.1.49.

2. TREATMENTS :

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

- (1) 6 levels of N : N₀=No manure, N₁=G.L. at 2000 lb./ac., N₂=N₁+30 lb./ac. of N as A/S, N₃=N₁+60 lb./ac. of N as A/S, N₄=N₁+90 lb./ac. of N as A/S and N₅=N₁+120 lb./ac. of N as A/S.

- (2) 3 levels of P₂O₅ : P₀=0, P₁=30 and P₂=60 lb./ac.

- (3) 2 levels of K₂O : K₀=0 and K₁=60 lb./ac.

P₂O₅ as Super and K₂O as Pot. Sulphate.

3. DESIGN :

- (i) 2×3×6 Fact. in R.B.D. (ii) (a) 36. (b) N.A. (iii) 4. (iv) (a) 9'×26'. (b) 8'×25'. (v) 6" all round. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1949. (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) Expt. failed in 1949. (vii) Nil.

5. RESULTS :

- (i) 2415 lb./ac.
 (ii) 3284 lb./ac.
 (iii) Main effect of N alone is highly significant. Other effects and interactions are not significant.

(vi) Av. yield of grain in lb./ac.

	N ₀	N ₁	N ₂	N ₃	N ₄	N ₅	Mean	K ₀	K ₁
P ₀	1951	2125	2262	2732	2575	2785	2405	2433	2377
P ₁	1999	2346	2410	2363	2380	2773	2379	2450	2307
P ₂	2177	2327	2633	2509	2555	2562	2461	2407	2514
Mean	2042	2266	2435	2535	2503	2707	2415	2430	2399
K ₀	2068	2218	2378	2615	2564	2737			
K ₁	2016	2313	2491	2454	2441	2677			

S.E. of marginal mean of N = 67.0 lb./ac.
 S.E. of marginal mean of P = 47.4 lb./ac.
 S.E. of marginal mean of K = 38.7 lb./ac.
 S.E. of body of table K×N = 94.8 lb./ac.
 S.E. of body of table P×N = 116.1 lb./ac.
 S.E. of body of table P×K = 67.0 lb./ac.

Crop :-Paddy.

Ref :-M. 48(115).

Site :-Paddy Breeding Stn., Coimbatore.

Type :-'M'.

Object :-To find the relative merits of Hyper Phos., Super and B.M. in varying levels of P₂O₅.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) N.A. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) 11.8.48/4.10.48. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6'×6'. (e) 2. (v) G.L. at 5000 lb./ac. (vi) CO. 26 (late). (vii) Irrigated. (viii) Weeding twice. (ix) 8.86°. (x) 24.2.49.

2. TREATMENTS :

All combinations of (1) and (2)+a Control (no manure).

(1) 2 levels of P₂O₅ : P₁=30 and P₂=45 lb./ac.(2) 4 sources of P₂O₅ : S₁=Hyper Phos. (26.27%), S₂=Hyper Phos. (28.29%), S₃=Super and S₄=B.M.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 20'×11'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1948—1949. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 3515 lb./ac.

(ii) 339.3 lb./ac.

(iii) Main effects, interaction and control vs. others are not significant.

(iv) Av. yield of grain in lb./ac.

Control = 3441

	S ₁	S ₂	S ₃	S ₄	Mean
P ₁	3527	3453	3428	3502	3477
P ₂	3205	3787	3812	3478	3571
Mean	3366	3620	3620	3490	3524

S.E. of marginal mean of source = 120.0 lb./ac.
 S.E. of marginal mean of level = 84.8 lb./ac.
 S.E. of body of table = 169.7 lb./ac.

Crop :- Paddy.

Ref :- M. 49(140).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'M'.

Object :- To find out the comparative merits of Hyperphosphate, Super and B.M. at different levels of P_2O_5 .

1. BASAL CONDITIONS :

(i) (a) Paddy after Paddy. (b) Paddy. (c) N.A. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) 20.6.49/12.8.49. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) 5000 lb./ac. of G.L. (vi) CO. 26 (Late). (vii) Irrigated. (viii) Weeding twice. (ix) 9.79". (x) 20.1.50.

2. TREATMENTS :

All combinations of (1) and (2)+a control (no manure)

(1) 2 levels of P_2O_5 : $P_1=30$ and $P_2=45$ lb./ac.(2) 4 sources of P_2O_5 : S_1 =Hyper Phos. (26-27%), S_2 =Hyper Phos. (28-29%), S_3 =Super and S_4 =B.M.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 20'×11'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1948-1949. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

(i) 3644 lb./ac.

(ii) 221.0 lb./ac.

(iii) Main effects, interaction and control vs others are not significant.

(iv) Av. yield of grain in lb./ac.

Control=3590 lb./ac.					
	S_1	S_2	S_3	S_4	Mean
P_1	3657	3759	3710	3583	3677
P_2	3777	3583	3564	3577	3625
Mean	3717	3671	3637	3580	3651

S.E. of the marginal mean of source

= 78.2 lb./ac.

S.E. of the marginal mean of level

= 55.3 lb./ac.

S.E. of body of table

= 110.5 lb./ac.

Crop :- Paddy.

Ref :- M. 49(139).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'M'.

Object :- To compare Ultra Phos. with Super in its effect on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy after Paddy. (b) Paddy. (c) N.A. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) 20.6.49/12.8.49. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) G.L. at 5000 lb./ac. (vi) CO. 26 (Late). (vii) Irrigated. (viii) Weeding once. (ix) 9.79". (x) 1.2.50.

2. TREATMENTS :

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

(1) 2 levels of P_2O_5 : $P_1=30$ and $P_2=45$ lb./ac.(2) 2 sources of P_2O_5 : S_1 =Super and S_2 =Ultra Phos.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 42½'×10'. (b) 41½'×9'. (v) 6' left as border. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) No. (b) No. (c) Nil. (v) (a), (b) - Nil. (vi) & (vii) Nil.

5. RESULTS:

(i) 2993 lb./ac.

(ii) 2905 lb./ac.

(iii) Main effect of levels of P and control vs others are significant. Effect of source of P and interaction

(iv) source & level of P are not significant.

(v) Av. yield of grain in lb./ac.

Control = 2363 lb./ac.

	S ₁	S ₂	Mean
P ₁	3022	3150	3086
P ₂ (v)	3272	3158	3215
Mean.	3147	3154	3151

S.E. of the marginal mean = 102.7 lb./ac.

S.E. of body of table = 145.3 lb./ac.

Crop :- Paddy.

Ref :- M. 49(138).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- M.

Object :- To compare the efficacy of a compound called "Engrais" containing 8.3% N and 14% P₂O₅ with that of A/S and Super on equal N and P basis.

1. BASAL CONDITIONS:

(i) (a) Paddy after Paddy. (b) Paddy. (c) N.A. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore.

(iii) 21.9.49; 14.11.49. (iv) (a) 5 ploughings. (b) Transplanting. (c) — (d) 6' x 6'. (e) 2. (v) G L.

at 2000 lb/ac. (vi) CO. 25. (vii) Irrigated. (viii) Weeding twice. (ix) 7.85% (x) 4.5.50.

2. TREATMENTS:

1. 300 lb/ac. of Engrais fertilizer.

2. 25 lb of N as A/S + 40 lb/ac. of P₂O₅ as super.

3. No manure.

3. DESIGN:

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 12. (iv) (a) 6½' x 31'. (b) 5½' x 30'. (v) 6' left as border. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) No. (b) No. (c) Nil. (v) (a)(b) Nil. (vi) Nil. (vii) The planting was delayed due to the very late arrival of the fertilizer and the crop suffered for want of sufficient irrigation supplies. The yields are therefore very poor.

5. RESULTS:

(i) 604 lb/ac.

(ii) 86.6 lb/ac.

(iii) Treatment differences are significant.

(iv) Av. yield of grain in lb/ac.

Treatments	Av. yield
1.	563
2.	714
3.	536
S.E./mean	= 25.0 lb/ac.

Crop :- Paddy.

Ref :- M. 49(141).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'M'.

Object :—To test whether application of P_2O_5 to the green manure crop preceding Paddy crop, would give better yield of Paddy.

1. BASAL CONDITIONS:

(i) (a) Paddy after Paddy. (b) Paddy. (c) N.A. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) 23.8.49/10.10.49. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Sunnhemp crop was raised and ploughed in (amount N.A.). (vi) CO.-19 (late). (vii) Irrigated. (viii) Weeding twice. (ix) 6.05th. (x) 12.2.50.

2. TREATMENTS :

- 30 lb./ac. of P_2O_5 as Super applied to Sunnhemp and puddled in.
- 30 lb./ac. of P_2O_5 as B.M. applied to Sunnhemp and puddled in.
- No P_2O_5 to green manure crop but 30 lb./ac. of P_2O_5 as Super to Paddy crop.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 19'×30'. (b) 18'×29'. (v) 6" left all round. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

- (i) 185.6 lb./ac.
 (ii) 183.8 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1921
2.	1625
3.	2022
S.E./mean	=75.0 lb./ac.

Crop :- Paddy.

Ref :- M. 48(114).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'M'.

Object :—To explore how far the productivity of the soil could be stepped-up by the use of certain catalysts which help the organic matter to rot better.

1. BASAL CONDITIONS :

(i) (a) Paddy-Paddy. (b) Paddy. (c) N.A. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) 9.8.48/14.9.48. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) CO.-25 (late). (vii) Irrigated. (viii) Weeding twice. (ix) 3.86th. (x) 7.2.49.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of B.D. : B_0 =No basal dressing and B_1 =4000 lb./ac. of G.L. +224lb./ac. of G.N.C.

(2) 5 levels of Catalyst :

C_0 =Control, C_1 =Catalyst product at 40 lb./ac., C_2 =Catalyst product at 80 lb./ac.,
 C_3 =Pot. Permanganate at 20 lb./ac., C_4 =Ferrous Sulphate at 28 lb./ac.

3. DESIGN :

(i) 2×5 Fact. in R.B.D. (ii) (a) 10. (b) N.A. (iii) 6. (iv) (a) 19'×10½'. (b) 18'×9½'. (v) 6" left all round. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

(i) 2357 lb./ac.

(ii) 495.1 lb./ac.

(iii) Main effect of B.D. alone is highly significant. Others are not significant.

(iv) Av. yield of grain in lb./ac.

	B ₀	B ₁	Mean
C ₀	2078	2608	2343
C ₁	2075	2667	2371
C ₂	2109	2609	2359
C ₃	2075	2649	2362
C ₄	2040	2656	2348
Mean	2075	2638	2357

S.E. of marginal mean of B.D. = 90.4 lb./ac.

S.E. of marginal mean of catalyst = 142.9 lb./ac.

S.E. of body of table = 202.1 lb./ac.

Crop :- Paddy.

Site :- Paddy Breeding Stn. Coimbatore.

Ref :- M. 48(113).0

Type :- 'M'.

Object :- To test the agro-biologic laws of O.W. Willcox for the maximum production of crop with different combinations of "Baule" units and to see if the high doses in different proportions secure high yields as per Baule's theory.

1. BASAL CONDITIONS :

(i) (a) Paddy after Paddy. (b) Paddy. (c) N.A. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) 9.8.48/5.10.48. (iv) (a) 5 ploughings. (b) Transplanting. (c) — (d) 6"×6". (e) 2. (v) Nil. (vi) CO. 19 (late). (vii) Irrigated. (viii) Weeding twice. (ix) 8.86". (x) 1.3.49.

2. TREATMENTS :

All combinations of (A) & (B)

(A) :- 9 levels of manures :

1. Control.

2. Normal manuring of 30 lb. N (as A/S). + 10 lb. P₂O₅ (as Super) + 20 lb. K₂O (as Pot. Sul).

3. 4.5 Baule units/ac. of each of N,P,K.

4. 5.0 Baule units/ac. of each of N,P,K.

5. 6.0 Baule units/ac. of each of N,P,K.

6. 7.0 Baule units/ac. of each of N,P,K.

7. 8.0 Baule units/ac. of each of N,P,K.

8. 9.0 Baule units/ac. of each of N,P,K.

9. 10.0 Baule units/ac. of each of N,P,K.

(B) :- 2 levels of G.L.

L₀ = No leafL₁ = Leaf at 8000 lb./ac.

3. DESIGN :

(i) 2×9 Fact. in R.B.D. (ii) (a) 18. (b) N.A. (iii) 4. (iv) (a), (b) N.A. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1948, (b) No., (c) Nil. (v) (a), (b) Nil. (vi) & (vii) Nil

5. RESULTS :

(i) 2807 lb./ac.

(ii) N.A.

(iii) N.A.

(iv) Av. yield of grain in lb./ac.

	L ₀	L ₁	Mean
1	2813	2765	2789
2	2649	2444	2547
3	2743	2634	2688
4	2875	2414	2644
5	2561	2922	2741
6	2681	2562	2622
7	3276	2929	3103
8	2999	2765	2882
9	3115	3380	3248
Mean	2857	2757	2807

Crop :- Paddy.

Ref :- M. 50(49).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'M'.

Object :- To study the effect of time of application of A/S on yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) 14.8.50/24.9.50. (iv) (a) 3 ploughings with country plough ; once with iron plough. (b) Transplanting. (c) — (d) 6' x 6'. (e) 2. (v) 4,000 lb./ac. of G.L. (vi) CO.-25 (late). (vii) Irrigated. (viii) Weeding once. (ix) 12.76°. (x) 23 2.51.

2. TREATMENTS .

All combinations of (1) & (2) +2 control plots/replication.

(1) 2 levels of A/S :- L₁=100 and L₂=150 lb./ac.(2) 2 times of application of A/S :- T₁=30 days after planting an T₂=45 days after planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 26' x 17'. (b) 25 x 16'. (v) One row left all round. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

(i) 2503 lb./ac.

(ii) 64.00 lb./ac.

(iii) Main effects, interaction and control vs. others are not significant.

(iv) Av. yield of grain in lb./ac.

	Control = 2386 lb./ac.		Mean
	L ₁	L ₂	
T ₁	2529	2573	2551
T ₂	2562	2580	2571
Mean ₁	2546	2577	

S.E. of marginal mean of L or T = 22.60 lb./ac.

S.E. of the body of table = 32.00 lb./ac.

S.E. of control vs. any other mean in the body of table = 39.14 lb./ac.

Crop :- Paddy.

Site :- Paddy Breeding Stn, Coimbatore.

Ref :- M. 51 (37).

Type :- 'M'.

Object :- To study the effect of placement of fertilizers on yield of 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) 13.9.51/11.11.51. (iv) (a) 3 ploughings with country plough, once with iron plough. (b) Transplanting. (c) — (d) 6"×6". (e) 2. (v) Nil. (vi) CO. 10 (medium). (vii) Irrigated. (viii) Weeding once. (ix) 11.47%. (x) 29.3.52.

2. TREATMENTS :

Manure applied as follows :-

1. Spread on surface and puddled in.
2. Super is made into a paste with mud and the roots of seedlings are dipped in the paste before planting and the rest of the manure applied to the plot at planting.
3. Top dressed by broadcasting at the time of planting.

Dose of manure : 5000 lb./ac. of G.L.+30 lb./ac. of N as A/S+45 lb./ac. of P_2O_5 as Super.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 11'×25', (b) 10'×24'. (v) One row left all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1951-1955. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- 3035 lb./ac.
- 240.0 lb./ac.
- Treatment differences are not significant.
- Av. yield of grain in lb./ac.

Treatment	Av. yield
1	2992
2	3104
3	3008
S.E./mean	=84.9 lb./ac.

1. 2992

2. 3104

3. 3008

S.E./mean =84.9 lb./ac.

Crop :- Paddy.

Site :- Paddy Breeding Stn., Coimbatore.

Ref :- M. 53 (73).

Type :- 'M'.

Object :- To verify if deep placement of A/S will give better yield than the same quantity applied on the surface.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super and 150 lb./ac. of A/S. (ii) (a) Clayey soil. (b) Refer soil analysis, Coimbatore. (iii) 30.9.53/7 and 8.11.53. (iv) (a) First ploughing done by iron plough and cross ploughing with country plough (4 ploughings). (b) Transplanting. (c) — (d) As per treatments. (e) 2. (v) Nil. (vi) CO. 25. (vii) Irrigated. (viii) Weeding done twice. (ix) 15.38%. (x) 25.3.54.

2. TREATMENTS :

Main-plot treatments :

2 spacings : $S_1=6'' \times 6''$ and $S_2=10'' \times 10''$.

Sub-plot treatments :

6 doses of manures : M_0 =No manure. M_1 =5000 lb./ac. of G.L.+45 lb./ac. of P_2O_5 as Super puddled in before planting. M_2 =As in M_1 +20 lb./ac. of N as A/S before planting+10 lb./ac. N as A/S a month after. M_3 =As in M_1 +30 lb./ac. of N as A/S before planting+15 lb./ac. as A/S a month before planting. M_4 =As in M_1 +30 lb./ac. of N as A/S a month after planting. M_5 =As in M_1 +45 lb./ac. of N as A/S a month after planting.

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) 9½×9½'. (v) Border row left but details N.A. (vi) Yes.

4. GENERAL :

(i) Good. (ii) N.A. (iii) Height and tiller counts and yield. (iv) (a) 1953—contd. (b) Yes. (c) N.A. (v) (a), (b) N.A. (vi) Nil. (vii) Raw data N.A.

5. RESULTS :

(i) 2234 lb./ac.
 (ii) (a) 817.6 lb./ac.
 (b) 343.6 lb./ac.
 (iii) Main-plot treatments do not differ significantly.
 Sub-plot treatments differ highly significantly.
 (iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	M ₂	M ₃	M ₄	M ₅	Mean
S ₁	1680	1987	2600	2837	2726	2349	2325
S ₂	1599	1861	2620	2248	2152	2159	1957
Mean	1640	1924	2610	2543	2439	2254	1234

S.E. of main treatments (spacing) = 166.9 lb./ac.

S.E. of sub treatments (manuring) = 121.4 lb./ac.

Crop :- Paddy.

Ref:- M₅₀(56).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'M'

Object :- To find the optimum combination of G.L. and P₂O₅ for obtaining maximum yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5,000 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) 5.8,50/16,9,50. (iv) (a) 3 ploughings with country plough; once with iron plough. (b) Transplanting. (c) —. (d) 6"×6" (e) 2. (v) Nil. (vi) CO. 19 (late). (vii) Irrigated. (viii) 2 weedings (ix) 12.5" (x) 23.2.51.

2. TREATMENTS :

All combinations of (1) & (2)

(1) 4 levels of G.L.: L₀=0, L₁=2,000; L₂=4000 and L₃=6000 lb/ac.

(2) 4 levels of P₂O₅: P₀=0, P₁=30, P₂=45 and P₃=60 lb/ac.

P₂O₅ as super.

3. DESIGN :

(i) 4×4 Fact. in R.B.D. (ii) (a) 16. (b) N.A. (iii) 4. (iv) (a) 23½'×19½' (b) 22½'×18½' (v) One row of plants left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yields. (iv) (a) 1950—1953 (only one season). (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

(i) 2894 lb/ac.

(ii) 167.4 lb/ac.

(iii) Main effect of G.L. alone is highly significant. Others are not significant.

(iv) Av. yield of grain in lb/ac.

	L ₀	L ₁	L ₂	L ₃	Mean
P ₀	2111	2718	2852	3030	2753
P ₁	2685	2922	2960	3290	2964
P ₂	2585	2910	3080	3052	2907
P ₃	2627	3045	3062	3075	2952
Mean	2577	2899	2989	3112	2894

S.E. of marginal mean

=41.8 lb/ac.

S.E. of body of table

=83.7 lb/ac.

Crop :- Paddy.

Ref :- M. 51(43).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'M'.

Object :- To find the optimum dose of G.L. and P₂O₅ for obtaining maximum yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy (Bulk). (c) 5,000 lb/ac. of G.L.+150 lb/ac. of A/S+150 lb/ac. of P₂O₅. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) 3.10.51/16, 17.11.51 (iv) (a) 3 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) CO. 25. (vii) Irrigated. (viii) Weeding once. (ix) 11.5". (x) 1 to 2.4.52.

2. TREATMENTS :

All combinations of (1) & (2)

(1) 4 levels of G.L. : L₀=0, L₁=2000, L₂=4000 and L₃=6000 lb/ac.(2) 4 levels of P₂O₅ : P₀=0, P₁=30, P₂=45 and P₃=60 lb/ac.
P₂O₅ as super

3. DESIGN :

(i) 4×4 Fact. in R.B.D. (ii) (a) 16. (b) N.A. (iii) 4. (iv) (a) 15'×24' (b) 14½'×23½' (v) 3' around the net plot (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1950—1953. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

(i) 2254 lb/ac.

(ii) 250.4 lb/ac.

(iii) Main effect of G.L. and interaction "G.L.×P" are highly significant. Main effect of P is not significant.

(iv) Av. yield of grain in lb/ac.

	L ₀	L ₁	L ₂	L ₃	Mean
P ₀	1922	2268	2377	2360	2232
P ₁	1953	2174	2225	2337	2172
P ₂	2064	2148	1980	2668	2215
P ₃	2351	2310	2209	2716	2396
Mean	2073	2225	2198	2520	2254

S.E. of marginal mean

= 62.6 lb/ac.

S.E. of body of table

=125.2 lb/ac.

Crop :- Paddy.

Ref :- M. 53(74).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'M'.

Object :- To find out the optimum combination of G.L. & P_2O_5 for obtaining maximum yield

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Clayey soil. (b) Refer soil analysis, Coimbatore. (iii) 4.9.53/28, 29.10.53. (iv) (a) The first ploughing done by iron plough & cross ploughing with country plough (4 ploughings). (b) Transplanting. (c) — (d) 6" x 6". (e) 2. (v) Nil. (vi) CO. 13. (vii) Irrigated. (viii) N.A. (ix) 15.38". (x) 10.3.54.

2. TREATMENTS :

Main-plot treatments :-

4 levels of G.L. : $L_0=0$, $L_1=2000$, $L_2=4000$ & $L_3=6000$ lb./ac.

Sub-plot treatments :-

4 levels of P_2O_5 : $P_0=0$, $P_1=30$, $P_2=45$, & $P_3=60$ 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) 12' x 20'. (b) 11½' x 19½'. (v) ½' around the net-plot. (vi) Yes.

4. GENERAL :

(i) Good. (ii) N.A. (iii) Flowering duration also taken. (iv) (a) 1950—1953. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Nil. (vii) Raw data N.A., experiment was not conducted during 1952-53.

5. RESULTS :

(i) 3974 lb./ac.

(ii) (a) N.A.

(b) N.A.

(iii) Main effects of G.L. and P are highly significant. Interaction is not significant.

(iv) Av. yield of grain in lb./ac.

	L_0	L_1	L_2	L_3	Mean
P_0	3835	3508	3727	3799	3717
P_1	3949	3825	4079	4103	3989
P_2	3617	3848	4188	4139	3948
P_3	4095	4221	4248	4409	4243
Mean	3874	3851	4061	4113	3974

Crop :- Paddy.

Ref :- M. 53(75).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'M'.

Object :- To study the effect of N & P_2O_5 singly and in combination.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. and 150 lb./ac. each of A/S & Super. (ii) (a) Clayey soil. (b) Refer soil analysis, Coimbatore. (iii) 12.9.53/24.10.53. (iv) (a) The first ploughing done by iron plough, cross ploughing with country plough, 4 ploughings. (b) Transplanting. (c) — (d) 6" x 6". (e) 2. (v) 5000 lb./ac. G.M. applied at the time of first ploughing. (vi) CO. 25 and CO. 19. (vii) Irrigated. (viii) Weeding once. (ix) 15.83". (x) 18.3.54.

2. TREATMENTS :

Main-plot treatments :-

4 levels of N : $N_0=0$, $N_1=30$, $N_2=45$ & $N_3=60$ lb./ac.

Sub-plot treatments :-

4 levels of P_2O_5 : $P_0=0$, $P_1=30$, $P_2=45$, $P_3=60$ lb./ac.N as A/S applied at the time of planting. P_2O_5 as Super applied one month after planting.

3. DESIGN :

- (i) Split-plot. (ii) (a) 4 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4- (iv) (a) 12'×11'.
(b) 11½'×10½'. (v) ½' width. (vi) Yes.

4. GENERAL :

- (i) Good. (ii) The plots grown with CO. 19 were completely affected by blast and the results were vitiated.
(iii) Height & tiller counts and yield data. (iv) (a) 1953—contd. (b) Yes. (c) N.A. (v) (a), (b) N.A.
(vi) Nil. (vii) Raw data N.A.

5. RESULTS :

- (i) 4112 lb./ac.
(ii) (a) N.A.
(b) N.A.
(iii) Main effects of N and P are significant. Interaction N×P is not significant.
(iv) Av. yield of grain in lb./ac.

	P ₀	P ₁	P ₂	P ₃	Mean
N ₀	3245	3538	3156	3697	3409
N ₁	3583	4013	4125	4170	3973
N ₂	4327	4751	4575	4598	4563
N ₃	4485	4530	4440	4566	4505
Mean	3910	4208	4074	4258	4112

Crop :-Paddy.

Ref :-M. 48(109).

Site :-Govt. Agri. Chemist., Coimbatore.

Type :-'M'.

Object :-To find out whether green manuring has any direct value for Paddy.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) N.A. (b) N.A. (iii) N.A. (iv) (a) 5 ploughings. (b) Transplanting.
(c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) G.E.B.—24 (Medium). (vii) Irrigated. (viii) N.A. (ix) N.A.
(x) N.A.

2. TREATMENTS :

- No manure.
- G.M. 5000 lb./ac.
- A/S equal to (2) on N basis.
- G.M. 10,000 lb./ac.
- A/S equal to (4) on N basis.
- Treatments (2)+(3) + G.M. applied 10 days before planting and A/S applied as top dressing about one month after planting.

3. DESIGN :

- (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a), (b) 1/100 ac. (v) Nil. (vi) Yes.

4. GENERAL :

- (i) N.A. (ii) N.A. (iii) Grain yield. (iv) (a) 1948—1953. (b) Yes. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

- (i) 2270 lb./ac.
- (ii) 217.8 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1989
2.	2199
3.	2270
4.	2301
5.	2541
6.	2322
S.E./mean	= 97.4 lb./ac.

Crop :- Paddy.

Ref :- M. 49(132)/48(109).

Site :- Govt. Agri. Chemist, Coimbatore.

Type :- 'M'.

Object :- To find out whether green manuring has any direct value on Paddy.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) N.A. (b) N.A. (iii) N.A. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) Nil. (vi) G.E.B.—24. (Medium). (vii) Irrigated. (viii) N.A. (ix) N.A. (x) N.A.

2. TREATMENTS :

- 1. No manure.
- 2. G.M. at 5000 lb./ac.
- 3. A/S equal to (2) on N basis.
- 4. G.M. at 10,000 lb./ac.
- 5. A/S equal to (4) on N basis.
- 6. Treatments (2)+(3).

G.M. applied 10 days before planting and A/S after one month of planting as top dressing.

3. DESIGN :

- (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a), (b) 1/100 ac. (v) Nil. (vi) Yes.

4. GENERAL :

- (i) N.A. (ii) Due to "fusarium" attack, the single dose green manure treatments (2, 3) gave poor yields. (iii) Grain yield. (iv) (a) 1948—1953. (b) Yes. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2944 lb./ac.
- (ii) N.A.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2830
2.	2570
3.	2905
4.	3145
5.	3060
6.	3155
S.E./mean	= N.A.

Crop :- Paddy.

Ref :- M. 51(91)/50(N.A.)/49(132)/48(109).

Site :- Govt. Agri. Chemist, Coimbatore.

Type :- 'M'.

Object :- To find out whether green manuring has any direct manurial value for Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) N.A. (b) N.A. (iii) N.A. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) G.E.B. 24 (Late). (vii) Irrigated. (viii) N.A. (ix) N.A. (x) N.A.

2. TREATMENTS :

1. Control

2. G.M. at 5000 lb./ac.

3. A/S equal to (2) on N basis.

4. G.M. at 10,000 lb./ac.

5. A/S equal to (4) on N basis.

6. Treatments (2)+(3)

G.M. applied 10 days before planting and A/S applied as top dressing a month after planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a), (b) 1/100 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) N.A. (iii) Grain yield. (iv) (a) 1948-1953. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

(i) 1123 lb./ac.

(ii) N.A.

(iii) Treatment differences are not significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1000
2.	1040
3.	1080
4.	1280
5.	1180
6.	1160
S.E./mean	=N.A.

Crop :- Paddy.

Ref :- M. 52(67)/51(91)/50(N.A.)/49(132)/48(109).

Site :- Govt. Agri. Chemist, Coimbatore.

Type :- 'M'.

Object :- To find out whether green manuring has got any direct manurial value for Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) N.A. (b) N.A. (iii) N.A. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) CO. 25 (Late). (vii) Irrigated. (viii) N.A. (ix) N.A. (x) N.A.

2. TREATMENTS :

1. No manure

2. G.M. at 5000 lb./ac.

3. A/S equal to (2) on N basis.

4. G.M. at 10,000 lb./ac.

5. A/S equal to (4) on N basis.

6. Treatments (2)+(3).

G.M. applied about 10 days before planting and A/S a month after planting as top dressing.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a), (b) 1/100 ac. (v) Nil. (vi) Yes.

4. GENERAL :

- (i) N.A. (ii) N.A. (iii) Grain yield. (iv) (a) 1948-1953. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

- (i) 3017 lb./ac.
 (ii) 117.6 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2280
2.	2600
3.	2840
4.	3380
5.	3400
6.	3600
S.E./mean	= 52.6 lb./ac.

Crop :- Paddy Ref. :- M 53(64)/52(67)/51(91)/50(N.A.)/49(132)/48(109)

Site :- Govt. Agri. Chemist, Coimbatore. Type 'M'

Object :- To find out whether green manuring, has got any direct manurial value for Paddy.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) N.A. (b) N.A. (iii) N.A. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2". (v) Nil. (vi) Co. 26 (late). (vii) Irrigated. (viii) N.A. (ix) N.A. (x) N.A.

2. TREATMENTS :

- No manure.
- G.M. at 5000 lb./ac.
- A/S equal to (2) on N basis.
- G.M. at 10,000 lb./ac.
- A/S equal to (4) on N basis.
- Treatments (2) + (3).

G.M. applied about 10 days before planting and A/S after one month of planting as top dressing.

3. DESIGN :

- (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a), (b) 1/100 acre. (v) Nil. (vi) Yes.

4. GENERAL :

- (i) N.A. (ii) N.A. (iii) Grain yield. (iv) (a) 1948—1953, (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

- (i) 3081 lb./ac.
 (ii) 397.1 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1	2733
2	3043
3	2966
4	3297
5	3092
6	3356
S.E./mean	= 177.5 lb./ac.

Crop :- Paddy.

Ref. :- M. 48(107).

Site :- Govt. Agri. Chemist, Coimbatore

Type :- 'M'.

Object :- To compare the efficacy of commonly used G.M. for Paddy (D block).

1. BASAL CONDITIONS :

- (i) (a) Paddy-Green manure crops. (b) As under treatments. (c) As under treatments. (ii) (a) N.A. (b) N.A. (iii) 5-9-48. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6" (iii) (e) 2. (v) Nil. (vi) GEB.-24. (vii) Irrigated. (viii) N.A. (ix) N.A. (x) 14-12-48.

2. TREATMENTS :

1. Daincha.
2. Pillipesara.
3. Sunnhemp.
4. Cowpea.
5. Control.

Green manure crops were raised in the respective plots, cut and ploughed in ; 20 lb./ac. of super applied to the green manure crops. Amount of G.M. is N.A.

3. DESIGN :

- (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a), (b) 1/20th acre. (v) Nil. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1948-1953. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Nil.

5. RESULTS :

(i) 3329 lb./ac.

(ii) 445.0 lb./ac.

(iii) Treatment differences are significant.

Treatment	Av. yield
1	3703
2	3492
3	3455
4	3264
5	2729
S.E./mean	= 199.0 lb./ac.

Crop :- Paddy.

Ref. :- M. 49(127)/48(107).

Site :- Govt. Agri. Chemist, Coimbatore.

Type :- 'M'.

Object :- To compare the efficacy of commonly used green manures for Paddy (D block).

1. BASAL CONDITIONS :

- (i) (a) Paddy-Green manure crop. (b) As under treatments. (c) As under treatments. (ii) (a) N.A. (b) N.A. (iii) 19.8.49. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6" (e) 2. (v) Nil. (vi) GEB. 24 (Medium). (vii) Irrigated. (viii) N.A. (ix) N.A. (x) 11.12.49.

2. TREATMENTS :

1. Daincha.
2. Pillipesara.
3. Sunnhemp.
4. Cowpea.
5. Control.

Green manure crops were raised in the respective plots, cut and ploughed in ; 200 lb. of Super applied to the green manure crop. Amount of G.M. is N.A.

3. DESIGN :

- (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a), (b) 1/20 acre. (v) Nil. (vi) Yes.

4. GENERAL

- (i) N.A. (ii) N.A. (iii) Grain yield. (iv) 1941-1953. (b) Yes. (c) N.A. (v) (s) Nil. (b) No. (vi) Nil. (vii) Nil.

5. RESULTS :

- (i) 3363 lb./ac.
 (ii) 404.9 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3703
2.	3577
3.	3480
4.	3538
5.	2519
S.E./mean	=181.1 lb./ac.

Crop :- Paddy.

Ref :- M. 50(112)/49(127)/48(107).

Site :- Govt. Agri. Chemist, Coimbatore. Type :- 'M'.

Object :- To compare the efficacy of commonly used G.M. crops for Paddy (D block).

1. BASAL CONDITIONS :

- (i) (a) Paddy-green manure crops. (b) As under treatments. (c) As under treatments. (ii) (a) N.A. (b) N.A. (iii) N.A. (iv) (a) 5 ploughings. (b) Transplanting. (c) — (d) 6'x6'. (e) 2. (v) Nil. (vi) GEB. 24 (Medium). (vii) Irrigated. (viii) N.A. (ix) N.A. (x) N.A.

2. TREATMENTS :

- Daincha.
- Pillipesara.
- Sunnhemp.
- Cowpea.
- Control.

Green manure crops were raised in the respective plots, cut and ploughed in ; 200 lb./ac of Super applied to the green manure crops. Amount of G.M. is N.A.

3. DESIGN :

- (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a), (b) 1/20 acre. (v) Nil. (vi) Yes.

4. GENERAL :

- (i) Green manure crop was affected due to the failure of S.W. monsoon. (ii) N.A. (iii) Grain yield. (iv) (a) 1948-1953. (b) Yes. (c) N.A. (v) (a) Nil. (b) No. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2804 lb./ac.
 (ii) 412.3 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3019
2.	2846
3.	2750
4.	3019
5.	2384
S.E./mean	=184.4 lb./ac.

Crop :- Paddy.

Ref :- M. 51(87)/50(112)/49(127)/48(107).

Site :- Govt. Agri. Chemist, Coimbatore. Type :- 'M'.

Object :- To compare the efficacy of commonly used G.M. crops for Paddy (D block).

1. BASAL CONDITIONS :

(i) (a) Paddy-G.M ;as under treatments (b) As under treatments. (c) As under treatments. (ii) (a) N.A. (b) N.A. (iii) N.A. (iv) 5 ploughings. (b) Transplanting. (c) —. (d) 6'×6'. (e) 2. (v) Nil. (vi) GEB-24. (Medium). (vii) Irrigated. (viii) N.A. (ix) N.A. (x) N.A.

2. TREATMENTS :

1. *Daincha*.
2. *Pillipesara*.
3. *Sunnhemp*.
4. *Cowpea*.
5. *Control*.

G.M. crops raised in the respective plots, cut and ploughed in ; 200 lb. of Super applied to G.M. crops. Amount of G.M. is N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a), (b) 1/20 ac. (v) Nil. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) N.A. (iii) Grain yield. (iv) (a) 1948—1953. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) & (vii) Nil.

5. GENERAL :

- (i) 1975 lb./ac.
- (ii) N.A.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1904
2.	2404
3.	1946
4.	1858
5.	1754
S.E./mean	=N.A.

Crop :- Paddy.

Ref :- M. 52(64)/51(87)/50(112)/49(127)/48(107).

Site :- Govt. Agri. Chemist, Coimbatore.

Type :- 'M'.

Object :- To compare the efficacy of commonly used G.M. crops for paddy (D block).

1. BASAL CONDITIONS :

(i) (a) Paddy-G.M. (as under treatments). (b) As under treatments. (c) As under treatments. (ii) (a) N.A. (b) N.A. (iii) N.A. (iv) (a) 5 ploughings; (b) Transplanting. (c) —. (d) 6'×6'. (e) 2. (v) Nil. (vi) CO-25 (late). (vii) Irrigated. (viii) N.A. (ix) N.A. (x) N.A.

2. TREATMENTS :

1. *Daincha*.
2. *Pillipesara*.
3. *Sunnhemp*.
4. *Cowpea*.
5. *Control*.

G.M. crops were raised in the respective plots ; 200 lb. of Super applied to G.M. crops. Amount of G.M. is N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a), (b) 1/20 ac. (v) Nil. (vi) Yes.

4. GENERAL:

(i) N.A. (ii) Mild attack of stemborer. (iii) Grain yield. (iv) (a) 1948-1953. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) & (vii) Nil.

5. RESULTS:

(i) 3597 lb./ac.

(ii) N.A.

(iii) Treatment differences are not significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
-----------	-----------

1.	4453
2.	3385
3.	3807
4.	3250
5.	3092

S.E./mean = N.A.

Crop :- Paddy.

Ref :- M. 53 (65)/52 (64)/51 (87)/50 (112)/49 (127)/48 (107).

Site :- Govt. Agri. Chemist, Coimbatore. Type :- 'M'.

Object :- To compare the efficacy of commonly used G.M. crops for Paddy (D block).

1. BASAL CONDITIONS:

(i) (a) Paddy—green manure crops. (b) As under treatments. (c) As under treatments. (ii) (a) N.A. (b) N.A. (iii) N.A. (iv) (a) 5 ploughings. (b) Transplanting. (c) — (d) 6' x 6'. (e) 2'. (v) Nil. (vi) CO. 25 (late). (vii) Irrigated. (viii) N.A. (ix) N.A. (x) N.A.

2. TREATMENTS:

1. Daincha.
2. Sunnhemp.
3. Pillipesara.
4. Cowpra.
5. Control.

Green manure crops were raised in the respective plots and ploughed in ; 200 lb. of Super applied to the green manure crop. Amount of G.M. is N.A.

3. DESIGN:

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a), (b) 1/20th acre. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) N.A. (iii) Grain yield. (iv) (a) 1948-1953. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 3477 lb./ac.

(ii) N.A.

(iii) Treatment differences are not significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
-----------	-----------

1.	3624
2.	3305
3.	4139
4.	3495
5.	2820

S.E./mean = N.A.

Crop :- Paddy.

Ref :- M. 48 (106)

Site :- Govt. Agri. Chemist, Coimbatore.

Type :- 'M'

Object :- To compare the efficacy of commonly used G.M. crops for Paddy (A block).

1. BASAL CONDITIONS :

(i) (a) Paddy—green manure crops. (b) As under treatments. (c) As under treatments. (ii) (a) N.A. (b) N.A. (iii) 12.8.48. (iv) (a) 5 ploughings. (b) Transplanting. (c) — (d) 6' x 6'. (e) 2'. (v) Nil. (vi) GEB.—24 (Medium). (vii) Irrigated. (viii) N.A. (ix) N.A. (x) 2.12.48.

2. TREATMENTS :

1. *Daincha*.
2. *Pillipesara*.
3. Sunnhemp.
4. Cowpea.
5. Control.

Green manure crops were raised in the respective plots, cut and ploughed in ; 200 lb./ac. of Super applied to the crops. Amount of G.M. is N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a), (b) 1/20th. acre. (v) Nil. (vi) Yes.

4. (GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1942—1952. (Modified in 1948 by giving super 200 lb./ac. to the green manure crops.) (b) Yes. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 3160 lb./ac.
- (ii) 292.0 lb./ac.
- (iii) Treatment differences are significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3626
2.	3626
3.	3467
4.	3327
5.	1753

S.E./mean = 146.0 lb./ac.

Crop :- Paddy

Ref :- M 49(126)/48(106)

Site :- Govt. Agri. Chemist, Coimbatore.

Type :- 'M'

Object :- To compare the efficiency of commonly used G.M. crops for Paddy (A block).

1. BASAL CONDITIONS :

(i) (a) Paddy—green manure crops. (b) As under treatments. (c) As under treatments. (ii) (a) N.A. (b) N.A. (iii) 8.8.49. (iv) (a) 5 ploughings. (b) Transplanting. (c) — (d) 6' x 6'. (e) 2'. (v) Nil. (vi) GEB.—24 (Medium). (vii) Irrigated. (viii) N.A. (ix) Nil. (x) 7.12.49.

2. TREATMENTS :

1. *Daincha*.
2. *Pillipesara*.
3. Sunnhemp.
4. Cowpea.
5. Control.

Green manure crops were raised in the respective plots ; 200 lb./ac. super applied to the green manure crop. Amount of G.M. is N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) 1/20th acre. (v) Nil. (vi) Yes.

4. GENERAL:

- (i) N.A. (ii) N.A. (iii) Grain yield. (iv) (a) 1942-1952. (Modified in 1948 by giving Super at 200 lb./ac to the G.M. crops). (b) Yes. (c) N.A. (v) Nil. (vi) Nil. (vii) Nil.

5. RESULTS:

(i) 2864 lb./ac.

(ii) 353.4 lb./ac.

(iii) Treatment differences are significant.

Treatment	Av. yield
1	2975
2	3495
3	2975
4	3105
5	1770
S.E./mean	= 176.7 lb./ac.

Crop :- Paddy

Ref. :- M 50(111)/49(126)/48(106)

Site :- Govt. Agri. Chemist, Coimbatore.

Type :- 'M'.

Object :- To compare the efficacy of commonly use G. M. crops for Paddy.

1. BASAL CONDITIONS:

- (i) (a) Paddy—Green manure crop (As under treatment). (b) As under treatments. (c) As under treatments. (ii) (a) N.A. (b) N.A. (iii) N.A. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6' x 6'. (e) 2. (v) Nil. (vi) GEB. 24 (Medium). (vii) Irrigated. (viii) Nil. (ix) N.A. (x) N.A.

2. TREATMENTS:

1. Daincha.
2. Pillipesara.
3. Sunnhemp.
4. Cowpea.
5. Control.

Green manure crops raised in respective plots, cut and ploughed in ; 200 lb. of Super applied to G.M. crops.

Amount of G.M is N.A.

3. DESIGN:

- (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a), (b) 1/20th. ac. (v) Nil. (vi) Yes.

4. GENERAL:

- (i) S.W. monsoon failed and affected the green manure crop. (ii) N.A. (iii) Grain yield. (iv) (a) 1942-1952. (Modified in 1948 by giving 200 lb. of Super to the G.M. crop). (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) & (vii) Nil.

5. RESULTS:

(i) 3370 lb./ac.

(ii) 377.2 lb./ac.

(iii) Treatment differences are significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3643
2.	3443
3.	3530
4.	3810
5.	2426
S.E./mean	= 188.6 lb./ac.

Crop :- Paddy.

Ref :- M. 51(86)/50(111)/49(126)/48(106).

Site :- Govt. Agri. Chemist, Coimbatore.

Type :- 'M'.

Object :- To compare the efficacy of commonly used G.M. crops for Paddy (A block).

1. BASAL CONDITIONS :

- (i) (a) Paddy-green manure. (b) As under treatments. (c) As under treatments. (ii) (a) N.A. (b) N.A. (iii) N.A. (iv) (a) 5 ploughings. (b) Transplanting. (c) — (d) 6"×6". (v) Nil. (vi) GEB.—24 (late). (vii) Irrigated. (viii) N.A. (ix) N.A. (x) N.A.

2. TREATMENTS ;

1. *Daincha*
2. *Pillipesara*.
3. Sunnhemp.
4. Cowpea.
5. Control.

Green manure crops raised in the respective plots, cut and ploughed in ; 200 lb. of Super applied to the green manure crops. Amount of G.M. is N.A.

3. DESIGN

- (i) R.B.D. (ii) 5. (b) N.A. (iii) 4. (iv) (a), (b) 1/20th acre. (v) Nil. (vi) Yes.

4. GENERAL :

- (i) N.A. (ii) N.A. (iii) Grain yield. (iv) (a) 1942—1952 (Modified in 1948 by giving 200 lb of Super to the green manure crops). (b) Yes. (c) N.A. (v) (a) No. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2468 lb./ac.
 (ii) 105.0 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2610
2.	2925
3.	2290
4.	2905
5.	1610
S.E./mean	=52.5 lb./ac.

Crop :- Paddy.

Ref :- M. 52(63)/51(86)/50(111)/49(126)/48(106).

Site :- Govt. Agri. Chemist, Coimbatore.

Type :- 'M'.

Object :- To compare the efficacy of commonly used G.M. crops for Paddy (A block).

1. BASAL CONDITIONS :

- (i) Paddy-green manure. (b) As under treatments. (c) As under treatments. (ii) (a) N.A. (b) N.A. (iii) N.A. (iv) (a) 5 ploughings. (b) Transplanting. (c) — (d) 6"×6". (e) 2. (v) Nil. (vi) GEB. 24 (Medium). (vii) Irrigated. (viii) N.A. (ix) N.A. (x) N.A.

2. TREATMENTS :

1. *Daincha*.
2. *Pillipesara*.
3. Sunnhemp.
4. Cowpea.
5. Control.

Green manure crops raised in the respective plots, cut and ploughed in ; 200 lb./ac. of Super applied to the green manure crops. Amount of G.M. in N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a), (b) 1/20th acre. (v) Nil. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) The crop in A Block was attacked by blast and stem borers. (iii) Grain yield. (iv) (a) 1942—1952 (modified in 1948). (b) Yes. (c) N.A. (v) (a) Nil. (b) No. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2601 lb./ac.
 (ii) 318.0 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2440
2.	2665
3.	2350
4.	3035
5.	2515
S.E./mean	=159.0 lb./ac.

Crop :- Paddy.

Ref :- M. 49(129).

Site :- Govt. Agri. Chemist, Coimbatore.

Type :- 'M'.

Object :- To study the reclamation of Alkali lands in the Cauvery-Mettur project area by manuring.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Texture of the soil is sandy loam with low percentage of finer fraction. The soil was poor in all essential plant food elements. The soil contained soda-salts. (b) N.A. (iii) 26.10.49. (iv) (a) to (e) N.A. (v) 5000 lb./ac. of *daincha* green manure. (vi) CO. 25 (long-duration). (vii) Irrigated. (viii) N.A. (ix) N.A. (x) 27.2.50.

2. TREATMENTS :

All combinations of (1) and (2) + 4 selective treatments.

(1) 4 levels of G.L. :- $L_0=0$, $L_1=2500$, $L_2=5000$ and $L_3=7500$ lb./ac.

(2) 4 manures :- M_0 =No manure, M_1 =Gypsum $2\frac{1}{2}$ ton/ac., M_2 =Gypsum 5 ton/ac. and M_3 =Lime 1 ton/ac.

4 selective treatments (all combinations of X and Y).

(X) 2 levels of lime :- $C_0=0$, and $C_1=1$ ton/ac.

(Y) 2 levels of molasses :- $A=2\frac{1}{2}$ and $B=5$ ton/ac.

Other details N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 20. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 0.8 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Very poor yields due to the failure of monsoon. (ii) The crop suffered to a certain extent by the failure of N.E. monsoon and prevalence of disease throughout the Cauvery-Mettur project area. (iii) Grain yield. (iv) (a) 1949—1951. (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) The details of the expts. are collected from the printed reports. Original records N.A.

5. RESULTS :

- (i) 331.0 lb./ac.
 (ii) 226.3 lb./ac.
 (iii) Treatment differences are significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield	Treatment	Av. yield
0	31.3	L ₂	304.7
M ₁	148.7	L ₃	308.7
M ₁ L ₁	265.6	M ₃ L ₁	200.0
M ₁ L ₂	488.3	M ₃ L ₂	363.3
M ₁ L ₃	515.6	M ₃ L ₃	464.9
M ₂	62.5	M ₃	250.0
M ₂ L ₁	192.5	A	487.5
M ₂ L ₂	246.5	B	711.2
M ₂ L ₃	453.2	AC ₁	367.5
L ₁	203.1	BC ₁	555.5

S.E./mean = 113.1 lb./ac.

Crop :- Paddy.

Ref :- M. 50(113)/49(129).

Site :- Govt. Agri. Chemist, Coimbatore.

Type :- 'M'.

Object :- To study the reclamation of Alkali lands in the Cauvery-Mettur project area by manuring.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. Poor in all essential plant food elements. (b) N.A. (iii) 4.10.50. (iv) (a) to (e) N.A. (v) 5000 lb./ac. of *daincha* G.M. (vi) CO. 25 (long duration). (vii) Irrigated. (viii) N.A. (ix) N.A. (x) 9.2.51.

2. TREATMENTS :

All combinations of (1), and (2)+4 selective treatments.

(1) 4 levels of G.L. :- L₀=0, L₁=2500, L₂=5000 and L₃=7500 lb./ac.(2) 4 manures :- M₀=No manure, M₁=Gypsum 2½ ton/ac. M₂=Gypsum 5 ton/ac. and M₃=Lime 1 ton/ac. 4 selective treatments (all combinations of X and Y).(X) 2 levels of lime :- C₀=0, and C₁=1 ton/ac.

(Y) 2 levels of molasses : A=2½ and B=5 ton/ac.

Others details N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 20. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 0.8 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Yields are very poor due to very poor fertility of the soil. (ii) N.A. (iii) Grain yield. (iv) (a) 1949-1951. (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) Crop failed in 1951. Also raw data N.A. for 1952 experiment.

5. RESULTS :

(i) 484 lb./ac.

(ii) 271.4 lb./ac.

(iii) Treatment differences are not significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield	Treatment	Av. yield
0	203.1	L ₂	671.9
M ₁	281.3	L ₃	328.1
M ₁ L ₁	570.3	M ₃ L ₁	476.6
M ₁ L ₂	687.5	M ₃ L ₂	468.5
M ₁ L ₃	468.8	M ₃ L ₃	570.3
M ₂	179.7	M ₃	437.5
M ₂ L ₁	531.3	A	531.3
M ₂ L ₂	648.0	B	507.8
M ₂ L ₃	867.2	AC ₁	398.4
L ₁	406.3	BC ₁	445.3

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

Crop :- Paddy.

Ref :- M. 51(90)

Site :- Govt. Agri. Chemist, Coimbatore. Type :- 'M'.

Object :- To determine the comparative effect of Super and Dicalcium phosphate applied by broadcast and by placement over a basal dose of G.N.C.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) N.A. (b) N.A. (iii) Late season of 1951-52. Dates N.A.
 (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) Nil. (vi) CO. 19 (Late).
 (vii) Irrigated. (viii) N.A. (ix) N.A. (x) N.A.

2. TREATMENTS :

1. Control
2. 40 lb./ac. of N as G.N.C.
3. 40 lb./ac. of N as G.N.C. + 80 lb./ac. of P_2O_5 as Super broadcast.
4. 40 lb./ac. of N as G.N.C. + 80 lb./ac. of P_2O_5 as Dicalcium Phosphate broadcast.
5. 40 lb./ac. of N as G.N.C. + 80 lb./ac. of P_2O_5 as Super by placement.
6. 40 lb./ac. of N as G.N.C. + 80 lb./ac. of P_2O_5 as Dicalcium Phos. by placement.

3. DESIGN :

- (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a), (b) N.A. (v) N.A. (vi) Yes.

4. GENERAL :

- (i) N.A. (ii) N.A. (iii) Grain yield. (iv) (a) 1951-1952. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) & (vii) Nil

5. RESULTS :

- (i) 1293 lb./ac.
 (ii) N.A.
 (iii) Treatment differences are significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1064
2.	1012
3.	1544
4.	1440
5.	1440
6.	1256
S.E./mean	N.A.

Crop :- Paddy.

Ref :- M. 52(66)

Site :- Govt. Agri. Chemist, Coimbatore.

Type :- 'M'.

Object :- To determine the comparative effect of Super and Dicalcium Phos. applied by broadcast and by placement over a basal dose of G.N.C.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) N.A. (b) N.A. (iii) Early season. Dates N.A. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) Nil. (vi) N.A. (vii) Irrigated. (viii) N.A. (ix) N.A. (x) N.A.

2. TREATMENTS :

1. Control
2. 40 lb./ac. of N as G.N.C.
3. 40 lb./ac. of N as G.N.C. + 80 lb./ac. of P_2O_5 as Super by broadcast.
4. 40 lb./ac. of N as G.N.C. + 80 lb./ac. of P_2O_5 as Dicalcium Phos. by broadcast.
5. 40 lb./ac. of N as G.N.C. + 80 lb./ac. of P_2O_5 as Super by placement.
6. 40 lb./ac. of N as G.N.C. + 80 lb./ac. of P_2O_5 as Dicalcium Phos. by placement.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a), (b) N.A. (v) N.A. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) N.A. (iii) Grain yield. (iv) (a) 1951-1952. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

(i) 2462 lb./ac.

(ii) N.A.

(iii) Treatment differences are significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1348.
2.	2276
3.	2890
4.	2674
5.	2868
6.	2716
S.E./mean	N.A.

Crop :-Paddy.

Ref :-M. 48(108).

Site :-Govt. Agri. Chemist, Coimbatore.

Type :-'M'.

Object :—To see if Copper Sulphate sprays could help in improving Paddy yield using of solutions of different trace elements.

1. BASAL CONDITIONS :

(i) (a) Paddy after paddy. (b) Paddy. (c) N.A. (ii) (a) Alluvial. (b) N.A. (iii) 20.8.48. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) N.A. (vi) NO. 3840 (long duration). (vii) Irrigated. (viii) N.A. (ix) 8.25". (x) 28.2.49.

2. TREATMENTS :

- Control.
 - C/S at 10 lb./ac. (in 100 gallons of water).
 - Zn. Sul. at 5 lb./ac. (in 100 gallons of water).
 - Mn. Sul. at 5 lb./ac. (in 100 gallons of water).
 - C/S at 10 lb./ac.+Mn. Sul. 5 lb./ac. (in 100 gallons of water).
 - C/S at 10 lb./ac.+Mn. Sul. 5 lb./ac.+Zn. Sul. 5 lb. (in 100 gallons of water).
- Single spraying of these one month after planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 1.00 cent. (b) 0.50 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) N.A. (iii) Height measurement and tillering, yield of grain. (iv) (a) 1947—1949. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1574 lb./ac.

(ii) 216.6 lb./ac.

(iii) Treatment differences are significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1363
2.	1558
3.	1753
4.	1688
5.	1438
6.	1645
S.E./mean	= 88.4 lb./ac.

Crop :- Paddy.

Ref :- M. 49(128).

Site :- Govt. Agri. Chemist, Coimbatore.

Type :- 'M'.

Object :—To see if Copper Sulphate sprays could help in improving paddy yield using spraying of solutions of different trace elements.

1. BASAL CONDITIONS :

(i) (a) Paddy after paddy. (b) Paddy. (c) N.A. (ii) (a) Alluvial. (b) N.A. (iii) 10.8.49. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6'×6'. (e) 2. (v) N.A. (vi) NO. 3840 (long duration). (vii) Irrigated. (viii) N.A. (ix) 8.25". (x) 15.2.50.

2. TREATMENTS :

1. Control.
 2. C/S at 10 lb./ac. (in 100 gallons of water).
 3. Zn. Sul. at 5 lb./ac. (in 100 gallons of water).
 4. Mn Sul. at 5 lb./ac. (in 100 gallons of water).
 5. C/S at 10 lb./ac. + Mn. Sul. 5 lb./ac. (in 100 gallons of water).
 6. C/S at 10 lb./ac. + Zn. Sul. 5 lb./ac. + Mn. Sul. 5 lb./ac. (in 100 gallons of water).
- Other details N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 1.00 cent. (b) 0.50 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) N.A. (iii) Grain yield. (iv) (a) 1947—1949. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) to (iv) Yield data and calculated *acre yields* are N.A. But the percentage yields calculated over control are given in the report. Original data is N.A.

% yields calculated over control.

Treatment	Av. yield
1.	100.0
2.	101.7
3.	111.3
4.	107.8
5.	113.9
6.	98.4

Crop :- Paddy.

Ref :- M. 49(92).

Site :- Central Farm, Coimbatore.

Type :- 'M'.

Object :—To determine the relative merits and manurial value of Night soil compost and F.Y.M. (2nd series).

1. BASAL CONDITIONS :

(i) (a) Sugarcane—Paddy—Paddy—Sugarcane. (b) Paddy (bulk). (c) N.A. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) T.P. 8 to 10.10.49 (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6'×6'. (e) 2. (v) Nil. (vi) CO. 14 (late). (vii) Irrigated. (viii) weeding once. (ix) 7.25". (x) 28.1.50.

2. TREATMENTS :

1. Control.
 2. Night soil compost at 60 lb./ac. of N.
 3. F.Y.M. at 60 lb./ac. of N.
- Manure applied by broadcasting and ploughed in 15 days before planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 16.5'×66'. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Satisfactory, (ii) Nil, (iii) Grain yield, (iv) (a), 1949—1951, (b) Yes, (c) Nil, (v) (a), (b) Nil, (vi) and (vii) Nil.

5. RESULTS:

(i) 1842 lb./ac.

(ii) 293.9 lb./ac.

(iii) Treatment differences are not significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1840
2.	1787
3.	1900
S.E./mean	= 120.0 lb./ac.

Crop :- Paddy (iv) A.M. (v) and (vi) (iv) and (vi) (v) A. Ref :- M. 49 (93).

Site :- Central Farm, Coimbatore.

Type :- 'M'

Object :- To determine the relative merits and manurial value of Night soil compost and F.Y.M. (3rd series).

1. BASAL CONDITIONS:

(i) (a) Sugarcane—Paddy—Paddy—Sugarcane. (b) Paddy (bulk). (c) N.A. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) Transplanting 8 to 10.10.49. (iv) (a) 5 ploughings. (b) Transplanting. (c)—. (d) 6' x 6'. (e) 2. (v) Nil. (vi) CO. 14 (late). (vii) Irrigated. (viii) Weeding once. (ix) 7.25". (x) 28.1.50.

2. TREATMENTS:

- Control.
- Night soil compost at 60 lb./ac. of N.
- F.Y.M. at 60 lb./ac. of N.

Manures applied by broadcasting and ploughed in 15 days before planting.

3. DESIGN:

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6, (iv) (a) N.A. (b) 16.5' x 66'. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Satisfactory, (ii) Nil, (iii) Grain yield, (iv) (a) 1949—1951, (b) Yes, (c) Nil, (v) (a), (b) Nil, (vi) and (vii) Nil.

5. RESULTS:

(i) 1678 lb./ac.

(ii) 254.3 lb./ac.

(iii) Treatment differences are not significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1693
2.	1727
3.	1613
S.E./mean	= 103.8 lb./ac.

Crop :- Paddy.

Ref :- M. 50(86).

Site :- Central Farm, Coimbatore.

Type :- 'M'.

Object :- To find out the relative merits and manurial value of Night soil compost and F.Y.M. (1st series).

1. BASAL CONDITIONS :

- (i) (a) Sugarcane-Paddy-Paddy. (b) Sugarcane. (c) As under the treatments with 250 lb. N instead of 60 lb. N
 (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 10.8.50./24,25.9.50. (iv) (a) 4 to 5 ploughings.
 (b) Transplanting. (c) — (d) 6' x 6". (e) 2. (v) Nil. (vi) CO-14. (late). (vii) Irrigated. (viii) Weeding once.
 (ix) N.A. (x) 26.1.51.

2. TREATMENTS :

1. No manure (control).
2. Night soil compost at 60 lb./ac. of N.
3. F.Y.M. at 60 lb./ac. of N.

Manures were applied on 7.8.8.50 and were covered by working Cooper 26 plough.

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 16.5' x 66'. (v) N.A. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) N.A. (iii) Grain yield. (iv) (a) 1949-51. (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

- (i) 2457 lb./ac.
 (ii) 504.8 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2260
2.	2600
3.	2512
S.E./mean	= 206.0 lb./ac.

Crop :- Paddy.

Ref :- M. 50(88).

Site :- Central Farm., Coimbatore.

Type :- 'M'.

Object :- To find out the relative merits and manurial value of Night soil compost and F.Y.M (3rd series) wet land.

1. BASAL CONDITIONS :

- (i) (a) Sugarcane-Paddy-Paddy. (b) Paddy. (c) As under treatments. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 10.8.50./24,25.9.50. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) — (d) 6' x 6". (e) 2. (v) Nil. (vi) CO-14. (Late). (vii) Irrigated. (viii) Weeding once. (ix) N.A. (x) 26.1.51.

2. TREATMENTS :

1. No manure.
2. Night soil compost 60 lb./ac. of N.
3. F.Y.M. 60 lb./ac. of N.

Manures were applied on 7.8.8.50. and were covered by working Cooper 26 plough.

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 16.5' x 66'. (v) N.A. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) N.A. (iii) Grain yield. (iv) (a) 1949-1951. (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

(i) 2378 lb./ac.

(ii) 348.8 lb./ac.

(iii) Treatment differences are not significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2373
2.	2380
3.	2380
S.E./mean	= 142. lb./ac.

Crop :- Paddy.**Ref :- M. 52(14).****Site :- Central Farm, Coimbatore.****Type :- 'M'.****Object :-** To study the residual effect of the Compost manures applied during the past 3 years of experimentation.**1. BASAL CONDITIONS :**

(i) (a) Nil. (b) Paddy. (c) Compost manures as detailed under treatments. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 1.9.52./30.31.10.52. (iv) (a) to (e) N.A. (v) Nil. (vi) CO. 14 (late). (vii) Irrigated. (viii) N.A. (ix) 16.4". (x) 25.2.53.

2. TREATMENTS :

1. No. manure.
2. Night soil compost 60 lb./ac. of N.
3. F.Y.M. 60 lb./ac. of N.

Time and method of application N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 66' x 16.5'. (v) N.A. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

(i) 1968 lb./ac.

(ii) 229.5 lb./ac.

(iii) Treatment differences are significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1810
2.	1873
3.	2220
S.E./mean	= 93.6 lb./ac.

Crop :- Paddy.**Ref :- M. 52(15).****Site :- Central Farm, Coimbatore.****Type :- 'M'.****Object :-** To ascertain the residual effect of the manure applied during the past 3 years of experimentation.**1. BASAL CONDITIONS :**

(i) (a) Nil. (b) Paddy. (c) Night soil compost, F.Y.M. as under treatments. (ii) (a) Black soil. (b) Refer soil analysis, Coimbatore. (iii) 1.9.52./5.11.52. (iv) (a) to (e) N.A. (v) Nil. (vi) CO. 14 (late). (vii) Irrigated. (viii) Nil. (ix) 16.4". (x) 26.2.53.

2. TREATMENTS :

1. No manure (control).
2. Night soil compost 60 lb./ac. of N.
3. F.Y.M. 60 lb./ac. of N.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 16.5' x 66'. (v) N.A. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

- (i) 1664 lb./ac.
- (ii) 384.0 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1450
2.	1860
3.	1683
S.E./mean	= 156.8 lb./ac.

Crop :- Paddy.

Ref :- M. 52(16).

Site :- Central Farm, Coimbatore.

Type :- 'M'.

Object :- To study the residual effects of the compost manures given as treatments to the same plots during the past 3 years.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) Compost manures given as treatments to the same plots for the last 3 years.
- (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 1.9.52/28,29.10.52. (iv) (a) to (e) N.A.
- (v) Nil. (vi) CO. 14 (late). (vii) Irrigated. (viii) N.A. (ix) 16.4. (x) 24.2. 53.

2. TREATMENTS :

1. No manure.
2. Night soil manure 60 lb./ac. of N
3. F.Y.M. 60 lb./ac. of N

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) and (b) 16.5' x 66'. (v) Nil. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

- (i) 2064 lb./ac.
- (ii) 267.6 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1933
2.	2093
3.	2166
S.E./mean	= 108.0 lb./ac.

Crop :- Paddy.

Site :- Central Farm, Coimbatore.

Ref :- M. 53(14)

Type :- 'M'

Object :- To find out the best method of placement of fertilizers.

1. **BASAL CONDITIONS** (i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Coimbatore. (iii) 27, 28.9.1953. (iv) (a) Two ploughings with Victory plough and puddled with country plough. (b) Transplanting. (c) — (d) 6' between rows. (e) 1 or 2. (v) A basal dressing of 1.5 lb. of A/S per plot at the time of planting and 0.75 lb. of A/S per plot 4 weeks after planting. (vi) CO. 25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 15.49". (x) 8, 9.2.1954.

2. **TREATMENTS :**

- Control : 600 lb./ac. of cowdung applied before last ploughing.
- Treatment (1)+Super broadcast at 150 lb./ac..
- 150 lb./ac. of Super mixed with 600 lb./ac. of cowdung made as pellets and placed 3" below soil at planting time.

3. **DESIGN :**

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 43.9'×13.2'. (b) 41.3'×10.6'. (v) 1.3' ring. (vi) Yes.

4. **GENERAL :**

- (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) No. (b) Nil. (c) N.A. (v) (a), (b) N.A. (vi) & (vii) Nil.

5. **RESULTS :**

- (i) 3086 lb./ac.
 (ii) 555.0 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3229
2.	2988
3.	3042
S.E./mean	= 226.6 lb./ac.

Crop :- Paddy.

Site :- Central Farm, Coimbatore.

Ref :- M. 53(15).

Type :- 'M'

Object :- To find out best method of placement of fertilizers.

1. **BASAL CONDITIONS :**

- (i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Coimbatore. (iii) Transplanting 25, 26.9.53. (iv) (a) 2 ploughings with Victory plough and puddled with country plough. (b) Transplanting. (c) —. (d) 6' between rows. (e) 1 or 2. (v) 5,000 lb./ac. of G.M. applied at the time of last ploughing. (vi) CO. 25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 15.49". (x) 6, 7, 2.54.

2. **TREATMENTS :**

- No manure.
- A/S 150 lb./ac. broadcast at the time of planting and 75 lb./ac. broadcast 4 weeks after planting.
- Same quantity of fertilizers as in 2 but applied as pellets with clay and placed 3" below the soil in 2 doses as in 2.

3. **DESIGN :**

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 43.9'×13.2'. (b) 41.3'×10.6'. (v) 1.3' ring. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) No. (b) No. (c) N.A. (v) (a), (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 3717 lb./ac.
(ii) 1098 lb./ac.

(iii) Treatment differences are not significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3733
2.	3638
3.	3779
S.E./mean	= 448.4 lb./ac.

Crop :- Paddy (1st crop).

Ref :- M. 51(1).

Site :- Paddy Farm., Nager Coil.

Type :- 'M'.

Object :- To study the effect of application of phosphate fertilizers on the yield of grain and straw of Paddy.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) G.M. at 2000 lb./ac. (ii) (a) Heavy clay. Alkaline in patches. (b) N.A. (iii) 2.5.1951. (iv) (a) Ploughed 6 times with country plough. (b) Broadcast. (c) 100 lb./ac. (d) —. (e) —. (v) 5000 lb./ac. farm Compost spread uniformly one day previous to broadcasting. (vi) Asd-1 (Samba). (vii) Irrigated. (viii) 2 weeding. No interculture. (ix) 15.45°. (x) 20.9.1951.

2. TREATMENTS :

- All combinations of (1) and (2)
(1) 2 levels of N : $N_0=0$, and $N_1=25$ lb./ac.
(2) 3 doses of P_2O_5 : $P_0=0$, $P_1=20$ lb./ac. of P_2O_5 as Super and $P_2=20$ lb./ac. of P_2O_5 as B.M.
N as A/S top dressed one and a half months after planting ; P_2O_5 applied as basal dressing before planting.

3. DESIGN :

- (i) 3x2 Fact in R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 32'x31'. (b) 30'x29'. (v) 1' border provided all round the net plot. (vi) Yes.

4. GENERAL :

- (i) Stand good. Lodged after setting grain on 18.8.51. (ii) Nil. (iii) Grain and straw weight. (iv) (a) 1951 (1st crop) to 1951 (2nd crop). (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 1735 lb./ac.
(ii) 240.0 lb./ac.
(iii) Main effect of N alone is highly significant. Others are not significant.
(iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	Mean
N_0	1609	1550	1609	1589
N_1	1867	1917	1859	1881
Mean	1738	1734	1734	

- S.E. of the marginal mean of N = 56.6 lb./ac.
S.E. of the marginal mean of P = 69.3 lb./ac.
S.E. of body of table = 98.0 lb./ac.

Crop :- Paddy.
Site :- Paddy Farm, Nager Coil.

Ref :- M. 51(2).
Type :- 'M'.

Object :- To study the effect of application of phosphate fertilizers on the yield of grain and straw of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments and basal dressing in M. 51(2). (ii) (a) Heavy clay. Alkaline in patches. (b) N.A. (iii) 25.8.1951/24.10.1951. (iv) (a) Puddled 6 times. (b) Transplanted. (c) — (d) 10". (e) 1. (v) 80 lb./ac. of G.L. chopped and applied after puddling a week before. (vi) *Valsira mundan*, local variety long duration 6 months. (vii) Irrigated. (viii) 2 weedings ; no interculture. (ix) 28.80". (x) 20.2.1952.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of N as A/S : $N_0=0$ and $N_1=25$ lb./ac. of N.

(2) 3 doses of P_2O_5 : $P_0=No P_2O_5$, $P_1=20$ lb./ac. of P_2O_5 as B.M. and $P_2=20$ lb./ac. of P_2O_5 as Super. N applied 1½ months after planting as top dressing and P_2O_5 applied as basal dressing before planting.

3. DESIGN :

(i) 3×2 Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 32'×31'. (b) 30'×29'. (v) 1' border provided all round the net plot. (vi) Yes.

4. GENERAL :

(i) Stand good. Lodged after getting grains. (ii) Nil. (iii) Grain and straw weight. (iv) (a) 1951 (1st crop) to 1951 (2nd crop). (b) Yes. (c) Nil. (v) (a) Nil. (b) No. (vi) and (vii) Nil.

5. RESULTS :

(i) 3152 lb./ac.

(ii) 269.0 lb./ac.

(iii) Main effect of N alone is highly significant. Others are not significant.

(iv) Av. yield of grain in lb./ac.

	P_0	P_1	P_2	Mean
N_0	2759	3075	2775	2870
N_1	3400	3434	3467	3434
Mean.	3079	3255	3121	3152

S.E. of marginal mean of N = 63.4 lb./ac.

S.E. of marginal mean of P = 77.7 lb./ac.

S.E. of body of table = 110.0 lb./ac.

Crop :- Paddy.

Ref :- M. 50(63).

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

Type :- 'M'

Object :- To study the effect of applying P manure to green manure crop on the succeeding crop of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Daincha*. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Palur. (iii) 17.8.50/3.10.50. (iv) (a) 4 ploughings. (b) Transplanting. (c) — (d) 6"×6". (e) N.A. (v) *Daincha* raised in different plots was harvested and applied to Paddy. (vi) CO. 26. (vii) Irrigated. (viii) Weeding twice. (ix) 29.83". (x) 11.2.51.

1. TREATMENTS :

1. G.M. alone.

2. G.M. grown with Super at 30 lb./ac. of P_2O_5 .

3. G.M. grown with B.M. at 30 lb./ac. of P_2O_5 .

4. G.M. alone and B.M. at 30 lb./ac. of P_2O_5 applied direct to Paddy. G.M. was harvested and ploughed in.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 56'×17'. (b) 55'×16'. (v) 6" left as border. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1950—1951. (b) No. (c) N.A. (v) (a) Nil. (b) No. (vi) and (vii) Nil.

4. RESULTS :

(i) 3682 lb./ac.

(ii) 250.9 lb./ac.

(iii) Treatment differences are not significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3777
2.	3594
3.	3501
4.	3856
S.E./mean	= 102.4 lb./ac.

Crop :- Paddy.

Ref :- M. 51 (85).

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

Type :- 'M'.

Object :- To study the effect of applying P manure to green manure crop on the succeeding crop of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Daincha*. (c) As under treatments. (ii) (a) Loam. (b) Refer soil analysis, Palur. (iii) 26.8.51/12.10.51. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6" (e) 2. (v) *Daincha* green manure raised and ploughed in. Details N.A. (vi) CO. 25 (late). (vii) Irrigated. (viii) Weeding once. (ix) 38.39". (x) 26.2.52.

2. TREATMENTS :

- Green manure alone.
- Green manure crop raised and to which super at 30 lb./ac. of P_2O_5 applied.
- Green manure crop raised with B.M. at 30 lb./ac. of P_2O_5 .
- Green manure crop raised and B.M. at 30 lb./ac. of P_2O_5 was applied to Paddy crop direct. G.M. was harvested and ploughed in.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 56' x 16'. (b) 55' x 15'. (v) One row left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1950—1951. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) Nil.

5. RESULTS :

(i) 3276 lb./ac.

(ii) 196.0 lb./ac.

(iii) Treatment differences are significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3450
2.	3280
3.	2925
4.	3450
S.E./mean	= 80.0 lb./ac.

Crop :- Paddy.

Ref :- M. 52 (24).

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

Type :- 'M'.

Object :- To study the method of applying G.M.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. (ii) (a) Loamy. (b) Refer soil analysis, Palur. (iii) 10.10.52/12.11.52. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6'×6'. (e) 2. (v) As under treatments. (vi) PLR.-2 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 22.4". (x) 20.2.53.

2. TREATMENTS :

1. Drying and bundling the G.M. and stacking in the field.
 2. Drying and bundling the G.M. and covering with a small amount of earth.
 3. Partial drying and stacking in the field covered with a small amount of earth.
 4. Ploughing the field dry and applying the chopped G.M. in the furrows and levelling.
 5. Applying green manure fresh.
- G.M. in all the cases is at 4000 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a), (b) 32.5'×20'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) No. (b) Nil. (c) N.A. (v) (a) Nil. (b) N.A. (vi) N.A. (vii) In treatments 1 and 2 the G.M. was stacked after complete drying i.e. dried for 5 days (on 29.9.52). In the 3rd treatment partial drying for one day and stacked on 1.10.52 (dried on 30.9.52). In the 4th treatment chopped G.M. was applied in furrows on 24.9.52.

5. RESULTS :

(i) 2164 lb./ac. (ii) 2814 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2089
2.	2072
3.	2441
4.	2062
5.	2156
S.E./mean	= 140.7 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 52(55).

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

Type :- 'M'.

Object :- To study the requirements of organic matter for Paddy crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Loamy. (b) Refer soil analysis, Palur. (c) —. (d) 6'×6'. (e) 2. (iii) 16.7.52/29.9.52. (v) Nil. (vi) CO. 25 (Late). (vii) Irrigated. (viii) Weeding once. (ix) 24.31". (x) 29.1.53.

2. TREATMENTS :

All combinations of (1) and (2) + a control (no manure)

(1) 3 levels of organic matter : $M_1=2500$, $M_2=5000$ and $M_3=7500$ lb./ac.

(2) 3 sources of organic matter : $O_1=C.M.$, $O_2=G.L.$ and $O_3=Compost$.

G.L. and Compost applied in terms of C.M. on equivalent organic matter basis. C.M. applied at the above levels. Other details N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 19'×25. (b) 18'×24'. (v) 6" all round left as border. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1952-1953. (b) No. (c) Nil. (v) (a), & (b) Nil. (vi) Nil. (vii) Nil.

5. RESULTS :

- (i) 4256 lb./ac.
 (ii) 264.0 lb./ac.
 (iii) Main effects, interaction and control vs others are not significant.
 (iv) Av. yield of grain in lb./ac.

Control=4225 lb./ac.

	O ₁	O ₂	O ₃	Mean
M ₁	4325	4150	4112	4196
M ₂	4331	4400	4168	4300
M ₃	4212	4331	4300	4281
Mean	4289	4294	4193	4259

S.E. of marginal mean = 76.2 lb./ac.

S.E. of body of table = 132.0 lb./ac.

S.E. of control vs any mean in the body of table = 186.7 lb./ac.

Crop :- Paddy.

Ref :- M: 53(6)

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

Type :- 'M'

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

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Loamy. (b) Refer soil analysis, Palur. (iii) 7.10.53/30.11.53. (iv) (a) 3 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2". (v) Nil. (vi) CO. 2 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 14.8". (x) 1.2.54.

2. TREATMENTS :

Main-plot treatments :-

Application of N : N₀=0, N₁=60 lb./ac. of N as A/S, N₂=60 lb./ac. of N as Compost
 and N₃=60 lb./ac. of N as G.M. and N₄=60 lb./ac. of N as C.M.

Sub-plot treatments :-

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

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

P₂O₅ as Super and K₂O as Pot. Sul.

3. DESIGN :

- (i) Split-plot. (ii) (a) 5 main-plots/block ; 8 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 64' x 50' main-plot ; 16' x 25' sub-plot. (v) Nil. (vi) Yes.

4. GENERAL :

- (i) Not satisfactory due to unfavourable seasonal conditions. (ii) Nil. (iii) Grain and straw yield. (iv) (a) No. (b) N.A. (c) N.A. (v) (a) N.A. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 936 lb./ac.
 (ii) (a) 362.6 lb./ac.
 (b) 167.7 lb./ac.
 (iii) Main effects of N and P are highly significant. Others are not significant.

(iv) Av. yield of grain in lb./ac.

	N ₀	N ₁	N ₂	N ₃	N ₄	Mean	K ₀	K ₁	L ₀	L ₁
P ₀	645	1070	742	1232	811	900	911	890	897	904
P ₁	730	1008	874	1262	981	971	987	955	940	1003
L ₀	659	1057	791	1231	853	918	942	895		
L ₁	718	1022	824	1263	939	953	956	950		
K ₀	716	1034	826	1274	894	949				
K ₁	660	1045	790	1220	898	923				
Mean	688	1039	808	1247	896	936				

S.E. of difference of two

1. N means = 90.6 lb./ac.
2. P, K or L means = 26.5 lb./ac.
3. P, K or L means at the same level of N = 59.3 lb./ac.
4. N means at the same level of P, K or L = 99.9 lb./ac.
5. means in the body of table P×K, P×L or L×K = 37.5 lb./ac.

Crop :-Paddy.

Ref :-M. 52(56).

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

Type :-'M'.

Object :-To find out the economic dose of N and P required for Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Loam. (b) Refer soil analysis, Palur. (iii) 30.7.52/9.9.52. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) CO. 25 (late). (vii) Irrigated. (viii) Weeding once. (ix) 24.31". (x) 22.1.53.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 4 levels of N : N₀=0, N₁=30, N₂=45 and N₃=60 lb./ac.(2) 4 levels of P₂O₅ : P₀=0, P₁=30, P₂=45 and P₃=60 lb./ac.N as A/S and P₂O₅ as Super.

Manures applied by broadcasting at the time of planting.

3. DESIGN :

(i) 4×4 Fact. in R.B.D. (ii) (a) 16. (b) N.A. (iii) 4. (iv) (a) 33'×11'. (b) 32'×10'. (v) 6" left all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1952—1953. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2646 lb./ac.

(ii) 524.0 lb./ac.

(iii) Main effects and interaction are not significant.

(iv) Av. yield of grain in lb./ac.

	P ₀	P ₁	P ₂	P ₃	Mean
N ₀	2373	2047	2369	2299	2272
N ₁	2601	2771	2658	2432	2616
N ₂	3265	2995	2743	2541	2886
N ₃	2871	2901	2622	2847	2810
Mean	2778	2679	2598	2530	2646

S.E. of marginal means = 131.0 lb./ac.

S.E. of body of table = 262.0 lb./ac.

Crop :- Paddy.

Ref M. :-48(66).

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

Type :- 'M'.

Object :- To compare the manurial value of Calcined-bone with that of B.M.

1. BASAL CONDITIONS :

(i) (a) Paddy after paddy. (b) Paddy. (c) As under treatments. (ii) (a) Loam. (b) Refer soil analysis, Palur. (iii) 2.8.48/16.9.48. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) —. (d) 6" × 6". (e) 2. (v) 6000 lb./ac. of G.L. applied as basal dressing 10 days before planting. (vi) CO. 19 (late). (vii) Irrigated. (viii) Weeding once. (ix) 48.85". (x) 3.2.49.

2. TREATMENTS :

1. No manure.
2. Calcined-bone at 56 lb./ac.
3. Calcined-bone at 112 lb./ac.
4. B.M. at 84 lb./ac.
5. B.M. at 168 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 65' × 10'. (b) 64' × 9'. (v) One row left as border around. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1946—1948 (In 1949—residual effect). (b) Yes. (c) Nil. (v) (a) N.A. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2741 lb./ac.
 (ii) 333.2 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2640
2.	2873
3.	2753
4.	2723
5.	2715
S.E./mean	= 136.0 lb./ac.

Crop :- Paddy. (Samba).

Ref :- M. 49(7).

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

Type :- 'M'.

Object :- To study the residual effect of Calcined-bone and B.M.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Palur. (iii) 31.7.49/7.9.49. (iv) (a) 4 ploughings. (b) Transplanting. (c) —. (d) 6" × 6". (e) 2. (v) 6,000 lb./ac. of G.L. (vi) CO. 19 (late). (vii) Irrigated. (viii) Weeding twice. (ix) 15.74". (x) 1.2.50.

2. TREATMENTS :

Residual effect of.

1. No manure.
2. Calcined bone at 56 lb./ac.
3. Calcined bone at 112 lb./ac.
4. B.M. at 84 lb./ac.
5. B.M. at 168 lb./ac.

These manures were not given to the plots this season. They were applied in 1948.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 65' × 10'. (b) 64' × 9'. (v) 6" left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1946, 1948 (1949-residual effect). (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS:

- (i) 3062 lb./ac.
- (ii) 494.4 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3265
2.	3011
3.	2885
4.	3107
5.	3039
S.E./mean	= 201.8 lb./ac.

Crop :- Paddy (Samba).

Ref. :- M. 53(3)

Site :- Agri. Res. Stn., Palur. Type :- 'M'

Object :- To compare the ryot's method of manuring with other methods.

1. BASAL CONDITIONS

- (i) (a) Nil. (b) Paddy. (c) 2000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Loamy. (b) Refer soil analysis, Palur. (iii) 25.6.53./29.7.53. (iv) (a) 3 ploughings. (b) Transplanting. (c)-(d) 6" x 6". (e) 2. (v) Nil. (vi) Adt-20 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 17.6". (x) 5, 6.10.53.

2. TREATMENTS :

- 1. Ryot's method : (control) 2000 lb./ac. of G.L.
- 2. Departmental : 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S.
- 3. 10,000 lb./ac. of G.L.+300 lb./ac. of Super.
- 4. Treatment (3)+100 lb./ac. of A/S.
- 5. 10,000 lb./ac. of G.L.+1000 lb./ac. of lime.
- 6. Treatment (5)+100 lb./ac. of A/S.

G.L. applied on 23, 24.9.53 ; lime on 29.9.53 ; Super on 4.10.53 and A/S on 31.10.53

3. DESIGN :

- (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv)-(a) 73' x 15'. (b) 72½' x 14½'. (v) About 3" all round. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

- (i) 3180 lb./ac.
- (ii) 227.6 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3051
2.	3186
3.	3374
4.	3232
5.	3087
6.	3152
S.E./mean	= 113.8 lb./ac.

Crop :- Paddy (1st crop).

Ref :- M. 53(4).

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

Type :- 'M'.

Object :- To compare the ryot's method of manuring with other methods.

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) Loamy. (b) Refer soil analysis, Palur. (iii) 31.5.53./30.6.53. (iv) (a) 3 ploughings, (b) Transplanting. (c) —, (d) 4'×4'. (e) 2. (v) Nil. (vi) Adt-20 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 15.4". (x) 17.9.53.

2. TREATMENTS :

1. Ryot's method : 5000 lb./ac. of F.Y.M.
2. Departmental : 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S.
3. 10,000 lb./ac. of G.L.+300 lb./ac. of Super.
4. Treatment 3 +100 lb./ac. of A/S.
5. 10,000 lb./ac. of G.L.+100 lb./ac. of lime.
6. Treatment 5+100 lb./ac. of A/S.

F.Y.M. and G.L. applied on 22.6.53 and A/S top dressed on 21.7.53.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 19'×46'. (b) 18½'×45½'. (v) About 3" all round. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

(i) 4020 lb./ac.

(ii) 252.5 lb./ac.

(iii) Treatment differences are highly significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2974
2.	4019
3.	4070
4.	4213
5.	3933
6.	4913
S.E./mean	= 126.3 lb./ac.

Crop :- Paddy (Kar).

Ref :- M. 48(64).

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

Type :- 'M'.

Object :- To determine the optimum dose of A/S in combination with Super.

1. BASAL CONDITIONS :

(i) (a) Paddy after Paddy. (b) Paddy. (c) As under treatments (ii) (a) Loam (b) Refer soil analysis, Palur. (iii) 28.5.48/22.6.48. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) — (d) 6"×6". (e) 2. (v) 6000 lb./ac. of G.L. incorporated about 10 days before planting. (vi) P.L.R.-2. (vii) Irrigated. (viii) Weeding once. (ix) 23.58". (x) 24.9.48.

2. TREATMENTS :

1. A/S at 40 lb./ac. of N+Super at 10 lb./ac. of P₂O₅.
2. A/S at 60 lb./ac. of N+Super at 15 lb./ac. of P₂O₅.
3. A/S at 80 lb./ac. of N+Super at 20 lb./ac. of P₂O₅.
4. A/S at 100 lb./ac. of N+Super at 25 lb./ac. of P₂O₅.

A/S applied in two equal doses one at planting and the other one month after planting. Super applied before levelling.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 55'×9'. (b) 54'×8'. (v) One row left as border (about 6"). (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) Nil. (v) (a) & (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 3740 lb./ac.
 (ii) 191.0 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3650
2.	3740
3.	3730
4.	3840
S.E./mean	= 78.0 lb./ac.

Crop :- Paddy (*Samba*).

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

Ref :- M. 48(65)/48(64).

Type :- 'M'.

Object :- To determine the optimum dose of A/S in combination with Super.

1. BASAL CONDITIONS :

- (i) (a) Paddy after Paddy. (b) Paddy. (c) As under treatments. (ii) (a) Loam. (b) Refer soil analysis, Palur. (iii) 17.10.48/26.11.48. (iv) (a) 4 ploughings. (b) Transplanting. (c) —. (d) 6' x 6'. (e) 2. (v) 6000 lb./ac. of G.L. applied 10 days before planting. (vi) CO: 2 (late). (vii) Irrigated. (viii) Weeding once. (ix) 31.22". (x) 9.3.49.

2. TREATMENTS :

1. A/S at 40 lb./ac. of N + Super at 10 lb./ac. of P_2O_5 .
 2. A/S at 60 lb./ac. of N + Super at 15 lb./ac. of P_2O_5 .
 3. A/S at 80 lb./ac. of N + Super at 20 lb./ac. of P_2O_5 .
 4. A/S at 100 lb./ac. of N + Super at 25 lb./ac. of P_2O_5 .

Super applied before levelling. A/S : $\frac{1}{2}$ the quantity applied at planting and the other $\frac{1}{2}$ applied one month after planting.

3. DESIGN :

- (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 55' x 9'. (b) 54' x 8'. (v) One row left as border. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) Nil. (v) (a) N.A. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 3005 lb./ac.
 (ii) 147.0 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2950
2.	2900
3.	3050
4.	3120
S.E./mean	= 60.0 lb./ac.

Crop :- Paddy (Kar).

Ref :- M. 49(9)/48 (64, 65).

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

Type :- 'M'.

Object :- To determine the optimum dose of A/S in combination with Super.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 6,000 lb./ac. of G.L.+A/S etc. as under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Palur. (iii) 12.6.49/1.7.49. (iv) (a) 4 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) 6,000 lb./ac. of G.L. (vi) PLR-2 (Medium). (vii) Irrigated. (viii) Weeding twice. (ix) 17.01". (x) 27.9.49.

2. TREATMENTS :

1. A/S at 40 lb./ac. of N + Super at 10 lb./ac. of P_2O_5 .
2. A/S at 60 lb./ac. of N + Super at 15 lb./ac. of P_2O_5 .
3. A/S at 80 lb./ac. of N + Super at 20 lb./ac. of P_2O_5 .
4. A/S at 100 lb./ac. of N + Super at 25 lb./ac. of P_2O_5 .

Super applied as basal dressing and A/S top dressed one month after planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 55'×9'. (b) 54'×8'. (v) 6" left as border around the plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947—1950. (b) Yes. (c) N.A. (v) (a) Nil. (b) No. (vi) and (vii) Nil.

5. RESULTS :

- (i) 3446 lb./ac.
 (ii) 230.0 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield.
1.	3620
2.	3484
3.	3361
4.	3319
S.E./mean	=94.7 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 49 (8)/49 (9)/48 (64, 65).

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

Type :- 'M'.

Object :- To determine the optimum dose of A/S in combination with Super.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Palur. (iii) 15.9.49/15.10.49. (iv) (a) 4 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) 6,000 lb./ac. of G.L. (vi) CO. 2 (Medium). (vii) Irrigated. (viii) 2 weedings. (ix) 7.69". (x) 9 2.50.

2. TREATMENTS :

1. A/S at 40 lb./ac. of N+Super at 10 lb./ac. of P_2O_5
2. A/S at 60 lb./ac. of N+Super at 15 lb./ac. of P_2O_5
3. A/S at 80 lb./ac. of N+Super at 20 lb./ac. of P_2O_5
4. A/S at 100 lb./ac. of N+Super at 25 lb./ac. of P_2O_5

A/S as top dressing one month after planting. Super as basal dressing.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 55'×9'. (b) 54'×8'. (v) 6" left as border around the plot. (vi) Yes.

4. GENERAL:

- (i) Fair. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947-1950. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

- (i) 3192 lb./ac.
 (ii) 198.9 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2931
2.	3155
3.	3426
4.	3256
S.E./mean	= 81.2 lb./ac.

Crop :- Paddy (Kar):

Ref :- M. 50 (62)/49 (9, 8)/48 (64, 65):

Site :- Agri. Res. Stn. Palur.

Type :- 'M'.

Object :- To determine the optimum dose of A/S in combination with Super.

1. BASAL CONDITIONS:

- (i) (a) No. (b) Paddy. (c) 600 lb./ac. of Sunnhemp. (ii) (a) Sandy loam. (b) Refer soil analysis, Palur. (iii) 25.6.50/16.7.50. (iv) (a) 4 ploughings. (b) Transplanting. (c) —. (d) 6' x 6'. (e) 2. (v) 6,000 lb./ac. of Sunnhemp. (vi) CO. 2 (Medium). (vii) Irrigated. (viii) Weeding twice. (ix) 23.19. (x) 21, 22.10.50.

2. TREATMENTS:

- A/S at 40 lb./ac. of N+Super at 10 lb./ac. of P_2O_5 .
- A/S at 60 lb./ac. of N+Super at 15 lb./ac. of P_2O_5 .
- A/S at 80 lb./ac. of N+Super at 20 lb./ac. of P_2O_5 .
- A/S at 100 lb./ac. of N+Super at 25 lb./ac. of P_2O_5 .

3. DESIGN:

- (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 55' x 9'. (b) 54' x 8'. (v) 6" left as border around the plot. (vi) Yes.

4. GENERAL:

- (i) Fair. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947-1950. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

- (i) 2867 lb./ac.
 (ii) 413.6 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2800
2.	3096
3.	2892
4.	2679
S.E./mean	= 168.8 lb./ac.

Crop :-Paddy (Samba).

Ref :-M. 50(64)/50(62)/49(9,8)/48(64,65).

Site :-Agri. Res. Stn , Palur.

Type :-'M'.

Object :-To determine the optimum dose of A/S with Super for Paddy crop.

1. BASAL CONDITIONS :

- (i) (a) No. (b) Paddy. (c) G.M. at 3,600 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Palur. (iii) 21.10.50/22.11.50. (iv) (a) 4 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) Sunnhemp at 3,600 lb./ac. (vi) CO. 2 (Medium). (vii) Irrigated. (viii) Weeding twice. (ix) 13.35". (x) 6.3.51.

2. TREATMENTS :

- 1. A/S at 40 lb./ac. of N+Super at 10 lb./ac. of P₂O₅.
- 2. A/S at 60 lb./ac. of N+Super at 15 lb./ac. of P₂O₅.
- 3. A/S at 80 lb./ac. of N+Super at 20 lb./ac. of P₂O₅.
- 4. A/S at 100 lb./ac. of N+Super at 25 lb./ac. of P₂O₅.

3. DESIGN :

- (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 45' x 9'. (b) 44' x 8'. (v) 6" left as border around the plot. (vi) Yes.

4. GENERAL :

- (i) Fair. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947—1950. (b) Yes. (c) Nil. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2067 lb./ac.
- (ii) 264.1 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1912
2.	1981
3.	2262
4.	2111
S.E./mean	= 107.8 lb./ac.

Crop :-Paddy.

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

Type :-'M'.

Object :-To compare C/N with A/S.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Loamy (b) Refer soil analysis, Palur. (iii) 26.5.52/23.6.52. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) Nil. (vi) Asd-1 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 13.6". (x) 1.10.52.

2. TREATMENTS :

All combinations of (1), (2) and (3)+a control (B₁ alone).

- (1) 2 levels of basal dressing : B₀=0, and B₁=lime at 450 lb./ac.+C.M. at 3 ton/ac.+Super at 30 lb./ac. of P₂O₅.
- (2) 2 sources of N : S₁=A/S and S₂=C/N.
- (3) 2 levels of N : N₁=40 and N₂=60 lb. N/ac. and one plot receiving basal dressing of B₁=450 lb./ac. of lime+C.M. at 3 ton/ac.+Super at 30 lb./ac. of P₂O₅. Basal dressing before planting, C/N and A/S applied one month after planting.

3. DESIGN :

- (i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a) and (b) 20' x 32.5'. (v) Nil. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1952—1954. (b) Yes. (c) N.A. (v) (a) N.A. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2243 lb./ac.
 (ii) 239.2 lb./ac.
 (iii) 'B₁ vs. others' is highly significant. Main effect of 'B' is highly significant. Other effects and interactions are not significant.
 (iv) Av. yield of grain in lb./ac.

B₁=1632 lb./ac.

	S ₁	S ₂	Mean	N ₁	N ₂
B ₀	2113	2027	2070	2016	2124
B ₁	2611	2528	2569	2536	2603
Mean	2362	2278	2320		
N ₁	2226	2327	2276		
N ₂	2499	2228	2364		

S.E. of marginal means = 53.3 lb./ac.

S.E. of body of table = 75.3 lb./ac.

Crop :- Paddy.

Site :- Agri. Res. Stn. Palur.

Ref :- M. 52(26)/52(25).

Type :- 'M'.

Object :- To compare C/N with A/S.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Loamy. (b) Refer soil. analysis, Palur. (iii) 31.12.52/26.1.53. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6'×6'. (e) 2 (v) Nil. (vi) CO.25 (late). (vii) Irrigated. (viii) Weeding twice. (ix) 4.2. (x) 22.4.53.

2. TREATMENTS :

All combinations of (1), (2) and (3) + control (B₁ alone).(1) 2 levels of basal dressing : B₀=0 and B₁=450 lb./ac. of lime+C.M. at 3 ton/ac.+Super at 30 lb./ac. of P₂O₅.(2) 2 levels of N : N₁=40 and N₂=60 lb./ac. of N.(3) 2 sources of N : S₁=A/S and S₂=C/N.and one plot receiving basal dressing of B₁=450 lb./ac. lime+C.M. at 3 ton./ac.+Super 30 lb./ac. of P₂O₅. Basal dressing given before planting ; A/S and C/N given one month after planting.

3. DESIGN :

- (i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a) and (b) 20'×32.5', (v) Nil. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1952—1954. (b) Yes. (c) N.A. (v) (a) N.A. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 2118 lb./ac.
 (ii) 295.5 lb./ac.
 (iii) 'B₁ vs others' is highly significant. Main effects and interactions are not significant.

(iv) Av. yield of grain in lb./ac.

 $B_1 = 1178$ lb./ac.

	S_1	S_2	Mean	N_1	N_2
B_0	2282	2003	2143	2126	2159
B_1	2231	2427	2329	2377	2281
Mean	2257	2215	2236		
N_1	2155	2348	2252		
N_2	2358	2082	2220		

S.E. of marginal means = 66.0 lb./ac.
 S.E. of body of table = 93.3 lb./ac.

Crop :- Paddy.

Ref :- M. 53(88).

Site :- Central Sugarcane Res. Stn. Palur.

Type :- 'M'.

Object :- To study the application of P_2O_5 to G.M. crop and to determine its effect on yield of following Paddy crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) G.M. crop as under treatments. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Palur. (iii) 20.8.53/20.10.53. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6' x 6', (e) 2. (v) Nil. (vi) PLR.-1. (vii) Irrigated. (viii) 2 weedings. (ix) 33°.82". (x) 25.2.54.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 5 G.M. crops : $G_1 = \text{Sesbania}$, $G_2 = \text{Pillipesara}$, $G_3 = \text{Wildindigo}$, $G_4 = \text{Daincha}$ and $G_5 = \text{Sunnhemp}$.
 (2) 3 methods of application of P_2O_5 : $M_0 = \text{no } P_2O_5$, $M_1 = 45$ lb./ac. of P_2O_5 applied through G.M. crop, $M_2 = 45$ lb./ac. of P_2O_5 applied direct to Paddy crop.

3. DESIGN :

(i) 5 x 3 Fact. in R.B.D. (ii) (a) 15. (b) N.A. (iii) 4. (iv) (a) 17' x 28'. (b) 16½' x 27½'. (v) 1 row left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953-contd. (b) Yes. (c) N.A. (iv) (a) N.A. (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

(i) 2580 lb./ac.
 (ii) 296.2 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_0	2498	2735	2553	2654	2702	2628
M_1	2400	2861	2280	2736	2466	2549
M_2	2529	2420	2720	2595	2545	2562
Mean	2476	2672	2518	2662	2571	2580

S.E. of marginal mean of G = 85.5 lb./ac.

S.E. of marginal mean of M = 66.2 lb./ac.

S.E. of body of table = 148.1 lb./ac.

Crop :- Paddy.

Ref :- M. 53(87).

Site :- Central Sugarcane Res. Stn. Palur.

Type :- 'M'.

Object :- To determine the requirement of organic manure for Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Red soil. (b) Refer soil analysis, Palur. (iii) 29.7.53/23, 24.9.53. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) CO. 25. (Late) (vii) Irrigated. (viii) 2 weedings. (ix) 34.85%. (x) 5.2.54.

2. TREATMENTS :

All combinations of (1) and (2) + a control (no manure)

(1) 3 levels of manure : $M_1=2500$, $M_2=5000$ and $M_3=7500$ lb./ac.(2) 3 sources of organic matter : $O_1=G.M.$, $O_2=G.L.$ and $O_3=Compost$.

G.L and Compost applied in terms of organic matter equivalent of C.M. which is applied at the above 3 levels.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 18'×24'. (b) 17.5'×23.5'. (v) 1 row left as border row. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1952-1953. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

(i) 3149 lb./ac.

(ii) 425.3 lb./ac.

(iii) Main effects, interaction and control vs others are not significant.

(iv) Av. yield of grain in lb./ac.

Control = 3209 lb./ac. (v) (a) 3209 lb./ac. (b) 3209 lb./ac. (c) 3209 lb./ac. (d) 3209 lb./ac. (e) 3209 lb./ac. (f) 3209 lb./ac. (g) 3209 lb./ac. (h) 3209 lb./ac. (i) 3209 lb./ac. (j) 3209 lb./ac. (k) 3209 lb./ac. (l) 3209 lb./ac. (m) 3209 lb./ac. (n) 3209 lb./ac. (o) 3209 lb./ac. (p) 3209 lb./ac. (q) 3209 lb./ac. (r) 3209 lb./ac. (s) 3209 lb./ac. (t) 3209 lb./ac. (u) 3209 lb./ac. (v) 3209 lb./ac. (w) 3209 lb./ac. (x) 3209 lb./ac. (y) 3209 lb./ac. (z) 3209 lb./ac.

	O_1	O_2	O_3	Mean
M_1	3306	3393	3235	3311
M_2	3241	2674	3118	3014
M_3	3106	3024	3176	3102
Mean	3218	3030	3180	3142

S.E. of marginal means = 122.8 lb./ac.

S.E. of body of table = 212.7 lb./ac.

Crop :- Paddy.

Ref :- M. 53(89).

Site :- Central Sugarcane Res. Stn Palur.

Type :- 'M'.

Object :- To find out the economic dose of N and P_2O_5 required for Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Red soil. (b) Refer soil analysis, Palur. (iii) 5.9.53. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) CO. 25 (Late). (vii) Irrigated. (viii) 2 weedings. (ix) 35.85%. (x) 3.2.54.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 4 levels of N : $N_0=0$, $N_1=30$, $N_2=45$ and $N_3=60$ lb./ac.(2) 4 levels of P_2O_5 : $P_0=0$, $P_1=30$, $P_2=45$ and $P_3=60$ lb./ac.N as A/S, P_2O_5 as Super. N applied one month after planting and P at the time of planting.

3. DESIGN :

(i) 4×4 Fact. in R.B.D. (ii) (a) 16. (b) N.A. (iii) 4. (iv) (a) 32'×10'. (b) 31.5'×9.5'. (v) 1 row left as border row. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1952-1953. (b) Yes. (c) N.A. (v) (a) N.A. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 3595 lb./ac.
 (ii) 428.4 lb./ac.
 (iii) Main effects of N, P and interaction are not significant.
 (iv) Av. yield of grain in lb./ac.

	N ₀	N ₁	N ₂	N ₃	Mean
P ₀	3589	3470	3620	3611	3573
P ₁	3508	3651	3474	3680	3578
P ₂	3489	3744	3651	3575	3615
P ₃	3508	3880	3468	3606	3616
Mean	3524	3686	3553	3618	3595

S.E. of marginal mean = 107.1 lb./ac.

S.E. of body of table = 214.2 lb./ac.

Crop :- Paddy.

Ref :- M. 53 (92).

Site :- Central Sugarcane Res. Stn., Palur.

Type :- 'M'.

Object :- To study the residual effect of growing cotton on following Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton and fallow. (c) As under treatments. (ii) (a) Red soil. (b) Refer soil analysis, Palur. (iii) 10.9.53/3.11.53. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6'×6'. (e) 2. (v) Nil. (vi) Cotton P 216 F ; Paddy CO. 5. (vii) Irrigated. (viii) 2 weedings. (ix) 28.67". (x) 22.2.54.

2. TREATMENTS :

- Cotton stalks ploughed in + G.L. at 6000 lb./ac. + Super at 100 lb./ac. + A/S at 100 lb./ac.
- Cotton stalks ploughed in + Super at 100 lb./ac. + A/S at 100 lb./ac.
- Fallow—G.L. at 6000 lb./ac. + Super at 100 lb./ac. + A/S at 100 lb./ac.

Cotton stalks ploughed in at the time of last ploughing, N applied one month after planting and P₂O₅ at the time of planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 12. (iv) (a) 24×35'. (b) 23.5'×34.5'. (v) 1 row left as border row. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—continued. (b) Yes. (c) N.A. (v) (a) N.A. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2298 lb./ac.
 (ii) 280.3 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2384
2.	2218
3.	2291
S.E./mean	80.9 lb./ac.

Crop :- Paddy (*Kurvai*).

Ref :- M. 49 (45).

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

Type :- 'M'.

Object :- To find out the best combination of Cake, A/S and Super with a basal dressing of G.L.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+300 lb./ac. of G.N.C.+150 lb./ac. of Super+50 lb./ac. of A/S. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukottai. (iii) 16.8.49. (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) 2500 lb./ac. of G.L. (vi) Adt-3 (early). (vii) Irrigated. (viii) Weeding once. (ix) 10.76". (x) 13.10.49.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 levels of P_2O_5 : $P_0=0$, $P_1=30$ and $P_2=45$ lb./ac.(2) 4 applications of N: $N_0=0$, $N_1=A/S$ at 75 lb./ac. of N, $N_2=G.N.C.$ at 250 lb./ac. and $N_3=G.L.$ at 2500 lb./ac.

G.L., Super and G.N.C. applied at the time of transplanting; A/S applied a month after transplanting.

3. DESIGN :

- (i) 3×4 Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/20th acre. (v) N.A. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

- (i) 1318 lb./ac.
 (ii) 182.6 lb./ac.
 (iii) Main effects of N and P are significant while the interaction N×P is not significant.
 (iv) Av. yield of grain in lb/ac.

	N_0	N_1	N_2	N_3	Mean
P_0	1163	1225	1438	1300	1282
P_1	1075	1200	1625	1313	1303
P_2	1225	1425	1363	1463	1369
Mean	1154	1283	1475	1359	1318

S.E. of the marginal mean of N = 52.7 lb./ac.

S.E. of the marginal mean of P = 45.7 lb./ac.

S.E. of body of table = 91.3 lb./ac.

Crop :- Paddy (*Samba*).

Ref :- M. 49(44).

Site. Agri. Res. Stn., Pattukottai.

Type :- 'M'.

Object :- To find out the best combination of Cake, A/S and Super with a basal dressing of G.L.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+300 lb./ac. of G.N.C.+150 lb./ac. of Super+50 lb./ac. of A/S. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukottai. (iii) 28.7.49/3.9.49. (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) 2500 lb./ac. of G.L. (vi) CO. 19. (late) (vii) Irrigated. (viii) Weeding once. (ix) 18.4". (x) 1.2.50.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 levels of P_2O_5 : $P_0=0$, $P_1=30$ and $P_2=45$ lb./ac.(2) 4 applications of N: $N_0=0$, $N_1=A/S$ at 75 lb./ac., $N_2=G.N.C.$ at 250 lb./ac. and $N_3=G.L.$ at 2500 lb./ac.

G.L., Super and G.N.C. applied at the time of transplanting; A/S applied a month after transplanting.

3. DESIGN :

(i) 3x4 Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/20th acre. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947-49 (b) N.A. (c) N.A. (v) (a) & (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

- (i) 2128 lb./ac.
 (ii) 384.8 lb./ac.
 (iii) Main effects and interaction are not significant.
 (iv) Av. yield of grain in lb./ac.

	N ₀	N ₁	N ₂	N ₃	Mean
P ₀	2013	2188	2025	1850	2019
P ₁	2225	2188	1950	2050	2103
P ₂	2250	2363	2100	2338	2263
Mean	2163	2246	2025	2079	2128

S.E. of marginal mean of N = 111.1 lb./ac.
 S.E. of marginal mean of P = 96.2 lb./ac.
 S.E. of body of table = 192.4 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 48(52).

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

Type :- 'M'.

Object :- To compare different types of G.L. as manures to Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukottai. (iii) 12.8.48/15.9.48
 (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) Nil. (vi) CO. 19 (late).
 (vii) Irrigated. (viii) Weeding once. (ix) 16.76". (x) 18.2.49.

2. TREATMENTS :

1. *Daincha* at 8000 lb./ac.
2. *Calotropis* at 8000 lb./ac.
3. *Glyricidia* at 8000 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/80th ac. (v) N.A. (vi) yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947-49. (b) N.A. (c) N.A. (v) (a) N.A. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 3003 lb./ac.
 (ii) 238.0 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3075
2.	3005
3.	2930
S.E./mean	= 119.0 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 49(43).

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

Type :- 'M'.

Object :- To compare different types of G.L. as manures to Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukottai. (iii) 28.7.49/29.49.
 (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) Nil. (vi) CO. 19 (late). (vii)
 Irrigated. (viii) Weeding once. (ix) 18.4". (x) 28.1.50.

2. TREATMENTS :

1. *Daincha* at 8000 lb./ac.
2. *Calotropis* at 8000 lb./ac.
3. *Glyricidia* at 8000 lb./ac.

G.L. applied 2 weeks before transplanting.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/80th. ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947—1949. (b) No. (c) N.A. (v) (a) Nil. (b)
 N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 3350 lb./ac.
- (ii) 206.7 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3205
2.	3450
3.	3400
S.E./mean	= 103.3 lb./ac.

Crop :- Paddy (*Kuruvai* and *Thaladi*).

Ref :- M. 48(55, 56).

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

Type :- 'M'.

Object :- To find the effect of application of P_2O_5 , Potash and G.L. with and without N.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukottai. (iii) 19 to 23.7.48
 (*kuruvai*) 3, 4.10.48 (*thaladi*). (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v)
 Nil. (vi) Adt—3 (*kuruvai*); CO.26 (*thaladi*). (vii) Irrigated. (viii) Weeding once. (ix) 8.06" *kuruvai* and 16.42"
thaladi. (x) 8, 9.10.48 and 25.2.49.

2. TREATMENTS :

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

(1) 3 levels of P_2O_5 : $P_0=0$, $P_1=30$ and $P_2=60$ lb./ac.(2) 2 levels of K_2O : $K_0=0$ and $K_1=60$ lb./ac.(3) 6 doses of N : $N_0=0$, $N_1=G.L.$ at 6000 lb./ac, $N_2=N_1+30$ lb./ac. of N, $N_3=N_1+60$ lb./ac. of N,
 $N_4=N_1+90$ lb./ac. of N and $N_5=N_1+120$ lb./ac. of N P_2O_5 as Super, K_2O as Pot. Sul. and N as G.N.C.

3. DESIGN :

(i) 3 x 2 x 6 Fact. in R.B.D. (ii) (a) 36. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/20th. ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1946—1949. (b) N.A. (c) N.A. (v) (a) and (b) N.A. (vi) Nil.
 (vii) Raw data N.A.

5. RESULTS :

1948 (55) Adt. 3 (Kuruviti).

- (i) 2345 lb./ac.
 (ii) and (iii) N.A.
 (iv) Av. yield of grain in lb./ac.

	N ₀	N ₁	N ₂	N ₃	N ₄	N ₅	Mean	K ₀	K ₁
P ₀	1775	2025	2407	2394	2513	2738	2309	2398	2219
P ₁	1719	1882	2301	2794	2825	2788	2385	2346	2423
P ₂	1876	2188	2407	2382	2719	2482	2342	2288	2396
Mean	1790	2032	2371	2523	2686	2669	2345		
K ₀	1788	1892	2379	2537	2792	2675	2344		
K ₁	1792	2171	2363	2509	2579	2663	2346		

1948 (56) CO. 26 (Thaladi).

- (i) 1606 lb./ac.
 (ii) and (iii) N.A.
 (iv) Av. yield of grain in lb./ac.

	N ₀	N ₁	N ₂	N ₃	N ₄	N ₅	Mean	K ₀	K ₁
P ₀	1376	1563	1550	1688	1494	1688	1560	1557	1563
P ₁	1588	1719	1769	1557	1657	1600	1648	1663	1634
P ₂	1463	1482	1538	1776	1775	1632	1611	1586	1636
Mean	1476	1588	1619	1674	1642	1642	1606		
K ₀	1438	1613	1613	1634	1679	1634	1602		
K ₁	1513	1563	1625	1713	1604	1646	1611		

Crop :- Paddy (Kuruvai).

Ref. :- M. 49(50).

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

Type :- 'M'.

Object :- To find the effect of application of P₂O₅ Potash & G.L. with & without N.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukottai (iii) 12,15.8.49.
 (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) Nil. (vi) Adt-3. (vii) Irrigated.
 (viii) Weeding once. (ix) 14.6.49. (x) 14,15.11.49.

2. TREATMENTS :

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

(1) 3 levels of P₂O₅ : P₀=0, P₁=30 and P₂=60 lb./ac.(2) 2 levels of K : K₀=0 and K₁=60 lb./ac.(3) 6 doses of N : N₀=0, N₁=G.L. at 6000 lb./ac., N₂=N₁+30 lb./ac. of N, N₃=N₁+60 lb./ac. of N,
 N₄=N₁+90 lb./ac. of N and N₅=N₁+120 lb./ac. of N.P₂O₅ as Super, K₂O as Pot. Sul. and N as G.N.C.

3. DESIGN :

- (i) 6x3x2 Fact. in R.B.D. (ii) (a) 36. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/20th. ac. (v) N.A. (vi) Yes.

4. GENERAL :

- (i) N.A. (ii) N.A. (iii) Grain yield. (iv) (a) 1946-49. (b) [N.A. (c) N.A. (v) (a) N.A. (b) N.A. (vi) Nil. (vii) Raw data N.A.

5. RESULTS :

- (i) 1234 lb./ac.
 (ii) 374.0 lb./ac.
 (iii) Main effect of N alone is significant.
 (iv) Av. yield of grain in lb./ac.

	N ₀	N ₁	N ₂	N ₃	N ₄	N ₅	Mean	P ₀	P ₁	P ₂
K ₀	775	809	1292	1425	1333	1363	1166	1234	1188	1077
K ₁	909	900	1213	1404	1680	1704	1302	1284	1327	1294
Mean	842	855	1253	1415	1507	1534	1234	1259	1258	1186
P ₀	826	851	1194	1401	1757	1526	1259			
P ₁	776	850	1251	1313	1506	1850	1258			
P ₂	925	863	1313	1532	1257	1225	1186			

S.E. of marginal mean of N	= 76.3 lb./ac.
S.E. of marginal mean of P	= 54.0 lb./ac.
S.E. of marginal mean of K	= 44.1 lb./ac.
S.E. of body of table N×K	= 107.9 lb./ac.
S.E. of body of table N×P	= 132.3 lb./ac.
S.E. of body of table P×K	= 76.3 lb./ac.

Crop :- Paddy.

Ref :- M. 52(46).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'M'.

Object :- To find out the relative merits of Dicalcium phosphate and its placement effect.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 26.12.52./ 28.29.1.53. (iv) (a) 4 ploughings. (b) Planting in lines. (c) —. (d) 4'×4'. (e) 2 to 3. (v) Nil. (vi) CO.-13. (vii) Irrigated. (viii) Weeding about one month after planting. (ix) 1.04". (x) 23.4.53.

2. TREATMENTS :

- Control.
- G.N.C. at 40 lb./ac. of N.
- G.N.C. at 40 lb./ac. of N+Super at 80 lb./ac. of P₂O₅. (broadcast).
- G.N.C. at 40 lb./ac. of N+Dicalcium Phosphate at 80 lb./ac. of P₂O₅ (broadcast).
- G.N.C. at 40 lb./ac. of N+Super at 80 lb./ac. of P₂O₅ (placed).
- Treatment (2)+Dicalcium Phosphate at 80 lb./ac. of P₂O₅ (placed).

3. DESIGN :

- (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) 110'×20'. (b) 109½'×19½'. (v) Outer row treated as guard row. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Flowering duration, grain & straw yield. (iv) (a) 1951-1953. (during 1951 the crop failed). (b) Yes. (c) N.A. (v) (a) Nil. (b) Nil. (vi) & (vii) Nil.

5. RESULTS:

- (i) 1781 lb./ac.
 (ii) 144.0 lb./ac.
 (iii) Treatment differences are highly significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1026
2.	1729
3.	2154
4.	2106
5.	1891
6.	1783
S.E./mean.	= 64.0 lb./ac.

Crop :- Paddy.

Ref :- M. 53(27).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'M'.

Object :- To find out the relative merits of Dicalcium phosphate and its placement effect.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 19.12.1953/18, 19.1.1954. (iv) (a) 4 ploughings. (b) Planting in lines. (c) —. (d) 4'x4'. (e) 2. (v) Nil. (vi) CO. 13. (vii) Irrigated. (viii) Weeding about 1 month after planting. (ix) Nil. (x) 14.4.1954.

2. TREATMENTS :

- Control (no manure)
- G.N.C. at 40 lb./ac. of N.
- G.N.C. at 40 lb./ac. of N+Super at 80 lb./ac. of P_2O_5 (broadcast).
- G.N.C. at 40 lb./ac. of N+Dicalcium Phos. at 80 lb./ac. of P_2O_5 (broadcast).
- G.N.C. at 40 lb./ac. of N+Super at 80 lb./ac. of P_2O_5 (placed).
- G.N.C. at 40 lb./ac. of N+Dicalcium Phos. at 80 lb./ac. of P_2O_5 (placed).

3. DESIGN :

- (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) 40'x20'. (b) 39½'x19½'. (v) Outer row discarded. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1951-1953. (b) Yes. (c) N.A. (v) (a) Nil. (b) Nil. (vi) & (vii) N.A.

5. RESULTS :

- (i) 2283 lb./ac.
 (ii) 539.4 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1390
2.	2276
3.	2683
4.	2619
5.	2440
6.	2292
S.E./mean	= 241.0 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 49(20).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'M'

Object :- To compare night soil compost with F.Y.M. on equal N basis.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 23.8.49/16.10.49. (iv) (a) 5 ploughings. (b) Planting in lines. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) CO. 5 (late). (vii) Irrigated. (viii) Weeding once. (ix) 27.97. (x) N.A.

2. TREATMENTS :

1. No manure.
2. Night soil compost at 60 lb./ac. of N.
3. F.Y.M. at 60 lb./ac. of N.
Applied 10 days before planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 136'×8'. (b) 135'×7'. (v) 1 row around the plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949-1951. (b) Yes. (c) N.A. (v) (a) N.A. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

(i) 2483 lb./ac.

(ii) 364.9 lb./ac.

(iii) Treatment differences are significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2028
2.	2880
3.	2542
S.E./mean	= 148.9 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 50(7).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'M'

Object :- To compare night soil compost with F.Y.M. on equal N basis.

1. BASAL CONDITIONS.

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 9.9.50/30.10.50. (iv) (a) 4 ploughings. (b) Line planting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) CO-19 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 22.0". (x) 25.2.51.

2. TREATMENTS :

1. No manure.
2. Night soil compost to supply 60 lb./ac. of N.
3. F.Y.M. to supply 60 lb./ac. of N.
Applied 10 days before planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 134'×7'. (b) 133'×6'. (v) Outer row rejected. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949-1951. (b) Yes. (c) N.A. (v) (a) N.A. (b) No. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1427 lb./ac.
 (ii) 101.4 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1284
2.	1407
3.	1588
S.E./mean	=41.4 lb./ac.

Crop :- Paddy (*Samba*).

Ref :- M. 50(6).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'M'.

Object :- To study the relative merits of night soil compost and F.Y.M. when applied on equal N basis. (double crop wet land).

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) Same experiment was on these plots. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 30.9.50/3.11.50. (iv) (a) 4 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) Nil. (vi) CO.-2 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 19.0". (x) 23.2.51.

2. TREATMENTS :

1. No manure.
 2. Night soil compost to supply 60 lb./ac. of N.
 3. F.Y.M. to supply 60 lb./ac. of N.
 Applied 10 days before planting.

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 67' x 13'. (b) 66' x 12'. (v) Outer row left. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949—1951. (b) Yes. (c) N.A. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1052 lb./ac.
 (ii) 44.3 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	984
2.	1037
3.	1134
S.E./mean	= 18.1 lb./ac.

Crop :- Paddy (*Samba*).

Ref :- M. 51 (8).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'M'.

Object :- To study the relative merits of night soil compost and F.Y.M. when applied on equal N basis (single crop wet land).

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 7.9.51/24.10.51. (iv) (a) 4 ploughings. (b) Line planting. (c) —. (d) 6" x 6". (e) 2. (v) Nil. (vi) CO.-19 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 24.0". (x) 12.2.52.

2. TREATMENTS :

1. No manure.
 2. Night soil compost at 60 lb./ac. of N.
 3. F.Y.M. at 60 lb./ac. of N.
- About one month before planting broadcast and ploughed.

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 67'×13'. (b) 66'×12'. (v) Outer row rejected. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949—1951. (b) No. (c) N.A. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1123 lb./ac.
 (ii) 123.3 lb./ac.
 (iii) Treatment differences are highly significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	916
2.	1372
3.	1081
S.E./mean	= 49.9 lb./ac.

Crop :- Paddy (*Sornavari*).

Ref :- M. 51 (7).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'M'.

Object :- To find out the relative merits of night soil compost and F.Y.M. when applied on equal N basis (double crop wet land).

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) Same experiment was on these plots. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 25.4.51/23.5.51. (iv) (a) 4 ploughings. (b) Line planting. (c) —. (d) 4"×4". (e) 2. (v) Nil. (vi) CO. 13 (short duration). (vii) Irrigated. (viii) 2 weedings. (ix) 19.0". (x) 20.8.51.

2. TREATMENTS :

1. No manure.
 2. Night soil compost at 60 lb./ac. of N.
 3. F.Y.M. at 60 lb./ac. of N.
- About one month after planting broadcast and ploughed.

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 67'×13'. (b) 66' 1/2'×12 1/2'. (v) Outer row rejected. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949—1951. (b) Yes. (c) N.A. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1844 lb./ac.
 (ii) 163.6 lb./ac.
 (iii) Treatment differences are highly significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1631
2.	1958
3.	1939
S.E./mean	= 66.8 lb./ac.

Crop :- Paddy.

Ref :- M. 52(45).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'M'.

Object :—To find the relative merits of night soil compost and F.Y.M. when applied on equal N basis.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 27.5.52/5.7.52. (iv) (a) 4 ploughings. (b) Transplanting. (c)—(d) 4"×4". (e) 2. (v) Nil. (vi) CO—13. (vii) Irrigated. (viii) Weeding about a month after planting. (ix) 9.74". (x) 29.9.52.

2. TREATMENTS :

1. No manure.
2. Night soil compost to supply 60 lb./ac. of N.
3. F.Y.M. to supply 60 lb./ac. of N.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 67'×13'. (b) 66½'×12½'. (v) Outer rows discarded. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949—1953. (b) Yes. (c) N.A. (v) (a) N.A. (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

- (i) 2929 lb./ac.
- (ii) 78.6 lb./ac.
- (iii) Treatment differences are highly significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2701
2.	2993
3.	3091
S.E./mean	= 31.9 lb./ac.

Crop :- Paddy.

Ref :- M. 52(50).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'M'.

Object :—To find out the residual effect of night soil compost and F.Y.M. applied on equal N basis in the previous season.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 29.8.52/13.10.1952. (iv) (a) 5 ploughings. (b) Transplanting. (c)—(d) 6"×6". (e) 2. (v) Nil. (vi) CO.-19. (vii) Irrigated. (viii) Weeding one month after planting. (ix) 22.58". (x) 11.2.1953.

2. TREATMENTS :

Residual effects of

1. No manure.
2. Night soil compost to supply 60 lb./ac. of N.
3. F.Y.M. to supply 60 lb./ac. of N.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 134'×7'. (b) 133'×6'. (v) Outer row treated as guard row. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Flowering duration, grain & straw yield. (iv) (a) 1949—1952. (b) Yes. (c) N.A. (v) (a) N.A. (b) Nil. (vi) & (vii) Nil.

5. RESULTS:

- (i) 139 lb./ac.
 (ii) 110.9 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1865
2.	1778
3.	2024
S.E./mean	= 45.3 lb./ac.

Crop :- Paddy.

Ref :- M. 53(30).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'M'.

Object :- To find out the relative merits of night soil compost and F.Y.M. when applied on equal N basis.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 4.5.1953/28.5.1953. (iv) (a) 4 ploughings. (b) Planting in lines. (c) —. (d) 4' x 4". (e) 2. (v) Nil. (vi) CO-13. (vii) Irrigated. (viii) Weeding about one month after planting. (ix) 6.72". (x) 21.8.1953.

2. TREATMENTS :

1. No manure.
 2. Night soil compost to supply 60 lb./ac. of N.
 3. F.Y.M. to supply 60 lb./ac. of N.

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 67' x 13'. (b) 66½' x 12½'. (v) Outer rows discarded. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield and flowering duration. (iv) (a) 1949—1953. (b) Yes. (c) N.A. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

- (i) 3033 lb./ac.
 (ii) 351.7 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2880
2.	3138
3.	3077
S.E./mean	= 143.6 lb./ac.

Crop :- Paddy.

Ref :- M. 51(3).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'M'.

Object :- To find the effect of the application of phosphatic manure direct to Paddy crop and through the G.M. crop preceding Paddy crop.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) G.M. crops. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 23.9.51/25.10.51. (iv) (a) 4 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) Nil. (vi) CO. 2 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 22.5". (x) 3.1.52.

2. TREATMENTS :

1. No G.M. crop.
2. G.M. crop alone.
3. 30 lb./ac. of P_2O_5 as Super to G.M. crop.
4. G.M.+30 lb./ac. of P_2O_5 as Super to G.M. crop.
5. 45 lb./ac. of P_2O_5 to G.M. crop.
6. G.M.+45 lb./ac. of P_2O_5 to paddy at planting.
7. 60 lb./ac. of P_2O_5 to paddy.
8. G.M.+60 lb./ac. of P_2O_5 as Super to paddy at planting.

3. DESIGN :

- (i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) $76' \times 16'$. (b) $75' \times 15'$. (v) One row all round the net plot. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1951-1953. (b) Yes. (c) N.A. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1395 lb./ac.
 (ii) 143.2 lb./ac.
 (iii) Treatment differences are highly significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	834
2.	1307
3.	1706
4.	1256
5.	1557
6.	1426
7.	1557
8.	1522
S.E./mean	= 71.6 lb./ac.

Crop :- Paddy.

Site :- Rice Res. Stn., Tirurkuppam.

Ref :- M. 52(47).

Type :- 'M'.

Object :- To find out the effect of the application of phosphate manure direct to Paddy crop & through the G.M. crop preceding Paddy crop.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Sunnhemp, *Daincha* & *Sesbania*. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 28.8.52. (iv) (a) 4 to 6 ploughings. (b) Transplanting. (c) — (d) $6' \times 6'$. (e) 2 to 3. (v) Nil. (vi) CO.-18. (vii) Irrigated. (viii) Weeding about one month after planting. (ix) $6.90''$. (x) 5.11.52.

2. TREATMENTS :

1. No manure.
2. 45 lb./ac. of P_2O_5 alone as Super to be applied at the time of planting.
3. Sunnhemp grown without P_2O_5 but 45 lb./ac. of P_2O_5 as Super applied at the time of planting paddy.
4. Sunnhemp grown with 45 lb./ac. of P_2O_5 as Super.
5. *Daincha* grown without P_2O_5 but 45 lb./ac. of P_2O_5 as Super applied at the time of planting paddy.
6. *Daincha* grown with 45 lb./ac. of P_2O_5 as Super.
7. *Sesbania* grown without P_2O_5 but 45 lb./ac. of P_2O_5 as Super applied at the time of planting paddy.
8. *Sesbania* grown with 45 lb./ac. of P_2O_5 as Super.

3. DESIGN :

- (i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) $72' \times 16'$. (b) $71' \times 15'$. (v) Outer row treated as guard row. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield, flowering duration. (iv) (a) 1949-contd. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

- (i) 1617 lb./ac.
 (ii) 106.8 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1387
2.	1450
3.	1700
4.	1656
5.	1644
6.	1758
7.	1670
8.	1690

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

Crop :- Paddy.

Ref :- M. 53(29).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'M'.

Object:—To find out the effect of application of manure direct to Paddy crop and through the green manure crop preceding the Paddy crop.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Ragi. (c) Sunnhemp compost at 13,000 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 24.12.53/24.1.1954. (iv) (a) 4–6 ploughings. (b) Planting in lines. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) CO.-2. (vii) Irrigated. (viii) Weeding one month after planting. (ix) 27.91". (x) 8.4.54.

2. TREATMENTS :

Main-plot treatments :—

3 G.M. crops : G_1 = Sunnhemp, G_2 = *Daincha* and G_3 = *Sesbania*.

Sub-plot treatments :—

Application of P_2O_5 : P_0 = 0, P_1 = 45 lb./ac. of P_2O_5 through G.M. crop and P_2 = 45 lb./ac. of P_2O_5 direct to paddy crop.

3. DESIGN :

- (i) Split-plot. (ii) (a) 4 main-plots/block and 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 75'×14'. (b) 74'×13'. (v) Outer row treated as guard row. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) The crop had severe attack of stemborer. (iii) Flowering duration, grain and straw yield. (iv) (a) 1949—continued. (b) Treatments assigned to same plots since 1953. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 875 lb./ac.
 (ii) (a) 419.4 lb./ac.
 (b) 246.6 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	820	872	810	833
P_1	818	899	820	845
P_2	780	942	1120	947
Mean	805	903	916	875

S.E. of difference of two

1. G marginal means = 171.3 lb./ac.
 2. P marginal means = 100.7 lb./ac.
 3. P means at the same level of G = 174.4 lb./ac.
 4. G means at the same level of P = 222.7 lb./ac.

Crop :- Paddy.

Ref :- M. 50(2).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'M'.

Object :- To find out the suitable method of manuring semi-dry Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Daincha*. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 2.9.50. (iv) (a) 4 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2 or 3. (v) Nil. (vi) Adt-22 (medium). (vii) Irrigated. (viii) Two weedings. (ix) 19.0". (x) 25.1.51.

2. TREATMENTS :

1. Paddy sown alone.
2. Paddy with sunnhemp sown in alternate lines ; pulling out and trampling in sunnhemp between the lines of paddy after the outbreak of the monsoon.
Date of pulling and transplanting in sunnhemp—19.10.50.

3. DESIGN :

(i) Paired-plot. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) 47'×7'. (b) 46'×6'. (v) One row all round the net plot. (vi) No.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1946—1953. (b) No. (c) No. (v) (a) No. (b) Nil. (vi) Nil. (vii) Experiments in 1948 and 1949 failed.

5. RESULTS :

- (i) 839 lb./ac.
- (ii) 188.4 lb./ac.
- (iii) Treatment differences are significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	736
2.	941
S.E./mean	=54.4 lb./ac.

Crop :- Paddy.

Ref :- M. 51(4).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'M'.

Object :- To find out a suitable method of green manuring semi-dry Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 12.9.51. (iv) (a) 4 ploughings. (b) Drill sowing. (c) N.A. (d) 6"×6". (e) 2 or 3. (v) Nil. (vi) Adt-22 (medium). (vii) Irrigated. (viii) Two weedings. (ix) 10.31". (x) 4.2.52.

2. TREATMENTS :

1. Paddy sown alone.
2. Paddy with sunnhemp sown in lines 2' apart, pulling out and trampling in the sunnhemp plants between the lines of paddy 6—8 weeks after sowing at the time of irrigation i.e. on 31.10.51.

3. DESIGN :

(i) Paired-plot. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) 30'×12'. (b) 29'×11'. (v) One row all round the net plot. (vi) Yes.

4. GENERAL :

(i) The yields were very poor due to the drought conditions. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1946—1953. (b) No. (c) N.A. (v) (a) N.A. (b) Nil. (vi) Nil. (vii) The poor yields of manured plots due to the drought conditions. The little moisture available was utilised by the organic matter for decomposition effecting the growth of paddy.

5. RESULTS:

- (i) 1072 lb./ac.
 (ii) 280.6 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1	1327
2	816
S.E./mean	= 81.0 lb./ac.

Crop :- Paddy.

Ref :- M. 52 (48).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'M'.

Object :- To find out a suitable method of green manuring semi-dry Paddy.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) G.N.C. at 400 lb./ac. + A/S at 100 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 19.8.52. (iv) (a) 5 ploughings. (b) Drill sowing. (c) N.A. (d) 6" x 6". (e) 2. (v) Nil. (vi) Adt-22. (vii) Irrigated. (viii) Weeding about one month after planting. (ix) 26.26". (x) 13.1.53.

2. TREATMENTS :

- Paddy sown alone.
- Paddy sown with sunnhemp in lines 2' apart, pulling out and tramping in the sunnhemp plants between the lines of paddy 6 to 8 weeks after sowing at the time of irrigation.

3. DESIGN :

- (i) Paired-plot. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) 40' x 12'. (b) 39' x 11'. (v) One row all round the net plot. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1946-1953. (b) No. (c) N.A. (v) (a) No. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

- (i) 1258 lb./ac.
 (ii) 125.9 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1	1022
2	1493
S.E./mean	= 36.5 lb./ac.

Crop :- Paddy.

Ref :- M. 53 (28).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'M'.

Object :- To find out a suitable method of green manuring semi-dry Paddy.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Navara Paddy. (c) G.N.C. at 300 lb./ac. + A/S at 50 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 25.9.1953. (iv) (a) 4 to 6 ploughings. (b) Drill sowing. (c) N.A. (d) 6" x 6". (e) 2 or 3. (v) Nil. (vi) Adt-22. (vii) Irrigated. (viii) Weeding one month after planting. (ix) 26.84". (x) 22.2.1954.

2. TREATMENTS :

1. Paddy sown alone.
2. Paddy sown with sunnhemp in lines 2' apart pulling out and trampling in the sunnhemp plants between lines of paddy 6 to 8 weeks after sowing at the time of irrigation.

3. DESIGN :

- (i) Paired-plot. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) 42' x 12'. (b) 41' x 11'. (v) 1 row left as border all round the net plot. (vi) Yes.

4. GENERAL :

- (i) Owing to continuous wet weather after sowing both the green manure and paddy crops were affected adversely. The crops were poor. (ii) Nil. (iii) Grain and straw yield, flowering duration. (iv) (a) 1946-1953. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 294 lb./ac.
 (ii) 7.69 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	290
2.	297
S.E./mean	= 2.22 lb./ac.

Crop :- Paddy.

Ref :- M. 49 (17).

Site :- Rice. Res. Stn., Tirurkuppam.

Type :- 'M'.

Object :- To find out the residual effect of P_2O_5 on Paddy succeeding G.M. crop.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) G.M. crop. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 23.8.49/13.10.49. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6' x 6'. (e) 2. (v) Nil. (vi) CO. 19 (late). (vii) Irrigated. (viii) Weeding once. (ix) 27.96%. (x) 13.2.49.

2. TREATMENTS :

1. 30 lb./ac. of P_2O_5 (Super) to G.M. crop preceding paddy.
2. 30 lb./ac. of P_2O_5 (B.M.) to G.M. crop preceding paddy.
3. No P_2O_5 to G.M. crop but 30 lb./ac. of P_2O_5 (Super) to paddy direct.

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 66' x 21'. (b) 65' x 20'. (v) 1 row all round the net plot. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949-1950. (b) No. (c) N.A. (v) (a) No. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2087 lb./ac.
 (ii) 274.6 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2184
2.	1854
3.	2224
S.E./mean	= 112.1 lb./ac.

Crop :-Paddy.

Ref :-M.50 (1).

Site :-Rice Res. Stn., Tirurkuppam.

Type :-'M'.

Object :-To study the effect of P_2O_5 through a G.M. crop preceding Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sunnhemp. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 28.8.50/7.10.50. (iv) (a) 4 ploughings. (b) Transplanting. (c) —. (d) 6'×6'. (e) 2. (v) Nil. (vi) CO-19 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 20.0°. (x) 14.2.51.

2. TREATMENTS :

1. 30 lb./ac. of P_2O_5 as Super to G.M. crop preceding Paddy.
2. 30 lb./ac. of P_2O_5 as B.M. to G.M. crop preceding Paddy.
3. No P_2O_5 to G.M. crop but 30 lb./ac. of P_2O_5 as Super applied to Paddy crop at the time of planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 66'×21'. (b) 65'×20'. (v) One row all round the net plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949—1950. (b) No. (c) N.A. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2987 lb./ac.
- (ii) 324.8 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3014
2.	2758
3.	3189

S.E./mean = 132.6 lb./ac.

Crop :-Paddy.

Ref :-M- 49(19).

Site :-Rice Res. Stn., Tirurkuppam.

Type :-'M'.

Object :-To find the effect of P_2O_5 as Super and B.M.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 23.8.49/13.10.49. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6'×6'. (e) 2. (v) Nil. (vi) CO-19 (late). (vii) Irrigated. (viii) Weeding once. (ix) 27.96°. (x) 13.10.50.

2. TREATMENTS :

1. Super at 30 lb./ac. of P_2O_5 .
2. B.M. at 30 lb./ac. of P_2O_5 .
3. No P_2O_5 .

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 66'×21'. (b) 65'×20'. (v) One row all round the net plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949—1950. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1680 lb./ac.
- (ii) 112.2 lb./ac.
- (iii) Treatment differences are significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1792
2.	1637
3.	1610
S.E./mean	= 45.8 lb./ac.

Crop :- Paddy.

Ref :- M.50 (5).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'M'.

Object :- To study the residual effect of Phosphatic fertilizers given to the previous pulse crop on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Black gram. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 27.5.50/24.6.50. (iv) (a) 4 ploughings. (b) Transplanting. (c) —. (d) 4'×4'. (e) 2. (v) Nil. (vi) CO.-13. (short duration). (vii) Irrigated. (viii) 2 weedings. (ix) 18.0" (x) 20.9.50.

2. TREATMENTS :

1. 30 lb./ac. of P_2O_5 as Super.
2. 30 lb./ac. of P_2O_5 as B.M.
3. No P_2O_5

P_2O_5 applied to previous crop of Black-gram.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 65'×13'. (b) 64.3'×12.3'. (v) One row all round the net plot. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

- (i) 1014 lb./ac.
- (ii) 143.6 lb./ac.
- (iii) Treatment differences are significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1129
2.	961
3.	976
S.E./mean	= 58.7 lb./ac.

Crop :- Paddy.

Ref :- M. 50 (3).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'M'.

Object :- To find the effect of application of P_2O_5 in the form of Super and B.M. without a basal dressing of greenleaf.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 9.9.50/20.10.50. (iv) (a) 4 ploughings. (b) Transplanting. (c) —. (d) 6'×6'. (e) 2. (v) Nil. (vi) CO.-19 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 19.0". (x) 28.2.51.

2. TREATMENTS:

1. 30 lb./ac. of P_2O_5 as Super.
2. 30 lb./ac. of P_2O_5 as B.M.
3. No. P_2O_5 .

P_2O_5 applied at the time of planting.

3. DESIGN:

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 66'x21.5'. (b) 65'x20.5'. (v) One row all round the net plot. (vi) Yes.

4. GENERAL:

- (i) Satisfactory. (ii) Nil. (iii) Grain & straw yield. (iv) (a) 1949-1950. (b) No. (c) N.A. (v) (a) N.A. (b) Nil. (vi) & (vii) Nil.

5. RESULTS:

- (i) 1168 lb./ac.
 (ii) 103.6 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1259
2.	1105
3.	1144
S.E./mean	= 42.3 lb./ac.

Crop :- Paddy.

Site :- Rice Res. Stn. Tirurkuppam.

Ref :- M. 51(6).

Type :- M.

Object :- To find out the residual effect of phosphatic manures on Paddy, succeeding G.M crop of Sunnhemp.

1. BASAL CONDITIONS:

- (i) (a) Nil. (b) Sunnhemp. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 25.4.51/24.5.51. (iv) (a) 4 ploughings. (b) Transplanting. (c) —. (d) 4'x4'. (e) 2. (v) Nil. (vi) CO-13 (Short). (vii) Irrigated. (viii) 2 weedings. (ix) 19.00°. (x) 21.8.51.

2. TREATMENTS:

Treatments applied to previous crop of Sunnhemp.

1. 30 lb./ac. of P_2O_5 as Super.
2. 30 lb./ac. of P_2O_5 as B.M.
3. No P_2O_5 .

3. DESIGN:

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 64'x12'. (b) 63.3'x11.3'. (v) 1 row all round the net plot. (vi) Yes.

4. GENERAL:

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

5. RESULTS:

- (i) 1244 lb./ac.
 (ii) 221.2 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1324
2.	1125
3.	1231

S.E./mean = 90.3 lb./ac.

Crop :- Paddy. (Samba).

Ref :- M. 49(16),

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'M'.

Object :- To compare ultra Phos. with Super.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.N.C. at 403 lb./ac. + A/S at 100 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 8.10.49/21.11.49. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) 5000 lb./ac. of G.L. (vi) CO. 5 (Medium). (vii) Irrigated. (viii) Weeding once. (ix) 16.5". (x) 23.3.50.

2. TREATMENTS :

All combinations of (1) and (2) + one control (no manure)

(1) 2 levels of P_2O_5 :- $P_1=30$ and $P_2=45$ lb./ac.(2) 2 sources of P_2O_5 :- $S_1=$ Super and $S_2=$ ultra phosphate.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 73' x 8'. (b) 72' x 7'. (v) 1 row all round the net plot. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

(i) 1390 lb./ac.

(ii) 158.3 lb./ac.

(iii) 'Control vs others' is highly significant. Main effects and interaction are not significant.

(iv) Av. yield of grain in lb./ac.

Control = 1158 lb./ac.

	S_1	S_2	Mean
P_1	1459	1436	1447
P_2	1480	1418	1449
Mean	1469	1427	1448

S.E. of the marginal means = 45.7 lb./ac.

S.E. of body of table = 64.6 lb./ac.

Crop :- Paddy (2nd crop).

Ref :- Complex experiments (T.C.M.), 1953.

Centre :- Aduthurai (Madras).

Type :- 'M'.

Object :- I (a) To study the effect of types and levels of N and P on non-acidic soils.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Clay loam. (b) N.A. (iii) Transplanting. 19.11.53. (iv) N.A. (v) N.A. (vi) CO-25. (vii) Irrigated. (viii) N.A. (ix) N.A. (x) 8.4.54.

2. TREATMENTS :

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

(1) 3 levels of N : $N_0=0$, $N_1=20$ and $N_2=40$ lb./ac.

(2) 3 sources of N : A/S, A/N and Urea.

(3) 3 levels of P_2O_5 : $P_0=0$, $P_1=20$ and $P_2=40$ lb./ac.

and 3 extra treatments :

 $S_1=60$ lb./ac. of N + 40 lb./ac. of P_2O_5 . $S_2=40$ lb./ac. of N + 80 lb./ac. of P_2O_5 . $S_3=60$ lb./ac. of N + 80 lb./ac. of P_2O_5 .N as A/S and P_2O_5 as triple Super. Manuring done on 18.11.53.

3. DESIGN :

(i) 3rd confounded factorial design with 3 extra treatments in each block. (ii) (a) 12 plots/block and 3 blocks/replication. (b) N.A. (iii) 1. (iv) (a) N.A. (b) 1/46.9 acre, (v) N.A. (vi) Yes.

4. GENERAL :

(i) Lodging occurred in plots receiving higher doses of N. (ii) Nil. (iii) Yield data. (iv) (a) 1953-56. (b) No. (c) N.A. (v) (a) Karjat, Sahaspur, Burdwan, Mankhanda; Maruteru and Chalvai. (b) N.A. (vi) Nil. (vii) Nil.

5. RESULTS :

(i) 646 lb./ac.

(ii) 166.7 lb./ac.

(iii) Main effect of "levels of N" is highly significant. Others are not significant.

(iv) Av. yield of grain in lb./ac.

	N ₀	N ₁	N ₂	Mean	A/S	A/N	Urea
P ₀	306	434	644	461	402	531	451
P ₁	571	547	756	625	628	660	587
P ₂	354	789	724	622	636	652	579
Mean	410	590	708	570	555	614	539
A/S	—	628	595	612			
A/N	—	595	837	716			
Urea	—	547	692	620			
Mean	—	590	708	649			

Mean yield of 3 extra treatments

S₁=998 lb./ac.

S₂=692 lb./ac.

S₃=933 lb./ac.

S.E. /mean= 96.2 lb./ac.

S.E. of mean in the body of P × (level or source of N) table = 96.2 lb./ac.

S.E. of marginal means of P, level or source of N = 55.6 lb./ac.

S.E. of mean in the body of level × source of N table = 96.2 lb./ac.

S.E. of marginal mean of source of N = 68.1 lb./ac.

S.E. of marginal mean of N₁ or N₂ = 55.6 lb./ac.

Crop :- Paddy (2nd crop). Ref :- Complex experiments (T.C.M.), 1953.

Centre :- Aduthurai (Madras).

Type :- 'M'.

Object :- VI. To study the residual values of Phosphatic manures.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Clayey loam. (b) N.A. (iii) 11.9.53/4.11.53. (iv) N.A. (v) N.A. (vi) CO-25. (vii) Irrigated. (viii) N.A. (ix) N.A. (x) 9.3.54.

2. TREATMENTS :

5 treatments replicated in each block as follows :

(1) O = Untreated, 1 plot/block.

(2) C = Control, 6 plots/block.

(3) $P_{\frac{1}{2}}$ = $\frac{1}{2}$ unit dressing, 1 plot/block.

(4) P_1 = 1 unit dressing, 2 plots/block.

(5) P_2 = 2 unit dressing, 2 plots/block.

Unit dressing of Phosphate = 20 lb./ac. of P_2O_5 .

A basal dressing of 20 lb./ac. of N as A/S given to all treatments except 1.

3. DESIGN :

(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/46.9 acre. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield data. (iv) (a) 1953-56. (b) No. (c) N.A. (v) (a) Shimoga, Sahaspur, Burdwan, Mankhanada, Maruteru and Chalvai. (b) N.A. (vi) Nil. (vii) Nil.

5. RESULTS :

(i) 2459 lb./ac.

(ii) 203.4 lb./ac.

(iii) Treatment differences are highly significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield	S.E./mean
O	2112	101.7
C	2506	41.5
$P_{\frac{1}{2}}$	2552	101.7
P_1	2532	71.9
P_2	2368	71.9

Crop :- Paddy (2nd crop).

Ref :- Complex experiments (T.C.M.), 1953.

Centre :- Aduthurai (Madras).

Type :- 'M'.

Object :- To study the effect of artificial fertilizers in conjunction with organic manures.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Clayey loam. (b) N.A. (iii) 11.9.53/2.11.53. (iv) N.A. (v) N.A. (vi) CO-25. (vii) Irrigated. (viii) N.A. (ix) N.A. (x) 8.4.54.

2. TREATMENTS :

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

(1) 3 levels of N as A/S : $N_0=0$, $N_1=20$ and $N_2=40$ lb./ac.

(2) 3 levels of P_2O_5 as Super : $P_0=0$, $P_1=20$ and $P_2=40$ lb./ac.

(3) 3 levels of bulky manures : $F_0=0$, $F_1=10$ C.L./ac. and $F_2=20$ C.L./ac.

Manures applied before last puddling.

3. DESIGN :

(i) 3^3 factorial in R.B.D. (confounded). (ii) (a) 9 plots/block and 3 blocks/replication. (b) N.A. (iii) 1. (iv) (a) N.A. (b) 1/51.4 acre. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Lodging occurred in plots receiving high doses of N. (ii) Nil. (iii) Yield data. (iv) (a) 1953-56. (b) No. (c) N.A. (v) (a) Shimoga, Maruteru, and Chalvai. (b) N.A. (vi) Nil. (vii) Nil.

5. RESULTS :

(i) 1463 lb./ac.

(ii) 374.9 lb./ac.

(iii) Main effects and interactions are not significant.

(iv) Av. yield of grain in lb./ac.

	N ₀	N ₁	N ₂	Mean	F ₀	F ₁	F ₂
P ₀	1188	1673	1691	1494	1559	1515	1409
P ₁	1259	1497	1480	1412	1101	1462	1673
P ₂	1383	1656	1453	1497	1647	1453	1391
Mean	1253	1609	1541	1468	1435	1477	1491
F ₀	1162	1559	1585				
F ₁	1286	1673	1471				
F ₂	1312	1594	1567				

S.E. of marginal means

=124.9 lb./ac.

S.E. of mean in the body of table

=216.4 lb./ac.

Crop :- Paddy (*Samba*). Ref :- Scheme for manurial trials (Stewart's Scheme), 1951.

Centre :- Tanjavur (Madras).

Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur District.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Paddy. (c) N.A. (ii) Clay loam. (iii) 5000 lb./ac. of G.L. (iv) CO-19. (v) N.A. (vi) July-Aug. 1951. (vii) Irrigated. (viii) N.A. (ix) 6.35". (x) Feb. 1952.

2. TREATMENTS :

1. Control.

2. 30 lb./ac. of N as A/S.

3. 30 lb./ac. of N as A/S+30 lb./ac. of P₂O₅ as Super.

All treatments including control received a basal dressing of 5,000 lb./ac. of G.L.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under Paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 2 fields. (iii) (a) 25 cents. (b) A sample plot of 5 to 6 cents harvested to estimate the yield. (108.9' × 29'). (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height, tillers, no. of grains/earhead. (iv) (a) 1951-1954. (But modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1954 lb./ac.

(ii) 552.6 lb./ac.

(iii) Treatment differences are not significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1625
2.	1977
3.	2259
S.E./mean	= 390.8 lb./ac.

Crop :- Paddy (Samba). Ref :- Scheme for manurial trials (Stewart's Scheme), 1951.

Centre :- Kumbakonam (Madras).

Type 'M'

Object :- To find out the response to a particular manurial recommendation for Paddy under local variations in ryot's fields in Tanjavur District.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Clay loam. (iii) As per treatments. (iv) CO.—25. (v) N.A. (vi) July—Aug. 1951. (vii) Irrigated. (viii) N.A. (ix) 4.48". (x) Feb. 1952.

2. TREATMENTS :

1. Control.
 2. 30 lb./ac. of N as A/S.
 3. 30 lb./ac. of N as A/S+30 lb./ac. of P_2O_5 as Super.
- All treatments including control received a basal dressing of 5000 lb./ac. of G.L.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under Paddy in each taluk. No randomisation adopted in the selection of field. (ii) Three fields. (iii) (a) 25 cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers etc. (iv) (a) 1951—54 (Modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2280 lb./ac.
- (ii) 724.0 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2158
2.	2351
3.	2332
S.E./mean	= 418.0 lb./ac.

Crop :- Paddy (Samba). Ref :- Scheme for manurial trials (Stewart's Scheme) 1951.

Centre :- Nannilam. (Madras).

Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in ryot's fields in Tanjavur District.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Clay and clay loam. (iii) As under treatments. (iv) CO.—25 (Adt 1 for the 4th village). (v) N.A. (vi) July—Aug. 1951. (vii) Irrigated. (viii) N.A. (ix) 8.96". (x) Feb. 1952.

2. TREATMENTS :

1. Control.
2. 30 lb./ac. of N as A/S.
3. 30 lb./ac. of N as A/S+30 lb./ac. of P_2O_5 as Super.

All treatments including control received a basal dressing of 5,000 lb./ac. of G.L.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under Paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 6 fields. (iii) (a) 25 cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, earhead measurement etc. (iv) (a) 1951-1954 (Modified in 52.) (b) & (c) N.A. (v) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 2437 lb./ac.
 (ii) 375.7 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2124
2.	2552
3.	2634
S.E./mean	= 153.4 lb./ac.

Crop :- Paddy (*Samba*.) Ref :- Scheme for manurial trials (Stewart's Scheme), 1951.

Centre :- Nagapatnam (Madras).

Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur District.

1. BASAL CONDITIONS :

- (i) (a) N.A. (b) N.A. (c) N.A. (ii) Sandy loam. (iii) As per treatments. (iv) CO-25 (v) N.A. (vi) July-August, 1951. (vii) Irrigated. (viii) N.A. (ix) 5.56%. (x) Feb. 1952.

2. TREATMENTS :

- Control.
- 30 lb./ac. of N as A/S.
- 30 lb./ac. of N as A/S + 30 lb./ac. of P_2O_5 as Super.

All treatments including control received a basal dressing of 5,000 lb./ac. of G.L.

3. DESIGN :

- (i) Actual number of experiments in each taluk was based on the total area under Paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 4 fields. (iii) (a) 25 cents. (b) 108.9' x 29'. (iv) N.A.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, etc. (iv) (a) 1951-1954 (Modified in 1952). (b) & (c) N.A. (v) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 2581 lb./ac.
 (ii) 150.4 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2459
2.	2576
3.	2709
S.E./mean	= 75.2 lb./ac.

Crop :- Paddy (*Samba*). Ref :- Scheme for manurial trials (Stewart's Scheme) 1951.

Centre :- Tirutuaripundi (Madras)

Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur District.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Alluvial soil. (iii) As per treatments. (iv) Adt 8 ; Adt 2 and CO-25 (v) N.A. (vi) July-Aug. 1951. (vii) Irrigated. (viii) N.A. (ix) 6.91". (x) Feb. 1952.

2. TREATMENTS :

1. Control.
2. 30 lb./ac. of N as A/S.
3. 30 lb./ac. of N as A/S+30 lb./ac. of P₂O₅ as Super.

All treatments including Control received a basal dressing of 5,000 lb./ac. of G.L.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under Paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 3 fields. (iii) (a) 25 Cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers etc. (iv) (a) 1951-54. (Modified in 1952). (b) & (c) N.A. (v) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 2646 lb./ac.
- (ii) 362.7 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2399
2.	2683
3.	2855
S.E./mean	= 209.4 lb./ac.

Crop :-Paddy (*Samba*). Ref :- Scheme for manurial trials (Stewart's Scheme), 1951.

Centre :- Mayavaram (Madras).

Type :- 'M'.

Object :- To find out the response to particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur District.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Black clay loam. (iii) As per treatments. (iv) CO-25 (CO-19 for the 4th village); (v) N.A. (vi) July-Aug. 1951. (vii) Irrigated. (viii) N.A. (ix) 15.71". (x) Feb. 1952.

2. TREATMENTS :

1. Control.
2. 30 lb./ac. of N. as A/S.
3. 30 lb./ac. of N. as A/S+30 lb./ac. of P₂O₅ as Super.

All treatments including Control received a basal dressing of 5,000 lb./ac. of G.L.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under Paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 4 fields. (iii) (a) 25 cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers etc. (iv) (a) 1951-54. (modified in 1952) (b) & (c) N.A. (v) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 2660 lb./ac.
- (ii) 340.4 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2656
2.	2580
3.	2744
S.E./mean	= 170.2 lb./ac.

Crop :- Paddy (Samba). Ref :- Scheme for manurial trials (Stewart's Scheme) 1951.

Centre :- Shiyali (Madras)

Type :- 'M'

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in ryots' field in Tanjavur District.

1. BASAL CONDITIONS :

- (i) (a) N.A. (b) N.A. (c) N.A. (ii) Clayey. (iii) As per treatments. (iv) Add. 1 for villages 1 & 2. CO-25 for villages 3 & 4 (v) N.A. (vi) July-Aug. 1951. (vii) Irrigated. (viii) N.A. (ix) 4.18". (x) Feb. 1952

2. TREATMENTS :

- 1. Control.
- 2. 30 lb./ac. of N as A/S.
- 3. 30 lb./ac. of N as A/S+30 lb./ac. of P_2O_5 as Super.

All treatments including control received a basal dressing of 5,000 lb./ac. of G.L.

3. DESIGN :

- (i) Actual number of experiments in each taluk was based on the total area under Paddy in each taluk. No. randomisation adopted in the selection of fields. (ii) 4 fields. (iii) (a) 25 cents. (b) 108.9'x29'. (iv) N.A.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers etc. (iv) (a) 1951-54 (Modified in 1952). (b) & (c) N.A. (v) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 3104 lb./ac.
- (ii) 282.4 lb./ac.
- (iii) Treatments differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2920
2.	3083
3.	3310
S E/mean	= 141.2 lb./ac.

Crop :- Paddy (Samba). Ref :- Scheme for manurial trials (Stewart's Scheme), 1951.

Centre :- Pattukotai. (Madras)

Type :- 'M'

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in ryots' fields in Tanjavur District

1. BASAL CONDITIONS :

- (i) (a) N.A. (b) N.A. (c) N.A. (ii) Loam to Clayey loam. (iii) As per treatments. (iv) CO-25. (v) N.A. (vi) July-Aug. 1951. (vii) Irrigated. (viii) N.A. (ix) 6.25". (x) Feb. 1952.

2. TREATMENTS:

1. Control.
2. 30 lb./ac. of N as A/S.
3. 30 lb./ac. of N as A/S + 30 lb./ac. of P_2O_5 as Super.

All treatments including control received a basal dressing of 5,000 lb./ac. of G.L.

3. DESIGN:

- (i) Actual number of experiments in each taluk was based on the total area under Paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 2 fields. (iii) (a) 25 cents. (b) 108.9' x 29'. (iv) N.A.

4. GENERAL:

- (i) Satisfactory. (ii) Nil. (iii) Height, no. of tillers etc. (iv) (a) 1951-54 (modified in 1952). (b) & (c) N.A. (v) N.A. (vi) & (vii) Nil.

5. RESULTS:

- (i) 2987 lb./ac.
 (ii) 451.6 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.:-

Treatment	Av. yield
1.	2826
2.	3326
3.	2810
S.E./mean	= 319.4 lb./ac.

Crop :- Paddy (*Samba*). Ref :- Scheme for manurial trials (Stewart's Scheme), 1951.

Centre :- Peravurani sub-Circle (Madras). Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur District.

1. BASAL CONDITIONS:

- (i) (a) N.A. (b) N.A. (c) N.A. (ii) Clay loam. (iii) As per treatments. (iv) CO-19. (v) N.A. (vi) July-Aug. 1951. (vii) Irrigated. (viii) N.A. (ix) 17.53". (x) Feb. 1952.

2. TREATMENTS:

1. Control.
2. 30 lb./ac. of N as A/S.
3. 30 lb./ac. of N as A/S + 30 lb./ac. of P_2O_5 as Super.

All treatments including control received a basal dressing of 5,000 lb./ac. of G.L.

3. DESIGN:

- (i) Actual number of experiments in each taluk was based on the total area under Paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 3 fields. (iii) (a) 25 cents. (b) 108.9' x 29'. (iv) N.A.

4. GENERAL:

- (i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers etc. (iv) (a) 1951-54 (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS:

- (i) 2410 lb./ac.
 (ii) 467.1 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.:-

Treatment	Av. yield
1.	2222
2.	2300
3.	2707
S.E./mean	= 269.7 lb./ac.

Crop :- Paddy (*Samba*). Ref :- Scheme for manurial trials (Stewart's Scheme), 1951.
Centre :- Orathnad sub-circle. (Madras) Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur District.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Clay loam. (iii) As per treatments. (iv) N.A. (v) N.A.
(vi) July—Aug. 1951. (vii) Irrigated. (viii) N.A. (ix) 18.34. (x) Feb. 1952.

2. TREATMENTS :

1. Control.
2. 30 lb./ac. of N as A/S.
3. 30 lb./ac. of N as A/S+30 lb./ac. of P₂O₅ as Super.

All treatments including control received a basal dressing of 5,000 lb./ac. of G.L.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under Paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 2 fields. (iii) (a) 25 cents, (b) 108.9'×29', (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers etc. (iv) (a) 1951—54 (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1502 lb./ac.
- (ii) 315.3 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1302
2.	1426
3.	1777
S.E./mean	= 223.0 lb./ac.

Crop :- Paddy. Ref :- Scheme for manurial trials (Stewart's Scheme), 1951.
Centre :- Mannargudi (Madras). Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur District.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Aluvium. (iii) As per treatments. (iv) Adt-10, CO-25 Adt-8 & CO-25 for villages 1, 2, 3 and 4 selected for experimentation. (v) N.A. (vi) July—Aug. 1951. (vii) Irrigated. (viii) N.A. (ix) 7.94. (x) Feb., 1952.

2. TREATMENTS :

1. Control.
2. 30 lb./ac. of N as A/S.
3. 30 lb./ac. of N as A/S+30 lb./ac. of P₂O₅ as Super.

All treatments including control received a basal dressing of 5,000 lb./ac. of G.L.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under Paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 4 fields. (iii) (a) 25 cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers etc. (iv) (a) 1951-1954. (modified in 1953). (b) & (c) N.A. (v) N.A. (vi) & (vii) Nil.

5. RESULTS:

- (i) 2218 lb./ac.
- (ii) 748.8 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1939
2.	2346
3.	2368
S.E./mean	= 374.4 lb./ac.

Crop :- Paddy. (*Samba*). Ref :- Scheme for manurial trials (Stewart's Scheme) 1952.

Centre :- Mayuram (Madras).

Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur District.

1. BASAL CONDITIONS:

- (i) (a) N.A. (b) N.A. (c) N.A. (ii) Black clay loam. (iii) As per treatments. (iv) N.A. (v) N.A. (vi) July-Aug 1952. (vii) Irrigated. (viii) N.A. (ix) 22.21". (x) Feb. 1953.

2. TREATMENTS:

- 1. *Ryots'* method— C.M. at 8-10 C.L./ac.
- 2. G.M., at 5000 lb./ac. (control).
- 3. Treat (2)+30 lb./ac. of N as A/S.
- 4. Treat (3)+30 lb./ac. of P₂O₅ as Super.

A/S applied as top-dressing between 3rd and 4th week after transplantation of *Kurvai* and 5-6 weeks after transplantation of *Samba*.

3. DESIGN:

- (i) Actual number of experiments in each taluk was based on the total area under Paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 4 fields. (iii) (a) 25 cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL:

- (i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers etc. (iv) (a) 1951-54, modified in 1952. (b) & (c) N.A. (v) N.A. (vi) & (vii) Nil.

5. RESULTS:

- (i) 1968 lb./ac.
- (ii) 118.4 lb./ac.
- (iii) Treatment differences are highly significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1846
2.	1748
3.	2034
4.	2246
S.E./mean	= 59.2 lb./ac.

Crop :-Paddy (Samba). Ref :-Scheme for manurial trials (Stewart's Scheme), 1952.

Centre :-Shiyali (Madras)

Type :-'M'.

Object :-To find out the average response to a particular manurial recommendation for Paddy under local variations in ryots' fields in Tanjavur District.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Clayey. (iii) As per treatments. (iv) N.A. (v) N.A. (vi) July—August 1952. (vii) Irrigated. (viii) N.A. (ix) 23.96". (x) Feb. 1953.

2. TREATMENTS :

1. Ryots' method—C.M. at 8-10 C.L./ac.
 2. G.M. at 5,000 lb./ac. (control).
 3. Treat. (2)+30 lb./ac. of N as A/S.
 4. Treat. (3)+30 lb./ac. of P_2O_5 as Super.
- A/S applied as top-dressing 5—5 weeks after transplantation.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under Paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 2 fields. (iii) (a) 25 cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height and no. of tillers etc. (iv) (a) 1951—54 (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1719 lb./ac.
- (ii) 41.9 lb./ac.
- (iii) Treatment differences are significant t.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1650
2.	1567
3.	1758
4.	1900
S.E./mean	= 29.6 lb./ac.

Crop :-Paddy (Samba). Ref :-Scheme for manurial trials (Stewarts' Scheme), 1952.

Centre :-Kumbakonam (Madras)

Type :-'M'.

Object :-To find out the reponse to a particular manurial recommendation for Paddy under local variations in ryots' fields in Tanjavur District.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Clay loam. (iii) As per treatments. (iv) N.A. (v) N.A. (vi) July—Aug. 52. (vii) Irrigated. (viii) N.A. (ix) 16.34". (x) Feb. 1953.

2. TREATMENTS :

1. Ryots' method—C.M. at 8-10 C.L./ac.
 2. G.M. at 5,000 lb./ac. (control).
 3. Treat. (2)+30 lb./ac. of N as A/S.
 4. Treat. (3)+30 lb./ac. of P_2O_5 as Super.
- A/S applied as top-dressing 5—5 weeks after transplantaation.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under Paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 2 fields. (iii) (a) 25 cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Plant height and tiller counts and grain yield. (iv) (a) 1951-54 (modified 1952). (b) N.A. (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS:

- (i) 2345 lb./ac.
 (ii) 141.9 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2107
2.	2189
3.	2461
4.	2622
S.E./mean	= 100.4 lb./ac.

Crop :- Paddy (Samba). Ref :- Scheme for manurial trials (Stewart's Scheme), 1952.

Centre :- Papanasam (Madras)

Type :- 'M'.

Object :- To find out the response to a particular (manurial recommendation for Paddy) under local variations ryot's fields in Tanjavur District.

1. BASAL CONDITIONS:

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Clay and clay loam. (iii) Nil. (iv) N.A. (v) N.A. (vi) July-Aug. 1952. (vii) Irrigated. (viii) N.A. (ix) 18.85%. (x) Feb. 1953.

2. TREATMENTS:

- Ryots' method—C.M. at 8-10 C.L./ac.
 - G.M. at 5,000 lb./ac. (control).
 - Treat (2)+30 lb./ac. of N as A/S.
 - Treat (3)+30 lb./ac. of P_2O_5 as Super.
- A/S applied as top-dressing 5-6 weeks after transplantation.

3. DESIGN:

(i) Actual number of experiments in each taluk was based on the total area under Paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 5 fields. (iii) (a) 25 cents. (b) 108.9' x 29'. (iv) N.A.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, earhead measurement and grain yield. (iv) (a) 1951-54 (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS:

- (i) 1793 lb./ac.
 (ii) 114.0 lb./ac.
 (iii) Treatment differences are highly significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1466
2.	1700
3.	1937
4.	2067
S.E./mean	= 51.0 lb./ac.

Crop :- Paddy (Samba). Ref :- Scheme for manurial trials (Stewart's Scheme), 1952.

Centre :- Tirurur (Madras) Type :- 'M'.

Object :-To find out the response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur District.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Clay loam. (iii) Nil. (iv) N.A. (v) N.A. (vi) July-Aug. 1952. (vii) Irrigated. (viii) N.A. (ix) 17.42". (x) Feb. 1953.

2. TREATMENTS :

1. *Ryots'* method—C.M. at 8-10 C.L./ac.
 2. G.M. at 5,000 lb./ac. (control).
 3. Treat. (2)+30 lb./ac. of N as A/S.
 4. Treat. (3)+30 lb./ac. of P_2O_5 as Super.
- A/S applied at top dressing 5—6 weeks after transplantation.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under Paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 3 fields. (iii) (a) 25 cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) (a) 1951—54) (modified in 1952. (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1704 lb./ac.
- (ii) 205.2 lb./ac.
- (iii) Treatment differences are significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1300
2.	1511
3.	1922
4.	2083
S.E./mean	=118.5 lb./ac.

Crop :- Paddy. (Samba). Ref :- Scheme for manurial trials (Stewart's Scheme), 1952.

Centre :- Tanjavur (Madras) Type :- 'M'.

Object :-To find out the response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur District.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Clay loam. (iii) Nil. (iv) N.A. (v) N.A. (vi) July-Aug. 1952. (vii) Irrigated. (viii) N.A. (ix) 14.15". (x) Feb. 1953.

2. TREATMENTS :

1. *Ryots'* method—C.M. at 8-10 C.L./ac.
 2. G.M. at 5,000 lb./ac. (control).
 3. Treat. (2)+30 lb./ac. of N as A/S.
 4. Treat. (3)+30 lb./ac. of P_2O_5 as Super.
- A/S applied at top-dressing 5-6 weeks after transplantation.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 5 fields. (iii) (a) 25-cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) (a) 1951-54 (but modified in 1952). (b) & (c) N.A. (v) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 2045 lb./ac.
 (ii) 3090 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1832
2.	1955
3.	2062
4.	2329
S.E./mean	= 138.2 lb./ac.

Crop :- Paddy (Samba). Ref :- Scheme for manurial trials (Stewart's Scheme), 1952.

Centre :- Pattukkotai.

Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in ryots' fields in Tanjavur District.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Loam and Clayey loam. (iii) Nil. (iv) N.A. (v) N.A. (vi) July-Aug 1952. (vii) Irrigated. (viii) N.A. (ix) 22.64%. (x) Feb. 1953.

2. TREATMENTS :

1. Ryots' method-C.M. at 8-10 C.L./ac.
2. G.M. at 5000 lb./ac. (control).
3. Treat. (2)+30 lb./ac. of N as A/S.
4. Treat. (3)+30 lb./ac. of P₂O₅ as Super.

A/S applied as top-dressing 5-6 weeks after transplantation.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 6 fields (iii) (a) 25 cents. (b) 108.9' x 29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) (a) 1951-54 (modified in 1952). (b) & (c) N.A. (v) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 1963 lb./ac.
 (ii) 183.4 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1846
2.	1823
3.	2005
4.	2177
S.E./mean	= 74.9 lb./ac.

Crop :- Paddy (Samba). Ref :- Scheme for manurial trials (Stewarts' Scheme), 1952.

Centre :- Mannargudi (Madras).

Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in ryots' fields in Tanjavur District.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Alluvial. (iii) Nil. (iv) N.A. (v) N.A. (vi) July—Aug. 1952. (vii) Irrigated. (viii) N.A. (ix) 18.48". (x) Feb. 1953.

2. TREATMENTS :

1. Ryots' method—C.M. at 8-10 C.L./ac.
 2. G.M. at 5,000 lb./ac. of N (Control).
 3. Treat. (2)+30 lb./ac. of N as A/S.
 4. Treat. (3)+30 lb./ac. of P_2O_5 as Super.
- A/S applied as top-dressing 5—6 weeks after transplantation.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 6 fields. (iii) (a) 25 cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height and no. of tillers etc. (iv) (a) 1951—54 (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1945 lb./ac.
- (ii) 326.5 lb./ac.
- (iii) Treatment differences are highly significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1641
2.	1833
3.	1792
4.	2515
S.E./mean	= 133.3 lb./ac.

Crop :- Paddy (Samba). Ref :- Scheme for manurial trials (Stewarts' Scheme), 1952.

Centre :- Tiruturaipundi (Madras).

Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendations for Paddy under local variations in ryots' fields in Tanjavur District.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Alluvial. (iii) Nil. (iv) N.A. (v) N.A. (vi) July—Aug. 1952. (vii) Irrigated. (viii) N.A. (ix) 22.03". (x) Feb. 1953.

2. TREATMENTS :

1. Ryots' method—C.M. at 8-10 C.L./ac.
 2. G.M. at 5,000 lb./ac. (control).
 3. Treat. (2)+30 lb./ac. of N as A/S.
 4. Treat. (3)+30 lb./ac. of P_2O_5 as Super.
- A/S applied as top-dressing 5—6 weeks after transplantation.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 7 fields. (iii) (a) 25 cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height and no. of tillers etc. (iv) (a) 1951—54 (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1188 lb./ac.
 (ii) 304.1 lb./ac.
 (iii) Treatment differences are highly significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	952
2.	897
3.	1147
4.	1754
S.E./mean	= 115.2 lb./ac.

Crop :- Paddy (Samba). Ref :- Scheme for manurial trials (Stewart's Scheme), 1952.

Centre :- Papanasam.

Type :- 'M'

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variation in *ryots'* fields in Tanjavur District.

1. BASAL CONDITIONS :

- (i) (a) N.A. (b) N.A. (c) N.A. (ii) Cauvery alluvium. (iii) Nil. (iv) N.A. (v) N.A. (vi) July-Aug. 1952. (vii) Irrigated. (viii) N.A. (ix) 21.14°. (x) Feb. 1953.

2. TREATMENTS :

1. *Ryots'* method—C.M. at 8—10 C.L./ac.
 2. G.M. at 5,000 lb./ac. (control).

3. Treat. (2) +30 lb./ac. of N as A/S.
 4. Treat. (3) +30 lb./ac. of P_2O_5 as Super.

A/S applied as top-dressing 5—6 weeks after transplantation.

3. DESIGN :

- (i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 4 fields. (iii) (a) 25 cents. (b) 108.9' x 29' (iv) N.A.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Plant heights, no. of tillers, grain yield etc. (iv) (a) 1951—54 (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2536 lb./ac.
 (ii) 345.6 lb./ac.
 (iii) Treatment differences are highly significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2134
2.	2026
3.	3073
4.	2909
S.E./mean	= 172.8 lb./ac.

Crop :- Paddy (Thaladi). Ref :- Scheme for manurial trials (Stewart's Scheme), 1952.

Centre :- Mayuram (Madras).

Type :- 'M'

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur District.

1. BASAL CONDITIONS :

- (i) (a) N.A. (b) N.A. (c) N.A. (ii) Clay loam. (iii) Nil. (iv) N.A. (v) N.A. (vi) October 1952. (vii) Irrigated. (viii) N.A. (ix) 10.53°. (x) Feb.-March 1953.

2. TREATMENTS :

1. *Ryots'* method—C.M. at 8—10 C.L./ac.
2. G.M. at 5,000 lb./ac (control).
3. Treat (2)+30 lb./ac. of N as A/S.
4. Treat (3)+30 lb./ac. of P_2O_5 as Super.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 2 fields. (iii) (a) 25 cents. (b) 10.8.9'×29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) (a) 1951—54. (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1407 lb./ac.
- (ii) 47.7 lb./ac.
- (iii) Treatment differences are highly significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1057
2.	1513
3.	1410
4.	1647
S.E./mean	= 33.7 lb./ac.

Crop :- Paddy (*Thaladi*). Ref :- Scheme for manurial trials (Stewart's Scheme), 1952.

Centre :- Kumbakonam (Madras)

Type :- 'M'.

Object :- To find out the response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur District.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Clay loam. (iii) Nil. (iv) N.A. (v) N.A. (vi) Oct. 1952. (vii) Irrigated. (viii) N.A. (ix) 8.51°. (x) March 1953.

2. TREATMENTS :

1. *Ryots'* method—C.M. at 8—10 C.L./ac.
2. G.M. at 5,000 lb./ac.
3. Treat (2)+30 lb./ac. of N as A/S.
4. Treat (3)+30 lb./ac. of P_2O_5 as Super.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under Paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 2 fields. (iii) (a) 25 cents. (b) 10.8.9'×29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) (a) 1951—54 (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1448 lb./ac.
- (ii) 295.5 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1206
2.	1537
3.	1605
4.	1446
S.E./mean	= 209.0 lb./ac.

Crop :- Paddy (*Kuruvai*). Ref :- Scheme for manurial trials (Stewart's Scheme), 1952.

Centre :- Mayuram (Madras).

Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur District.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Black clay loam. (iii) Nil. (iv) N.A. (v) N.A. (vi) June 1952. (vii) Irrigated. (viii) N.A. (ix) 14.05°. (x) October 1952.

2. TREATMENTS :

1. *Ryots'* method—C.M. at 8—10 C.L./ac.
 2. G.M. at 5,000 lb./ac. (control).
 3. Treat (2)+30 lb./ac. of N as A/S.
 4. Treat (3)+30 lb./ac. of P_2O_5 as Super.
- A/S applied as top-dressing between 3rd and 4th week after transplantation.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 2 fields. (iii) (a) 25 cents. (b) 108.9'x29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) (a) 1951—54. (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2213 lb./ac.
- (ii) 268.8 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1947
2.	2006
3.	2399
4.	2498
S.E./mean	= 190.1 lb./ac.

Crop :- Paddy (*Kuruvai*). Ref :- Scheme for manurial trials (Stewart's Scheme), 1952.

Centre :- Kumbakonam (Madras)

Type :- 'M'.

Object :- To find out the response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur District.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Clay loam. (iii) Nil. (iv) N.A. (v) N.A. (vi) June 1951. (vii) Irrigated. (viii) N.A. (ix) 14.35°. (x) October 1952.

2. TREATMENTS :

1. *Ryots'* method—C.M. 8-10 C.L./ac.
 2. G.M. at 5,000 lb./ac. (Control).
 3. Treat (2)+30 lb./ac. as A/S.
 4. Treat (3)+30 lb./ac. of P_2O_5 as Super.
- A/S applied as top-dressing between 3rd and 4th week after transplanation.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 2 fields. (iii) (a) 25 cents. (b) 108.9'x29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height and no. of tillers etc. (iv) (a) 1951-54. (modified in 1952). (b) & (c) N.A. (v) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 2034 lb./ac.
 (ii) 101.2 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1893
2.	1963
3.	2060
4.	2220
S.E./mean	= 71.6 lb./ac.

Crop :- Paddy (*Samba*). Ref :- Scheme for manurial trials (Stewart's Scheme), 1953.

Centre :- Pattukkottai (Madras).

Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in ryots' fields in Tanjavur District.

1. BASAL CONDITIONS :

- (i) (a) N.A., (b) N.A., (c) N.A., (ii) Loam and clayey loam, (iii) Nil, (iv) N.A., (v) N.A., (vi) July-Aug. 1953. (vii) Irrigated. (viii) N.A. (ix) 31.11". (x) Feb. 1954.

2. TREATMENTS :

1. Ryots' method-C.M. at 8-10 C.L./ac.
2. G.M. at 5,000 lb./ac. (Control).
3. Treat. (2)+30 lb./ac. of N as A/S.
4. Treat. (3)+30 lb./ac. of P_2O_5 as Super.

A/S applied as top-dressing 5-6 weeks after transplantation. Super applied in furrow during 1st ploughing.

3. DESIGN :

- (i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 10 fields. (iii) (a) 25 cents. (b) 108.9'x29'. (iv) N.A.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) (a) 1951-54. (modified in 1952). (b) & (c) N.A. (v) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 1576 lb./ac.
 (ii) 187.4 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1479
2.	1415
3.	1560
4.	1850
S.E./mean	= 59.3 lb./ac.

Crop :- Paddy. (*Samba*). Ref :- Scheme for manurial trials (Stewart's Scheme), 1953.

Centre :- Tanjavur.

Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in ryots' fields in Tanjavur District.

1. BASAL CONDITIONS :

- (i) (a) N.A., (b) N.A., (c) N.A., (ii) Clay loam, (iii) Nil, (iv) N.A., (v) N.A., (vi) July-Aug. 1953. (vii) Irrigated. (viii) N.A. (ix) 20.16". (x) Feb. 1954.

2. TREATMENTS :

1. *Ryots'* method—C.M. at 8-10 C.L./ac.
2. G.M. at 5,000 lb./ac. (control).
3. Treat. (2)+30 lb./ac. of N as A/S.
4. Treat. (3)+30 lb./ac. of P_2O_5 as Super.
A/S applied as top-dressing 5-6 weeks after transplantation. Super applied in furrow during 1st ploughing.

2. DESIGN :

- (i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 6 fields. (iii) (a) 25 cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) (a) 1951-1954 (modified in 1952). (b) & (c) N.A. (v) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 2306 lb./ac.
(ii) 164.6 lb./ac.
(iii) Treatment differences are significant.
(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2165
2.	2216
3.	2333
4.	2508
S.E./mean	= 67.2 lb./ac.

Crop :- Paddy (*Samba*). Ref :- Scheme for manurial trials(Stewart's Scheme), 1953.

Centre :- Papanasam (Madras).

Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur District.

1. BASAL CONDITIONS :

- (i) (a) N.A. (b) N.A. (c) N.A. (ii) Alluvium. (iii) Nil. (iv) N.A. (v) N.A. (vi) July— Aug, 1953. (vii) Irrigated. (viii) N.A. (ix) 19.58." (x) Feb. 1954.

2. TREATMENTS :

1. *Ryots'* method—C.M. at 8-10 C.L./ac.
2. G.M. at 5,000 lb./ac. (Control).
3. Treat. (2)+30 lb./ac. of N as A/S.
4. Treat. (3)+30 lb./ac. of P_2O_5 as Super.
A/S applied as top-dressing 5-6 weeks after transplantation. Super applied in furrow during 1st ploughing.

3. DESIGN :

- (i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 4 fields. (iii) (a) 25 cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) (a) 1951-1954 (modified in 1952). (b) & (c) N.A. (v) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 1947 lb./ac.
(ii) 156.4 lb./ac.
(iii) Treatment differences are significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1517
2.	1885
3.	2132
4.	2252
S.E./mean	= 78.2 lb./ac.

Crop :- Paddy (Samba). Ref :- Scheme for manurial trials (Stewarts' Scheme), 1953.

Centre :- Mannargudi (Madras). Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur District.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Alluvial. (iii) Nil. (iv) N.A. (v) N.A. (vi) July-Aug. 1953. (vii) Irrigated. (viii) N.A. (ix) 31.28°. (x) Feb. 1954.

2. TREATMENTS :

- Ryots'* method—C.M. at 8-10 C.L./ac.
- G.M. at 5,000 lb./ac. (control).
- Treat (2)+30 lb./ac. of N as A/S.
- Treat (3)+30 lb./ac. of P₂O₅ as Super.

A/S applied as top-dressing 5—6 weeks after transplantation.

Super applied in furrows during first ploughing.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under Paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 6 fields. (iii) (a) 25 cents. (b) 108.9' x 29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height and no. of tillers etc. (iv) (a) 1951—54 (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

- 2624 lb./ac.
- 204.2 lb./ac.
- Treatment differences are significant.
- Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2164
2.	2533
3.	2866
4.	2934
S.E./mean	= 83.4 lb./ac.

Crop :- Paddy (Samba). Ref :- Scheme for manurial trials (Stewarts' Scheme), 1953.

Centre :- Tirturaipundi (Madras).

Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur District.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Alluvial. (iii) Nil. (iv) N.A. (v) N.A. (vi) July-Aug. 1953. (vii) Irrigated. (viii) N.A. (ix) 36.84°. (x) Feb. 1954.

2. TREATMENTS :

1. *Ryots'* Method—C.M. at 8-10 C.L./ac.
2. G.M. at 5,000 lb./ac. (control).
3. Treat (2)+30 lb./ac. of N as A/S.
4. Treat (3)+30 lb./ac. of P_2O_5 as Super.
A/S applied as top-dressing 5—6 weeks after transplantation,
Super applied in furrows during 1st ploughing.

3. DESIGN :

- (i) Actual number of experiments in each taluk was based on the total area under Paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 6 fields. (iii) (a) 25 cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Plant height and no. of tillers etc. (iv) (a) 1951—54 (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2307 lb./ac.
(ii) 420.0 lb./ac.
(iii) Treatment differences are significant.
(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2048
2.	2009
3.	2395
4.	2774
S.E./mean	= 171.5 lb./ac.

Crop :- Paddy (*Samba*). Ref :- Scheme for manurial trials (Stewart's Scheme), 1953.

Centre :- Nannilam.

Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur District.

1. BASAL CONDITIONS :

- (i) (a) N.A. (b) N.A. (c) N.A. (ii) Clay and clay loam. (iii) Nil. (iv) N.A. (v) N.A. (vi) July-August 1953. (vii) Irrigated. (viii) N.A. (ix) 27.14". (x) Feb. 1954.

2. TREATMENTS :

1. *Ryots'* method—C.M. at 8—10 C.L./ac.
2. G.M. at 5,000 lb./ac. (control).
3. Treat (2)+30 lb./ac. of N as A/S.
4. Treat (3)+30 lb./ac. of P_2O_5 as Super.
A/S applied as top-dressing 5—6 weeks after transplantation. Super applied in furrows during 1st ploughing.

3. DESIGN :

- (i) Actual number of experiments in each taluk was based on the total area under Paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 6 fields. (iii) (a) 25 cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers and no. of earheads etc. (iv) (a) 1951—54 (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 3641 lb./ac.
(ii) 171.9 lb./ac.
(iii) Treatment differences are significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3289
2.	3476
3.	3790
4.	4008
S.E./mean	=70.2 lb./ac.

Crop :- Paddy (Samba). Ref :- Scheme for manurial trials (Stewart's Scheme), 1953.

Centre :- Nagapattinam (Madras).

Type :- 'M'.

Object :- To find out the average response of a particular manurial recommendation on Paddy under local variations in *ryots'* fields in Tanjavur District.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Sandy loam. (iii) Nil. (iv) N.A. (v) N.A. (vi) July-August 1953. (vii) Irrigated. (viii) N.A. (ix) 32.84". (x) February 1954.

2. TREATMENTS :

- Ryots'* method—C.M. at 8—10 C.L./ac.
- G.M. at 5,000 lb./ac. (control).
- Treat. (2)+30 lb./ac. of N as A/S.
- Treat. (3)+30 lb./ac. of P₂O₅ as Super.

A/S applied as top-dressing 5—6 weeks after transplantation. Super applied in furrows during 1st ploughing.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under Paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 4 fields. (iii) (a) 25 cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) N.A. (iii) Plant height, tiller count and earhead measurements etc. (iv) (a) 1951—54 (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

- 3567 lb./ac.
- 94.2 lb./ac.
- Treatment differences are significant.
- Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3324
2.	3405
3.	3722
4.	3816

S.E./mean = 47.1 lb./ac.

Crop :- Paddy (Samba). Ref :- Scheme for manurial trials (Stewart's Scheme), 1953.

Centre :- Kumbakonam (Madras).

Type 'M'.

Object :- To find out the average response of a particular manurial recommendation on Paddy under local variations in *ryots'* fields in Tanjavur District.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Clay loam. (iii) Nil. (iv) N.A. (v) N.A. (vi) July-Aug. 1953. (vii) Irrigated. (viii) N.A. (ix) 18.13". (x) Feb. 1954.

2. TREATMENTS :

1. Ryots' method + C.M. at 8-10 C.L./ac.
2. G.M. 5,000 lb./ac. (control).
3. (2)+30 lb./ac. of N as A/S.
4. (3)+30 lb./ac. of P_2O_5 as Super.

A/S applied as top dressing 5-6 weeks after transplantation. Super applied in furrows during 1st ploughing.

3. DESIGN :

- (i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 4 fields. (iii) (a) 25 cents. (b) 108.9' x 29'. (iv) N.A.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) (a) 1951-54. (modified in 1952) (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2542 lb./ac.
(ii) 117.8 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2183
2.	2380
3.	2814
4.	2792
S.E./mean	= 58.9 lb./ac.

Crop :- Paddy (*Samba*). Ref :- Scheme for manurial trials (Stewart's Scheme), 1953.

Centre :- Mayuram (Madras).

Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in ryots' fields in Tanjavur district.

1. BASAL CONDITIONS :

- (i) (a) N.A. (b) N.A. (c) N.A. (ii) Black clay loam. (iii) Nil. (iv) N.A. (v) N.A. (vi) July-Aug. 1953. (vii) Irrigated. (viii) N.A. (ix) 36.36". (x) Feb. 1954.

2. TREATMENTS :

1. Ryots' method :- C.M. at 8-10 C.L./ac.
2. G.M. 5,000 lb./ac. (control).
3. (2)+30 lb./ac. of N as A/S.
4. (3)+30 lb./ac. of P_2O_5 as Super.

A/S applied as top dressing 5-6 weeks after transplantation. Super applied in furrows during 1st ploughing.

3. DESIGN :

- (i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 4 fields. (iii) (a) 25 cents. (b) 108.9' x 29'. (iv) N.A.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) (a) 1951-1954 (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1895 lb./ac.
(ii) 171.2 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1846
2.	1733
3.	1962
4.	2040
S.E./mean	= 85.6 lb./ac.

Crop :- Paddy (Samba). Ref :- Scheme for manurial trials (Stewart's Scheme), 1953.
Centre :- Sirkali (Madras). Type :- 'M'.

Object :-To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur district.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Clay loam. (iii) Nil. (iv) N.A. (v) N.A. (vi) July—Aug. 1953. (vii) Irrigated. (viii) Nil. (ix) 23.62". (x) Feb. 1954.

2. TREATMENTS :

1. *Ryots'* method :—C.M. at 8 to 10 C.L./ac.
 2. G.M. 5,000 lb./ac. (control).
 3. (2)+30 lb./ac. of N as A/S.
 4. (3)+30 lb./ac. of P_2O_5 as Super.
- A/S applied as top dressing 5 to 6 weeks after transplantation. Super applied in furrows during 1st ploughing.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 2 fields. (iii) (a) 25 cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) (a) 1951—1954 (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2554 lb./ac.
- (ii) 233.5 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2880
2.	2250
3.	2392
4.	2692
S.E./mean	= 165.1 lb./ac.

Crop :- Paddy (Thaladi). Ref :- Scheme for manurial trials (Stewart's Scheme), 1953.
Centre :- Tanjavur (Madras). Type :- 'M'.

Object :-To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur district.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Clay loam. (iii) Nil. (iv) N.A. (v) N.A. (vi) October 1953. (vii) Irrigated. (viii) N.A. (ix) 7.50". (x) Feb.—March 1954.

2. TREATMENTS :

1. *Ryots'* method :—C.M. at 8 to 10 C.L./ac.
 2. G.M. 5,000 lb./ac. (control).
 3. (2)+30 lb./ac. of N as A/S.
 4. (3)+30 lb./ac. of P_2O_5 as Super.
- Super applied in furrows during 1st ploughing.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 6 fields. (iii) (a) 25 cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) (a) 1951—54 (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS:

- (i) 1954 lb./ac.
- (ii) 215.5 lb./ac.
- (iii) Treatment differences are significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1730
2.	1805
3.	2103
4.	2185
S.E./mean	= 88.0 lb./ac.

Crop :- Paddy. Ref :- Scheme for manurial trials (Stewart's Scheme), 1953.
Centre :- Papanasam (Madras). Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in ryots' fields in Tanjavur district.

1. BASAL CONDITIONS :

- (i) (a) N.A. (b) N.A. (c) N.A. (ii) Alluvium. (iii) Nil. (iv) N.A. (v) N.A. (vi) October 1953.
- (vii) Irrigated. (viii) N.A. (ix) 11.23". (x) Feb.-March 1954.

2. TREATMENTS :

- 1. Ryots' method : C.M. at 8-10 C.L./ac.
 - 2. G.M. 5,000 lb./ac. (control).
 - 3. (2)+30 lb./ac. of N as A/S.
 - 4. (3)+30 lb./ac. of P₂O₅ as Super.
- Super applied in furrows during 1st ploughing.

3. DESIGN :

- (i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 3 fields. (iii) (a) 25 cents. (b) 108.9' x 29'. (iv) N.A.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) (a) 1951-54. (modified in 1952). (b) & (c) N.A. (v) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 999 lb./ac.
- (ii) 103.9 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	923
2.	982
3.	966
4.	1125
S.E./mean	= 60.0 lb./ac.

Crop :- Paddy (*Thaladi*). Ref :- Scheme for manurial trials (Stewart's Scheme), 1953.

Centre :- Maunargudi (Madras).

Type :- 'M'

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur district.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Alluvial. (iii) Nil. (iv) N.A. (v) N.A. (vi) October 1953. (vii) Irrigated. (viii) N.A. (ix) 19.74°. (x) Feb.-March 1954.

2. TREATMENTS :

1. *Ryots'* method :- C.M. at 8-10 C.L./ac.
2. G.M. 5,000 lb./ac. (control).
3. (2)+30 lb./ac. as A/S.
4. (3)+30 lb./ac. of P_2O_5 as Super.
Super applied in furrows during first ploughing.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 6 fields. (iii) (a) 25' cents. (b) 108.9' x 29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers and grain yield etc. (iv) (a) 1951-54 (modified in 1952). (b) & (c) N.A. (v) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 1859 lb./ac.
- (ii) 465.3 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1742
2.	1622
3.	1975
4.	2096
S.E./mean	= 190.0 lb./ac.

Crop :- Paddy (*Thaladi*). Ref :- Scheme for manurial trials (Stewart's Scheme), 1953.

Centre :- Tiruturaipudi (Madras).

Type :- 'M'

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur district.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Alluvial. (iii) Nil. (iv) N.A. (v) N.A. (vi) October 1953. (vii) Irrigated. (viii) N.A. (ix) 25.65°. (x) Feb.-March 1954.

2. TREATMENTS :

1. *Ryots'* method :- C.M. at 8-10 C.L./ac.
2. G.M. 5,000 lb./ac. (control).
3. (2)+30 lb./ac. of N as A/S.
4. (3)+30 lb./ac. of P_2O_5 as Super.
Super applied in furrows during 1st ploughing.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 4 fields. (iii) (a) 25 cents. (b) 108.9' x 29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers and grain yield etc. (iv) (a) 1951-54 (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1005 lb./ac.
 (ii) 273.6 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	886
2.	811
3.	1084
4.	1237
S.E./mean	=136.8 lb./ac.

Crop :- Paddy (Thaladi). Ref :- Scheme for manurial trials (Stewart's Scheme), 1953.

Centre :- Pattukkottai (Madras).

Type :- 'M'

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur district.

1. BASAL CONDITIONS :

- (i) (a) N.A. (b) N.A. (c) N.A. (ii) Loam and clayey loam. (iii) Nil. (iv) N.A. (v) N.A. (vi) October 1953. (vii) Irrigated. (viii) N.A. (ix) 23.13". (x) Feb.-March 1954.

2. TREATMENTS :

- Ryots'* method :—C.M. at 8—10 C.L./ac.
 - G.M. 5,000 lb./ac. (control).
 - (2) +30 lb./ac. of N as A/S.
 - (3) +30 lb./ac. of P_2O_5 as Super.
- Super applied in furrows during first ploughing.

3. DESIGN :

- (i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 6 fields. (iii) (a) 25 cents. (b) 108.9' × 29'. (iv) N.A.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) (a) 1951—54 (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 948 lb./ac.
 (ii) 102.9 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	826
2.	868
3.	971
4.	1128
S.E./mean	=42.0 lb./ac.

Crop :- Paddy (Thaladi). Ref :- Scheme for manurial trials (Stewart's Scheme), 1953.

Centre :- Nannilam (Madras).

Type :- 'M'

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur district.

1. BASAL CONDITIONS :

- (i) (a) N.A. (b) N.A. (c) N.A. (ii) Clay and clay loam. (iii) Nil. (iv) N.A. (v) N.A. (vi) October 1953. (vii) Irrigated. (viii) N.A. (ix) 21.05". (x) March 1954.

2. TREATMENTS :

1. *Ryots*' Method :—C.M. at 8-10 C.L./ac.
2. G.M. 5,000 lb./ac. (control).
3. (2)+30 lb./ac. of N as A/S.
4. (3)+30 lb./ac. of P_2O_5 as Super.
Super applied in furrows during 1st ploughing.

3. DESIGN :

- (i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 6 fields. (iii) (a) 25 cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, earhead measurement, grain yield etc. (iv) (a) 1951-1954. (modified in 1952). (b) & (c) N.A. (v) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 2171 lb./ac.
- (ii) 195.9 lb./ac.
- (iii) Treatment differences are significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1975
2.	2021
3.	2270
4.	2416
S.E./mean	= 80.0 lb./ac.

Crop :- Paddy (*Thaladi*). Ref :- Scheme for manurial trials (Stewart's Scheme), 1953.

Centre :- Negapattenam (Madras).

Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots*' fields in Tanjavur district.

1. BASAL CONDITIONS :

- (i) (a) N.A. (b) N.A. (c) N.A. (ii) Sandy loam. (iii) Nil. (iv) N.A. (v) N.A. (vi) October, 1953. (vii) Irrigated. (viii) N.A. (ix) 24.88°. (x) Feb. 1954.

2. TREATMENTS :

1. *Ryots*' method :—C.M. at 8-10 C.L./ac.
2. G.M. 5,000 lb./ac. (control).
3. (2)+30 lb./ac. of N as A/S.
4. (3)+30 lb./ac. of P_2O_5 as Super.
Super applied in furrows during 1st ploughing.

3. DESIGN :

- (i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 3 fields. (iii) (a) 25 cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, earhead measurement, grain yield etc. (iv) (a) 1951-1954 (modified in 1952). (b) & (c) N.A. (v) N.A.

5. RESULTS :

- (i) 2702 lb./ac.
- (ii) 299.6 lb./ac.
- (iii) Treatment differences are significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2144
2.	2700
3.	2897
4.	3068
S.E./mean	= 173.0 lb./ac.

Crop :-Paddy (Thaladi). Ref :-Scheme for manurial trials (Stewart's Scheme), 1953.
Centre :-Kumbakonam (Madras). Type :-'M'.

Object :-To find out the average response to a particular manurial recommendation for Paddy under local variations in ryots' fields in Tanjavur district.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Alluvial. (iii) Nil. (iv) N.A. (v) N.A. (vi) Oct. 1953. (vii) Irrigated. (viii) N.A. (ix) 11.27". (x) Feb. 1954.

2. TREATMENTS :

1. Ryots' method :-C.M. at 8-10 C.L./ac.
2. G.M. 5,000 lb./ac. (control).
3. (2)+30 lb./ac. of N as A/S.
4. (3)+30 lb./ac. of P₂O₅ as Super.
Super applied in furrows during 1st ploughing.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 4 fields. (iii) (a) 25 cents. (b) 108.9'x29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) (a) 1951-54 (modified in 1952); (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2283 lb./ac.
- (ii) 180.0 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2175
2.	2184
3.	2401
4.	2372
S.E./mean	= 90.0 lb./ac.

Crop :-Paddy (Thaladi). Ref :-Scheme for manurial trials (Stewart's Scheme), 1953.
Centre :-Mayuram (Madras). Type :-'M'.

Object :-To find out the average response to a particular manurial recommendation for Paddy under local variations in ryots' fields in Tanjavur district.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Black clay loam. (iii) Nil. (iv) N.A. (v) N.A. (vi) October 1953. (vii) Irrigated. (viii) N.A. (ix) 27.81". (x) Feb. and March 1954.

2. TREATMENTS :

1. Ryots' method :—C.M. at 8—10 C.L./ac.
2. G.M. 5,000 lb./ac. (Control).
3. (3)+30 lb./ac. of N as A/S.
4. (3)+30 lb./ac. of P_2O_5 as Super.
Super applied in furrows during 1st ploughing.

3. DESIGN :

- (i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 6 fields. (iii) (a) 25 cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) (a) 1951—54 (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1131 lb./ac.
(ii) 88.2 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1244
2.	1275
3.	1337
4.	1386
S.E./mean	= 36.0 lb./ac.

Crop :- Paddy (*Thaladi*). Ref :- Scheme for manurial trials (Stewart's Scheme), 1953.

Centre :- Sirkali (Madras).

Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in ryots' fields in Tanjavur district.

1. BASAL CONDITIONS :

- (i) (a) N.A. (b) N.A. (c) N.A. (ii) Clayey. (iii) Nil. (iv) N.A. (v) N.A. (vi) October 1953. (vii) Irrigated. (viii) N.A. (ix) 25.84°. (x) Feb.-March 1954.

2. TREATMENTS :

1. Ryots' method :—C.M. at 8-10 C.L./ac.
2. G.M. 5,000 lb./ac. (control).
3. (2)+30 lb./ac of N as A/S.
4. (3)+30 lb./ac. of P_2O_5 as Super.
Super applied in furrows during first ploughing.

3. DESIGN :

- (i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 4 fields. (iii) (a) 25 cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) (a) 1951-54. (modified in 1952). (b) & (c) N.A. (v) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 2379 lb./ac.
(ii) 368.0 lb./ac.
(iii) Treatment differences are not significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2173
2.	2263
3.	2390
4.	2690
S.E./mean	= 184.0 lb./ac.

Crop :- Paddy (Kuruvai). Ref :- Scheme for manurial trials (Stewart's Scheme), 1953.

Centre :- Tanjavur (Madras). Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in ryots' fields in Tanjavur district.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Clay loam. (iii) Nil. (iv) N.A. (v) N.A. (vi) Juns. 1953. (vii) Irrigated. (viii) N.A. (ix) 20.84". (x) October 1953.

2. TREATMENTS :

1. Ryots' method:—C.M. at 8-10 C.L./ac.
2. G.M. 5,000 lb./ac. (control).
3. (2)+30 lb./ac. of N as A/S.
4. (3)+30 lb./ac. of P₂O₅ as Super.

A/S applied as top dressing 3—4 weeks after transplantation. Super applied in furrows during first ploughing.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 6 fields. (iii) (a) 25 cents. (b) 108.9' x 29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) (a) 1951-54. (modified in 1952). (b) & (c) N.A. (v) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 2652 lb./ac.
- (ii) 142.8 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2418
2.	2567
3.	2770
4.	2854
S.E./mean	= 58.3 lb./ac.

Crop :- Paddy (Kuruvai). Ref :- Scheme for manurial trials (Stewart's Scheme), 1953.

Centre :- Papanasam (Madras). Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendation for Paddy, under local variations in ryots' fields in Tanjavur district.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Alluvial. (iii) Nil. (iv) N.A. (v) N.A. (vi) June 1953. (vii) Irrigated. (viii) N.A. (ix) 13.84". (x) Oct. 1953.

2. TREATMENTS :

1. *Ryots'* method :—C.M. at 8 to 10 C.L./ac.
2. G.M. 5,000 lb./ac. (control).
3. (2)+30 lb./ac. of N as A/S.
4. (3)+30 lb./ac. of P_2O_5 as Super.
A/S applied as top dressing 3—4 weeks after transplantation.
Super applied in furrows during 1st ploughing.

3. DESIGN :

- (i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 4 fields. (iii) (a) 25 cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) (a) 1951—54 (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2484 lb./ac.
(ii) 107.6 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2350
2.	2564
3.	2428
4.	2593
S.E./mean	= 53.8 lb./ac.

Crop :-Paddy (*Kuruvai*). Ref :-Scheme for manurial trials (Stewart's Scheme), 1953.

Centre :-Mannargudi (Madras). Type :-'M'.

Object :-To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur district.

1. BASAL CONDITIONS :

- (i) (a) N.A. (b) N.A. (c) N.A. (ii) Alluvial. (iii) Nil. (iv) N.A. (v) N.A. (vi) June 1953. (vii) Irrigated. (viii) N.A. (ix) 21.55°. (x) Oct. 1953.

2. TREATMENTS :

1. *Ryots'* method :—C.M. at 8—10 C.L./ac.
2. G.M. 5,000 lb./ac. (control).
3. (2)+30 lb./ac. of N as A/S.
4. (3)+30 lb./ac. of P_2O_5 as Super.
A/S applied as top dressing 3—4 weeks after transplantation.
Super applied in furrows during 1st ploughing.

3. DESIGN :

- (i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 6 fields. (iii) (a) 25 cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) (a) 1951—54 (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2734 lb./ac.
(ii) 244.9 lb./ac.
(iii) Treatment differences are significant.
(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2438
2.	2625
3.	2928
4.	2944
S.E./mean	= 100.0 lb./ac.

Crop :- Paddy (*Kuruvai*). Ref :-Scheme for manurial trials (Stewart's Scheme), 1953.

Centre :- Tiruturaipundi (Madras). Type :- 'M'.

Object :-To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur district.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Alluvial. (iii) Nil. (iv) N.A. (v) N.A. (vi) June 1953. (vii) Irrigated. (viii) N.A. (ix) 32.31%. (x) October 1953.

2. TREATMENTS :

1. *Ryots'* method :—C.M. at 8—10 C.L./ac.

2. G.M. 5,000 lb./ac. (control).

3. (2)+30 lb./ac. of N as A/S.

4. (3)+30 lb./ac. of P_2O_5 as Super.

A/S applied as top dressing 3—4 weeks after transplantaion. Super applied in furrows during 1st ploughing.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 4 fields. (iii) (a) 25 cents. (b) 108.9' x 29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) 1951—54 (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2968 lb./ac.

(ii) 332.4 lb./ac.

(iii) Treatment differences are not significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2963
2.	2704
3.	3154
4.	3050
S.E./mean	= 166.2 lb./ac.

Crop :- Paddy (*Kuruvai*). Ref :-Scheme for manurial trials (Stewart's Scheme), 1953.

Centre :- Pattukkottai (Madras). Type :- 'M'.

Object :-To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields on Tanjavur district.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Loam and clayey loam. (iii) Nil. (iv) N.A. (v) N.A. (vi) June 1953. (vii) Irrigated. (viii) N.A. (ix) 14.34%. (x) October 1953.

2. TREATMENTS :

1. *Ryots'* method :—C.M. at 8—10 C.L./ac.

2. G.M. 5,000 lb./ac. (control).

3. (2)+30 lb./ac. of N as A/S.

4. (3)+30 lb./ac. of P_2O_5 as Super.

A/S applied as top dressing 3—4 weeks after transplantaion. Super applied in furrows during 1st ploughing.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 6 fields. (iii) (a) 25 cents. (b) 108.9' x 29'. (iv) N.A.

4. GENERAL: (i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) (a) 1951-54 (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS:

- (i) 2032 lb./ac.
- (ii) 356.6 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1706
2.	1917
3.	2191
4.	2313
S.E./mean	= 145.6 lb./ac.

Crop :- Paddy (*Kuruvai*). Ref :- Scheme for manurial trials (Stewart's Scheme), 1953.
 Centre :- Sirkali (Madras). Type :- 'M'

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in ryots' fields in Tanjavur district.

1. BASAL CONDITIONS:

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Clayey. (iii) Nil. (iv) N.A. (v) N.A. (vi) June 1953. (vii) Irrigated. (viii) N.A. (ix) 6.04". (x) October 1953.

2. TREATMENTS:

- 1. Ryots' method :- C.M. at 8-10 C.L./ac.
 - 2. G.M. 5,000 lb./ac. (control).
 - 3. (2)+30 lb./ac. of N as A/S.
 - 4. (3)+30 lb./ac. of P₂O₅ as Super.
- A/S applied as top dressing 3-4 weeks after transplantation. Super applied in furrows during 1st ploughing.

3. DESIGN:

(i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 4 fields. (iii) (a) 25 cents. (b) 108.9' x 29'. (iv) N.A.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) (a) 1951-54 (modified in 1952). (b) & (c) N.A. (v) N.A. (vi) & (vii) Nil.

5. RESULTS:

- (i) 3011 lb./ac.
- (ii) 437.8 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3079
2.	3079
3.	3113
4.	2775
S.E./mean	= 218.9 lb./ac.

Crop :- Paddy (*Kuruvai*). Ref :- Scheme for manurial trials (Stewart's Scheme), 1953.

Centre :- Mayuram (Madras).

Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur district.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Black clayey loam. (iii) Nil. (iv) N.A. (v) N.A. (vi) June 1953. (vii) Irrigated. (viii) N.A. (ix) 22.41". (x) October 1953.

2. TREATMENTS :

1. *Ryots'* method :- C.M. at 8-10 C.L./ac.
2. G.M. 5,000 lb./ac. (control).
3. (2)+30 lb./ac. of N as A/S.
4. (3)+30 lb./ac. of P_2O_5 as Super. A/S applied as top dressing 3-4 weeks after transplantation. Super applied in furrows during 1st ploughing.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 6 fields. (iii) (a) 25 cents. (b) 108.9' x 29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) (a) 1951-54 (modified in 1952). (b) & (c) N.A. (v) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 2284 lb./ac.
- (ii) 388.9 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2125
2.	2458
3.	2256
4.	2297
S.E./mean	= 158.8 lb./ac.

Crop :- Paddy (*Kuruvai*). Ref :- Scheme for manurial trials (Stewart's Scheme), 1953.

Centre :- Kumbakonam (Madras).

Type :- 'M'.

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur district.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Clay loam. (iii) Nil. (iv) N.A. (v) N.A. (vi) June 1953. (vii) Irrigated. (viii) N.A. (ix) 16.13". (x) Oct. 1953.

2. TREATMENTS :

1. *Ryots'* method :- C.M. at 8-10 C.L./ac.
2. G.M. 5,000 lb./ac. (control).
3. (2)+30 lb./ac. of N as A/S.
4. (3)+30 lb./ac. of P_2O_5 as Super. A/S applied as top dressing 3-4 weeks after transplantation. Super applied in furrows during 1st ploughing.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 4 fields. (iii) (a) 25 cents. (b) 108.9' x 29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, grain yield etc. (iv) (a) 1951-54 (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2518 lb./ac.

(ii) 725.4 lb./ac.

(iii) Treatment differences are not significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2862
2.	2453
3.	2547
4.	2208
S.E./mean	= 362.7 lb./ac.

Crop :- Paddy (Kuruvai). Ref :- Scheme for manurial trials (Stewart's Scheme), 1953.**Centre :- Nannilam (Madras).****Type :- 'M'.**

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavur district.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) Clay and clayey loam. (iii) Nil. (iv) N.A. (v) N.A. (vi) June 1953. (vii) Irrigated. (viii) N.A. (ix) 16.65". (x) October 1953.

2. TREATMENTS :

1. *Ryots'* method :- C.M. at 8-10 C.L./ac.

2. G.M. 5,000 lb./ac. (control).

3. (2)+30 lb./ac. of N as A/S.

4. (3)+30 lb./ac. of P_2O_5 as Super.

A/S applied as top dressing 3-4 weeks after transplantation. Super applied in furrows during 1st ploughing.

3. DESIGN :

(i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 6 fields. (iii) (a) 25 cents. (b) 108.9' x 29'. (iv) N.A.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Plant height, no. of tillers, earhead measurement, grain yield etc. (iv) (a) 1951-54 (modified in 1952). (b) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3254 lb./ac.

(ii) 379.6 lb./ac.

(iii) Treatment differences are significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2869
2.	2995
3.	3608
4.	3544
S.E./mean	= 155.0 lb./ac.

Crop :- Paddy (Kuruvai). Ref :- Scheme for manurial trials (Stewart's Scheme), 1953.**Centre :- Negapattinam (Madras).****Type :- 'M'.**

Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in *ryots'* fields in Tanjavure district.

BASAL CONDITIONS :

(a) N.A. (b) N.A. (c) N.A. (ii) Sandy-loam. (iii) Nil. (iv) N.A. (v) N.A. (vi) June 1953. (vii) Irrigated. (viii) N.A. (ix) 9.56". (x) Oct. 1953.

2. TREATMENTS :

1. Ryots' method :—C.M. at 8-10 C.L./ac.
2. G.M. 5,000 lb./ac. (control).
3. (2)+30 lb./ac. of N as A/S.
4. (3)+30 lb./ac. of P_2O_5 as Super.

A/S applied as top dressing 3-4 weeks after transplantation. Super applied in furrows during 1st ploughing.

3. DESIGN :

- (i) Actual number of experiments in each taluk was based on the total area under paddy in each taluk. No randomisation adopted in the selection of fields. (ii) 3 fields. (iii) (a) 25 cents. (b) 108.9'×29'. (iv) N.A.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Plant height, no of tillers, earhead measurement, grain yield etc. (iv) (a) 1951-54 (modified in 1952). (b) & (c) N.A. (v) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 2752 lb./ac.
- (ii) 233.6 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2487
2.	2739
3.	2931
4.	2849
S.E./mean	= 134.9 lb./ac.

Crop :- Paddy (*Kuruvai*).

Ref :- M. 48(14).

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

Type :- 'MV'.

Object :- To study the performance of three varieties of Paddy under manured and unmanured conditions.

1. BASAL CONDITIONS :

- (i) (a) Paddy-Paddy-Fallow. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 9.7.48./12.8.48. (iv) (a) 2 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) As under treatments (early). (vii) Irrigated. (viii) Nil. (ix) 12.5". (x) 5.11.48.

2. TREATMENTS :

Main-plot treatments :-

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :-

3 varieties :- $V_1=Adt. 19$; $V_2=CO. 13$ and $V_3=Asd. 1$

3. DESIGN :

- (i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a), (b) 22'×35' (main-plot) ; 7'×35' (sub-plot). (v) Nil. (vi) Yes.

4. GENERAL :

- (i) Fair. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947-1949. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Nil. (vii) 1948 (*Samba*) failed. Results for experiment conducted in 1949 N.A.

5. RESULTS :

- (i) 1109 lb./ac.
- (ii) (a) 728.0 lb./ac.
- (b) 415.6 lb./ac.
- (iii) The effect of varieties alone is highly significant.

(iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	Mean
V ₁	1292	1596	1444
V ₂	655	748	701.5
V ₃	1059	1305	1182
Mean	1002	1216	1109

S.E. of difference of two

1. M marginal means = 242.7 lb./ac.
2. V marginal means = 169.7 lb./ac.
3. V means at the same level of M = 239.9 lb./ac.
4. M means at the same level of V = 311.9 lb./ac.

Crop :- Paddy (Kar.)

Ref :- M. 48(86)

Site :- Rice Res. Stn., Ambasamudram.

Type :- MV

Object :- To study the performance of three varieties under manured and unmanured conditions (high level area).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 14.648/13.748. (iv) (a) 3 ploughings. (b) Transplanting. (c) —. (d) 4' x 4'. (e) 1. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) Weeding once. (ix) 3.76°. (x) 29.9.48 to 6.10.48.

2. TREATMENTS :

Main-plot treatments :-

2 levels of manure : M₀=0 and M₁=2000 lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S +112 lb./ac. of Super.

Sub-plot treatments :-

3 varieties : V₁=CQ. 13, V₂=Adt. 9 and V₃=Asd. 1.

3. DESIGN :

(i) Split-plot (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 42' x 33' (main-plot). 42' x 11'. (sub-plot). (b) 41½' x 10½' (sub-plot). (v) 3' around the net plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947-1950. (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2901 lb./ac.
- (ii) (a) 144.6 lb./ac. (b) 182.2 lb./ac.
- (iii) Main-plot and sub-plot treatments are highly significant. Interaction is not significant.
- (iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	Mean
V ₁	2729	3311	3020
V ₂	2608	3273	2941
V ₃	2480	3006	2743
Mean	2606	3197	2901

S.E. of difference of two

1. M marginal means = 48.2 lb./ac.
2. V marginal means = 74.4 lb./ac.
3. V means at the same level of M = 105.2 lb./ac.
4. M means at the same level of V = 98.6 lb./ac.

Crop :- Paddy (*Pishanam*).

Ref :- M. 48(82)/48(86).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'MV'.

Object :- To study the performance of three varieties of Paddy under manured and unmanured conditions (high level area).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 15.9.48/4.11.48. (iv) (a) 3 ploughings. (b) Transplanting. (c) —. (d) 6'×6'. (e) 2. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) Weeding once. (ix) 30.74%. (x) 9.2.49 to 16.2.49.

2. TREATMENTS :

Main-plot treatments :-

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L. + 400 lb./ac. of G.N.C. + 112 lb./ac. of Super + 50 lb./ac. of A/S.

Sub-plot treatments :-

3 varieties : $V_1=CO. 3$, $V_2=Adt. 8$ and $V_3=Asd. 5$.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6'. (iv) (a) 42'×33' (main-plot) ; 42'×11' (sub-plot). (b) 41½'×10½' (sub-plot) ; (v) 3" around the net plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2481 lb./ac.

(ii) (a) 225.1 lb./ac.

(b) 153.6 lb./ac.

(iii) Main-plot and sub-plot treatments are highly significant. Interaction is not significant.

(iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	2051	2753	2402
V_2	2030	2649	2340
V_3	2239	3164	2702
Mean	2107	2855	2481

S.E. of difference of two

1. M marginal means = 75.1 lb./ac.

2. V marginal means = 62.1 lb./ac.

3. V means at the same level of M = 88.7 lb./ac.

4. M means at the same level of V = 104.3 lb./ac.

Crop :- Paddy (*Kar*).

Ref :- M. 48(85).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'MV'.

Object :- To study the performance of three varieties of Paddy under manured and unmanured conditions (low level area).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 22.6.48/14.7.48. (iv) (a) 3 ploughings. (b) Transplanting. (c) —. (d) 4'×4'. (e) 1. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Weeding once. (ix) 7.76%. (x) 3.10.48 for CO. 13 ; 7.10.48 for Adt. 9 and 19.10.48 for Asd. 1.

2. TREATMENTS :**Main-plot-treatments :—**

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S +112 lb./ac. of Super.

Sub-plot treatments :—

3 varieties : $V_1=CO. 13$, $V_2=Adt. 9$ and $V_3=Asd. 1$.

3. DESIGN :

(i) Split-plot. (ii) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 42'×33' (main-plot). 42'×11' (sub-plot). (b) 41½'×10½' (sub-plot). (v) 3" around the net plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 3005 lb./ac.

(ii) (a) 151.7 lb./ac.

(b) 110.3 lb./ac.

(iii) Main-plot treatments, sub-plot treatments and their interaction are highly significant.

(iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	2550	2993	2772
V_2	2740	3225	2983
V_3	3265	3257	3261
Mean	2852	3158	3005

S.E. of difference of two

1. M marginal means = 50.6 lb./ac.
2. V marginal means = 45.0 lb./ac.
3. V means at the same level of M = 63.6 lb./ac.
4. M means at the same level of V = 72.5 lb./ac.

Crop :- Paddy (Pishanam).

Ref :- M. 48(83)/48(85).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'MV'.

Object :-To study the performance of three varieties of Paddy under manured and unmanured conditions (low level area).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 17.9.48/8 to 10.11.48. (iv) (a) 3 ploughings. (b) Transplanting. (c) —. (d) 6'×6' (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Weeding once. (ix) 30.74%. (x) 24th to 26th Feb. 1949.

2. TREATMENTS :**Main-plot treatments :—**

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S +112 lb./ac. of Super.

Sub-plot treatments :—

3 varieties : $V_1=CO. 3$, $V_2=Adt. 8$ and $V_3=Asd. 5$.

All are late varieties.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 42'×33' (main-plot) ; 42'×11' (sub-plot). (b) 41½'×10½' (sub-plot). (v) 3" around the net plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1794 lb./ac.
 (ii) (a) 256.4 lb./ac.
 (b) 169.2 lb./ac.
 (iii) Main-plot and sub-plot treatments are highly significant. Interaction is not significant.
 (iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	Mean
V ₁	1171	1970	1571
V ₂	1429	2324	1877
V ₃	1425	2444	1934
Mean	1342	2246	1794

S.E. of difference of two

1. M marginal means = 128.3 lb./ac.
 2. V marginal means = 69.1 lb./ac.
 3. V means at the same level of M = 97.7 lb./ac.
 4. M means at the same level of V = 116.9 lb./ac.

Crop :- Paddy (Kar).

Ref :- M. 49 (81)/48 (86, 82).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'MV'.

Object :- To study the performance of three varieties of Paddy under manured and unmanured conditions (high level area).

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 16.6.49/13.7.49. (iv) (a) 3 ploughings. (b) Transplanting. (c) — (d) 4" x 4". (e) 1. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Weeding once. (ix) 2.65". (x) 28.9.49 and 5.10.49.

2. TREATMENTS :

Main-plot treatments :

2 levels of manure : M₀=0 and M₁=2000 lb./ac. of G.L. + 400 lb./ac. of G.N.C. + 50 lb./ac. of A/S + 112 lb./ac. of Super.

Sub-plot treatments :

3 varieties : V₁=CO. 13, V₂=Adt. 9 and V₃=Asd. 1.

All are early varieties.

3. DESIGN :

- (i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) 42' x 54'. (iii) 6. (iv) (a) 42' x 27' (main-plot). 42' x 9'. (sub-plot). (b) 41' x 8' 4" (sub-plot) (v) about 6" x 4" left as border. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—contd. (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2914 lb./ac.
 (ii) (a) 161.6 lb./ac.
 (b) 161.8 lb./ac.
 (ih) Main-plot and sub-plot treatments differ significantly. Interaction is not significant.

(iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	Mean
V ₁	2287	3041	2664
V ₂	2371	3300	2835
V ₃	2743	3741	3242
Mean	2467	3361	2914

S.E. of difference of two

1. M marginal means = 53.9 lb./ac.
2. V marginal means = 66.0 lb./ac.
3. V means at the same level of M = 93.4 lb./ac.
4. M means at the same level of V = 93.4 lb./ac.

Crop :- Paddy (*Pishanam*). Ref :- M. 49 (76)/49 (81)/48 (86, 82).

Site :- Rice Res. Stn., Ambasamudram. Type :- MV.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions (high level area).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 24.9.49/29.10.49. (iv) (a) 3 ploughings. (b) Transplanting. (c) —. (d) 6' × 6'. (e) 2. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) Weeding once. (ix) 15.89°. (x) 12.2.50.

2. TREATMENTS :

Main-plot treatments :

2 levels of manure : M₀ = 0 and M₁ = 2000 lb./ac. of G.L. + 400 lb./ac. of G.N.C. + 50 lb./ac. of A/S + 112 lb./ac. of Super.

Sub-plot treatments :

3 varieties : V₁ = CO. 3, V₂ = Adt. 8 and V₃ = Asd. 5.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) 43' × 54'. (iii) 6. (iv) (a) 43' × 27' (main-plot), 43' × 9' (sub-plot). (b) 42' × 8' (sub-plot). (v) About 6" all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947-contd. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2167 lb./ac.
- (ii) (a) 163.7 lb./ac.
(b) 162.8 lb./ac.
- (iii) Main-plot and sub-plot treatments are significant. Interaction is not significant.
- (iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	Mean
V ₁	1639	2244	1942
V ₂	1853	2635	2244
V ₃	1924	2703	2314
Mean	1805	2527	2167

S.E. of difference of two

1. M marginal means = 54.6 lb./ac.
2. V marginal means = 66.4 lb./ac.
3. V means at the same level of M = 94.0 lb./ac.
4. M means at the same level of V = 94.1 lb./ac.

Crop :- Paddy (Kar).

Ref :- M. 49(82)/48(85,83).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions (low level area).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Clay loam. (b) Refer soil analysis, Ambasamudram. (iii) 13.6.49/8.7.49. (iv) (a) 3 ploughings. (b) Transplanting. (c) —. (d) 4' x 4". (e) 1. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Weeding once. (ix) 2.65". (x) 27.9.49, 3.10.49.

2. TREATMENTS:

Main-plot treatments :-

2 levels of manure :- $M_0=0$ and $M_1=2000$ lb./ac. of G.L. + 400 lb./ac. of G.N.C. + 50 lb./ac. of A/S + 112 lb./ac. of Super.

Sub-plot treatments :-

3 varieties :- $V_1=CO. 13$, $V_2=Adt. 9$ and $V_3=Asd. 1$.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) 47' x 54'. (iii) 6. (iv) (a) 47' x 27' (main-plot.) 47' x 9' (sub-plot). (b) 46' x 8' 4". (sub-plot). (v) 6" x 4" left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947-contd. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

- (i) 2894 lb./ac.
 (ii) (a) 120.5 lb./ac.
 (b) 120.5 lb./ac.
 (iii) Main-plot and sub-plot treatments and their interaction are significant.
 (iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	2308	2613	2461
V_2	2663	3258	2961
V_3	2897	3620	3259
Mean	2623	3164	2894

S.E. of difference of two

1. M marginal means = 40.2 lb./ac.
 2. V marginal means = 49.2 lb./ac.
 3. V means at the same level of M = 69.6 lb./ac.
 4. M means at the same level of V = 69.6 lb./ac.

Crop :- Paddy (Pishanam).

Ref :- M. 49(75)/49(82)/48(85,83).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions (low level area).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 15.9.49/26.10.49. (iv) (a) 3 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) Weeding once. (ix) 15.89". (x) 12 to 15.2.50.

2. TREATMENTS :

Main-plot treatments :-

2 levels of of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L. + 400 lb./ac. of G.N.C. + 50 lb./ac. of A/S + 112 lb./ac. of Super.

Sub-plot treatments :—3 varieties :— V_1 =CO. 3, V_2 =Adt. 8 and V_3 =Asd. 5.

All are late varieties.

3. DESIGN :(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) $47 \times 54'$. (iii) 6. (iv) (a) $27' \times 47'$ (main-plot). $47' \times 9'$ (sub-plot). (b) $46' \times 8'$. (sub-plot) (v) About 6" left as border. (vi) Yes.**4. GENERAL :**

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—contd. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

- (i) 2043 lb./ac.
 (ii) (a) 191.7 lb./ac.
 (b) 191.9 lb./ac.
 (iii) Main and sub-plot treatments are significant. Interaction is not significant.
 (iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	1550	2034	1792
V_2	1832	2308	2070
V_3	1955	2577	2266
Mean	1779	2306	2043

S.E. of difference of two

1. M marginal means = 63.9 lb./ac.
 2. V marginal means = 78.3 lb./ac.
 3. V means at the same level of M = 110.8 lb./ac.
 4. M means at the same level of V = 110.8 lb./ac.

Crop :- Paddy. (Kar).**Ref :- M. 50(10)/49(81,76)/48(86,82).****Site :- Rice Res. Stn., Ambasamudram.****Type :- 'MV'.****Object :— To study the response of three varieties of Paddy under manured and unmanured conditions (high level area).****1. BASAL CONDITIONS :**(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Red sandy loam. (b) Refer soil analysis, Ambasamudram. (iii) 15.6.50./8.7.50. (iv) (a) 5 ploughings. (b) Transplanting. (c)—. (d) $4' \times 4'$. (e) 1. (v) Nil. (vi) As per treatments (early). (vii) Irrigated. (viii) 2 weedings. (ix) 9.5%. (x) 7.10.50.**2. TREATMENTS :****Main-plot treatments :—**2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L. +400 lb./ac. of G.N.C. +50 lb./ac. of A/S +112 lb./ac. of Super.**Sub-plot treatments :—**3 varieties : V_1 =CO. 13, V_2 = Adt. 9 and V_3 =Asd.1.

All are of short duration varieties.

3. DESIGN :(i) Split plot. (ii) (a) 2 main-plots/block, 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) $42\frac{1}{2}' \times 25\frac{1}{2}'$ (main-plot). $42\frac{1}{2}' \times 8\frac{1}{2}'$ (sub-plot). (b) $42' \times 8'$. (sub-plot). (v) 3" around the net plot. (vi) Yes.**4. GENERAL :**

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947—1950. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS

- (i) 3232 lb./ac.
 (ii) (a) 327.5 lb./ac.
 (b) 142.3 lb./ac.
 (iii) Main and sub-plot treatments and their interaction differ highly significantly.
 (iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	Mean
V ₁	2673	3097	2885
V ₂	2817	3669	3243
V ₃	3119	4024	3572
Mean	2869	3596	3232

S E. of difference of two

1. M marginal means = 109.2 lb./ac.
 2. V marginal means = 58.1 lb./ac.
 3. V means at the same level of M = 82.2 lb./ac.
 4. M means at the same level of V = 128.1 lb./ac.

Crop :- Paddy.

Ref :- M. 50(21)/50(10)/49(81,76)/48(86,82).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'MV'.

Object :— To study the response of three varieties of Paddy under manured and unmanured conditions (high level area).

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Red sandy loam. (b) Refer soil analysis, Ambasamudram. (iii) 30,31.10.50. (iv) (a) Ploughing twice with iron plough, twice with country plough and once levelling with levelling board. (b) Transplanting. (c) —. (d) 6" × 6". (e) N.A. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 22.5". (x) 9.2.51.

2. TREATMENTS :

Main-plot treatments :—

2 levels of manure : M₀=0 and M₁=2000 lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+211 lb./ac. of Super.

Sub-plot treatment :—

3 varieties : V₁=CO.3, V₂=Adt. 3 and V₃=Asd.5

All are of medium duration.

3. DESIGN :

- (i) Split-plot. (ii) (a) 2 main-plots/block, 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 42' × 8½'; (b) 41' × 7½' (sub-plot). (v) About 6" on all sides. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain & straw yield. (iv) (a) 1947—1950. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 2329 lb./ac.
 (ii) (a) 131.7 lb./ac.
 (b) 100.9 lb./ac.
 (iii) Main and sub-plot treatments and their interaction differ highly significantly.

(iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	2171	2583	2377
V_2	1721	2525	2123
V_3	2095	2878	2487
Mean	1996	2662	2329

S.E. of difference of two

1. M marginal means = 43.9 lb./ac.
2. V marginal means = 41.2 lb./ac.
3. V means at the same level of M = 58.0 lb./ac.
4. M means at the same level of V = 64.7 lb./ac.

Crop :- Paddy.

Ref :- M. 50(20)/49(82,75)/48(85,83).

Site :- Rice Res. Stn., Ambasamudram. Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions (low level area).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Ambasamudram. (iii) 12.6.50/2.7.50. (iv) (a) Ploughing twice with iron plough, twice with country plough and levelling once with levelling board. (b) Transplanting. (c) —. (d) 4" x 4". (e) 2. (v) Nil. (vi) Asd. 1, CO.-13, Adt. 9 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 9.5". (x) 7.10.50.

2. TREATMENTS :

Main-plot treatments :—
2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L. + 400 lb./ac. of G.N.C. + 50 lb./ac. of A/S + 112 lb./ac. of Super.

Sub-plot treatments :—

3 varieties : $V_1=CO. 13$, $V_2=Adt. 9$ and $V_3=Asd. 1$.

All are of short duration.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot (b) N.A. (iii) 6'. (iv) (a) 46'—8" x 8'—8". sub-plot ; 46'—8" x 26' main-plot. (b) 46' x 8'. (v) About 4" on all sides. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947—1950. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 3632 lb./ac.
- (ii) (a) 105.2 lb./ac.
(b) 178.0 lb./ac.
- (iii) Main effects of manure and variety are highly significant. Interaction $M \times V$ is not significant.

(iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	3041	3518	3279
V_2	3217	4013	3615
V_3	3760	4243	4001
Mean	3339	3924	3632

S.E. of difference of two

1. M marginal means = 31.0 lb./ac.
2. V marginal means = 72.6 lb./ac.
3. V means at the same level of M = 102.8 lb./ac.
5. M means at the same level of V = 90.9 lb./ac.

Crop :- Paddy.

Ref :- M. 50(22)/50(20)/49(82,75)/48(85,83).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'MV'

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions (low level lands).

1. BASAL CONDITIONS:

(i) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Red sandy loam. (b) Refer soil analysis, Ambasamudram. (iii) 16.9.50/24.25.10.50. (iv) (a) 5 ploughings, levelling once. (b) Transplanting. (c) —. (d) 6" x 6". (e) N.A. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 22.5". (x) 7.2.1951.

2. TREATMENTS :

Main-plot treatments :-

2 levels of manure :- $M_0=0$ and $M_1=2000$ lb./ac. of G.L. + 400 lb./ac. of G.N.C. + 50 lb./ac. of A/S + 112 lb./ac. of Super.

Sub-plot treatments :-

3 varieties $V_1=CO$, $V_2=Adt$, 8 and $V_3=Asd$, 5.

All are of medium duration.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 47' x 27' (main-plot), 47' x 8½' (sub-plot). (v) Border rows rejected (about 6"). (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947—1950. (b) Nil. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2542 lb./ac.
- (ii) (a) 146.4 lb./ac.
- (b) 139.7 lb./ac.
- (iii) Main effects of M, V are highly significant. Interaction $M \times V$ is not significant.
- (iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	2106	2596	2353
V_2	2226	2988	2607
V_3	2307	3029	2668
Means	2213	2871	2542

S.E. of difference of two

1. M marginal means = 48.75 lb./ac.
2. V marginal means = 57.00 lb./ac.
3. V means at the same level of M = 80.67 lb./ac.
4. M means at the same level of V = 81.97 lb./ac.

Crop :-Paddy.

ef :-M. 48(100).

Site :-Paddy Breeding Stn., Coimbatore.

Type :-'MV'.

Object :-To study the response of three varieties of Paddy under manured and unmanured conditions (high level area).

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) 16.7.48/25.8.48. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) Weeding once. (ix) 11.54". (x) 10.11.48.

2. TREATMENTS :

Main-plot treatments :-

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :-

3 varieties : $V_1=CO. 13$, $V_2=Adt. 9$ and $V_3=Asd. 1$.

All are short duration varieties.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 44'×10'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2273 lb./ac.

(ii) N.A.

(iii) Main effects of M, V are significant. Interaction $M \times V$ is not significant.

(iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	1962	2545	2254
V_2	1805	2770	2288
V_3	1752	2805	2278
Mean	1840	2707	2273

Crop :-Paddy.

Ref :-M. 49(121).

Site :-Paddy Breeding Stn., Coimbatore.

Type :-'MV'.

Object :-To study the response of three varieties of Paddy under manured and unmanured conditions (high level area).

1. BASAL CONDITIONS

(i) (a) Nil. (b) Paddy (bulk). (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) N.A. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) Weeding once. (ix) 9.74". (x) N.A.

2. TREATMENTS :

Main-plot treatments :-

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :-

3 varieties : $V_1=CO. 13$, $V_2=Adt. 9$ and $V_3=Asd. 1$.

(Short duration).

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) $24' \times 20'$. (b) $22' \times 18'$. (v) 2 rows left as border. (vi) Yes.

4. GENERAL ;

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1504 lb./ac.
(ii) N.A.
(iii) All effects are significant.
(iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	1126	1482	1304
V_2	1409	2235	1822
V_3	985	1785	1385
Mean	1173	1834	1504

Crop :- Paddy.

Ref :- M. 48 (101).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'MV'.

Object :—To study the response of three varieties of Paddy under manured and unmanured conditions (low level area).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) 16.7.48/25.8.48. (iv) (a) 5 ploughings. (b) Transplanting. (c)—. (d) $6' \times 6'$. (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Weeding once. (ix) 11.54. (x) 10.11.48.

2. TREATMENTS :

Main-plot treatments :

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :

3 varieties : $V_1=CO. 13$, $V_2=Adt. 9$ and $V_3=Asd. 1$,
(Short duration).

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) N.A. (b) $44' \times 10'$. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1851 lb./ac.
(ii) N.A.
(iii) Main effects of M, V are significant. Interaction $M \times V$ is not significant.
(iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	1058	2013	1536
V_2	1730	2650	2190
V_3	1250	2402	1826
Mean	1346	2355	1851

Crop :- Paddy.

Ref :- M. 49 (123)

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'MV'.

Object:—To study the response of three varieties of Paddy under manured and unmanured conditions. (low level area).

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy (bulk). (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) N.A. (iv) (a) 5 ploughings. (b) Transplanting. (c)—. (d) 6'×6". (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Weeding once. (ix) 9.74". (x) N.A.

2. TREATMENTS:

Main-plot treatments:

2 levels of manure: $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments:

3 varieties: $V_1=CO. 13$, $V_2=Adt. 9$ and $V_3=Asd. 1$. (Short duration).

3. DESIGN:

(i) Split-plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 24'×20'. (b) 22'×18'. (v) 2 rows left as border. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 1096 lb./ac. (ii) N.A. (iii) Main effects of M, V are significant. Interaction $M \times V$ is not significant. (iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	689	1310	1000
V_2	1066	1708	1387
V_3	630	1173	901
Mean	795	1397	1096

Crop :- Paddy.

Ref :- M. 48(102).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'MV'.

Object:—To study the response of three varieties of Paddy under manured and unmanured conditions. (high level area).

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) 9.8.48/18.9.48. (iv) (a) 5 ploughings. (b) Transplanting. (c)—. (d) 6'×6". (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Weeding once. (ix) 11.65". (x) 15.2.49.

2. TREATMENTS:

Main-plot treatments:—

2 levels of manure: $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments:—

3 varieties: $V_1=CO. 12$, $V_2=CO. 19$ and $V_3=CO. 26$ (long duration).

3. DESIGN:

(i) Split-plot: (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 44×10'. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) & (vii) Nil.

5. RESULTS:

(i) 2744 lb./ac.

(ii) N.A.

(iii) Main effects of M, V are significant. Interaction M×V is not significant.

(iv) Av.-yield of grain in lb./ac.

	M ₀	M ₁	Mean
V ₁	2572	3045	2808
V ₂	2287	3095	2691
V ₃	2403	3062	2733
Mean	2421	3067	2744

Crop :- Paddy.

Ref :- M. 49(120).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions (high level area).

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) N.A. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Weeding once. (ix) 9.74". (x) N.A.

2. TREATMENTS:

Main-plot treatments :-

2 levels of manure : M₀=0, and M₁=2000 lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :-

3 varieties : V₁=CO. 12, V₂=CO. 19 and V₃=CO. 26 (long duration).

3. DESIGN:

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 24'×20'. (b) 22'×18'. (v) 2 rows left as border. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) & (vii) Nil.

5. RESULTS:

(i) 2524 lb./ac.

(ii) N.A.

(iii) Main effects of M, V are significant. Interaction M×V is not significant.

(iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	Mean
V ₁	2477	2855	2666
V ₂	2592	2855	2724
V ₃	2803	2363	2183
Mean	2357	2691	2524

Crop :-Paddy.

Ref :-M. 50(54).

Site :-Paddy Breeding Stn., Coimbatore.

Type :-'MV'.

Object :-To study the response of three varieties of Paddy under manured and unmanured conditions (high level area).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5,000 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) 12.8.50/23.9.50. (iv) (a) 3 ploughings with country plough ; once with iron plough. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) N.A. (vi) As under treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 12.5". (x) 30.2.51.

2. TREATMENTS :

Main-plot treatments :-

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :-

3 varieties : $V_1=CO. 12$, $V_2=CO. 19$ and $V_3=CO. 26$.
(Long duration).

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 24'×20'. (b) 22'×18'. (v) One foot left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947—1950. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2844 lb./ac.
(ii) (a) 439.3 lb./ac.
(b) 350.8 lb./ac.
(iii) Main effect of V alone is significant.
(iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	3010	3325	3168
V_2	3008	3428	3218
V_3	2138	2156	2147
Mean	2719	2969	2844

S.E. of difference of two

1. M marginal means = 146.4 lb./ac.
2. V marginal means = 143.2 lb./ac.
3. V means at the same level of M = 202.5 lb./ac.
4. M means at the same level of V = 220.9 lb./ac.

Crop :-Paddy.

Ref :-M. 48(103).

Site :-Paddy Breeding Stn., Coimbatore.

Type :-'MV'.

Object :-To study the response of three varieties of Paddy under manured and unmanured conditions (high level area).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) Clay loam. (b) Refer soil analysis, Coimbatore. (iii) 9.8.48/18.9.48. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Weeding once. (ix) 11.65". (x) 15.2.49.

2. TREATMENTS :**Main-plot treatments :—**

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :—

3 varieties : $V_1=CO. 12$, $V_2=CO. 19$ and $V_3=CO. 26$.
(long duration).

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) N.A. (b) $44' \times 10'$. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) (vii) Nil.

5. RESULTS :

- (i) 2421 lb./ac.
(ii) N.A.
(iii) Main effect of M alone is significant.
(iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	2095	2735	2415
V_2	2085	2833	2459
V_3	2057	2722	2389
Mean	2079	2763	2421

Crop :- Paddy.

Ref :- M. 49 (122).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'MV'.

Object :—To study the response of three varieties of Paddy under manured and unmanured conditions (low level area).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) N.A. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) $6' \times 6'$. (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Weeding once. (ix) 9.74%. (x) N.A.

2. TREATMENTS :**Main-plot treatments :—**

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :—

3 varieties : $V_1=CO. 12$, $V_2=CO. 19$ and $V_3=CO. 26$.
(long duration).

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) $24' \times 20'$. (b) $22' \times 18'$. (v) 2 rows left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1828 lb./ac.
 (ii) N.A.
 (iii) Only main effect of V is significant.
 (iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	1735	2240	1988
V_2	2110	2438	2274
V_3	1152	1291	1222
Mean	1666	1990	1828

Crop:- Paddy.

Ref:- M. 50(55).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'MV'

Object :—To study the response of three varieties of Paddy under manured and unmanured conditions (low level area).

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, Coimbatore. (iii) 5.8.50/16.9.50. (iv) (a) 3 ploughings with country plough; once with iron plough. (b) Transplanting. (c) 6" x 6". (d) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 12.5". (x) 23-2.51.

2. TREATMENTS :

Main-plot treatments :—

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L. + 400 lb./ac. of G.N.C. + 50 lb./ac. of A/S + 112 lb./ac. of Super.

Sub-plot treatments :

3 varieties : $V_1=CO. 12$, $V_2=CO. 19$ and $V_3=CO. 26$.
 (long duration).

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6". (iv) (a) 24' x 20'. (b) 22' x 18'. (v) 1' left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947-1950. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 3180 lb./ac.
 (ii) (a) 362.3 lb./ac.
 (b) 298.1 lb./ac.
 (iii) Main effects of M, V are highly significant. Interaction $M \times V$ is significant.
 (iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	3495	4264	3879
V_2	3815	4272	3815
V_3	1846	1944	1846
Mean	2866	3493	3180

S.E. of difference of two

1. M marginal means = 120.8 lb./ac.
 2. V marginal means = 121.7 lb./ac.
 3. V means at the same level of M = 172.1 lb./ac.
 4. M means at the same level of V = 185.3 lb./ac.

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

Ref :- M. 48(71).
Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions (high level area).

1. BASAL CONDITIONS :

(i) (a) Paddy after Paddy. (b) Paddy. (c) As under treatments. (ii) (a) Loam. (b) Refer soil analysis, Palur. (iii) 9.8.48/29.9.48. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Weeding once. (ix) 48.51". (x) 17.2.49.

2. TREATMENTS :

Main-plot treatments :-

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L. + 400 lb./ac. of G.N.C. + 50 lb./ac. of A/S + 112 lb./ac. of Super.

Sub-plot treatments :-

3 varieties : $V_1=CO.12$, $V_2=CO.19$ and $V_3=CO.26$.
(long duration).

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 5' x 9'. (b) 54' x 8'. (v) About 6" left all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947-1950. (b) Yes. (c) Nil. (v) (a) N.A. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

(i) 3522 lb./ac.
(ii) (a) 191.3 lb./ac.
(b) 183.6 lb./ac.
(iii) Main effects of M, V are highly significant. Interaction $M \times V$ is significant.
(iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	3394	3948	3671
V_2	3125	3696	3410
V_3	3377	3595	3486
Mean	3299	3746	3522

S.E. of difference of two:

1. M marginal means = 63.8 lb./ac.
2. V marginal means = 74.9 lb./ac.
3. V marginal means at the same level of M. = 105.9 lb./ac.
4. M marginal means at the same level of V = 107.6 lb./ac.

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

Ref :- M. 49(45).
Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions. (high level area).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Loam. (b) Refer soil analysis, Palur. (iii) 11.7.49/20.8.49. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Weeding once. (ix) 18.37". (x) 24.1.50.

2. TREATMENTS :

Main-plot treatments :—

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L. +400 lb./ac. of G.N.C. +50 lb./ac. of A/S. + 112 lb./ac. of Super.

Sub-plot treatments :—

3 varieties : $V_1=CO. 12$. $V_2=CO. 19$ and $V_3=CO. 26$.
(long duration).

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 55'×9'. (b) 54'×8'. (v) 6" left all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) Nil. (v) (a) N.A. (b) N.A. (vi) Nil. (vii) Raw data N.A.

5. RESULTS :

- (i) 4178 lb./ac.
(ii) (a) N.A.
(b) N.A.
(iii) N.A.
(iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	4083	3567	3825
V_2	4383	4067	4225
V_3	4583	4383	4483
Mean	4350	4006	4178

Crop :—Paddy (Samba).

Ref :— M, 50 (93).

Site :— Agri. Res. Stn., Palur.

Type :— 'MV'.

Object :—To study the response of three varieties of Paddy under manured and unmanured conditions (high level area).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 30.7.50/7.9.50. (iv) (a) 4 ploughings. (b) Transplanting. (c)—. (d) 6"×6". (e) 2. (v) Nil. (vi) As under treatments (long duration). (vii) Irrigated. (viii) Weeding once. (ix) 33.19". (x) 29.1.51.

2. TREATMENTS :

Main-plot treatments :

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L. +400 lb./ac. of G.N.C. +50 lb./ac. of A/S +112 lb./ac. of Super.

Sub-plot treatments :

3 varieties : $V_1=CO. 12$, $V_2=CO. 19$ and $V_3=CO. 26$.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 55'×9'. (b) 54'×8'. (sub-plot); 55'×30' (main-plot). (v) 6" left all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) Nil. (v) (a). (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 3733 lb./ac.
 (ii) (a) N.A.
 (b) N.A.
 (iii) None of the effects is significant.
 (iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	3700	3400	3550
V_2	3800	3900	3850
V_3	3800	3800	3800
Mean	3767	3700	3733

Crop :- Paddy (Samba).

Ref :- M. 48 (72).

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

Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions (low level area).

1. BASAL CONDITIONS :

- (i) (a) Paddy after Paddy. (b) Paddy. (c) As under treatments. (ii) (a) Loam. (b) Refer soil analysis, Palur. (iii) 9.8.48/30.9.48. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) —. (d) 6' x 6'. (e) 2. (v) Nil. (vi) As under treatments (long duration). (vii) Irrigated. (viii) Weeding once. (ix) 48.51%. (x) 15.2.49.

2. TREATMENTS :

Main-plot treatments :

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :

3 varieties : $V_1=CO. 12$, $V_2=CO. 19$ and $V_3=CO. 26$.

3. DESIGN :

- (i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 55' x 9'. (b) 54' x 8'. (v) About 6" left as border. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) Nil. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 3035 lb./ac.
 (ii) (a) 264.8 lb./ac.
 (b) 318.4 lb./ac.
 (iii) Main effect of M alone is highly significant.
 (iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	3326	2772	3049
V_2	3343	2990	3166
V_3	3058	2722	2890
Mean	3242	2828	3035

S.E. of difference of two

1. M marginal means = 88.3 lb./ac.
 2. V marginal means = 129.9 lb./ac.
 3. V means at the same level of M = 183.9 lb./ac.
 4. M means at the same level of V = 174.1 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 49(94).

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

Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions (low level area).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Loam. (b) Refer soil analysis, Palur. (iii) 11.7.49/20.8.49. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) Nil. (vi) As under treatments (long duration). (vii) Irrigated. (viii) Weeding once. (ix) 18.37". (x) 29.1.1950.

2. TREATMENTS :

Main-plot treatments :-

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :-

3 varieties : $V_1=CO. 12$, $V_2=CO. 19$ and $V_3=CO. 26$.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 55' x 9'. (b) 54' x 8'. (v) 6" left all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) Nil. (v) (a), (b) N.A. (vi) Nil. (vii) Plot wise yield data N.A.

5. RESULTS :

(i) 2780 lb./ac.

(ii) (a) N.A.

(b) N.A.

(iii) Only main effect of V is significant.

(iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	2783	1700	2241
V_2	2883	2783	2833
V_3	3367	3167	3267
Mean	3011	2550	2780

Crop :- Paddy (Samba).

Ref :- M. 50(94).

Site :- Agri Res. Stn., Palur.

Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions (low level area).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 30.7.50/7.9.50. (iv) (a) 4 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) Nil. (vi) As under treatments (long duration). (vii) Irrigated. (viii) Weeding once. (ix) 33.19". (x) 29.1.51.

2. TREATMENTS :

Main-plot treatments :-

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :-

3 varieties : $V_1=CO. 12$, $V_2=CO. 19$ and $V_3=CO. 26$.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 55' x 9'. (b) 54' x 8' (sub-plot) ; 55' x 30' (main-plot). (v) 6" left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2167 lb./ac.

(ii) (a) N.A.

(b) N.A.

(iii) None of the effects is significant.

(iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	Mean
V ₁	2100	1900	2000
V ₂	1600	2400	2000
V ₃	2700	2300	2500
Mean	2133	2200	2167

Crop :- Paddy (Samba).

Ref :- M. 48(73).

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

Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions (high level area).

1. BASAL CONDITIONS :

(i) (a) Paddy after Paddy. (b) Paddy. (c) As under treatments. (ii) (a) Loam. (b) Refer soil analysis, Palur. (iii) 4.10.48/11.11.48. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Weeding once. (ix) 31.22". (x) 10.3.49.

2. TREATMENTS :

Main-plot treatments :—

2 levels of manure : M₀=0 and M₁=2000 lb./ac. of G.L. + 400 lb./ac. of G.N.C. + 50 lb./ac. of A/S. + 112 lb./ac. of Super.

Sub-plot treatments :—

3 varieties : V₁=CO.3, V₂=Adt.8 and V₃=Asd.5

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 55' x 9'. (b) 54' x 8'. (v) 6" left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) Nil. (v) (a), (b) N.A., (vi) & (vii) Nil.

5. RESULTS :

(i) 1971 lb./ac.

(ii) (a) 239.8 lb./ac.

(b) 191.3 lb./ac.

(iii) Only main effect of M is highly significant. Others are not significant.

(iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	Mean
V ₁	1630	2402	2016
V ₂	1596	2234	1915
V ₃	1697	2268	1982
Mean	1641	2301	1971

S.E. of difference of two

1. M marginal means = 79.9 lb./ac.

2. V marginal means = 78.1 lb./ac.

3. V marginal means at the same level of M. = 110.5 lb./ac.

4. M marginal means at the same level of V. = 120.6 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 49(97).

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

Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions (high level area).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Loam. (b) Refer soil analysis, Palur. (iii) 9.9.49/12.10.49. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Weeding once. (ix) 8.86". (x) 6.2.50.

2. TREATMENTS :

Main-plot treatments :

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :-

3 varieties : $V_1=CO. 3$, $V_2=Adt. 8$ and $V_3=Asd. 5$

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6 (iv) (a) 55'×9'. (b) 54'×8'. (v) One row of plants left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947-1950. (b) Yes. (c) Nil. (v) (a) N.A. (b) N.A. (vi) Nil. (vii) Raw data N.A.

5. RESULTS :

(i) 2411 lb./ac.

(ii) (a) N.A.

(b) N.A.

(iii) Only main effect of M is significant.

(iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	1833	2850	2342
V_2	1867	2950	2409
V_3	1900	3067	2483
Mean	1867	2956	2411

Crop :- Paddy (Samba).

Ref :- M 50(95).

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

Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions (high level area).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 7.10.50/8.11.50. (iv) (a) 4 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Weeding once. (ix) 21.6". (x) 5.3.51.

2. TREATMENTS :

Main-plot treatments :-

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :-

3 varieties : $V_1=CO. 3$, $V_2=Adt. 8$ and $V_3=Asd. 5$.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6/ (iv) (a) 55'×9'. (b) 54'×8'. (sub-plot), (main-plot). 55'×30'. (v) 6" left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1565 lb./ac.
 (ii) (a) 154.9 lb./ac.
 (b) 162.5 lb./ac.
 (iii) Only main effect of M_1 is highly significant.
 (iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	1005	2095	1550
V_2	1078	2146	1612
V_3	1041	2027	1534
Mean	1041	2089	1565

S.E. of difference of two

1. M marginal means = 51.6 lb./ac.
2. V marginal means = 66.3 lb./ac.
3. V means at the same level of M = 93.9 lb./ac.
4. M means at the same level of V = 92.4 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 48(74).

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

Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions (low level area).

1. BASAL CONDITIONS :

(i) (a) Paddy after Paddy. (b) Paddy. (c) As under treatments. (ii) (a) Loamy. (b) Refer soil analysis, Palur. (iii) 4.10.48/10.11.48. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Weeding once. (ix) 31.22". (x) 11.3.49.

2. TREATMENTS :

Main-plot treatments :—

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :—

3 varieties : $V_1=CO$. 3. $V_2=Adt$. 8 and $V_3=Asd$. 5.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 55'×9'. (b) 54'×8'. (v) 6" left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) (b) 2411 lb./ac.
 (ii) (a) 326.1 lb./ac.
 (b) 261.0 lb./ac.
 (iii) Main effect of M is highly significant, that of V is significant. Interaction $V \times M$ is not significant.
 (iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	1882	2621	2252
V_2	1999	2822	2411
V_3	2184	2957	2571
Mean	2022	2800	2411

S.E. of difference of two

1. M marginal means = 108.7 lb./ac.
2. V marginal means = 106.5 lb./ac.
3. V means at the same level of M = 150.7 lb./ac.
4. M means at the same level of V = 164.2 lb./ac.

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

Ref :- M. 49(98).
 Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions (low level area).

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Loam. (b) Refer soil analysis, Palur. (iii) 9.9.49/12.10.49. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) —. (d) $6'' \times 6''$. (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Weeding once. (ix) 8.86". (x) 4.2.50.

2. TREATMENTS :

Main-plot treatments :-
 2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L. + 400 lb./ac. of G.N.C. + 150 lb./ac. of A/S + 112 lb./ac. of Super.

Sub-plot treatments :-

3 varieties : $V_1=CO. 3$, $V_2=Adt. 8$ and $V_3=Asd. 5$.

3. DESIGN :

- (i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) $55' \times 9'$. (b) $54' \times 8'$. (v) about 6" left. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2661 lb./ac.
 (ii) (a) N.A.
 (b) N.A.
 (iii) Main effect of M, V are significant. Interaction $M \times V$ is not significant.

(iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	Mean
V ₁	1833	3483	2658
V ₂	1750	3217	2483
V ₃	2117	3567	2842
Mean	1900	3422	2661

Crop :- Paddy (*Samba*).

Ref :- M. 50(96).

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

Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions (low level area).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 7.10.50/8.11.50. (iv) (a) 4 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) As under treatments (long duration). (vii) Irrigated. (viii) Weeding once. (ix) 21.6". (x) 5.3.51.

2. TREATMENTS :

Main-plot treatments :—

2 levels of manure : M₀=0 and M₁=2000 lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :—

3 varieties : V₁=CO. 3, V₂=Adt. 8 and V₃=Asd. 5.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 55'×9'. (b) 54'×8' (sub-plot) ; 55'×30' (main-plot) (v) 6" left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1328 lb./ac.

(ii) (a) 131.8 lb./ac.

(b) 200.7 lb./ac.

(iii) Only main effect of M is highly significant. Others are not significant.

(iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	Mean
V ₁	977	1592	1285
V ₂	920	1740	1330
V ₃	1062	1678	1370
Mean	986	1670	1328

S.E. of difference of two

- M marginal means = 41.8 lb./ac.
- V marginal means = 81.9 lb./ac.
- V means at the same level of M = 115.9 lb./ac.
- M means at the same level of V = 104.3 lb./ac.

Crop :- Paddy (Kar).

Ref :- M. 48 (70).

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

Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions.

1. BASAL CONDITIONS :

(i) (a) Paddy after Paddy. (b) Paddy. (c) As under treatments. (ii) (a) Loam. (b) Refer soil analysis, Palur. (iii) 18.6.48/9.7.48. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) —. (d) 4' x 4". (e) 2. (v) Nil. (vi) As under treatments (early). (vii) Irrigated. (viii) Weeding once. (ix) 23.75%. (x) 5.10.48.

2. TREATMENTS :

Main-plot treatments :-

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :-

3 varieties : $V_1=CO. 13$, $V_2=Adt. 9$ and $V_3=Asd. 1$.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 55' x 9'. (b) 54' x 8'. (v) One row of plants left (i.e. about 6"). (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) Nil. (v) (a), (b) N.A. (vi) Nil. (vii) Row data N.A.

5. RESULTS :

(i) 3277 lb./ac.

(ii) (a) N.A.

(b) N.A.

(iii) None of the effects is significant.

(iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	3550	2950	3250
V_2	3280	3450	3365
V_3	3430	3000	3215
Mean	3420	3133	3277

Crop :- Paddy (Kar).

Ref :- M. 49(96).

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

Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions.

1. BASAL CONDITIONS :

(i) (a) Paddy after Paddy. (b) Paddy. (c) As under treatments. (ii) (a) Loam. (b) Refer soil analysis, Palur. (iii) 10.6.49./30.6.49. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) —. (d) 4" x 4". (e) 2. (v) Nil. (vi) As under treatments (early). (vii) Irrigated. (viii) Weeding once. (ix) 17.12%. (x) 23.9.49 for CO. 13 ; 28.9.49. for Asd. 1 ; and 2.10.49 for Adt. 9.

2. TREATMENTS :

Main-plot treatments :-

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :-

3 varieties : $V_1=CO. 13$, $V_2=Adt. 9$ and $V_3=Asd. 1$.

3. DESIGN :

- (i) Split plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 55'×9'. (b) 54'×8'. (v) One row kept as guard row. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) Nil. (v) (a) N.A. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 3286 lb./ac.
 (ii) (a) 429 lb./ac.
 (b) 335.8 lb./ac.
 (iii) Only main effect of V is highly significant.
 (iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	Mean
V ₁	3042	2621	2832
V ₂	4235	3983	4109
V ₃	2991	2840	2916
Mean	3423	3148	3286

S.E. of difference of two

1. M marginal means = 143.0 lb./ac.
 2. V marginal means = 137.0 lb./ac.
 3. V means at the same level of M = 193.9 lb./ac.
 4. M means at the same level of V = 213.4 lb./ac.

Crop :- Paddy (Kar).

Ref :- M. 50(97).

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

Type :- 'MV'.

Object:— To study the response of three varieties of Paddy, under manured and unmanured conditions.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 16.6.50./8.7.50. (iv) (a) 4 ploughings. (b) Transplanting. (c) —. (d) 4"×4". (e) 1. (v) Nil. (vi) As under treatments (early). (vii) Irrigated. (viii) Weeding once. (ix) 20.74%. (x) 28.9.50. to 7.10.50.

2. TREATMENTS :

Main-plot treatments :—

- 2 levels of manure : M₀=0 and M₁=2000 lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :—

- 3 varieties : V₁=CO. 13, V₂=Adt. 9 and V₃=Asd. 1

3. DESIGN :

- (i) Split plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 55'×9'. (sub-plot) ; 55'×30' (main-plot). (b) 54'×8' (sub-plot) (v) 6" left all round. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) & (vii) Plot wise yield data N.A. Results furnished as available.

5. RESULTS :

- (i) 3043 lb./ac.
 (ii) (a) N.A.
 (b) N.A.
 (iii) None of the effects is significant.

(iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	3106	2933	3020
V_2	3202	3117	3159
V_3	3217	2683	2950
Mean	3175	2911	3043

Crop :- Paddy (*Kuruvai*).

Ref :- M. 48(45).

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

Type :- 'MV'.

Object :—To study the response of three varieties of Paddy under manured and unmanured conditions (high level area).

1. BASAL CONDITIONS :

(i) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukottai. (iii) 2.7.48/27,29.7.48. (iv) 3 to 5 ploughings. (b) Transplanting. (c) —. (d) 4"×4". (e) 2. (v) Nil. (vi) As under treatments (early). (vii) Irrigated. (viii) Weeding once. (ix) 9.81". (x) 17; 22.10.48.

2. TREATMENTS :

Main-plot treatments :—

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :—

3 varieties : $V_1=CO. 13$, $V_2=Adt. 9$ and $V_3=Asd. 1$.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1.0 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) N.A. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) N.A. (v) (a) N.A. (b) N.A. (vi) Nil. (vii) Raw data N.A. Results are furnished as available.

5. RESULTS :

(i) 1800 lb./ac.
 (ii) (a) 238.2 lb./ac.
 (b) 243.8 lb./ac.
 (iii) Main effects of M , V , are not significant. Significance of interaction is N.A.
 (iv) Av. yield of grain in lb./ac.

Treatment	Mean
M_0	1600
M_1	2000
V_1	1438
V_2	2081
V_3	1888

Crop :- Paddy (*Thaladi*).

Ref:-M. 48(53, 54).

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

Type :- 'MV'.

Object :—To study the response of three varieties of Paddy under manured and unmanured conditions [high level (53) ; low level (54)].

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukottai. (iii) High level 2.9.48/5,6.10.48 ; low level 2.9.48/6 to 8.10.48. (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Weeding once. (ix) 16.0" for both. (x) 20.2.49 for both.

2. TREATMENTS :

Main-plot treatments :—

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :

3 varieties : $V_1=CO. 3$, $V_2=Adt. 8$ and $V_3=Asd. 5$.

3. DESIGN :

(i) Split plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1.0 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) N.A. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) N.A. (v) (a), (b) N.A. (vi) Nil. (vii) Raw data N.A. Results are furnished as available.

5. RESULTS :

48(53) (High level land).

- (i) 972 lb./ac.
 (ii) (a) 442.0 lb./ac.
 (b) 292.0 lb./ac.
 (iii) Manure and variety effects are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Mean
M_0	881
M_1	1063
V_1	1019
V_2	1056
V_3	850

48(54) (Low level land).

- (i) 1051 lb./ac.
 (ii) (a) 119.0 lb./ac.
 (b) 93.0 lb./ac.
 (iii) Manure and variety effects are significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Mean
M_0	962
M_1	1144
V_1	1006
V_2	1006
V_3	1156

Crop :- Paddy (*Kuruvai*).

Ref :- M. 48(46).

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

Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions (low level area).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukottai. (iii) 2.7.48/30,31.7.48. (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) —. (d) 4" x 4". (e) 2.3 (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Weeding once. (ix) 9.81%. (x) 17,23.10.48.

2. TREATMENTS :

Main-plot treatments :—

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :

3 varieties : $V_1=CO.13$, $V_2=Adt. 9$ and $V_3=Asd. 1$.

3. DESIGN :

(i) Split plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1.0 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) N.A. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) N.A. (v) (a) N.A. (b) N.A. (vi) Nil. (vii) Raw data and other details are N.A. Results are furnished as available.

5. RESULTS :

- (i) 1964 lb./ac.
 (ii) (a) 419.7 lb./ac.
 (b) 298.3 lb./ac.
 (iii) Manure and variety effects are not significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Mean
M ₀	1875
M ₁	2050
V ₁	1581
V ₂	2256
V ₃	2056

Crop :- Paddy (*Samba*). Ref :- M. 48(47,48).

Site :- Agri. Res. Stn., Pattukottai. Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under [manured and unmanured conditions (high level and low level areas).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukottai. (iii) 27.7.48/14,15.9.48 for high level ; 27.7.48.48/13,14.9.48 for low level area. (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) —. (d) 6" × 6". (e) 2. (v) Nil. (vi) As under treatments (late). (vii) Irrigated. (viii) Weeding once. (ix) 21.83" (for both). (x) 19.2.49. for high level area ; 25.2.49. for low level area.

2. TREATMENTS :

Main-plot treatments :-

2 levels of manure : M₀=0 and M₁=2000 lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :-

3 varieties : V₁=CO. 12, V₂=CO. 19 and V₃=3840.

3. DESIGN :

(i) Split plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1.0 cents. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) N.A. (v) (a) N.A. (b) N.A. (vi) Nil. (vii) Raw data & other details N.A.

5. RESULTS :

(High level area)

- (i) 1800 lb./ac.
(ii) (a) 485.7 lb./ac.
(b) 242.0 lb./ac.
(iii) Manure and variety effects are significant.
(iv) Av. yield of grain in lb./ac.

(Low level area)

- (i) 1741 lb./ac.
(ii) (a) 87.9 lb./ac.
(b) 89.1 lb./ac.
(iii) Manure and variety effects are significant.
(iv) Av. yield of grain in lb./ac.

Treatment	Mean
M ₀	1588
M ₁	2013
V ₁	1756
V ₂	2044
V ₃	1613

Treatment	Mean
M ₀	1613
M ₁	1869
V ₁	1725
V ₂	1888
V ₃	1618

Crop :- Paddy (*Kurvai*).

Ref :- M. 49(46).

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

Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (a) Sandy loam. (b) Refer soil analysis, Pattukottai. (iii) 8.7.49/6.8.49. (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) —. (d) 4" × 4". (e) 2. (v) Nil. (vi) As under treatments (early). (vii) Irrigated. (viii) Weeding once. (ix) 16.73". (x) 24 to 28.10.49.

2. TREATMENTS :
Main-plot treatments :—
2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.
Sub-plot treatments :—
3 varieties : $V_1=CO. 13$, $V_2=Adt. 9$ and $V_3=Asd. 1$.
3. DESIGN :
(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1.0 cent. (v) N.A. (vi) Yes.
4. GENERAL :
(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Raw data and other details are N.A.
5. RESULTS :
(i) 1813 lb./ac.
(ii) (a) 213.3 lb./ac.
(b) 180.8 lb./ac.
(iii) Manure and Variety effects are significant.
(iv) Av. yield of grain in lb./ac.
- | Treatment | Mean |
|-----------|------|
| M_0 | 1481 |
| M_1 | 2138 |
| V_1 | 1400 |
| V_2 | 2138 |
| V_3 | 1894 |

Crop :- Paddy (*Thaladi*).

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

Ref :- M. 49(47).

Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions.

1. BASAL CONDITIONS :
(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukottai. (iii) 28.9.48/4.11.49. (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Weeding once. (ix) 14.97". (x) 6.3.50.
2. TREATMENTS :
Main-plot treatments :—
2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.
Sub-plot treatments :—
3 varieties : $V_1=CO. 3$, $V_2=Adt. 8$ and $V_3=Asd. 5$.
3. DESIGN :
(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1.0 cent. (v) N.A. (vi) Yes.
4. GENERAL :
(i) Not satisfactory. (ii) N.A. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) Raw data and other details N.A.
5. RESULTS :
(i) 894 lb./ac.
(ii) N.A.
(iii) None of the effects is significant.
(iv) Av. yield of grain in lb./ac.
- | Treatment | Mean |
|-----------|------|
| M_0 | 688 |
| M_1 | 1100 |
| V_1 | 831 |
| V_2 | 950 |
| V_3 | 906 |

Crop :- Paddy (*Samba*).

Ref :- M. 49(48).

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

Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukottai. (iii) 20.8.49/4.6.8.49. (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) As under treatments (late). (vii) Irrigated. (viii) Weeding once. (ix) 15.66". (x) 7.2.50.

2. TREATMENTS :

Main-plot treatments :—

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L. + 400 lb./ac. of G.N.C. + 150 lb./ac. of A/S + 112 lb./ac. of Super.

Sub-plot treatments :—

3 varieties : $V_1=CO. 12$, $V_2=CO. 19$ and $V_3=3840$.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1.0 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) Nil. (vii) Raw data and other details N.A.

5. RESULTS :

(i) 2013 lb./ac.

(ii) (a) 403.3 lb./ac.

(b) 173.5 lb./ac.

(iii) None of the effects is significant.

v) Av. yield of grain in lb./ac.

Treatment	Mean
M_0	1831
M_1	2194
V_1	1875
V_2	2063
V_3	2094

Crop :- Paddy (*Kuruvai*).

Ref :- M. 50 (81).

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

Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukottai. (iii) 6.7.50/27.7.50. (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) As under treatments (late). (vii) Irrigated. (viii) Weeding once. (ix) 17.6". (x) 7.11.50.

2. TREATMENTS :

Main-plot treatments :

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L. + 400 lb./ac. of G.N.C. + 50 lb./ac. of A/S + 112 lb./ac. of Super.

Sub-plot treatments :

3 varieties : $V_1=CO. 13$, $V_2=Adt. 9$ and $V_3=Asd. 1$.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1.0 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) N.A. (v) (a), (b) N.A. (vi) Nil. (vii) Raw data and other details N.A.

5. RESULTS :

- (i) 1658 lb./ac.
 (ii) (a) 267.1 lb./ac.
 (b) 251.5 lb./ac.
 (iii) Variety effect alone is significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Mean
M_0	1561
M_1	1755
V_1	1353
V_2	2053
V_3	1568

Crop :- Paddy (Thaladi).

Ref :- M. 50 (82).

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

Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukottai.
 (iii) 21.9.50/31.10.50. (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) Nil.
 (vi) As under treatments. (vii) Irrigated. (viii) Weeding once. (ix) 19.26. (x) 2.3.51.

2. TREATMENTS :

Main-plot treatments :

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :

3 varieties : $V_1=CO. 3$, $V_2=Adt. 8$ and $V_3=Asd. 5$.

3. DESIGN :

- (i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1.0 cent. (v) N.A. (vi) Yes.

4. GENERAL :

- (i) Not satisfactory. (ii) Several attacks by stemboers and 'helminthosporium' disease ; spraying of Guesarot-550 was done. (iii) Grain yield. (iv) (a) 1947-1950. (b) Yes. (c) N.A. (v) (a) & (b) N.A.
 (vi) Due to pests and diseases the crop gave a very poor yield. (vii) Raw data and other details N.A.

5. RESULTS :

- (i) 783 lb./ac.
 (ii) N.A.
 (iii) Manure effect alone is significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Mean
M_0	705
M_1	860
V_1	750
V_2	817
V_3	782

Crop :- Paddy (Samba).

Ref :- M. 50 (83).

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

Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukottai. (iii) 18.8.50/24.9.50. (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (vi) Nil. (vii) As under treatments. (viii) Irrigated. (ix) Weeding once. (ix) 25.96". (x) 1.3.51.

2. TREATMENTS :

Main-plot treatments :—

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :—

3 varieties : $V_1=CO. 12$, $V_2=CO. 19$ and $V_3=CO. 26$.

3. DESIGN :

(i) Split plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1.0 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) N.A. (v) (a) N.A. (b) N.A. (vi) N.A. (vii) Raw data and other details N.A.

5. RESULTS :

(i) 2065 lb./ac.

(ii) N.A.

(iii) Variety effect alone is significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Mean
M_0	2021
M_1	2100
V_1	2021
V_2	2194
V_3	1980

Crop :- Paddy.

Ref :- M. 48(25).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions (low level area).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 27.5.48/3 to 5.7.48. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) As under treatments (medium duration). (vii) Irrigated. (viii) Nil. (ix) 18.89". (x) 29.9.48.

2. TREATMENTS :

Main-plot treatments :

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :—

3 varieties : $V_1=CO. 13$, $V_2=Adt. 9$ and $V_3=Asd. 1$.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 54'×8' (sub-plot) ; 54'×24' (main-plot). (b) 53'×7' (Sub-plot). (vi) One row all round the net plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) N.A. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 3586 lb./ac.
 (ii) (a) 135.0 lb./ac.
 (b) 120.9 lb./ac.
 (iii) All effects are highly significant.
 (iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	2869	3543	3206
V_2	2874	4302	3588
V_3	3410	4514	3963
Mean	3051	4120	3586

S.E. of difference of two

1. M marginal means = 44.99 lb./ac.
 2. V marginal means = 49.36 lb./ac.
 3. V means at the same level of M = 69.83 lb./ac.
 4. M means at the same level of V = 72.63 lb./ac.

Crop :- Paddy.

Ref :- M. 48 (17).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'MV'.

Object :- To study the response of three varieties Paddy under manured and unmanured conditions (low level double crop land).

1. BASAL CONDITIONS:

- (i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 23.9.48/3.11.48. (iv) (a) 5 ploughings. (b) Transplanting. (c) — (d) 6' x 6'. (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Nil. (ix) 21.32". (x) 28.2.49.

2. TREATMENTS :

Main-plot treatments :

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :

3 varieties : $V_1=CO. 3$, $V_2=Adt. 8$ and $V_3=Asd. 5$.

3. DESIGN :

- (i) Split plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 73' x 7'. (sub-plot) ; 73' x 21 (main-plot.) (b) 72' x 6', (sub-plot.) (v) One row all round the net sub-plot. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947—1950. (b) Yes. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1216 lb./ac.
 (ii) (a) 122.1 lb./ac.
 (b) 95.6 lb./ac.
 (iii) Main effects of M and V are highly significant. Interaction is not significant.

(iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	1046	1567	1307
V_2	926	1350	1138
V_3	973	1432	1203
Mean	982	1450	1216

S.E. of difference of two

1. M marginal means = 40.7 lb./ac.
2. V marginal means = 39.0 lb./ac.
3. V means at the same level of M = 55.2 lb./ac.
4. M means at the same level of V = 197.4 lb./ac.

Crop :- Paddy (*Sornavari*).

Ref :- M. 49 (25).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'MV'.

Object:—To study the response of three varieties of Paddy under manured and unmanured conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 11.5.49/8.6.49. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 4" x 4". (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Nil. (ix) 24.80". (x) 2nd, 8th and 10th Sept., 1949.

2. TREATMENTS :

Main-plot treatments :

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :

3 varieties : $V_1=CO. 13$, $V_2=Adt. 9$ and $V_3=Asd 1$.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6'. (iv) (a) 53'—8" x 8" (sub-plot) ; 53'—8" x 24' (main-plot). (b) 53' x 7'—4" (sub-plot). (v) One row all round the net sub-plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947—1950. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 3462 lb./ac.

(ii) (a) 521.0 lb./ac.

(b) 312.0 lb./ac.

(iii) Only main effect of V is highly significant.

(iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	3592	3979	3785
V_2	3439	3485	3462
V_3	2849	3431	3140
Mean	3293	3632	3462

S.E. of difference of two

1. M marginal means = 173.7 lb./ac.
2. V marginal means = 127.4 lb./ac.
3. M means at the same level of V = 180.2 lb./ac.
4. V means at the same level of M = 227.6 lb./ac.

Crop :- Paddy. (Samba).

Ref :- M. 49(26).

Site :- Rice, Res. Stn., Tirurkuppam.

Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions. (Double crop land).

1. BASAL CONDITIONS :

(i) (a) Nil, (b) Paddy. (c) Same experiment was on these plots. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 16.8.49/2.10.49. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6' x 6'. (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Nil. (ix) 28.38". (x) 24.1.50.

2. TREATMENTS :

Main-plot treatments :-

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L. + 400 lb./ac. of G.N.C + 50 lb./ac. of A/S + 112 lb./ac. of Super.

Sub-plot treatments :-

3 varieties : $V_1=CO. 3$, $V_2=Adt. 8$ and $V_3=Asd. 5$.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 54' x 8'. (sub-plot). 54' x 24' (main-plot). (b) 53' x 7' (sub-plot). (v) One row all round the net plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947-1950. (b) Yes. (c) N.A. (v) (a) N.A. (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

(i) 2017 lb./ac.
 (ii) (a) 326.6 lb./ac.
 (b) 160.9 lb./ac.
 (iii) Only main effect of M is highly significant.
 (iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	1422	2523	1973
V_2	1500	2607	2053
V_3	1429	2621	2025
Mean	1450	2584	2017

S.E. of difference of two

1. M marginal means = 108.9 lb./ac.
2. V marginal means = 65.7 lb./ac.
3. V means at the same level of M = 92.9 lb./ac.
4. M means at the same level of V = 132.7 lb./ac.

Crop :- Paddy (Sornavari).

Ref :- M. 50(28).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions (Double crop wet land).

1. BASAL CONDITIONS :

(i) (a) Nil, (b) Paddy. (iii) Same experiment was on these plots. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 4.5.50/1.6.50. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 4' x 4'. (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 9.5". (x) 1.4.9.50

2. TREATMENTS :

Main-plot treatments :—

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :—

3 varieties : $V_1=CO. 13$, $V_2=Adt. 9$ and $V_3=Asd. 1$.

G.L. and G.N.C. applied at the time of last ploughing, A/S one month after planting.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 53'×22' main-plot ; 53'×7½' sub-plot. (b) 52½'×6½'. (sub-plot). (v) One row all round the net plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain & straw yield. (iv) (a) 1947—1950. (b) Yes. (c) N.A. (v) (a) Nil. (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

(i) 3445 lb./ac.

(ii) (a) 277.9 lb./ac.

(b) 240.3 lb./ac.

(iii) Only main effect of V is highly significant.

(iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	3055	3200	3125
V_2	3537	3954	3741
V_3	3506	3432	3465
Mean	3362	3526	3445

S.E. of difference of two

1. M marginal means = 92.7 lb./ac.
2. V marginal meas = 98.1 lb./ac.
3. V means at the same level of M = 138.8 lb./ac.
4. M means at the same level of V = 146.3 lb./ac.

Crop :-Paddy (Samba).

Ref :-M. 50(25).

Site :-Rice Res. Stn., Tirurkuppam.

Type :-'MV'

Object :—To study the response of three varieties of Paddy under manured and unmanured conditions (double crop wet land).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 28.8.50/14.10.50. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) As under treatments (medium duration). (vii) Irrigated. (viii) 2 weedings. (ix) 22.5°. (x) 27.1.51.

2. TREATMENTS :

Main-plot treatments :—

2 levels of manure ; $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :—

3 varieties : $V_1=CO. 3$, $V_2=Adt. 8$ and $V_3=Asd. 5$.

G.L. and G.N.C. applied at the time of last ploughing, A/S one month after planting.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 53'×25' (main-plot.) 53'×7½' (sub-plot). (b) 52'×6½' (sub-plot). (v) One row all round the net sub-plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947—1950. (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1666 lb./ac.
 (ii) (a) 112.9 lb./ac.
 (b) 115.6 lb./ac.
 (iii) All effects are highly significant.
 (iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	1216	1860	1543
V_2	1201	2156	1679
V_3	1238	2321	1779
Mean	1218	2115	1666

S.E. of difference of two

1. M marginal means = 37.6 lb./ac.
 2. V marginal means = 47.2 lb./ac.
 3. V means at the same level of M = 66.8 lb./ac.
 4. M means at the same level of V = 66.3 lb./ac.

Crop :- Paddy.

Site :- Rice Res. Stn., Tirurkuppam.

Ref :- M. 48 (22).

Type :- 'MV'.

Object :- To study the response of three varieties of Paddy under manured and unmanured conditions (low level area ; single crop wet land).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 17.8.48/13.10.48. (iv) (a) 6 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) As under treatments (late). (vii) Irrigated. (viii) Nil. (ix) 24.5". (x) 14.2.49.

2. TREATMENTS :

Main-plot treatments :-

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :-

3 varieties : $V_1=CO. 12$, $V_2=CO. 19$ and $V_3=3840$.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 54'×8'. sub-plot (54'×24' main-plot) (b) 53'×7'. (sub-plot) (v) One row all round the net plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947—1950. (b) Yes. (c) N.A. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2723 lb./ac.
 (ii) (a) 242.5 lb./ac.
 (b) 217.6 lb./ac.
 (iii) Main effects of M and V are highly significant. Interaction is not significant.

(iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	Mean
V ₁	2548	3057	2803
V ₂	2576	3339	2958
V ₃	2203	2617	2410
Mean	2442	3004	2723

S.E. of difference of two

1. M marginal means = 80.8 lb./ac.
2. V marginal means = 88.8 lb./ac.
3. V means at the same level of M = 125.6 lb./ac.
4. M means at the same level of V = 130.6 lb./ac.

Crop :-Paddy.

Site :-Rice Res. Stn., Tirurkuppam.

Ref :-M. 49(24).

Type :-'MV'.

Object :—To study the response of three varieties of Paddy under manured and unmanured conditions (Single crop land).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil (ii) (a) Sandy loam. (ii) Refer soil analysis, Tirurkuppam. (iii) 16.8.49/8.10.49. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6'×6'. (e) 2. (v) Nil. (vi) As under treatments. (long duration). (vii) Irrigated. (viii) Nil. (ix) 28.38°. (x) 11.2.50.

2. TREATMENTS :

Main-plot treatments :—

2 levels of manure : M₀=0 and M₁=2000 lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :—

3 varieties : V₁=CO. 12, V₂=CO. 19 and V₃=CO. 26.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 59'×8'. (Sub-plot) 59'×24' (main-plot). (b) 58'×7' (sub-plot). (v) One row all round the net plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) Nil. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 2091 lb./ac.

(ii) (a) 183.8 lb./ac.

(b) 221.7 lb./ac.

(iii) Main effects of M. and V are highly significant. Interaction M×V is significant.

(iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	Mean
V ₁	1696	2475	2086
V ₂	1567	2894	2230
V ₃	1561	2356	1958
Mean	1608	2575	2091

S.E. of difference of two

1. M marginal means = 61.3 lb./ac.
2. V marginal means = 90.5 lb./ac.
3. V means at the same level of M = 128.0 lb./ac.
4. M means at the same level of V = 113.9 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 50(26).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'MV'.

Object :—To study the response of three varieties of Paddy under manured and unmanured, conditions (Single crop land).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 2.8.50/19.10.50. (iv) (a) 3 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) As under treatments (late). (vii) Irrigated. (viii) 2 weedings. (ix) 22.5". (x) 22.2.51.

2. TREATMENTS :

Main-plot treatments :—

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :—

3 varieties : $V_1=CO. 12$, $V_2=CO. 19$ and $V_3=CO. 26$.

G.L. and G.N.C. applied at the time of last ploughing. A/S one month after planting.

3. DESIGN :

(i) Split plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 58'×7½'. (b) 57'×6½'. (v) One row all round the net sub-plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947—1950. (b) Yes. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1721 lb./ac.
 (ii) (a) 438.7 lb./ac.
 (b) 488.8 lb./ac.
 (iii) Main effects of M and V are significant. Interaction is not significant.
 (iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	1379	2023	1701
V_2	1461	2523	1992
V_3	1201	1738	1469
Mean	1348	2093	1721

S.E. of difference of two

1. M marginal means = 103.4 lb./ac.
2. V marginal means = 141.1 lb./ac.
3. V means at the same level of M = 199.5 lb./ac.
4. M means at the same level of V = 272.9 lb./ac.

Crop :- Paddy.

Ref :- M. 48(24).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'MV'.

Object :—To study the response of three varieties of Paddy under manured and unmanured conditions (high level area).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 27.5.48/9.7.48. (iv) (a) 6 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) As under treatments (medium duration). (vii) Irrigated. (viii) Nil. (ix) 18.89". (x) 27.9.48.

2. TREATMENTS :

Main-plot treatments :—

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L. + 400 lb./ac. of G.N.C. + 50 lb./ac. of A/S + 112 lb./ac. of Super.

Sub-plot treatments :—

3 varieties : $V_1=CO. 13$, $V_2=Adt. 9$ and $V_3=Asd. 1$.**3. DESIGN :**(i) Split plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) $54' \times 8'$, $54' \times 24'$ (main-plot). (b) $53' \times 7'$. (v) One row all round the net sub-plot. (vi) Yes.**4. GENERAL :**

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947—1950. (b) Yes. (c) N.A. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1511 lb./ac.

(ii) (a) 129.5 lb./ac.

(b) 149.4 lb./ac.

(iii) Only main effect of manure is highly significant.

(iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	1308	1681	1495
V_2	1499	1687	1593
V_3	1267	1625	1446
Mean	1358	1664	1511

S.E. of difference of two

1. M marginal means = 43.17 lb./ac.

2. V marginal means = 60.98 lb./ac.

3. V means at the same level of M = 86.26 lb./ac.

4. M means at the same level of V = 82.58 lb./ac.

Crop :- Paddy.

Site :- Rice Res. Stn., Tirurkuppam.

Ref :- M. 48(16).

Type :- 'MV'.

Object :—To find out the effect of manures on three varieties of Paddy (high land—double crop).

1. BASAL CONDITIONS(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 23.9.48/4.11.48. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) $6'' \times 6''$. (e) 2. (v) Nil. (vi) As under treatments (medium duration). (vii) Irrigated. (viii) Nil. (ix) 21.32%. (x) 5.3.49.**2. TREATMENTS :**

Main-plot treatments :—

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L. + 400 lb./ac. of G.N.C. + 50 lb./ac. of A/S + 112 lb./ac. of Super.

Subplot treatments :—

2 varieties : $V_1=CO. 3$, $V_2=Adt. 8$ and $V_3=Asd. 5$.**3. DESIGN :**(i) Split plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) $54' \times 8'$ (sub-plot) ; $54' \times 25\frac{1}{2}'$ (main-plot). (b) $53' \times 7\frac{1}{2}'$ (sub-plot). (vi) One row all round the net plot. (vii) Yes.**4. GENERAL :**

(i) Not satisfactory. Poor yields have been obtained due to severe drought conditions. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947—1950. (b) Yes. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1166 lb./ac.
 (ii) (a) 109.4 lb./ac.
 (b) 79.4 lb./ac.
 (iii) Main effects of M and V are highly significant. Interaction is significant.
 (iv) Av. yield of grain in lb./ac.

	M_0	M_1	Mean
V_1	884	1634	1259
V_2	857	1426	1142
V_3	779	1417	1098
Mean	840	1492	1166

S.E. of difference of two :

1. M marginal means = 36.5 lb./ac.
 2. V marginal means = 32.4 lb./ac.
 3. V means at the same level of M = 45.9 lb./ac.
 4. M means at the same level of V = 58.0 lb./ac.

Crop :- Paddy.

Ref :- M. 48 (23).

Site :- Rice Res. Strn., Tirurkuppam.

Type :- MV.

Object :- To find out the effect of manures on three varieties. (High level area single crop land).

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis—Tirurkuppam.
 (iii) 17.8.48/14.10.48. (iv) (a) 5 ploughings. (b) Transplanting. (c)—, (d) 6"×6". (e) 2. (v) Nil.
 (vi) As under treatments (late). (vii) Irrigated. (viii) Nil. (ix) 24.5°. (x) 14, 15, 2.49.

2. TREATMENTS :

Main-plot treatments :

2 levels of manure : $M_0=0$ and $M_1=2000$ lb./ac. of G.L.+400 lb./ac. of G.N.C.+50 lb./ac. of A/S+112 lb./ac. of Super.

Sub-plot treatments :

3 varieties : $V_1=CO. 12$, $V_2=CO. 19$ and $V_3=CO. 26$.

3. DESIGN :

- (i) Split plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 54'×8'. (sub-plot) (54'×24' main-plot). (b) 53'×7' (sub-plot). (v) One row all round the net plot. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947—1950. (b) Yes. (c) N.A.
 (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2421 lb./ac.
 (ii) (a) 381.2 lb./ac.
 (b) 317.4 lb./ac.

- (iii) Main effect of M is highly significant while that of V and interaction $M \times V$ are significant.

(iv) Av. yield of grain in lb./ac.

	M ₀	M ₁	Mean
V ₁	1983	2453	2218
V ₂	1980	3356	2668
V ₃	1998	2753	2376
Mean	1987	2854	2421

S.E. of difference of two

1. M marginal means = 127.1 lb./ac.
2. V marginal means = 129.6 lb./ac.
3. V means at the same level of M = 183.3 lb./ac.
4. M means at the same level of V = 196.3 lb./ac.

Crop :- Paddy (*Thaladi*).

Ref :- M. 51 (19).

Site :- Agri Res. Stn., Aduthurai.

Type :- 'C'

Object :- To find out the optimum age of seedling for transplanting Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy—fallow. (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) As per treatments. (iv) (a) 2 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) 500 lb./ac. of Indigo meal+100 lb./ac. of Super+200 lb./ac. of A/S. Indigo meal ploughed in at first ploughing, Super at last ploughing; A/S one month after planting as top dressing. (vi) CO. 25 (late). (vii) Irrigated. (viii) Nil. (ix) 22". (x) 6, 12.3.52.

2. TREATMENTS:

Age of seedlings	Date of sowing
1. 30 days	30.9.51
2. 40 days	21.9.51
3. 50 days	12.9.51
4. 60 days	3.9.51

3. DESIGN :

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

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 195C—1953. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vi) Nil.

5. RESULTS :

- (i) 2044 lb./ac.
- (ii) 389.5 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2897
2.	3092
3.	2978
4.	3000
S.E./mean	= 194.8 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 51(20).

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

Type :- 'C'.

Object :- To find out optimum age of seedling. for transplanting Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy-fallow. (b) fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) As per treatments. (iv) (a) 2 ploughings. (b) N.A. (c) —. (d) 6" x 6". (e) 2. (v) 500 lb./ac. of Koligi and 500 lb./ac. of Indigo meal + 100 lb./ac. of Super + 200 lb./ac. of A/S. Indigo meal ploughed, at 1st Ploughing, Super at last ploughing, A/S one month after ploughing as top dressing. (vi) CO. 25. (vii) Irrigated. (viii) Nil. (ix) 29". (x) 25.1.52. and 1.2.52.

2. TREATMENTS :

Age of seedlings	Date of sowing.
1. 30 days	19.8.51.
2. 40 days	9.8.51.
3. 50 days	30.7.51.
4. 60 days	21.7.51.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) & (b) 20' x 4'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain & straw yield. (iv) (a) 1950—1953. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

(i) 2646 lb./ac.
 (ii) 399.0 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2877
2.	2604
3.	2564
4.	2543
S.E./mean	= 199.5 lb./ac.

Crop :- Paddy Samba).

Ref :- M. 52 (31).

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

Type :- 'C'.

Object :- To find out optimum age of seedling for transplanting Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) As under treatments/9.11.52. (iv) (a) 2 ploughings. (b) Transplanting. (c) —. (d) 6' x 6". (e) 2. (v) 2000 lb./ac. of G.L. + 100 lb./ac. of A/S. (vi) CO. 19 (late). (vii) Irrigated. (viii) Nil. (ix) 24.5". (x) 9.3.53.

2. TREATMENTS :

Age of seedlings at planting :

1. 40 days.
2. 50 days.
3. 60 days.
4. 70 days.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) & (b) 4' x 20'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1951—1953. (b) No (c) N.A. (v) (a) Nil (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 4331 lb./ac.
 (ii) 462.0 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	4679
2.	4594
3.	3841
4.	4121
S.E./mean	= 231.0 lb./ac.

Crop :- Paddy (*Samba*).

Ref :- M. 52(32).

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

Type :- 'C'

Object :- To find out the optimum age of seedlings for transplanting Paddy.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) As under treatments/9.11.52. (iv) (a) Ploughed two times with iron plough. (b) Transplanting. (c) —. (d) 6" x 6". (e) N.A. (v) 2000 lb/ac. of G.L. + 100 lb/ac. of A/S. (vi) CO. 25 (late). (vii) Irrigated. (viii) Nil. (ix) 24.5". (x) 9.3.53.

2. TREATMENTS :

Age of seedlings at planting :

1. 40 days.
 2. 50 days.
 3. 60 days.
 4. 70 days.

3. DESIGN :

- (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) and (b) 4' x 20". (v) Nil. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (b) Nil. (iii) Grain and straw yield. (iv) (a) 1951-1953. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Nil. (vii) All the three expts. failed in 1953.

5. RESULTS :

- (i) 4592 lb./ac.
 (ii) 333.4 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	4706
2.	4599
3.	4766
4.	4201
S.E./mean	= 166.7 lb./ac.

Crop :- Paddy (*Kuruvai*).

Ref :- M. 50(40).

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

Type :- 'C'

Object :- To find out the optimum spacing and number of seedlings per hole for Paddy under manured and unmanured conditions.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 29.6.50/22.23.7.50. (iv) (a) 2 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 6000 lb/ac. of G.L. (vi) Adt. 20 (early). (vii) Irrigated. (viii) Nil. (ix) 9.6". (x) 10.10.50.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 spacings : $S_1=6''$ and $S_2=9''$.

(2) No. of seedlings/bunch : $R_1=4$ and $R_2=8$.

3. DESIGN :

(i) 2×2 Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) and (b) $21' \times 9'$. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1950—1952. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 5364 lb./ac.

(ii) 60.80 lb./ac.

(iii) Main effect of spacing is highly significant. Interaction spacing \times seedlings is significant. Main effect of seedlings is not significant.

(iv) Av. yield of grain in lb./ac.

	S_1	S_2	Mean
R_1	5610	5043	5327
R_2	5337	5464	5401
Mean	5474	5254	5364

S.E. of any marginal mean = 21.50 lb./ac.

S.E. of body of table = 30.40 lb./ac.

Crop :- Paddy.

Ref :- M. 50(41)/50(40).

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

Type :- 'C'.

Object :- To find the optimum spacing and number of seedlings per hole for Paddy under unmanured conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 29.6.50/23.7.50. (iv)

(a) 2 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 6000 lb./ac. of G.L. (vi) CO. 25 (late).

(vii) Irrigated. (viii) Nil. (ix) 24.5". (x) 12.2.51.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 spacings : $S_1=6''$ and $S_2=9''$.

(2) No. of seedlings/bunch : $R_1=4$ and $R_2=8$.

3. DESIGN :

(i) 2×2 Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) and (b) $21' \times 9'$. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1950—1952. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 1560 lb./ac.

(ii) 78.90 lb./ac.

(iii) Only the interaction spacing \times seedling is significant.

(iv) Av. yield of grain in lb./ac.

	S ₁	S ₂	Mean
R ₁	1571	1502	1537
R ₂	1494	1674	1584
Mean	1533	1588	1560

S.E. of any marginal mean = 27.93 lb./ac.
 S.E. of body of table = 39.50 lb./ac.

Crop :- Paddy (*Kuruvai*).

Ref. :- M. 50(42).

Site :- Agri Res. Stn., Aduthurai.

Type :- 'C'.

Object :- To find out optimum spacing and number of seedlings per hole for Paddy under manured conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 29.6.50/22,23.7.50. (iv) (a) 2 ploughings. (b), (c) N.A. (d) & (e) As per treatments. (v) 6000 lb./ac. of G.L. + 100 lb./ac. of Super before planting and 100 lb./ac. of A/S as top dressing. (vi) Adt. 20 (early). (vii) Irrigated. (viii) Nil. (ix) 9.6". (x) 10.10.50.

2. TREATMENTS :

All combinations of (1) and (2)

- (1) 2 spacings : S₁=6" and S₂=9".
 (2) No. of seedlings/bunch : R₁=4 and R₂=8.

3. DESIGN :

(i) 2x2 Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) & (b) 21'x9'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1950-1952. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 5782 lb./ac.
 (ii) 63.90 lb./ac.
 (iii) Main effect of spacings alone is highly significant. Others are not significant.
 (iv) Av. yield of grain in lb./ac.

	S ₁	S ₂	Mean
R ₁	5835	5687	5761
R ₂	5912	5693	5803
Mean	5874	5690	5782

S.E. of any marginal mean = 22.63 lb./ac.
 S.E. of body of table = 32.00 lb./ac.

Crop :- Paddy.

Ref :- M. 50(43)/50(42).

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

Type :- 'C'.

Object :— To find the optimum spacing and number of seedlings per hole for Paddy under manured conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 29.6.50/22,23.7.50. (iv) (a) 2 ploughings. (b), (c) N.A. (d) & (e) As per treatments. (v) 6000 lb./ac. of G.L./ac. +100 lb./ac. of Super before planting +100 lb./ac. of A/S as top dressing. (vi) CO. 25 (late). (vii) Irrigated. (viii) Nil. (ix) 22.6". (x) 12.2.51.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 spacings : $S_1=6''$ and $S_2=9''$.

(2) No. of seedlings/bunch : $R_1=4$ and $R_2=8$.

3. DESIGN :

(i) 2×2 Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) & (b) $21' \times 9'$. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1950—1952. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

(i) 1517 lb./ac.

(ii) 115.7 lb./ac.

(iii) None of the effects is significant.

(iv) Av. yield of grain in lb./ac.

	S_1	S_2	Mean
R_1	1512	1526	1519
R_2	1509	1519	1514
Mean	1511	1523	1517

S.E. of any marginal mean = 40.88 lb./ac.

S.E. of body of table = 57.80 lb./ac.

Crop :- Paddy (Kar).

Ref :- M. 48(84).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'C'.

Object :—To study the different methods of sowing Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 30.6.48/20.7.48. (iv) (a) 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) $6'' \times 6''$ (except for broadcast). (e) 2 (except for broadcast). (v) 5000 lb./ac. of G.L. (vi) Asd. 1 (early). (vii) Irrigated. (viii) Weeding once. (ix) 7.34". (x) 20.10.48.

2. TREATMENTS :

1. Dibbling.

2. Dibbling with cowdung.

3. Broadcasting.

4. Transplanting.

3. DESIGN :
 (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 21'x6'. (b) 20'x5'. (v) About 6" left as border.
 (vi) Yes.

4. GENERAL :
 (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947-1949. (b) No. (c) Nil. (v) (a) & (b) Nil.
 (vi) & (vii) Nil.

5. RESULTS :
 (i) 3308 lb./ac.
 (ii) 217.8 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3315
2.	3416
3.	2929
4.	3569
S.E./mean	= 88.9 lb./ac.

Crop :- Paddy (*Pishanam*).

Ref :- M. 48(80).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'C'.

Object :- To study the different methods of sowing Paddy.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 28.10.48/6.12.48. (iv) (a) 4 ploughings. (b) As per treatments. (c) —. (d) 6" x 6" (except for broadcast). (e) 2 (except for broadcast). (v) 5000 lb./ac. of G.L. (vi) Asd. 5 (late). (vii) Irrigated. (viii) Weeding once. (ix) 20 0". (x) 14.3.49.

2. TREATMENTS :

1. Dibbling.
2. Dibbling with cowdung.
3. Broadcasting.
4. Transplanting.

3. DESIGN :

- (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 21'x6'. (b) 20'x5'. (v) About 6" left. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947-1949. (b) No. (c) Nil. (v) (a) & (b) Nil.
 (vi) & (vii) Nil.

5. RESULTS :

- (i) 1048 lb./ac.
 (ii) 107.2 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1109
2.	926
3.	1205
4.	952
S.E./mean	= 43.7 lb./ac.

Crop :- Paddy (Kar).

Ref :- M. 49 (77).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'C'.

Object :- To find out whether dibbling sprouted Paddy seed will be better than broadcasting or transplanting.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 6.6.49/29.6.49. (iv) (a) 3 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) 6" x 6" (except for broadcasting). (e) 2. (except for broadcasting). (v) 5000 lb./ac. of G.L. (vi) Asd. 1 (medium). (vii) Irrigated. (viii) Weeding once. (ix) 2.78". (x) 4.10.49.

2. TREATMENTS :

1. Dibbling sprouted seed.
2. Dibbling sprouted seed smeared with cowdung.
3. Broadcasting.
4. Transplanting.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) 21' x 24'. (iii) 6. (iv) (a) 21' x 6'. (b) 20' x 5'. (v) About 6" left all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947-1949. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :-

(i) 2423 lb./ac.
 (ii) 277.0 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2523
2.	2653
3.	2322
4.	2198
S.E./mean	= 113.0 lb./ac.

Crop :- Paddy (Pishanam).

Ref :- M. 49 (78).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'C'.

Object :- To find out whether dibbling sprouted Paddy seed will be better than broadcasting or transplanting.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 20.10.49/23.11.49. (iv) (a) 3 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) 6" x 6" (except for broadcasting). (e) 2. (except for broadcasting). (v) 5000 lb./ac. of G.L. (vi) Asd. 5. (vii) Irrigated. (viii) Weeding once. (ix) 21.35". (x) 20.3.50.

2. TREATMENTS :

1. Dibbling sprouted seed.
2. Dibbling sprouted seed smeared with cowdung.
3. Broadcasting.
4. Transplanting.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) 21' x 24'. (iii) 6. (iv) (a) 21' x 6'. (b) 20' x 5'. (v) About 6" left all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947-1949. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS

- (i) 2661 lb./ac.
 (ii) 455.2 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2463
2.	2757
3.	2705
4.	2720
S.E./mean	= 185.8 lb./ac.

Crop :- Paddy.

Ref :- M. 51(38).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'C'.

Object :- To find the optimum seed rate for sowing 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) 17.9.51/1.11.51. (iv) (a) 3 ploughings with country plough; once with iron plough. (b) N.A. (c) As under treatments. (d) 6'x6". (e) —. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (vi) CO. 10 (medium). (vii) Irrigated. (viii) Weeding once. (ix) 11.47". (x) 20.2.52.

2. TREATMENTS :

Seed sown at the rate of—

1. 150 lb./ac.
2. 200 lb./ac.
3. 350 lb./ac.
4. 500 lb./ac.
5. 750 lb./ac.
6. 900 lb./ac.

Seedlings from different nurseries were taken for transplanting.

3. DESIGN :

- (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 9'x41'. (b) 8'x40'. (v) One row left as border. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

- (i) 1405 lb./ac.
 (ii) 202.4 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1443
2.	1587
3.	1409
4.	1333
5.	1339
6.	1317
S.E./mean	= 101.2 lb./ac.

Crop :- Paddy.

Ref:- M. 51(39).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'C'.

Object :- To find the optimum seed rate for sowing 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) 19.7.51/20.11.51. (iv) (a) 4 ploughings. (b) N.A. (c) As under treatments. (d) 6"×6". (e) —. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (vi) CO. 25 (late). (vii) Irrigated. (viii) Weeding once. (ix) 16.94". (x) 10.4.52.

2. TREATMENTS :

Seed sown at the rate of—

1. 150 lb./ac.
2. 300 lb./ac.
3. 450 lb./ac.
4. 600 lb./ac.
5. 750 lb./ac.
6. 900 lb./ac.

The seedlings from different plots at nursery stage have been taken for transplanting.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 10'×41'. (b) 9'×40'. (v) One row left as border. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

- (i) 2964 lb./ac.
 (ii) 149.3 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3022
2.	3026
3.	2900
4.	2966
5.	3057
6.	2812
S.E./mean	= 74.7 lb./ac.

Crop :- Paddy.

Ref:- M. 53(76).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'C'.

Object :- To find out the optimum spacing and number of seedlings to obtain high yields.

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 soil. (b) Refer soil analysis, Coimbatore. (iii) 3.9.53/19.20.10.53. (iv) (a) The first ploughing done by iron plough after cross-ploughing with country plough. (b) Transplanting. (c) —. (d) and (e) As per treatments. (v) G.M. was applied at the rate of 4000 lb./ac. and pressed in with a trampler. (vi) CO. 25. (vii) Irrigated. (viii) Weeding twice. (ix) 15.46". (x) 5.3.54.

2. TREATMENTS :

Main-plot treatments :-

No. of seedlings/hole : $R_1=2$ and $R_2=4$.

Sub-plot treatments :-

6 spacings : $S_1=6''\times 6''$, $S_2=9''\times 8''$, $S_3=9''\times 4''$, $S_4=12''\times 3''$, $S_5=18''\times 4''$ and $S_6=12''\times 6''$.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) Main-plot 72'×24' ; sub-plot 12'×24'. (b) 11.5'×23.5'. (v) $\frac{1}{2}$ ' on all sides. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Tiller count & height measurements taken. (iv) (a) No. (b) No. (c) N.A. (v) (a) No. (b) N.A. (vi) Nil. (vii) Raw data N.A.

5. RESULTS :

(i) 3674 lb./ac.
 (ii) N.A.
 (iii) Effect of spacings and interaction R×S are significant.
 (iv) Av. yield of grain in lb./ac.

	S ₁	S ₂	S ₃	S ₄	S ₅	S ₆	Mean
R ₁	3726	3742	3701	3678	3667	3703	3703
R ₂	3598	3669	3491	3563	3944	3607	3645
Mean	3662	3706	3596	3620	3805	3655	3674

Crop :- Paddy (*Samba*).

Ref :- M. 48(68).

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

Type :- 'C'.

Object :- To compare the effect of broadcasting, dibbling sprouted seed and transplanting seedlings on the yield of Paddy (single crop).

1. BASAL CONDITIONS :

(i) (a) Paddy-Fallow. (b) Fallow. (c) Nil. (ii) (a) Loamy. (b) Refer soil analysis, Palur. (iii) 13.8.48/26.9.48. (iv) (a) 4 to 5 ploughings. (b) As under treatments. (c) —. (d) & (e) As per treatments. (v) 5000 lb./ac. of G.L. applied 10 days before planting, trampled and ploughed in ; 150 lb./ac. of Super applied before levelling ; 150 lb./ac. of A/S applied in 2 equal doses one at planting and the other one month after planting. (vi) CO. 19 (late). (vii) Irrigated. (viii) Weeding once. (ix) 48.51°. (x) 27.1.49.

2. TREATMENTS:

1. Untreated seed broadcast.
2. Sprouted seed dibbled in lines 6" apart.
3. Sprouted seed smeared with cowdung and dibbled in lines 6" apart.
4. Seedlings transplanted 6" apart with 2 seedlings/hole.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) 55'×25'. (iii) 6. (iv) (a) 55'×5'. (b) 54'×4'. (v) One row of plants left all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1948-1949. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

(i) 3395 lb./ac.
 (ii) 382.2 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3240
2.	3260
3.	3140
4.	3940
S.E./mean	= 156.0 lb./ac.

Crop :- Paddy (*Samba*).

Ref :- M. 49(11).

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

Type :- 'C'.

Object :—To compare the effect of broadcasting, dibbling sprouted seed and transplanting on the yield of Paddy (single crop).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 6,000 lb./ac. of G.L. (ii) (a) Sandy loam. (b) Refer soil analysis, Palur. (iii) 5.8.49/12.9.49. (iv) (a) 4 ploughings. (b) As under treatments. (c) 30 lb./ac. (d) 6"×6". (e) N.A. (v) 6,000 lb./ac. of G.L. (vi) CO. 19 (late). (vii) Irrigated. (viii) Weeding twice. (ix) 10.03". (x) 19.1.50.

2. TREATMENTS :

1. Untreated seed broadcast.
2. Sprouted seed dibbled in lines 6" apart.
3. Sprouted seed smeared with cowdung dibbled in lines 6" apart.
4. Seedlings transplanted.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 55'×5'. (b) 54'×4'. (v) 6" left as border. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948—1950. (b) No. (c) Nil. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2558 lb./ac.
- (ii) 647.5 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2079
2.	2756
3.	2806
4.	2591
S.E./mean	= 264.3 lb./ac.

Crop :- Paddy (*Samba*).

Ref :- M. 48(69).

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

Type :- 'C'.

Object :—To compare the effect of broadcasting, dibbling sprouted seed and transplanting seedlings on the yield of Paddy (2nd crop).

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) Loamy. (b) Refer soil analysis, Palur. (iii) 25.10.48/28.11.48. (iv) (a) 4 to 5 ploughings. (b) As under treatments. (c) 30 lb./ac. (d) As under treatments. (e) As per treatments. (v) 5000 lb./ac. of G.L.+150 lb./ac. of A/S. Leaf applied and ploughed in 10 days before planting. Super applied just before levelling; half the dose of A/S at planting and the other half one month later. (vi) CO. 2 (medium). (vii) Irrigated. (viii) Weeding once. (ix) 23.56". (x) 14.3.49.

2. TREATMENTS :

1. Untreated seed broadcast.
2. Sprouted seed dibbled in lines 6" apart.
3. Sprouted seed smeared with cowdung and dibbled in lines 6" apart.
4. Seedlings transplanted 6" apart with 2 seedlings/hole.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) 55'×25'. (iii) 6. (iv) (a) 55'×5'. (b) 54'×4'. (v) One row of 6" left all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948—1949. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2400 lb./ac.
 (ii) 259.7 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2240
2.	2400
3.	2380
4.	2580
S.E./mean	= 106.0 lb./ac.

Crop :- Paddy (*Samba*).

Ref :- M. 49(12).

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

Type :- 'C'.

Object :- To compare the effect of broadcasting, dibbling sprouted seed and transplanting seedlings on the yield of Paddy (2nd crop).

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) 6,000 lb./ac. of G.L. (ii) (a) Sandy loam. (b) Refer soil analysis, Palur. (iii) 16.9.49/24.10.49. (iv) (a) 4 ploughings. (b) As under treatments. (c) 30 lb./ac. (d) 6" x 6". (e) N.A. (v) 6,000 lb./ac. of G.L. (vi) CO. 2. (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 7.69". (x) 11.2.50.

2. TREATMENTS :

- Untreated seed broadcast.
- Sprouted seed dibbled in lines 6" apart.
- Sprouted seed smeared with cowdung dibbled in lines 6" apart.
- Seedlings transplanted.

3. DESIGN :

- (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 55' x 5'. (b) 54' x 4'. (v) 6" left as border. (vi) Yes.

4. GENERAL :

- (i) Fair. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948-1950. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2359 lb./ac.
 (ii) 395.2 lb./ac.
 (iii) Treatments are not significantly different.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2298
2.	2325
3.	2453
4.	2360
S.E./mean	= 161.3 lb./ac.

Crop :- Paddy (Kar).

Ref :- M. 48(67).

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

Type :- 'C'.

Object :- To compare the effect of broadcasting, dibbling sprouted seed and transplanting on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy after 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, Palur. (iii) 25.6.48/18.7.48. (iv) (a) 4 to 5 ploughings. (b) As under treatments. (c) 30 lb./ac. (d) Spacing varies. (e) As per treatments. (v) 5000 lb./ac. of G.L. + 150 lb./ac. of Super + 150 lb./ac. of A/S. G.L. applied 10 days before planting, trampled and levelled. Super applied just before levelling half the dose of A/S at planting and the other half one month after as top dressing. (vi) Sornavari-7 (early). (vii) Irrigated. (viii) Weeding once. (ix) 23.75". (x) 10.10.48.

2. TREATMENTS :

1. Untreated seed broadcast.
2. Sprouted seed dibbled in lines 6" apart.
3. Sprouted seed smeared with cowdung and dibbled in lines 6" apart.
4. Seedlings transplanted 6" apart, 2 seedlings/hole.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) 55' x 25'. (iii) 6. (iv) (a) 55' x 5'. (b) 54' x 4'. (v) 6" left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1948-1949. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

(i) 3249 lb./ac. (ii) 294.0 lb./ac. (iii) Treatments are not significantly different. (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3310
2.	3260
3.	2975
4.	3450
S.E./mean	= 120.0 lb./ac.

Crop :- Paddy (Kar).

Ref :- M. 49(10).

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

Type :- 'C'.

Object—To compare the effect of broadcasting, dibbling sprouted seed and transplanting on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 6,000 lb./ac. of G.L. (ii) (a) Sandy loam. (b) Refer soil analysis, Palur. (iii) 20.6.49/13.7.49. (iv) (a) 4 ploughings. (b) As under treatments. (c) 30 lb./ac. (d) 6" x 6". (e) N.A. (v) 6,000 lb./ac. of G.L. (vi) Sornavari 7. (vii) Irrigated. (viii) Weeding twice. (ix) 14.62". (x) 10.10.49.

2. TREATMENTS :

1. Untreated seed broadcast.
2. Sprouted seed dibbled in lines 6" apart.
3. Sprouted seed smeared with cowdung dibbled in lines 6" apart.
4. Seedlings transplanted.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 55' x 5'. (b) 54' x 4'. (v) 6" left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948-1950. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

(i) 2987 lb./ac.

(ii) 147 lb./ac.

(iii) Treatment differences are significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3094
2.	2860
3.	2809
4.	3185
S.E./mean	= 60.0 lb./ac.

Crop :- Paddy (*Samba*).

Ref :- M. 48(51).

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

Type :- 'C'.

Object :- To compare the effect of broadcasting, dibbling sprouted seed and transplanting on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukottai. (iii) 27.848/10.10.48. (iv) (a) 3 to 5 ploughings. (b) As under treatments. (c) 30 lb./ac. (d) 6" x 6". (e) 2. (v) 5000 lb./ac. of G.L. + 300 lb./ac. of G.N.C. + 150 lb./ac. of Super. (vi) CO. 19 (late). (vii) Irrigated. (viii) Weeding once. (ix) 16.22". (x) 17.2.49.

2. TREATMENTS :

1. Broadcasting.
2. Sprouted seed dibbled.
3. Sprouted seed dibbled after smearing with cowdung.
4. Transplanting.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1.0 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1948-1950. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) N.A.

5. RESULTS :

(i) 1975 lb./ac.

(ii) 185.9 lb./ac.

(iii) Treatments do not differ significantly.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2000
2.	1992
3.	1938
4.	1969
S.E./mean	= 65.8 lb./ac.

Crop :- Paddy (*Samba*).

Ref :- M. 49(42).

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

Type :- 'C'.

Object :- To compare the effect of broadcasting, dibbling sprouted seed and transplanting on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukottai. (iii) 1.9.49/9.10.49. (iv) (a) 3 to 5 ploughings. (b) As under treatments. (c) 30 lb./ac. (d) 6' x 6'. (e) 2. (v) 5000 lb./ac. of G.L.+300 lb./ac. of G.N.C.+150 lb./ac. of Super. (vi) CO. 19 (late). (vii) Irrigated. (viii) Weeding once. (ix) 13.49. (x) 15, 16.2.50.

2. TREATMENTS :

1. Broadcasting.
2. Sprouted seed dibbled.
3. Sprouted seed dibbled after smearing with cowdung.
4. Transplanting.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 8. (iv) (a) N.A. (b) 1.0 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) N.A. (iii) Grain yield. (iv) (a) 1948-1949. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Nil. (vii) Raw data N.A.

5. RESULTS :

- (i) 3210 lb./ac.
- (ii) 196.5 lb./ac.
- (iii) Treatment differences are significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3250
2.	3340
3.	2960
4.	3290
S.E./mean	= 69.50 lb./ac.

Crop :- Paddy (*Sornavari*).

Ref :- M. 48 (21).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'C'.

Object :- To compare the effect of broadcasting, dibbling sprouted seed and transplanting on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 400 lb./ac. of G.N.C.+100 lb./ac. of A/S as top dressing. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 28.5.48/26.6.48. (iv) (a) 5 ploughings. (b) As under treatments. (c) 30 lb./ac. (d) 6' x 6'. (e) 2. (v) Nil. (vi) CO. 13 (early). (vii) Irrigated. (viii) Nil. (ix) 18.89. (x) 24.9.48.

2. TREATMENTS :

1. Broadcasting.
2. Sprouted seed dibbled.
3. Sprouted seed dibbled after smearing with cowdung.
4. Transplanting.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 51' x 9'. (b) 50' x 8'. (v) 6" border left all round the net plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947-1949. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

- (i) 1792 lb./ac.
 (ii) 53.6 lb./ac.
 (iii) Treatment differences are highly significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1892
2.	1810
3.	1967
4.	1499
S.E./mean	= 21.9 lb./ac.

Crop :- Paddy (*Sprnavari*).

Ref :- M. 49 (18).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'C'.

Object :- To compare the effect of [broadcasting, dibbling sprouted seed and transplanting on the yield of Paddy.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) 400 lb./ac. of G.N.C.+100 lb./ac. of A/S. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 11.6.49/4.7.49. (iv) (a) 5 ploughings. (b) As under treatments. (c) 30 lb./ac. (d) 6" x 6". (e) 2. (v) 400 lb./ac. of G.N.C.+100 lb./ac. of A/S top dressed one month after planting. (vi) CO. 13 (early). (vii) Irrigated. (viii) Weeding once. (ix) 30.0°. (x) 24.9.49.

2. TREATMENTS :

- Broadcasting.
- Sprouted seed dibbled.
- Sprouted seed smeared with cowdung and dibbled.
- Transplanting.

3. DESIGN :

- (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 50' x 8'. (b) 49' x 7'. (v) 6" border left all round the net plot. (vi) Yes.

4. GENERAL:

- (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947-1949. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) 2nd crop in 1948 failed.

5. RESULTS:

- (i) 3564 lb./ac.
 (ii) 287.2 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3392
2.	3439
3.	3542
4.	3881
S.E./mean	= 117.2 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 49(15).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'C'.

Object :- To compare the effect of broadcasting, dibbling sprouted seed and transplanting on the yield of Paddy.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 5.10.49/5.11.49. (iv) (a) 5 ploughings. (b) As under treatments. (c) 30 lb./ac. (d) 6' x 6'. (e) 2. (v) 400 lb./ac. of G.N.C. + 100 lb./ac. of A/S as top dressing one month after transplanting. (vi) CO. 5 (medium). (vii) Irrigated. (viii) Weeding once. (ix) 16.8". (x) 25.2.50.

2. TREATMENTS:

1. Broadcasting.
2. Sprouted seed dibbled.
3. Sprouted seed smeared with cowdung and dibbled.
4. Transplanting.

3. DESIGN:

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 50' x 9'. (b) 49' x 8'. (v) 6" border left all round the net plot. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947-1949. (b) Nil. (c) N.A. (v) (a) Nil. (b) Nil. (vi) & (vii) Nil.

5. RESULTS:

- (i) 1112 lb./ac.
- (ii) 315.6 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	807
2.	1172
3.	1163
4.	1305
S.E./mean	= 128.8 lb./ac.

Crop :- Paddy (Samba).

Ref :- M. 49(22).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'C'.

Object :- To find the optimum combinations of heavy and normal nursery to the total planted area.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Ragi and Gingelley. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 23.8.49/11.10.49. (iv) (a) 5 ploughings. (b) Bulk planting. (c) As per treatments. (d) N.A. (e) 2 or 3. (v) G.L. at 4000 lb./ac. + 100 lb./ac. of Super. + 100 lb./ac. of A/S. Super applied at the time of last ploughing. A/S as top dressing one month after planting. (vi) CO. 19 (late.) (vii) Irrigated. (viii) Weeding once. (ix) 27.96". (x) 18.2.50.

2. TREATMENTS:

All combinations of (1) and (2)

- (1) Nursery area : A_1 = Heavy-thickly sown at 750 lb./ac. and A_2 = Normal-thinly sown at 300 lb./ac.
- (2) Ratio of nursery area to planted area : R_1 = 1:6, R_2 = 1:9 and R_3 = 1:12.

3. DESIGN:

(i) 2 x 3 Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) 82' x 8'. (b) 81' x 7'. (v) About 6" left as border all round net plot. (vi) Yes.

4. GENERAL:

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

5. RESULTS :

- (i) 2344 lb./ac.
 (ii) 246.7 lb./ac.
 (iii) Main effects and interaction are not significant.
 (iv) Av. yield of grain in lb./ac.

	R ₁	R ₂	R ₃	Mean
A ₁	2427	2228	2407	2354
A ₂	2279	2379	2343	2333
Mean	2353	2303	2375	2344

S.E. of marginal mean of R = 87.3 lb./ac.
 S.E. of marginal mean of A = 71.2 lb./ac.
 S.E. of body of table = 123.4 lb./ac.

Crop :- Paddy (*Kurudai*).

Ref :- M. 50(39).

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

Type :- 'CV'.

Object :- To find out optimum age of seedlings for transplanting at the same time.

1. BASAL CONDITIONS :

(i) (a) Paddy—Bulk Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 6.8.50. (iv) (a) 2 ploughings. (b) transplanting (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) 6000 lb./ac. of G.L.+100 lb./ac. of B.M. (vi) As under treatments. (vii) Irrigated. (viii) Nil. (ix) 9.6". (x) 21.10.50.

2. TREATMENTS :

Main-plot treatments :-

3 varieties : V₁=Adt. 3, V₂=Adt. 4 and V₃=Adt. 20.

Sub-plot treatments :-

3 ages of seedlings : A₁=21, A₂=28 and A₃=35 days.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) (main-plot) 15'×21'. (b) 20'×4'. (Sub-plot) (v) Nil. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

- (i) 2485 lb./ac.
 (ii) (a) 571.8 lb./ac.
 (b) 392.5 lb./ac.
 (iii) Main effect of A alone is highly significant.
 (iv) Av. yield of grain in lb./ac.

	V ₁	V ₂	V ₃	Mean
A ₁	2431	2620	1688	2246
A ₂	3053	3213	1920	2729
A ₃	2903	2718	1823	2481
Mean	2796	2850	1810	2485

S.E. of difference of two

1. V marginal means = 233.5 lb./ac.
 2. A marginal means = 160.3 lb./ac.
 3. A means at the same level of V = 277.6 lb./ac.
 4. V means at the same level of A = 325.4 lb./ac.

Crop :- Paddy.

Ref :- M. 49(84).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'CV'.

Object :- To study the effect of age of seedlings and spacing on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (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) Refer soil analysis, Tirurkuppam. (iii) Sowing as under treatments ; transplanting on 15.6.49. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) As under treatments. (e) 2 or 3. (v) G.L. at 5000 lb./ac.+Super at 100 lb./ac.+A/S at 100 lb./ac. G.L. and Super before planting and A/S one month after planting. (vi) Adt. 14 and CO. 13 (early). (vii) Irrigated. (viii) Weeding once. (ix) 39.2". (x) 7, 19.9.49.

2. TREATMENTS :

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

(1) 2 varieties : V_1 =Adt. 14 and V_2 =CO. 13.(2) 3 ages of seedlings at planting ; A_1 =3, A_2 =4 and A_3 =5 weeks.(3) 2 spacings : S_1 =4"×4" and S_2 =6"×6".

3. DESIGN :

(i) 3×2×2 Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 6: (iv) (a) N.A. (b) 20'×4'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1948-1949. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) The plot wise yield data is not available.

5. RESULTS :

(i) 3451 lb./ac.

(ii) 318.5 lb./ac.

(iii) Only main effect of V is significant.

(iv) Av. yield of grain in lb./ac.

	S_1	S_2	Mean.	V_1	V_2
A_1	3369	3539	3454	3621	3287
A_2	3617	3463	3541	3680	3399
A_3	3227	3491	3359	3328	3390
Mean.	3404	3498	3451		
V_1	3531	3555	3543		
V_2	3277	3440	3359		

S.E. of S or V marginal means =53.1 lb./ac.

S.E. of A marginal means =65.0 lb./ac.

S.E. of body of A×S or A×V table =91.9 lb./ac.

S.E. of body of V×S table =75.0 lb./ac.

Crop :- Paddy.

Ref :- M. 50(27).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'CV'.

Object :- To study the effects of spacing and age of seedlings on the yield of two varieties of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.N.C. at 400 lb./ac.+A/S at 100 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 4, 11, 18.5.50/10.6.50. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) As under treatments. (e) 2. (v) G.N.C. at 400 lb./ac.+A/S at 100 lb./ac. G.N.C. applied before planting and A/S one month after planting. (vi) As under treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 9.5" (x) 11.9.50.

2. TREATMENTS :

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

- (1) 2 varieties : V_1 =Adt. 14 and V_2 =CO. 13.
 (2) 2 spacings : S_1 =4'×4' and S_2 =6'×6'.
 (3) 3 ages of seedings : A_1 =3, A_2 =4 and A_3 =5 weeks.

3. DESIGN :

(i) 3×2×2 Fact. in R.B.D. (ii) (a) 12, (b) N.A. (iii) 6. (iv) (a) 20'×4' for 6" spacing, 19½'×3½' for 4" spacing, (b) 19'×3'. (v) 1 row all round the net plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948-1950. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 3384 lb./ac.
 (ii) 303.6 lb./ac.
 (iii) Main effects of V and A and interaction V×A are significant. Others are not significant.
 (iv) Av. yield of grain in lb./ac.

	S_1	S_2	Mean	V_1	V_2
A_1	3453	3258	3355	3480	3230
A_2	3541	3568	3554	3510	3598
A_3	3332	3155	3244	2885	3602
Mean	3442	3327	3384		
V_1	3392	3192	3292		
V_2	3492	3462	3477		

S.E. of V of S_1 marginal means

=50.4 lb./ac.

S.E. of A marginal means

=61.9 lb./ac.

S.E. of the body of V×A or S×A table

=87.6 lb./ac.

S.E. of the body of V×S table

=71.4 lb./ac.

Crop :- Paddy.

Ref :- M. 49(125).

Site :- Rice Res. Stn., Ambasamudram.

Type :- CM.

Object :- To test the soundness of the practice of giving repeated summer ploughings to the Paddy fields after Pishanam crop of Paddy.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) 100 lb./ac. of A/S in 2 doses as top dressing 15 and 30 days after planting.
 (ii) (a) Red sandy loam. (b) Refer soil analysis, Ambasamudram. (iii) 2 6:49/22.6.49. (iv) (a) 5 ploughings. (b) N.A. (c) 30 lb./ac. (d) 6'×6". (e) 2. (v) N as top dressing at 100 lb./ac. of A/S. (vi) Asd. 1 (short duration). (vii) Irrigated. (viii) Weeding once. (ix) 2.78. (x) 24.9.49.

2. TREATMENTS :

Main-plot treatments :-

- (1) Ploughed in the summer season.
 (2) Not ploughed.

Sub-plot treatments :-

 B_0 = No manure. B_1 = C.M. at 10,000 lb./ac. B_2 = G.L. at 5,000 lb./ac.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 62'×13'. (b) 61'×12'. (v) 6" left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1949-1950. (b) Yes. (c) Nil. (v) (a) Nil. (b) No. (vi) Nil. (vii) Plot wise yield data not available. The results are collected from annual reports.

5. RESULTS :

(i) 3353 lb./ac.

(ii) N.A.

(iii) Main-plot treatments and sub-plot treatments differ significantly. Interaction is not significant.

(iv) Av. yield of grain in lb./ac.

	Summer Ploughed	Not Ploughed	Mean
B ₀	3338	3000	3169
B ₁	3658	3159	3408
B ₂	3637	3325	3481
Mean	3544	3161	3353

Crop :-Paddy.

Site :-Rice Res. Stn., Ambasamudram.

Ref :-M. 50(13)/49(125).

Type :-'CM'.

Object :-To test the soundness of the practice of giving repeated summer ploughings to the Paddy fields.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Red sandy soil. (b) Refer soil analysis, Ambasamudram. (iii) 15.6.50/6.7.50. (iv) (a) On receipt of water in the channel early June, all the plots were ploughed two times with iron plough and levelling once with board. (b) Planting. (c) —. (d) 6"×6". (e) N.A. (v) Nil. (vi) Asd. 11 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 9.5". (x) 9.10.50.

2. TREATMENTS :

Main-plot treatments :-

1. Ploughing in summer twice with iron plough, twice with country plough and once levelling with board.
2. Unploughed.

Sub-plot treatments :-

- B₀=No manure.
B₁=C.M. at 10,000 lb./ac.
B₂=G.L. at 5000 lb./ac.

Applied one month before planting and ploughed in.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication and 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) Main-plot : 50'×20' (b) sub-plot : 50'×6'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949—1950. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 4917 lb./ac.

(ii) (a) 322.8 lb./ac.

(b) 286.1 lb./ac.

(iii) Main-plot treatments and sub-plot treatments do not differ significantly and their interaction is also not significant.

(iv) Av. yield of grain in lb/ac.

	Ploughed	Unploughed	Mean
B ₀	4829	4956	4893
B ₁	5161	5179	5170
B ₂	4902	4476	4689
Mean	4964	4870	4917

S.E. of difference of two

1. main-plot treatment means = 131.8 lb./ac.
2. sub-plot treatment means = 143.1 lb./ac.
3. sub-plot treatment means at the same level of a main-plot treatment = 202.3 lb./ac.
4. main-plot treatment means at the same level of a sub-plot treatment = 211.6 lb./ac.

Crop :-Paddy.

Ref :-M. 50(23)/49(125).

Site :-Rice Res. Stn., Ambasamudram.

Type :-'CM'.

Object :-To find residual effect of summer ploughing and direct effect of manures like G.N.C. and C.M.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) A/S at 100 lb./ac. in two doses, 15 and 30 days after planting as top-dressing.
(ii) (a) Red sandy loam. (b) Refer soil analysis, Ambasamudram. (iii) 4.10.50/1.11.50. (iv) (a) Ploughing twice with iron plough, twice with country plough and once levelling with board. (b) Transplanted. (c) —.
(d) 6' × 6'. (e) N.A. (v) 100 lb./ac. of A/S. (vi) Asd. 6 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 22.5".
(x) 26.2.51.

2. TREATMENTS :

Main-plot treatments :-

1. Ploughed.
2. Unploughed.

Sub-plot treatments :-

1. G.M. at 2000 lb./ac.
2. C.M. at 2000 lb./ac.
3. No manure.

Applied at the time of last ploughing.

3. DESIGN :

- (i) Split-plot. (ii) (a) 2 main-plots/replication ; 3 sub-plots/main-plot. (iii) 4. (iv) (a) 50.5' × 6.5', (b) 50' × 6'.
(v) About 6' left as border. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949—1950. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2846 lb./ac.
(ii) (a) 301.7 lb./ac.
(b) 190.9 lb./ac.
(iii) Main-plot treatments and sub-plot treatments do not differ significantly while their interaction is significant.
(iv) Av. yield of grain in lb./ac.

	Ploughed	Unploughed	Mean
G.M.	2853	2637	2745
C.M.	2770	3028	2899
No manure	3002	2787	2895
Mean	2875	2817	2846

S.E. of difference of two

1. main-plot treatment means = 123.1 lb./ac.
2. sub-plot treatment means = 95.5 lb./ac.
3. sub-plot treatment means at the same level of a main-plot treatment = 135.0 lb./ac.
4. main-plot treatment means at the same level of a sub-plot treatment = 165.20 lb./ac.

Crop :- Paddy.

Ref :- M: 53 (7).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'CM'.

Object :—To test the soundness of the local practice of giving a number of dry ploughings to the Paddy fields after the *Pishanam* Paddy in the month of April-May as preparatory cultivation for the next *Kar* season.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 2000 lb./ac. of G.L.+100 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 11.7.53. (iv) (a) N.A. (b) Transplanting. (c)—. (d) 6"×6". (e) 2 to 3. (v) Nil. (vi) Asd. 1 (early). (vii) Irrigated. (viii) Weedings. (ix) 5.6". (x) 29.9.53 to 2. 10.53.

2. TREATMENTS :

1. No summer ploughing.
2. Summer ploughing with 5000 lb./ac. of C.M.+112 lb./ac. of Super+100 lb./ac. of A/S.
3. Summer ploughing with 4000 lb./ac. of G.L.+112 lb./ac. of Super+100 lb./ac. of A/S.
4. No summer ploughing+manure as in treatment 3.
5. No summer ploughing+manure as in treatment 3. *in Situ*.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 56'×35'. (b) 54'×33'. (v) One foot all round. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

- (i) 3478 lb./ac.
 (ii) 331.2 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3643
2.	3293
3.	3468
4.	3410
5.	3575
S.E./mean	= 165.6 lb./ac.

Crop :- Paddy.

Ref :- M. 50 (52).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'CM'.

Object :—To compare Japanese with local method of planting.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) 9.9.59/14.10.50. (iv) (a) to (e) As under treatments. (v) Nil. (vi) CO. 14 (medium). (vii) Irrigated. (viii) As under treatments. (ix) 10.62". (x) 5.3.51.

2. TREATMENTS :

1. Japanese method :—2500 lb./ac. Glyricidia+60 lb./ac. of P₂O₅ (Super) at planting+40 lb N (A/S) at planting+20 lb. N(A/S) one month after planting ; planting in lines 1'×9" ; 4 seedlings/hole ; weeding once in every 15 days. Inter culture, raking twice.
2. Local method :—2500 lb./ac. of Glyricidia+30 lb. P₂O₅ (Super) at planting+30 lb. N (A/S) 4 weeks after planting. Bulk planting ; 2 seedlings/hole ; weeding twice.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 4. (iv) (a) 21'×56'. (b) 20'×55'. (v) One row left as border (vi) Yes.

4. GENERAL :

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

5. RESULTS:

(i) 1842 lb./ac.

(ii) 10.3 lb./ac.

(iii) Treatment difference is highly significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2125
2.	1558
S.E/mean	= 5.2 lb./ac.

Crop :- Paddy.

Site :- Paddy Breeding Stn., Coimbatore.

Ref :- M. 51(44).

Type :- 'CM'.

Object :- To compare Japanese with local method of planting.

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, Coimbatore. (iii), 13.9.51./12.11.51. (iv) (a) to (c) N.A. (d) and (e) As under treatments. (v) Nil. (vi) CO. 25. (vii) Irrigated. (viii) Weeding twice. (ix) 12.62. (x) 21.3.52.

2. TREATMENTS :

Main-plot treatments :-

1. Japanese Method of planting with spacing 1'x9"; 4 seedlings/hole.
2. Local Method : spacing 6"x6"; 2 seedlings/hole.

Sub-plot treatments :-

1. No manure.
2. 4000 lb./ac. of G.L.+45 lb./ac. of P₂O₅.
3. 4000 lb./ac. of G.L.+45 lb./ac. of P₂O₅+20 lb./ac. of N at planting+10 lb./ac. of N after one month.
4. 4000 lb./ac. of G.L.+45 lb./ac. of P₂O₅+30 lb./ac. of N at planting+ 15 lb./ac. of N after one month.

3. DESIGN :

(i) Split-plot (ii) (a) 2 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 18'x25' (b) 17'x24'. (v) One row left as border. (vi) Yes.

4. GENERAL :

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

5. RESULTS:

(i) 2856 lb./ac.

(ii) (a) 22.2 lb./ac.

(b) 82.7 lb./ac.

(iii) Main-plot and sub-plot treatments differ highly significantly. Interaction is not significant.

(iv) Av. yield of grain in lb./ac.

Manure	Jap.	Local	Mean
1	2115	1953	2034
2	2616	2319	2468
3	3517	3294	3405
4	3566	3470	3518
Mean	2953	2759	2856

S.E. of difference of two

1. main-plot treatment means = 7.8 lb./ac.
2. sub-plot treatment means = 41.4 lb./ac.
3. sub-plot treatment means at the same level of main-plot treatment = 58.5 lb./ac.
4. main-plot treatment means at the same level of sub-plot treatment = 51.2 lb./ac.

Crop :- Paddy (1st crop).

Ref :- M. 53(17).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'CMV'.

Object :- To compare the relative merits of Japanese method and Farm method of cultivation.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) 2000 lb./ac. of G.M. (*sesbania*)+100 lb./ac. of A/S+100 lb./ac. of Súper.
 (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 4,5,7,53. (iv) (a) to (e) As under treatments. (v) Nil. (vi) Asd.1 and Asd.2 (early). (vii) Irrigated. (viii) As under treatments. (ix) 5.6".
 (x) 28.9.53.

2. TREATMENTS :

Main-plot treatments :-

2 methods : M_1 =Japanese method and M_2 =Farm method.

Sub-plot treatments :-

 V_1 =Asd. 1 and V_2 =Asd.2.

3. DESIGN :

- (i) Split-plot. (ii) (a) 2 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) and (b) 40'×22'. (main-plot) ; 40'×11' (sub-plot.) (v) Nil. (vi) Yes.

4. GENERAL :

- (i) Normal. (ii) Nil. (iii) 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) 3990 lb./ac.
 (ii) (a) 288.1 lb./ac.
 (b) 270.2 lb./ac.
 (iii) The two methods differ significantly and the two varieties differ highly significantly while the interaction $M \times V$ is not significant.
 (iv) Av. yield of grain in lb./ac.

	M_1	M_2	Mean
V_1	4356	3913	4134
V_2	3939	3744	3845
Mean	4147	3832	3990

S.E. of the difference of two

1. method means = 101.8 lb./ac.
 2. variety means = 95.5 lb./ac.
 3. variety means at the same level of a method = 135.1 lb./ac.
 4. method means at the same level of a variety = 139.6 lb./ac.

Crop :- Paddy (2nd crop).

Ref :- M. 53(18).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'CMV'.

Object :- To compare the relative merits of Japanese and Farm methods of cultivation.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 25.9.53/4, 6.11.53. (iv) (a) to (e) As under treatments. (v) Nil. (vi) CO. 19 and CO. 25 (late). (vii) Irrigated. (viii) As under treatments. (ix) 28.2". (x) 29.2.54.

2. TREATMENTS :

Main-plot treatments :-

2 methods : M_1 =Japanese method and M_2 =Farm method:

Sub-plot treatments :-

2 varieties : V_1 =CO. 19 and V_2 =CO. 25.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication ; 2 sub-plots/main-plot., (b) N.A. (iii) 8. (iv) (a) and (b) 40'×22' (main-plot.) 40'×11' (sub-plot.) (v) Nil. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953-1955. (b) Yes. (c) N.A. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2769 lb./ac.
 (ii) (a) 185.6 lb./ac.
 (b) 190.3 lb./ac.
 (iii) The methods alone differ significantly.
 (iv) Av. yield of grain in lb./ac.

	M ₁	M ₂	Mean
V ₁	2933	2626	2780
V ₂	2953	2561	2757
Mean	2943	2594	2769

S.E. of the difference of two

- (1) method means = 65.6 lb./ac.
 (2) variety means = 67.3 lb./ac.
 (3) variety means at the same level of a method = 95.2 lb./ac.
 (4) method means at the same level of a variety = 94.0 lb./ac.

Crop :- Paddy.

Site :- Paddy Breeding Strn., Coimbatore.

Ref :- M. 53(93).

Type :- 'CMV'.

Object :- To test the efficiency of the Japanese method of cultivation compared to the departmental recommendation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 4000 lb./ac. of G.M. + 150 lb./ac. of Super. + 150 lb./ac. of A/S. (ii) (a) Clayey soil. (b) Refer soil analysis, P.B.S. Coimbatore. (iii) 12.9.53/2.11.53. (iv) (a) to (e) As under treatments. (v) As under treatments. (vi) CO. 19 and CO. 25. (vii) Irrigated. (viii) As per treatments. (ix) 15.46". (x) 12.3.54.

2. TREATMENTS :

Main-plot treatments :-

2 varieties: V₁=CO. 19 and V₂=CO. 25.

Sub-plot treatments :-

2 methods: M₁=Japanese and M₂=Farm method.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block and 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) 15'×20'. (b) 14½'×19½' for Farm method plots and 14½'×19½' for Japanese method. (v) Yes. 3" in Farm plots and 4" in J.M. plots. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Flowering duration, count of tillers grain and straw yield. (iv) (a) No. (b) No. (c) N.A. (v) (a) and (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

- (i) 3413 lb./ac.
- (ii) (a) 1537 lb./ac.
(b) 235.2 lb./ac.
- (iii) Varieties differ significantly. Methods differ highly significantly. Interaction is not significant.
- (iv) Av. yield of grain in lb./ac.

	M ₁	M ₂	Mean
V ₁	3346	2936	3141
V ₂	3796	3572	3684
Mean	3571	3254	3413

S.E. of difference of two

- (1) variety means = 543.6 lb./ac.
- (2) method means = 83.2 lb./ac.
- (3) method means at the same level of variety = 117.6 lb./ac.
- (4) variety means at the same level of method = 550.3 lb./ac.

Crop :- Paddy.

Ref :- M. 53(86).

Site :- Central Sugarcane Res. Stn., Palur.

Type :- 'CMV'.

Object :—To compare Japanese method of cultivation as practised by Kora Gramodyoga Kendra, Bombay with the Farm method.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Red soil. (b) Refer soil analysis, Palur. (iii) 5.8.53/18.9.53.
- (iv) (a) As under treatments. (b), (c), (d) and (e) N.A. (v) As under treatments. (vi) As under treatments.
- (vii) Irrigated. (viii) 2 weedings. (ix) 34.42%. (x) 13.2.54.

2. TREATMENTS :

Main-plot treatments :—

2 varieties : V₁=CO. 19 and V₂=CO. 25.

Sub-plot treatments :—

2 methods of cultivation : M₁=Japanese method and M₂=Farm method.

3. DESIGN :

- (i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) (mainplot) 64'×8'. (sub-plot) 32'×8'. (b) (Sub-plot) 31.5'×7.5'. (v) Yes, 1 row left as border. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

- (i) 5968 lb./ac.
- (ii) (a) 454.4 lb./ac.
(b) 469.6 lb./ac.
- (iii) None of the effects is significant.

(iv) Av. yield of Straw in lb./ac.

	M ₁	M ₂	Mean
V ₁	5985	5679	5832
V ₂	6117	6092	6105
Mean	6051	5886	5968

S.E. of difference of two:

1. V means = 159.9 lb./ac.
2. M means = 166.1 lb./ac.
3. M means at the same level of V = 235.0 lb./ac.
4. V means at the same level of M = 230.6 lb./ac.

Crop :- Paddy (Kuravai).

Ref :- M. 53(55).

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

Type :- 'CMV'.

Object :- To compare Japanese method with Farm method.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukkottai. (iii) 16.7.53/6.8.53. (iv) (a) 3 to 5 ploughings. (b) As under treatments. (c) —. (d) 6' x 6'. (e) 2. (v) Nil. (vi) As under treatments (early). (vii) Irrigated. (viii) Weeding once. (ix) 7.93°. (x) 16.10.53.

2. TREATMENTS :

Main-plot treatments :-

2 varieties : V₁=Adt. 20 and V₂=Adt. 3.

Sub-plot treatments :-

2 methods : M₁=Japanese method and M₂=Farm method.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 2.0 cents. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) No. (b) No. (c) N.A. (v) (a) N.A. (b) No. (vi) N.A. (vii) Plot wise yield data not available.

5. RESULTS :

(i) 3316 lb./ac.

(ii) (a) N.A.

(b) N.A.

(iii) Varieties differ significantly (level of significance N.A.). Methods do not differ significantly. Interaction is not significant.

(iv) Av. yield of grain in lb./ac.

	M ₁	M ₂	Mean
V ₁	3738	3213	3475
V ₂	3313	3000	3156
Mean	3525	3106	3316

S. E. ' S. = N. A.

Crop :-Paddy (*Samba*).

Ref :-M. 53(56).

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

Type :-'CMV'.

Object :-To compare Japanese method with Farm method.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukkottai. (iii) 12.8.50/17.9.50. (iv) (a) 3 to 5 ploughings. (b) As under treatments. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) As under treatments (late). (vii) Irrigated. (viii) Weeding once. (ix) 30.96%. (x) 3.2.54.

2. TREATMENTS :

Main-plot treatments :-

2 varieties : V_1 =CO. 19 and V_2 =CO. 25.

Sub-plot treatments :-

2 methods : M_1 =Japanese method and M_2 =Farm method.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 2.0 cents. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) N.A. (iii) Grain and straw yield. (iv) (a) No. (b) Nil. (c) N.A. (v) (a) N.A. (b) N.A. (vi) N.A. (vii) Raw data and other details N.A.

5. RESULTS :

(i) 3303 lb./ac.

(ii) (a) N.A.

(b) N.A.

(iii) Varieties differ significantly. Methods do not differ significantly. Interaction is significant. Level of significance not known for all effects.

(iv) Av. yield of grain in lb./ac.

	M_1	M_2	Mean
V_1	2875	3088	2981
V_2	3838	3413	3625
Mean	3356	3250	3303

S. E. S. = N. A.

Crop :-Paddy (1st Season).

Ref :-M. 53(25).

Site :-Rice Res. Stn., Tirurkuppam.

Type :-'CMV'.

Object :-To compare the Japanese method as practised in Kora Kendra with the Farm method of cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) F.Y.M. at 10 C.L./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 12.3.53/3 to 5.7.53. (iv) (a) 6—10 ploughings. (b) Transplanting. (c) —. (d) 10"×4" (Jap.) and 4"×4" (Farm). (e) 4 (Jap.) ; 2 (Farm). (v) Nil. (vi) CO. 13 and TKM-3. (vii) Irrigated. (viii) Japanese rotary weeder worked once in a fortnight for Jap. method. One weeding one month after planting. (ix) 12.08%. (x) 2 and 3.10.53.

2. TREATMENTS :

Main-plot treatments :-

2 strains : V_1 =TKM. 3 and V_2 =CO. 13.

Sub-plot treatments :-

2 methods : M_1 =Japanese method and M_2 =Farm method.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication and 2 sub-plots/main-plot, (b) N.A. (iii) 8. (iv) (a) $57\frac{1}{2}' \times 10\frac{5}{8}'$ (for Japanese method) and $56\frac{3}{8}' \times 9\frac{5}{8}'$ (for Farm method) (b) $56\frac{1}{2}' \times 9\frac{1}{8}'$. (v) One row all round the net plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—1955. (b) No. (c) N.A. (v) (a) Coimbatore, Aduthurai, Pattukkottai, Palur, An basmudram, Pattambi and Mangalore. (b) N.A. (vi) Nil. (vii) Japanese method. Spacing $10'' \times 6''$, 4 seedlings/hole and seed rate 1.5 lb./cent. Nursery manuring with F.Y.M. at 40 C.L./ac. + A/S at 2000 lb./ac. + Compost at 200 lb./ac. Field manuring with G.L. 5000 lb./ac. + Super at 30 lb./ac. of P_2O_5 . Farm method. Spacing $4'' \times 4''$, 2 seedlings/hole and seed-rate, 3 lb./cent. Nursery manuring with G.L. at 10,000 lb./ac. and field manuring with G.L. at 5000 lb./ac. + Super at 30 lb./ac. of P_2O_5 .

5. RESULTS :

- (i) 3049 lb./ac.
 (ii) (a) 199.8 lb./ac.
 (b) 128.2 lb./ac.
 (iii) None of the effects is significant.
 (iv) Av. yield of grain in lb./ac.

	M_1	M_2	Mean
V_1	3123	3056	3009
V_2	3060	2956	3089
Mean	3123	3056	3049

S.E. of difference of two

1. V means = 70.6 lb./ac.
 2. M means = 45.3 lb./ac.
 3. M means at the same level of V = 64.0 lb./ac.
 4. V means at the same level of M = 86.0 lb./ac.

Crop :- Paddy (2nd season).

Site :- Rice Res. Stn., Tirurkuppam.

Ref :- M. 53(26).

Type :- 'CMV'.

Object :- To compare the Japanese method as practised in Kora Kendra with Farm method of cultivation.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 19.9.53/28 to 30.10.53. (iv) (a) 6 ploughings. (b) Transplanting. (c) —. (d) $10'' \times 6''$ for Japanese and $4'' \times 4''$ for Farm method. (e) 4 for Jap. and 2 for Farm. method (v) Nil. (vi) CO. 11 & CO. 25. (vii) Irrigated. (viii) Japanese rice weeder worked once in a fortnight for the Jap. method. Hand weeding one month after planting for Farm method. (ix) 26.84. (x) 8.3.1954.

2. TREATMENTS :

Main-plot treatments :-

2 strains: V_1 = CO. 25 and V_2 = CO. 19.

Sub-plot treatments :-

2 methods: M_1 = Japanese method and M_2 = Farm method.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication and 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) $40'' \times 15''$. (b) $38\frac{1}{2}' \times 14\frac{1}{2}'$ for Jap. method and $39\frac{1}{2}' \times 14\frac{1}{2}'$ for Farm method. (v) One row all round the net plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield and flowering duration. (iv) (a) 1953—1955. (b) No. (c) N.A. (v) (a) Coimbatore, Aduthurai, Pattukkottai, Palur, Ambasamudram and Pattambi. (b) N.A. (vi) Nil. (vii) Japanese method and Farm method as given under (vii) of GENERAL of experiment conducted in 1952.

5. RESULTS :

- (i) 1495 lb./ac.
 (ii) (a) 256.1 lb./ac.
 (b) 225.9 lb./ac.
 (iii) None of the effects is significant.
 (iv) Av. yield of grain in lb./ac.

	M ₁	M ₂	Mean
V ₁	1803	1692	1747
V ₂	1257	1224	1241
Mean	1531	1458	1495

S.E. of difference of two

1. V means = 90.6 lb./ac.
 2. M means = 79.9 lb./ac.
 3. M means at the same level of V = 113.0 lb./ac.
 4. V means at the same level of M = 171.0 lb./ac.

Crop :- Paddy (*Kuruvai*).

Ref :- M. 48(49).

Site :- Agri. Res. Stn. Pattukkottai.

Type :- 'I'.

Object :- To compare different levels of irrigations.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukkottai. (iii) 5.7.48./26.7.48. (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c)— (d) 6"×6". (e) 2. (v) 5000 lb./ac. of G.L.+300 lb./ac. of G.N.C.+150 lb./ac. of Super. Time and method of application N.A. (vi) Adt. 3. (vii) Irrigated (viii) Weeding once. (ix) 11.19". (x) 7.10.48.

2. TREATMENTS :

Total irrigation levels.

1. 72".
 2. 62".
 3. 52".
 4. 42".

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) N.A. (b) N.A. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) No. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Nil. (vii) Plot. wise yield data N.A.

5. RESULTS :

- (i) 3704 lb./ac.
 (ii) N.A.
 (iii) Treatments do not differ significantly.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3784
2.	3519
3.	3813
4.	3701
S.E./mean	=N.A.

Crop :- Paddy (*Samba*).

Ref :- M. 48 (6).

Site :- Agri Res. Stn., Aduthurai.

Type :- 'CI'.

Object :- To study the irrigations at different stages and levels.

1. BASAL CONDITIONS :

(i) (a) Paddy-Fallow. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) As under treatments. (iv) (a) 2 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) Nil. (vi) CO. 19 (late). (vii) As under treatments. (viii) Nil. (ix) 21.5". (x) As under treatments.

2. TREATMENTS :

Main-plot treatments :-

4 irrigation treatments given at different stages and at different levels (inches) :

Irrigation Treatment	Stage			
	Nursey	Puddling to Planting	Planting to Flowering	Flowering to Harvest
I ₁ =	25"	22"	35"	12"
I ₂ =	22"	20"	30"	10"
I ₃ =	19"	18"	25"	8"
I ₄ =	16"	16"	20"	6"

Sub-plot treatments :-

3 weekly intervals of sowing and planting.

	Date of Sowing	Date of Planting	Date of Harvest
T ₁ =	2.8.48	9.9.48	3.2.49
T ₂ =	9.8.48	16.9.48	14.2.49
T ₃ =	16.8.48	23.9.48	14.2.49

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 1.6 cents (dimensions N.A.) (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948—1949. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 3485 lb./ac.
 (ii) (a) 238.9 lb./ac.
 (b) 388.8 lb./ac.
 (iii) Only sub-plot treatments differ highly significantly.
 (iv) Av. yield of grain in lb./ac.

	I ₁	I ₂	I ₃	I ₄	Mean
T ₁	3734	3750	3922	3719	3781
T ₂	3719	3187	3250	3617	3443
T ₃	3375	3250	3094	3212	3235
Mean	3609	3396	3422	3518	3486

S.E. of difference of two

1. I means = 97.5 lb./ac.
 2. T means = 137.5 lb./ac.
 3. T means at the same level of I. = 275.0 lb./ac.
 4. I means at the same level of T. = 244.5 lb./ac.

Crop :- Paddy (*Kuruvai*).

Ref :- M. 49 (67).

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

Type :- 'CI'.

Object :- To study the irrigations at different stages and levels.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) Clayey loam. (b) Refer soil analysis, Aduthurai. (iii) As under treatments. (iv) (a) 3 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) 4000 lb./ac. of G.L. + 100 lb./ac. of Super + 100 lb./ac. of A/S. (vi) Adt. 3 (early). (vii) Irrigated. (viii) Weeding once. (ix) 18.37". (x) As under treatments.

2. TREATMENTS :

Main-plot treatments :

4 irrigation treatments given at different stages and at different levels (inches) :

Irrigation Treatment	Stages			
	Nursery	Puddling to Planting	Planting to Flowering	Flowering to Harvest
I ₁ =	17"	14"	24"	12"
I ₂ =	15"	12"	20"	10"
I ₃ =	13"	10"	16"	8"
I ₄ =	11"	8"	12"	6"

Sub-plot treatments :-

3 weekly intervals of sowing and planting.

	Date of sowing	Date of Planting	Date of Harvest
T ₁ =	12.7.49	31.7.49	27.10.49
T ₂ =	19.7.49	7.8.49	29.10.49
T ₃ =	26.7.49	14.8.49	31.10.49

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 1.6 cents (dimensions N.A.) (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1948—1949. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) N.A. (vii) Plot wise yield data N.A.

5. RESULTS :

(i) 2351 lb./ac.
 (ii) (a), (b) N.A.
 (iii) Sub-plot treatments differ significantly. Interaction I x T is significant.
 (iv) Av. yield of grain in lb./ac.

	I ₁	I ₂	I ₃	I ₄	Mean
T ₁	2380	2304	2293	2250	2307
T ₂	2304	2174	2033	2348	2215
T ₃	2323	2522	2641	2543	2532
Mean	2369	2333	2322	2380	2351

S.E.'s = N.A.

Crop :- Paddy (*Thaladi*).

Ref :- M. 49(68).

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

Type :- 'CF'.

Object :- To study the irrigations at different stages and levels along with time of sowing.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 4000 lb./ac. of G.L. + 100 lb./ac. of Super + 100 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Aduthurai. (iii) As under treatments. (iv) (a) 3 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) 4000 lb./ac. of G.L. + 100 lb./ac. of Super + 100 lb./ac. of A/S. (vi) CO. 25 (late). (vii) Irrigated. (viii) Weeding once. (ix) 13.95". (x) As under treatments.

2. TREATMENTS:

Main-plot treatments :—

4 irrigation treatments given at different stages and at different levels (inches).

Irrigation Treatment	Stages			
	Nursery	Puddling to Planting	Planting to Flowering	Flowering to Harvest
I ₁ =	22"	8"	35"	7"
I ₂ =	20"	7"	30"	6"
I ₃ =	18"	6"	25"	5"
I ₄ =	16"	5"	20"	4"

Sub-plot treatments :—

3 weekly intervals of sowing and planting :

	Date of Sowing	Date of Planting	Date of Harvesting
T ₁ =	21.9.49	5.11.49	8.9.50
T ₂ =	28.9.49	12.11.49	8.9.50
T ₃ =	5.9.49	19.11.49	8.9.50

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 1.6 cents (sub-plot) (dimensions N.A.). (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1948-1949 (1949 Samba failed). (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) N.A. (vii) Raw data and yield figures for *Samba* are not available hence not presented.

5. RESULTS :

(i) 2531 lb./ac.

(ii) (a), (b) N.A.

(iii) None of the effects is significant.

(iv) Av. yield of grain in lb./ac.

	I ₁	I ₂	I ₃	I ₄	Mean
T ₁	2425	2425	2650	2450	2487
T ₂	2500	2645	2480	2565	2548
T ₃	2645	2590	2435	2565	2559
Mean	2523	2553	2522	2527	2531

S.E.'s. = N.A.

Crop :- Paddy.

Ref :- M. 48(112).

Site :- Paddy Breeding Stn. Coimbatore.

Type :- 'CI'.

Object :- To study the effect of irrigations at different stages and levels.

1. BASAL CONDITIONS :

(i) (a) Paddy—Paddy. (b) Paddy. (c) 4000 lb./ac. of G.L.+224 lb./ac. of G.N.C.+56 lb./ac. of A/S (ii) (a) Clayey loam. (b) Refer soil analysis, P.B.S. Coimbatore. (iii) As per treatments. (iv) (a) 5 ploughings. (b) N.A. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) 4000 lb./ac. of G.L.+224 lb./ac. of G.N.C.+56 lb./ac. of A/S. (vi) CO. 26 (late). (vii) Irrigated. (viii) Weeding twice. (ix) 8.86". (x) As under treatments.

2. TREATMENTS :

Main-plot treatments :—

3 weekly intervals of sowing and planting.

	Date of Sowing	Date of Planting	Date of Harvest
T ₁ =	6.8.48	13.9.48	20.2.49
T ₂ =	13.8.48	20.9.48	20.2.49
T ₃ =	20.8.48	28.9.48	20.2.49

Sub-plot treatments :—

4 levels of irrigation : I₁=67", I₂=80", I₃=93" and I₄=106".

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a), (b) N.A. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Stem borer attack. No control measures taken. (iii) Grain yield. (iv) (a) 1948-49. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) Experiment failed in 1949. (vii) Nil.

5. RESULTS :

(i) 2458 lb./ac.
 (ii) (a) 325.0 lb./ac.
 (b) 263.3 lb./ac.
 (iii) Main-plot treatments differ highly significantly. Sub-plot treatments do not differ significantly. Interaction is not significant.
 (iv) Av. yield of grain in lb./ac.

	I ₁	I ₂	I ₃	I ₄	Mean
T ₁	2077	2114	2001	1990	2046
T ₂	2628	2530	2918	2585	2665
T ₃	2860	2573	2444	2773	2663
Mean	2522	2436	2454	2449	2458

S.E. of difference of two

1. T means = 114.9 lb./ac.
2. I means = 107.5 lb./ac.
3. I means at the same level of T = 186.2 lb./ac.
4. T means at the same level of I = 197.9 lb./ac.

Crop :- Paddy (*Samba*).

Ref :- M. 48(50).

Site :- Agri. Res. Stn. Pattukkottai.

Type :- 'CI'.

Object :- To compare different levels of irrigation along with times of sowing.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukkottai. (iii) As under treatments. (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) — (d) 6" x 6". (e) 2. (v) 5000 lb./ac. of G.L. + 300 lb./ac. of G.N.C. + 150 lb./ac. of Super. (vi) CO. 16. (vii) Irrigated. (viii) Weeding once, (ix) 21.87". (x) As under treatments.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 weekly intervals of sowing and planting :

	Date of Sowing	Date of Planting	Date of Harvest
T ₁ =	24.7.48	2.9.48	17.1.49.
T ₂ =	1.8.48	10.9.48	18.1.49.
T ₃ =	7.8.48	19.9.48	18.1.49.

(2) 4 irrigation levels : I₁ = 55", I₂ = 66", I₃ = 77" and I₄ = 88".

3. DESIGN :

(i) 3 x 4 Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) N.A. (b) N.A. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1948-1951. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Nil. (vii) Raw data and other details N.A.

5. RESULTS :

(i) 1689 lb./ac.
 (ii) N.A.
 (iii) Times of planting differ significantly. Irrigation levels do not differ significantly. Interaction is not significant.

(iv) Av. yield of grain in lb./ac.

	I ₁	I ₂	I ₃	I ₄	Mean
T ₁	1570	1519	1925	1740	1689
T ₂	1317	1124	1236	1176	1213
T ₃	2063	2030	2290	2256	2160
Mean	1649	1557	1817	1724	1689

S.E.'s=N.A.

Crop :- Paddy (*Kuruvai*).

Ref :- M. 49(41).

Site :- Agri. Res. Stn. Pattukkottai.

Type :- 'CI'.

Object :- To compare different level of irrigations along with times of sowing.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 3000 lb./ac. of G.L.+300 lb./ac. of G.N.C.+150 lb./ac. of Super. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukkottai. (iii) As under treatments. (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) 5000 lb./ac. of G.L.+300 lb./ac. of G.N.C.+150 lb./ac. of Super. (vi) Adt—3 (early). (vii) Irrigated. (viii) Weeding once. (ix) 13.0". (x) As under treatments.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 weekly intervals of sowing and planting :

	Date of Sowing	Date of Planting	Date of Harvest
T ₁ =	27.7.49	23.8.49	30.10.49.
T ₂ =	4.8.49	31.8.49	16.11.49.
T ₃ =	11.8.49	6.9.49	16.11.49.

(2) 4 irrigation levels: I₁=42", I₂=52", I₃=62" and I₄=72".

3. DESIGN :

(i) 3×4 Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) N.A. (b) N.A. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) N.A. (iii) Grain yield. (iv) (a) 1948-1951. (b) No. (c) No. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

(i) 1943 lb./ac.

(ii) 235.2 lb./ac.

(iii) Time of sowing and irrigation levels differ significantly. Interaction is not significant.

(iv) Av. yield of grain in lb./ac.

	I ₁	I ₂	I ₃	I ₄	Mean
T ₁	1626	1565	2042	1987	1805
T ₂	1709	1862	1946	1989	1877
T ₃	2072	2137	2123	2260	2148
Mean	1803	1854	2037	2079	1943

S.E. of I marginal mean = 67.9 lb./ac.

S.E. of T marginal mean = 58.8 lb./ac.

S.E. of body of table = 117.6 lb./ac.

Crop :-Paddy (*Samba*).

Ref :-M. 50(84).

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

Type :-'CI'.

Object :-To compare different levels of irrigation along with times of sowing.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 2000 lb./ac. of G.L. +200 lb./ac. of Indigo seeds +100 lb./ac. of Super +50 lb./ac. of A/S. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukkottai. (iii) As under treatments. (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) 200 lb./ac. of G.L. +200 lb./ac. of Indigo seeds +100 lb./ac. of Super +50 lb./ac. of A/S. (vi) CO. 19 (late). (vii) Irrigated. (viii) Weeding once. (ix) 21.81". (x) As under treatments.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 weekly intervals of sowing and planting :

	Date of Sowing	Date of Planting	Date of Harvesting.
T ₁ =	20.8.50	6.10.50	12.2.51
T ₂ =	27.8.50	14.10.50	12.2.51
T ₃ =	3.9.50	20.10.50	12.2.51

(2) 4 levels of Irrigation : I₁=55", I₂=66", I₃=77" and I₄=88".

3. DESIGN :

(i) 3 x 4 Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) and (b) N.A. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948—1951. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1945 lb./ac.
(ii) 228.2 lb./ac.
(iii) None of the effects is significant.
(iv) Av. yield of grain in lb./ac.

	I ₁	I ₂	I ₃	I ₄	Mean
T ₁	1662	1926	1772	2025	846
T ₂	1906	2272	1928	1805	1978
T ₃	2002	1879	2148	2016	2011
Mean	1856	2026	1949	1949	1945

S.E. of I marginal means = 65.9 lb./ac.

S.E. of T marginal means = 57.0 lb./ac.

S.E. of body of table = 14.1 lb./ac.

Crop :-Paddy (*Kuruvai*).

Ref :-M. 50(85).

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

Type :-'CI'.

Object :-To compare different levels of irrigation along with times of sowing.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 2000 lb./ac. of G.L. +200 lb./ac. of Indigo seeds +100 lb./ac. of Super +50 lb./ac. of A/S. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukkottai. (iii) As under treatments. (iv) (a) 3 to 5 ploughings. (b) Sowing in nursery and transplanting. (c) —. (d) 6" x 6". (e) 2. (v) 2000 lb./ac. of G.L. +200 lb./ac. of Indigo seeds +100 lb./ac. of Super +50 lb./ac. of A/S. (vi) Adf. 3 (early). (vii) Irrigated. (viii) Weeding once. (ix) 20.3". (x) As under treatments.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 weekly intervals of sowing and planting :

	Date of Sowing	Date of Planting	Date of Harvesting.
T ₁ =	27.7.50	23.8.50	30.10.50
T ₂ =	4.8.50	31.8.50	16.11.50
T ₃ =	11.8.50	6.9.50	16.11.50

(2) 4 levels of irrigation : I₁=42", I₂=52", I₃=62" and I₄=72".

3. DESIGN :

(i) 3×4 Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) and (b) N.A. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1943—1951. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1582 lb./ac.

(ii) 149.2 lb./ac.

(iii) Interaction of times of sowing × levels of irrigation is significant. Others are not significant.

(iv) Av. yield of grain in lb./ac.

	I ₁	I ₂	I ₃	I ₄	Mean
T ₁	1817	1656	1672	1867	1753
T ₂	1546	1670	1534	1516	1567
T ₃	1306	1483	1486	1427	1426
Mean	1556	1603	1564	1603	1582

S.E. of I marginal means = 43.1 lb./ac.

S.E. of T marginal means = 37.3 lb./ac.

S.E. of body of table = 74.6 lb./ac.

Crop :- Paddy (*Samba*).

Site :- Agri. Res. Stn. Pattukkottai.

Ref :- M. 51(64),

Type :- 'CI'.

Object :- To compare different levels of irrigation along with times of sowing.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 4000 lb./ac. of G.L. + 200 lb./ac. of old Indigo seeds + 100 lb./ac. of Super + 50 lb./ac. of A/S. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukkottai. (iii) As under treatments. (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) —. (d) 6" × 6". (e) 2. (v) 4000 lb./ac. of G.L. + 200 lb./ac. of old Indigo seeds. + 100 lb./ac. of Super + 50 lb./ac. of A/S. (vi) CO. 19 (vii) Irrigated. (viii) Weeding once (ix) 16.54". (x) As under treatments.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 weekly intervals of sowing and planting.

	Date of Sowing.	Date of Planting.	Date of Harvesting.
T ₁ =	18.8.51.	23. 9.51.	14.2.52.
T ₂ =	25.8.51.	1.10.51.	14.2.52.
T ₃ =	1.9.51.	8.10.51.	16.2.52.

(2) 4 levels of irrigation I₁=55", I₂=66", I₃=77" and I₄=88".

3. DESIGN :

(i) 3×4 Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) N.A. (b) N.A. (v) N.A. (vi) Yes.

4. GENERAL :

- (i) N.A. (ii) Nil. (iii) Grain yield. (iv) (a) 1948—1951. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Nil. (vii) Plot wise yield data N.A.

4. RESULTS :

- (i) 1485 lb./ac.
 (ii) 439.8 lb./ac.
 (iii) Effect of different sowing times is significant. Others are not significant.
 (iv) Av. yield of grain in lb./ac.

	I ₁	I ₂	I ₃	I ₄	Mean
T ₁	1048	632	868	994	885
T ₂	1476	1290	1535	1795	1524
T ₃	2100	2111	2029	1940	2045
Mean	1541	1344	1477	1576	2485

S.E. of I marginal means = 127.0 lb./ac.

S.E. of T marginal means = 110.0 lb./ac.

S.E. of body of table = 219.9 lb./ac.

Crop :- Paddy (*Kuruwai*).

Ref :- M. 51(65).

Site :- Agri. Res. Stn. Pattukkottai.

Type :- 'CI'.

Object :- To compare different levels of irrigation along with times of sowing.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) 4000 lb./ac. of G.L. + 200 lb./ac. of old Indigo seeds + 100 lb./ac. of Super + 50 lb./ac. of A/S. (ii) (a) Sandy loam. (b) Refer soil analysis, Pattukkottai. (iii) As under treatments. (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) 4000 lb./ac. of G.L. + 200 lb./ac. of old Indigo seeds. + 100 lb./ac. of Super. + 50 lb./ac. of A/S. (vi) Adt. 3 (early). (vii) Irrigated. (viii) Weeding once (ix) 11.26". (x) As under treatments.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 3 weekly intervals of sowing and planting.

	Date of Sowing	Date of Planting	Date of Harvest
T ₁ =	18.7.51.	8.8.51.	18.10.51.
T ₂ =	25.7.51.	14.8.51.	21.10.51.
T ₃ =	1.8.51.	22.8.51.	25.10.51.

(2) 4 levels of irrigation : I₁=42", I₂=52", I₃=62" and I₄=72".

3. DESIGN :

- (i) 3 x 4 Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1.0 cent (dimensions N.A.) (v) N.A. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1948—1951. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1825 lb./ac.
 (ii) 208.0 lb./ac.
 (iii) None of the effects is significant.

(iv) Av. yield of grain in lb./ac.

	I ₁	I ₂	I ₃	I ₄	Mean
T ₁	1750	1443	1745	1812	1687
T	1964	2092	2010	2058	2031
T ₂	1739	1737	1809	1739	1756
Mean	1818	1758	1855	1869	1825

S.E. of marginal I means = 60.0 lb./ac.
 S.E. of marginal T means = 52.0 lb./ac.
 S.E. of body of table = 104.0 lb./ac.

Crop :- Paddy.

Ref :- M. 50 (18).

Site :- Rice Res. Stn. Ambasamudram.

Type :- 'D'.

Object :- To study the effect of D.D.T. and B.H.C. on the incidence of stemborer on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.N.C. at 400 lb./ac. + Super at 112 lb./ac. (at last ploughing + A/S at 50 lb./ac. (top dressed). (ii) (a) Red sandy loam. (b) Refer soil analysis, Ambasamudram. (iii) 18.9.50/26.10.50. (iv) (a) 2 iron ploughings, 2 country ploughings and levelling with board. (b) Transplanting. (c) 30 lb./ac. (d) 6" x 6". (e) N.A. (v) Super at 50 lb./ac. + A/S at 100 lb./ac. (vi) Asd. 6 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 22.5", (x) 28.2.51 to 1.3.51.

2. TREATMENTS :

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

(1) 2 chemicals : D.D.T. and B.H.C.

(2) 2 concentrations : C₁ = 0.1% and C₂ = 0.2%

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 20' x 4'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Mild attack of stem-borer. (iii) Grain and straw yield. (iv) (a) 1950-1952. (b) No. (c) N.A. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 2784 lb./ac.

(ii) 130.0 lb./ac.

(iii) Only the main effect of chemicals is highly significant. Others are not significant.

(iv) Av. yield of grain in lb./ac.

Control = 2745 lb./ac.

	D.D.T.	B.H.C.	Mean
C ₁	2646	2902	2774
C ₂	2715	2907	2811
Mean	2680	2904	2792

S.E. of any marginal mean = 37.54 lb./ac.
 S.E. of body of table = 53.08 lb./ac.

Crop :- Paddy.

Ref :- M. 51 (9).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'D'.

Object :- To study the effect of spraying D.D.T. and B.H.C. on the incidence of stemborer on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Ambasamudram. (iii) 13.10.51/18.11.51. (iv) (a) 3 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) Nil. (vi) Asd. 5 (medium). (vii) Irrigated. (viii) Two weedings. (ix) 20.5°. (x) 20.3.52.

2. TREATMENTS :

1. Control.
2. D.D.T. sprayed at 0.2%.
3. D.D.T. sprayed at 0.1%.
4. B.H.C. sprayed at 0.1%.
5. B.H.C. sprayed at 0.05%.

1st spray at nursery stage, 2nd a fortnight after transplanting and 3rd at short blade stage.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a), (b) 30'×30'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Mild attack of stemborer. (iii) Grain yield. (iv) (a) 1950—1952. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2522 lb./ac.
 (ii) 139.6 lb./ac.
 (iii) Treatment differences are highly significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2626
2.	2302
3.	2509
4.	2606
5.	2561
S.E./mean	= 57.0 lb./ac.

Crop :- Paddy.

Ref :- M. 51(13).

Site :- Rice Res. Stn. Ambasamudram.

Type :- 'D'.

Object :- To study effect of spraying D.D.T and B.H.C in two different strengths on the incidence of stemborer on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 2000 lb./ac. of G.L.+150 lb./ac. of Super+100 lb./ac. of A/S. (ii) (a) Sandy loam. (b) Refer soil analysis, Ambasamudram. (iii) 11.6.51/3.7.51. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) 2000 lb./ac. of G.L.+150 lb./ac. of Super+100 lb./ac. of A/S. (vi) Asd. 1 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 9.6°. (x) 10.10.51.

2. TREATMENTS :

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

- (1) 2 chemicals : D.D.T. and B.H.C.
- (2) 2 concentrations : C₁=0.1% and C₂=0.2%.

1st spray of chemicals at nursery stage, 2nd a fortnight after transplanting and 3rd at shoot blade stage.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 20'×4'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Mild attack of stemborer. (iii) Grain and straw yield. (iv) (a) 1950-1952. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 31.2 lb./ac.
 (ii) 431.1 lb./ac.
 (iii) Main effects, interaction and control vs. others are not significant.
 (iv) Av. yield of grain in lb./ac.

Control=3086 lb./ac.

	D.D.T.	B.H.C.	Mean
C ₁	3068	3213	3140
C ₂	3178	3118	3148
Mean	3123	3165	3144

S.E. of any marginal mean =124.5 lb./ac.

S.E. of body of table =176.0 lb./ac.

Crop :- Paddy.

Ref :- M. 52(22).

Site :- Rice Res. Stn., Ambasamudram.

Type :- 'D'.

Object :- To study the effect of spraying D.D.T. and B.H.C. on the incidence of stem borer on Paddy.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) G.L at 2000 lb./ac. + G.N.C. at 200 lb./ac. + Super at 112 lb./ac. + A/S at 100 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Ambasamudram. (iii) 18.10.52/19.11.52. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) Sesbania at 1445 lb./ac. + G.N.C. at 261 lb./ac. + Super at 112 lb./ac. + A/S at 100 lb./ac. (vi) Asd. 5 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 22.5%. (x) 13.3.53.

2. TREATMENTS :

- Control.
 - D.D.T. sprayed at 0.2%.
 - D.D.T. sprayed at 0.1%.
 - B.H.C. sprayed at 0.1%.
 - B.H.C. sprayed at 0.05%.
- 1st spray on 8.11.52 and 2nd on 21.1.53.

3. DESIGN :

- (i) R.B.D. (ii) (a) 5, (b) N.A. (iii) 6. (iv) (a) and (b) 33' x 33'. (v) Nil. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Mild attack of stem borer. (iii) Grain and straw yield. (iv) (a) 1950-1952. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. GENERAL :

- (i) 2811 lb./ac.
 (ii) 247.0 lb./ac.
 (iii) Treatment differences are highly significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2717
2.	3183
3.	3189
4.	2582

5. S.E./mean = 101.6 lb./ac.

Crop :- Paddy.

Ref :- M. 52(21).

Site :- Rice. Res. Stn., Ambasamudram.

Type :- 'D'.

Object :- To study the effect of spraying D.D.T. and B.H.C. in two different strengths on the incidence of stem borer on Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) G.L. at 2000 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Ambasamudram. (iii) 7.5.52/5.7.52. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) 4000 lb./ac. of G.L. + 120 lb./ac. of Super as broadcasting + 100 lb./ac. of A/S as top dressing 20 days after planting. (vi) Asd. 1 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 9.6". (x) 1.10.52.

2. TREATMENTS :

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

(1) 2 chemicals : D.D.T and B.H.C.

(2) 2 concentrations : $C_1=0.1\%$ and $C_2=0.2\%$.

Chemicals sprayed once in the nursery stage and next at shoot blade stage.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) and (b) 30' x 30'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Mild attack of stem borer. (iii) Grain and straw yield. (iv) (a) 1950-1952. (b) No. (c) N.A. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 3996 lb./ac.

(ii) 597.2 lb./ac.

(iii) Only the interaction chemicals x concentration is significant. Others are not significant.

(iv) Av. yield of grain in lb./ac.

Control = 3788 lb./ac.

	D.D.T.	B.H.C.	Mean
C_1	4397	3848	4122
C_2	4126	3819	3972
Mean	4261	3833	4047

S.E. of any marginal mean = 227.2 lb./ac.

S.E. of body of table = 267.1 lb./ac.

Crop :- Paddy.

Ref :- M. 49(130).

Site :- Govt. Agri. Chemist, Coimbatore.

Type :- 'D'.

Object :- To study if the growth and yield of Paddy could be increased as a result of pre-soaking the seed in phosphate solutions.

1. BASAL CONDITIONS :

(i) (a) Paddy after Paddy. (b) Paddy. (c) N.A. (ii) (a) Alluvial. (b) Refer [soil analysis, Coimbatore. (iii) 26.8.49/6.10.49. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6" x 6". (e) 2. (v) N.A. (vi) CO. 19 (long duration). (vii) Irrigated. (viii) N.A. (ix) 8.25". (x) 28.2.50.

2. TREATMENTS :

1. Seeds soaked in 10% solution of Pot. phosphate.

2. Seeds soaked in 20% solution of Pot. phosphate.

3. Control.

Other details N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) N.A. (b) 4' x 20'. (v) N.A. (vi) Yes.

4. GENERAL :

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

5. RESULTS:

- (i) 3587 lb./ac.
 (ii) 179.5 lb./ac.
 (iii) Treatment differences are highly significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3667
2.	3760
3.	3334
S.E./mean	= 63.5 lb./ac.

Crop :-Paddy.

Ref :-M. 50(50).

Site :-Paddy Breeding Stn., Coimbatore.

Type :-'D'.

Object :-To study the effect of treating seeds with solutions of Mg. Chloride and Mg. Sulphate.

1. BASAL CONDITIONS:

- (i) (a) Nil. (b) Paddy. (c) 5,000 lb./ac. of G.L. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore.
 (iii) 12.8.50/29.9.50. (iv) (a) 3 ploughings with country plough once with iron plough. (b) Transplanting.
 (c) —. (d) 6"×6". (e) 2. (v) 5000 lb./ac. of G.L. (vi) CO. 19 (late). (vii) Irrigated. (viii) Weeding once. (ix) 12.76". (x) 16.2.51.

2. TREATMENTS:

1. Seed soaked in 15% Mg. chloride solution?
 2. Seed soaked in 15% Mg. sulphate solution.
 3. Control.

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 12. (iv) (a) 6'×16'. (b) 5'×15'. (v) One row left as border.
 (vi) Yes.

4. GENERAL :

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

5. RESULTS :

- (i) 3038 lb./ac.
 (ii) 190.8 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3025
2.	3058
3.	3032
S.E./mean	= 55.1 lb./ac.

Crop :-Paddy.

Ref :-M. 50(51).

Site :-Paddy Breeding Stn., Coimbatore.

Type :-'D'.

Object :-To study the effect on yield of CO. 25 treated with growth promoting chemicals.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore.
 (iii) 24.8.50/29.9.50. (iv) (a) 4 ploughings. (b) Transplanting. (c) —. (d) 6"×6". (e) 2. (v) 5000 lb./ac.
 of G.L. (vi) CO. 2 (late). (vii) Irrigated. (viii) Weeding once. (ix) 12.76". (x) 23.2.51.

2. TREATMENTS

Seed treated with :

1. Pot. Phosphate M/2.
2. Pot. Phosphate M.
3. Liquid Ammo. Phos.
4. C/S solution 20 ppm.
5. Mn. Sul. solution 20 ppm.
6. Zn. Sul. Solution 10 ppm.
7. B-indole acetic acid 20 ppm.
8. Boric acid (amount N.A.).
9. Urea (amount N.A.).
10. Control (distilled water).

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 5'×11'. (b) 4'×10'. (v) One row left. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

- (i) 3263 lb./ac.
- (ii) 224.5 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3283
2.	3397
3.	2971
4.	3253
5.	3296
6.	3277
7.	3349
8.	3259
9.	3283
10.	3259
S.E./mean	= 112.3 lb./ac.

Crop :- Paddy.

Ref :- M. 51(33).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'D'.

Object :- To study the effect of seed treatment with Ceresan.

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, Coimbatore. (iii) 24.9.51/18.11.51. (iv) (a) 4 ploughings. (b) N.A. (c) 30 lb./ac. (d) 6'×6". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of A/S.+150 lb./ac. of Super. (vi) CO. 13 (Medium). (vii) Irrigated. (viii) Weeding once (ix) 10.58°. (x) 1.3.52.

2. TREATMENTS :

1. Sowing seed treated with 5 gms. of Ceresan.
2. Sowing seed treated with 4 gms. of Ceresan.
3. Sowing untreated seed.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) 15'×21'. (iii) 8. (iv) (a) 5'×21'. (b) 4'×20'. (v) 6" all round. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1948-1956. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

- (i) 801 lb./ac.
 (ii) 128.8 lb./ac.
 (iii) Treatment differences are highly significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	723
2.	549
3.	1130
S.E./mean	= 45.5 lb./ac.

Crop :- Paddy.

Ref :- M. 53 (77).

Site :- Paddy Breeding Stn., Coimbatore.

Type :- 'D'.

Object :- To study the effect of different chemical treatments on the yield of a blast-resistant strain 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) Clayey soil. (b) Refer soil analysis, Coimbatore. (iii) 5.9.53/3.11.53. (iv) (a) 4 ploughings. (b) N.A. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) 5000 lb./ac. of G.L. (vi) N.A. (vii) Irrigated. (viii) Weeding once. (ix) 15.38". (x) 16.3.54.

2. TREATMENTS :

Seed treated with :-

1. Pot. Phosphate M/2
2. Pot. Phosphate M
3. Liquid Ammo. Phos. M
4. C/S solution-20
5. Mn. Sul. solution-20 ppm
6. Zn. Sul. solution-10 ppm
7. B. Indole acetici acid-20 ppm
8. Control (distilled water)
9. Control (no treatment)

3. DESIGN :

- (i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 5'×11'. (b) 4'×10'. (v) 6" all round. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) No. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

- (i) 3608 lb./ac.
 (ii) 303.6 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3597
2.	3250
3.	3627
4.	3667
5.	3727
6.	3998
7.	3523
8.	3637
9.	3451
S.E./mean	= 151.8 lb./ac.

Crop :- Paddy.

Ref :- M. 49(134).

Site :- Paddy Breeding Station, Coimbatore.

Type :- 'D'.

Object :- To study the effect of plant auxine treatment on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 4000 lb./ac. of G.L.+228 lb./ac. of G.N.C.+56 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) N.A. (iv) (a) 5 ploughings. (b) N.A. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) 4000 lb./ac. of G.L.+220 lb./ac. of G.N.C.+56 lb./ac. of A/S. (vi) CO. 3 (medium). (vii) Irrigated. (viii) Weeding once. (ix) N.A. (x) N.A.

2. TREATMENTS :

1. Cow urine at 1%.
2. Hortomone A, $\frac{1}{2}$ c.c. in $\frac{1}{2}$ pint of water.
3. B. Indole acetic acid 2 ppm.
4. B. Indole acetic acid 5 ppm.
5. B. Indole acetic acid 10 ppm.
6. B. Indole acetic acid 20 ppm.
7. Control (water).

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 5'×10'. (v) N.A. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

- (i) 3574 lb./ac.
 (ii) 290.6 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3649
2.	3765
3.	3810
4.	3517
5.	3792
6.	3685
7.	2802
(i) S.E./mean = 145.3 lb./ac.	

Crop :- Paddy (2nd Crop).

Ref :- M. 49 (135).

Site :- Paddy Breeding Station, Coimbatore.

Type :- 'D'.

Object :- To study the effect of plant auxine treatment on the yield of Paddy.

1. BASAL CONDITIONS :

(i) (a) Paddy-Paddy. (b) Paddy. (c) 4000 lb./ac. of G.N.C.+224 lb./ac. of G.N.C.+56 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) 7.1.49/8.2.49. (iv) (a) 5 ploughings. (b) N.A. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) 4000 lb./ac. of G.L.+224 lb./ac. of G.N.C.+56 lb./ac. of A/S. (vi) CO 13 (short duration). (vii) Irrigated. (viii) Weeding once. (ix) 3.21". (x) 28.5.49.

2. TREATMENTS :

Paddy seeds soaked in the following solution for 24 hrs. before sowing.

1. Water (control).
2. 4-5 months pregnant cow's urine 10% strength.
3. 4-5 months pregnant cow's urine 5% strength.
4. 4-5 months pregnant cow's urine 2% strength.
5. 4-5 months pregnant cow's urine 1% strength.
6. Hortomone A, 3 cc. in $\frac{1}{2}$ pint water.
7. Hortomone A, 1.5 cc. in $\frac{1}{2}$ pint water.
8. Hortomone A, 1 cc. in $\frac{1}{2}$ pint water.
9. Hortomone A, $\frac{3}{4}$ cc. in $\frac{1}{2}$ pint water.
10. B. Indole acetic acid 5 ppm.
11. B. Indole acetic acid 10 ppm.
12. B. Indole acetic acid 20 ppm.
13. B. Indole acetic acid 50 ppm.
14. L. Naphthalene acetic acid 5 ppm.
15. L. Naphthalene acetic acid 10 ppm.
16. L. Naphthalene acetic acid 20 ppm.
17. L. Naphthalene acetic acid 50 ppm.
18. Acidum Indole 3-aceticum 5 ppm.
19. Acidum Indole 3-aceticum 10 ppm.
20. Acidum Indole 3-aceticum 20 ppm.
21. Acidum Indole 3-aceticum 50 ppm.

3. DESIGN :

(i) R.B.D. (ii) (a) 21. (b) N.A. (iii) 6. (iv) (a) 4'x16'. (b) 3'x15'. (v) 6" all round. (vi) Yes.

4. GENERAL :

(i) Not satisfactory due to drought conditions. (ii) Nil. (iii) Yield of grain. (iv) (a) No. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1457 lb./ac. (ii) N.A. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield	Treatment	Av. yield
1.	1623	12.	1651
2.	13.	1376
3.	1403	14.	1390
4.	1421	15.	1350
5.	1390	16.	1458
6.	1200	17.	1368
7.	1493	18.	1383
8.	1488	19.	1533
9.	1693	20.	1336
10.	1513	21.	1418
11.	1646		

There was no germination in the plot under treatment No. 2.

Crop :- Paddy.

Site :- Paddy Breeding Stn., Coimbatore.

Ref. :- M. 49(136).

Type :- 'D'.

Object :- To study the effect of soaking Paddy seeds in Pot. phosphate solution before sowing.

1. BASAL CONDITIONS:

(i) (a) Paddy-Paddy. (b) Paddy. (c) 4000 lb./ac. of G.L+2 cwts/ac. of G.N.C.+56 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) N.A. (iv) (a) 5 ploughings. (b) N.A. (c) 30 lb./ac. (d) 6"x6". (e) 2. (v) 4000 lb./ac. of G.M+2 cwt/ac. of G.N.C.+56 lb./ac. of A/S. (vi) CO. 19 (late). (vii) Irrigated. (viii) Weeding once. (ix) N.A. (x) N.A.

2. TREATMENTS :

- 10% Pot. phosphate solution.
- 20% Pot. phosphate solution.
- Control (water).

Paddy seeds were soaked in these solutions for 24 hours.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 5'x21'. (b) 4'x20'. (v) 6" all round. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

(i) 3588 lb./ac. (ii) 175.5 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3667
2.	3761
3.	3338
S.E./mean	= 62.1 lb./ac.

Crop :- Paddy.

Ref :- M. 48(18).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'D'.

Object :- To find out the effect of Agroxone as a weedicide.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 200 lb./ac. of G.N.C. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 29.12.48/17.2.49. (iv) (a) 5 ploughings. (b) Transplanting. (c) — (d) 4" x 4". (e) 3. (v) 400 lb./ac. of G.N.C. + 100 lb./ac. of A/S. G.N.C. just after planting and A/S applied 1 month after planting. (vi) CO. 18. (vii) Irrigated. (viii) Weeding :- As per treatments. (ix) 0.23' (x) 19.5.49.

2. TREATMENTS :

1. No Agroxone, no weeding.
2. Hand weeding.
3. Dusting Agroxone once.
4. Dusting Agroxone twice.
5. Spraying Agroxone once.
6. Spraying Agroxone twice.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 21' x 16'. (b) 20½' x 15½'. (v) One row all round the net plot. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

(i) 2646 lb./ac.

(ii) 289.8 lb./ac.

(iii) Treatment differences are not significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2747
2.	2881
3.	2549
4.	2495
5.	2514
6.	2695
S.E./mean	= 144.9 lb./ac.

1.

2.

3.

4.

5.

6.

S.E./mean = 144.9 lb./ac.

Crop :- Paddy (Navari).

Ref :- M. 50(8).

Site :- Rice Res. Stn., Tirurkuppam.

Type :- 'D'.

Object :- To test the efficacy of D.D.T. (Guesarol 550) against stem-borer.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Samba Paddy. (c) G.N.C. at 4000 lb./ac. + A/S at 100 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 28.12.50/30.1.51. (iv) (a) 4 ploughings with iron and country plough. (b) Transplanting. (c) — (d) 4" x 4". (e) 2. (v) G.N.C. at 4000 lb./ac. + A/S at 100 lb./ac. (G.N.C. at planting. & A/S one month after planting.) (vi) CO. 18 (short duration). (vii) Irrigated. (viii) 2 weedings. (ix) 18.0". (x) 9.5.51.

2. TREATMENTS :

1. Control.
2. Dipping seedlings in ½% D.D.T. solution before planting.
3. Spraying ½% D.D.T. solution once 3 weeks after planting.
4. Spraying ½% D.D.T. solution twice (3 and 6 weeks after planting).

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) and (b) 117' x 5'. (v) Nil. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Slight attack of stem-borer. (iii) Grain yield and counts of borer attack. (iv) (a) No. (b) No. (c) N.A. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 2131 lb./ac.

(ii) 98.1 lb./ac.

(iii) Treatment differences are significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2231
2.	2031
3.	2106
4.	2156
S.E./mean	= 40.1 lb./ac.

Crop :-Paddy (Sornavari).

Ref :-M. 50(4).

Site :-Rice Res. Stn., Tirurkuppam.

Type :-'D'

Object :-To test the efficacy of D.D.T. (Guesarol 550) as a preventive and remedial measure against stem-borer.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Samba Paddy. (c) G.N.C. at 400 lb./ac. + A/S at 100 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 13.5.50/9.6.50. (iv) (a) 4 ploughings. (b) Transplanting. (c) — (d) 4' x 4'. (e) 2. (v) G.N.C. at 400 lb./ac. + A/S at 100 lb./ac. (vi) CO. 13 (short duration). (vii) Irrigated. (viii) 2 Weedings. (ix) 19.0°. (x) 7.9.50.

2. TREATMENTS:

- Control.
- Dipping seedlings in $\frac{1}{4}$ % D.D.T. solution before planting.
- Spraying planted crop once with $\frac{1}{4}$ % D.D.T. after 3 weeks.
- Spraying planted crop twice with $\frac{1}{4}$ % D.D.T. (3 and 6 weeks after planting).

3. DESIGN:

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) and (b) 20' x 15'. (v) Nil. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Under investigation. (iii) Grain yield and counts of borer attack. (iv) (a) No. (b) No. (c) N.A. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 3944 lb./ac.

(ii) 156.6 lb./ac.

(iii) Treatment differences are not significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3933
2.	3987
3.	3926
4.	3926
S.E./mean	= 63.89 lb./ac.

Crop :- Paddy (Samba).
Site :- Rice Res. Stn., Tirurkuppam.

Ref :- M. 50 (9).
Type :- 'D'.

Object :-To test the efficacy of D.D.T. (Guesarol 550) against stem-borer.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Sornavari* paddy. (c) G.N.C. 400 lb./ac. + A/S 100 lb./ac. (ii) (a) Sandy loam; (b) Refer soil analysis, Tirurkuppam. (iii) 30.9.50/18.11.50. (iv) (a) 4 ploughings. (b) Transplanting. (c) (d) 6" x 6". (e) 2. (v) G.L. at 4000 lb./ac. + G.M. seeds grown and applied at 1,000 lb./ac. + A/S 100 lb./ac. at the time of planting. G.L. and G.M. seed before planting & A/S one month after planting. (vi) CO. 5 (medium) (vii) Irrigated. (viii) 2 weedings. (ix) 24.0". (x) 123.51.

2. TREATMENTS :

1. Control.
2. Dipping seedlings in $\frac{1}{2}$ % D.D.T. solution before planting.
3. Spraying with $\frac{1}{2}$ % D.D.T. solution once, 3 weeks after planting.
4. Spraying with $\frac{1}{2}$ % D.D.T. solution twice, 3 and 6 weeks after planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 76 $\frac{1}{2}$ ' x 4 $\frac{1}{2}$ '. (b) 75 $\frac{1}{2}$ ' x 3 $\frac{1}{2}$ '. (v) One row all round the net plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Under Investigation. (iii) Grain yield and counts of borer attack. (iv) (a) No. (b) No. (c) N.A. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1148 lb./ac.
 (ii) 118.9 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1114
2.	1192
3.	1172
4.	1113
S.E./mean	= 48.6 lb./ac.

Crop :- Paddy.
Site :- Rice Res. Stn., Tirurkuppam.

Ref :- M. 52 (49).
Type :- 'D'.

Object :-To test the efficacy of plantomine sprayed periodically on crops.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.N.C. 400 lb./ac. + A/S 100 lb./ac. (ii) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 8.9.52/23.10.52. (iv) (a) 5 ploughings. (b) Bulk planting. (c) N.A. (d) 6" x 6". (e) 2. (v) G.L. 5000 lb./ac. + A/S 50 lb./ac. G.L. 15 days before planting and A/S one month after planting as top dressing. (vi) Adt. 22. (vii) Irrigated. (viii) Weeding about one month after planting. (ix) 21.74" (x) 27.1.53.

2. TREATMENTS :

Control —one plot per replication.
 All combinations of (1) and (2)

- (1) 2 concentrations of plantomine viz. C₁ = 1 in 1500 and C₂ = 1 in 2000.
- (2) 3 times of spraying T₁ = 15 days after planting, T₂ = 15 and 45 days after planting and T₃ = 15, 45 and 60 days after planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) 40' x 4'. (b) 39' x 3'. (v) One row all round the net plot. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Flowering duration ; grain and straw yield. (iv) (a) No. (b) No. (c) N.A. (v) (a) No. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1444 lb./ac.
- (ii) 151.6 lb./ac.
- (iii) Main effects, interaction and control vs. others are not significant.
- (iv) Av. yield of grain in lb./ac.

Control = 1422 lb./ac.

	T ₁	T ₂	T ₃	Mean
C ₁	1513	1462	1394	1456
C ₂	1357	1441	1519	1439
Mean	1435	1452	1457	1448

- S.E. of marginal mean of T = 54.8 lb./ac.
- S.E. of marginal mean of C = 44.7 lb./ac.
- S.E. of body of table = 75.8 lb./ac.

Crop :- Paddy (Sornavari).

Ref :- M. 49(21).

Site :- Rice Res Stn., Tirurkuppam.

Type :- D.F.

Object :- To find out the effect of electro-culture on Paddy seedlings.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) G.N.C. at 400 lb./ac. + A/S at 100 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 10.6.49/17.7.49. (iv) (a) 5 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6' x 6'. (e) 2. (v) G.N.C. at 400 lb./ac. at planting + 100 lb./ac. of A/S as top dressing one month after planting. (vi) Co. 13 (short, early). (vii) Irrigated. (viii) Weeding once. (ix) 32.56°. (x) 9.10.49.

2. TREATMENTS ;

- 1. Spark treatment to seeds and seedlings.
- 2. No treatment.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) 20' x 10'. (b) 19' x 9'. (v) One row all round the net plot. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

- (i) 2203 lb./ac.
- (ii) 416.7 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	2265
2.	2141
S.E./mean	= 120.3 lb./ac.

Crop :- Paddy.

Ref :- M. 49(137).

Site :- Paddy Breeding Station, Coimbatore.

Type :- 'DV'.

Object :- To study the effect of pre-soaking Paddy seeds in solution of Magnesium chloride and Magnesium Sulphate.

1. BASAL CONDITIONS :

(i) (a) Paddy after Paddy. (b) Paddy. (c) 4000 lb./ac. of G.L.+224 lb./ac. of G.N.C.+56 lb./ac. of A/S.
 (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) N.A. (iv) (a) 5 ploughings. (b) N.A.
 (c) 30 lb./ac. (d) 6'×6'. (e) 2. (v) 4000 lb./ac. of G.L.+224 lb./ac. of G.N.C.+56 lb./ac. of A/S. (vi)
 As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) N.A. (x) N.A.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 varieties : V_1 =CO. 19 and V_2 =G.E.B. 24. (All late varieties.)

(2) 3 chemicals :- C_0 =Control (water), C_1 =Mg. chloride, Solution 15%. C_2 =Mg. Sul. solution 15%.
 Paddy seeds soaked for 24 hours before sowing.

3. DESIGN :

(i) 2×3 Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 4'×16'. (v) N.A. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

(i) 2202 lb./ac.

(ii) 194.8 lb./ac.

(iii) Main effects and interaction are not significant.

(iv) Av. yield of grain in lb./ac.

	C_0	C_1	C_2	Mean
V_1	2061	2211	2193	2155
V_2	2161	2361	2226	2249
Mean	2111	2286	2210	2202

S.E. of marginal mean of chemicals = 56.2 lb./ac.

S.E. of marginal mean of varieties = 45.9 lb./ac.

S.E. of body of table = 79.5 lb./ac.

Crop :- Jowar.

Ref :- M. 51(89).

Site :- Govt. Agri. Chemist, Coimbatore.

Type :- 'M'.

Object :- To determine the optimum dose of G.M. for the black soil under irrigated conditions.

1. BASAL CONDITIONS :

(i) (a) Jowar—cotton. (b) N.A. (c) N.A. (ii) (a) Black soil. (b) Refer soil analysis, Coimbatore. (iii) N.A.
 (iv) (a) to (e) N.A. (v) Nil. (vi) N.A. (vii) Irrigated. (viii) N.A. (ix) N.A. (x) N.A.

2. TREATMENTS :

- Control (no manure).
- G.M. crop raised and ploughed in.
- 2500 lb./ac. of G.M. (*Daincha*) applied.
- 5000 lb./ac. of G.M. (*Daincha*) applied.
- 7500 lb./ac. of G.M. (*Daincha*) applied.
- 10,000 lb./ac. of G.M. (*Daincha*) applied.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) N.A. (b) N.A. (v) N.A. (vi) Yes.

4. GENERAL:

- (i) Growth satisfactory; but the grain was eaten away by birds. Very poor yields were obtained. (ii) N.A.
 (iii) Yield of grain. (iv) (a) 1951—(Jowar) 1952—(Cotton). (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) Nil.
 (vii) The data were not analysed because the crop was attacked by birds. The raw data were not available.

5. RESULTS:

- (i) 117 lb./ac.
 (ii) N.A.
 (iii) N.A.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	135
2.	113
3.	123
4.	98
5.	125
6.	108

Crop :- Jowar.

Site :- Central Farm, Coimbatore.

Ref :- M. 49(85).

Type :- 'M'.

Object :- To find out the relative manurial value of Night soil compost and F.Y.M.

1. BASAL CONDITIONS:

- (i) Cholanm Ragi-Sunn hemp. (b) Sunn hemp. (c) Nil. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore.
 (iii) 25.3.49. (iv) (a) 3 ploughings. (b) N.A. (c) 15 lb./ac. (d) 9" x 9". (e) 1. (v) Nil. (vi) CO.9 (early).
 (vii) Irrigated. (viii) Weeding once. (ix) 4.24". (x) 1.7.49.

2. TREATMENTS:

- Control.
- Night soil compost at 60 lb./ac. of N.
- F.Y.M. at 60 lb./ac. of N.

Manure broadcast and ploughed in 15 days before sowing.

3. DESIGN:

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 25 x 100 (links.) (v) N.A. (vi) Yes.

4. GENERAL:

- (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1949—1951. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

- (i) 1572 lb./ac.
 (ii) 104.9 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1515
2.	1634
3.	1568
S.E./mean	= 42.8 lb./ac.

Crop :- Jowar.

Ref :- M. 51 (68)/49 (85).

Site :- Central farm, Coimbatore.

Type :- 'M'.

Object :- To study the response of *Cholam* to the application of F.Y.M. and Night soil compost (Series 1).

1. BASAL CONDITIONS :

(i) (a) *Cholam*-*Ragi*-Sunnhemp. (b) Sunnhemp. (c) N.A. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 26.2.51. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) N.A. (d) 9' x 9'. (e) 1. (v) Nil. (vi) CO. 9 (early). (vii) Irrigated. (viii) Weeding once. (ix) N.A. (x) 8.6.51.

2. TREATMENTS :

1. No manure.
2. Night soil compost at 60 lb./ac. of N.
3. F.Y.M. at 60 lb./ac. of N.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 100 x 25 sq. links. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1949-1951. (b) Yes. (c) Nil. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1382 lb./ac.
 (ii) N.A.
 (iii) Treatment differences are not significant.
 (iv) Av yield of grain in lb./ac.

Treatment	Av. yield
1.	1373
2.	1387
3.	1387
S.E./mean	=N.A.

Crop :- Jowar.

Ref :- M. 51 (69).

Site :- Central farm, Coimbatore.

Type :- 'M'.

Object :- To study the response of *Cholam* to the application of F.Y.M. and Night soil compost (Series 2).

1. BASAL CONDITIONS :

(i) (a) *Cholam*-*Ragi*-Sunnhemp. (b) Sunnhemp. (c) Nil. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 26.2.51. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) N.A. (d) 9' x 9'. (e) 1. (v) Nil. (vi) CO. 9 (early). (vii) Irrigated. (viii) Weeding once. (ix) N.A. (x) 12.6.51.

2. TREATMENTS :

1. No manure.
2. Night soil compost at 60 lb./ac. of N.
3. F.Y.M. at 60 lb./ac. of N.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 100 x 25 sq. links. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) N.A. (iii) Grain yield. (iv) (a) 1949-1951. (b) Yes. (c) N.A. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 89.0 lb./ac.
 (ii) 96.2 lb./ac.
 (iii) Treatment differences are not significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	919
2.	927
3.	841
S.E./mean	= 39.2 lb./ac.

Crop :- Jowar.

Site :- Millet Breeding Stn., Coimbatore.

Ref :- M. 48(97).

Type :- 'C'

Object :- To find out the optimum spacing for Sorghum.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) *Ipomea* for fodder. (c) Nil. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 4.8.48. (iv) (a) 3 ploughings. (b) N.A. (c) 15 lb./ac. (d) As per treatments. (e) N.A. (v) 2½ ton/ac. of F.Y.M. (vi) CO. 1 (late). (vii) Unirrigated. (viii) Weeding and hoeing once. (ix) 19.86%. (x) 16.1.49.

2. TREATMENTS :

Spacing between rows :

1. 1 link.
2. 2 links.
3. 3 links.

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 20×100 sq. links. (b) 12×100 sq. links. (v) 4 links left on either side of length. (vi) Yes.

4. GENERAL :

- (i) Poor growth due to adverse seasonal conditions. (ii) Nil. (iii) Grain yield (iv) (a) No. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 137 lb./ac.
 (ii) 48.76 lb./ac.
 (iii) Treatment differences are highly significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	93
2.	187
3.	132
S.E./mean	= 17.24 lb./ac.

Crop :- Jowar.

Site :- Millet Breeding Stn., Coimbatore.

Ref :- M. 48(96).

Type :- 'C'

Object :- To determine the optimum seed rate for Jowar.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) *Ipomea* for fodder. (c) Nil. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (b) N.A. (c) As per treatments. (d) N.A. (e) N.A. (v) 2½ ton/ac. of F.Y.M. (vi) CO. 1 (late). (vii) Unirrigated. (viii) Weeding and hoeing once. (ix) 19.86%. (x) 16.1.49.

2. TREATMENTS :

A. Seed rate as follows :

1. 6 lb./ac.
2. 9 lb./ac.
3. 12 lb./ac.
4. 15 lb./ac.
5. 18 lb./ac.
6. 21 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 20×100 sq. links, (b) 12×100 sq. links, (v) 4 links left as border along length. (vi) Yes.

4. GENERAL :

(i) Poor yields obtained due to adverse seasonal conditions. (ii) Nil. (iii) Grain yield. (iv) (a) 1948-1949. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) Expt. failed in 1949.

5. RESULTS :

(i) 147 lb./ac.

(ii) 25.97 lb./ac.

(iii) Treatment differences are significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	154
2.	170
3.	165
4.	153
5.	140
6.	100
S.E./mean	10.63 lb./ac.

Crop :- Jowar.

Ref :- M. 49(83).

Site :- Central Farm, Coimbatore.

Type :- 'I'.

Object :- To find out the optimum interval and depth of irrigation for the garden land crops like Cotton, Ragi and Cholam etc.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 12.3.49. (iv) (a) 3 ploughings. (b) N.A. (c) 15 lb./ac. (d) 9"×9". (e) —. (v) F.Y.M. at 5 ton/ac. applied broadcast and ploughed in at the time of last ploughing. (vi) Summer cholam CO. 5 (early). (vii) Irrigated. (viii) Weeding once. (ix) N.A. (x) 20.6.49.

2. TREATMENTS :

Main-plot treatments :-

4 intervals of irrigation : $I_1=1$ week, $I_2=2$ weeks, $I_3=3$ weeks and $I_4=4$ weeks.

Sub-plot treatments :-

3 depths of irrigation : $D_1=2$ acre inches, $D_2=3$ acre inches and $D_3=4$ acre inches.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/block ; 3 sub-plots/main-plot. (b) 60'×114'. (iii) 4. (iv) (a) 30'×19' (sub-plot) ; 30'×57' (main-plot). (b) 26'×11'. sub-plot. (b) 4'×4' left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1938—1950. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Original records could not be traced.

5. RESULTS :

(i) 2570 lb./ac.

(ii) (a) N.A.

(b) N.A.

(iii) Main-plot treatments and sub-plot treatments differ significantly (level of significance N.A.). Interaction is not significant.

(iv) Av. yield of grain in lb./ac.

	I_1	I_2	I_3	I_4	Mean
D_1	3312	2779	1752	1332	2294
D_2	3997	3084	2247	1523	2712
D_3	3426	3351	2322	1713	2703
Mean	3578	3071	2107	1523	2570

Crop :- Jowar.

Ref :- M. 50(90).

Site :- Central Farm, Coimbatore.

Type :- 'I'.

Object :- To determine the optimum interval and depth of irrigation required for the garden land crops like *Cholam*, Cotton and *Ragi*.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 3.3.50. (iv) (a) 3 ploughings. (b) N.A. (c) 15 lb./ac. (d) 9'' \times 9''. (e) —. (v) 5 ton/ac. of F.Y.M. applied by broadcast and ploughed in 15 days before planting. (vi) CO. 5 (early). (vii) Irrigated. (viii) Weeding once. (ix) 2.93''. (x) 14.6.50.

2. TREATMENTS :

Main-plot-treatments :—

4 intervals of irrigation : $I_1=1$ week, $I_2=2$ weeks, $I_3=3$ weeks and $I_4=4$ weeks.

Sub-plot treatments :—

3 depths of irrigation : $D_1=2$ acre inches, $D_2=3$ acre inches and $D_3=4$ acre inches.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/block ; 3 sub-plots/main-plot. (b) 60' \times 120'. (iii) 4. (iv) (a) 30' \times 20' (sub-plot) ; 60' \times 30' (main-plot). (b) 26' \times 12'. sub-plot. (v) 2' \times 4' left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1938—1950. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) plot wise yield data N.A.

5. RESULTS :

(i) 1434 lb./ac.

(ii) (a) N.A.

(b) N.A.

(iii) Main-plot treatments alone differ significantly.

(iv) Av. yield of grain in lb./ac.

	I_1	I_2	I_3	I_4	Mean
D_1	2461	1601	876	593	1383
D_2	2748	1522	1238	445	1488
D_3	2990	1408	994	331	1431
Mean	2733	1510	1036	456	1434

Crop :- Ragi.

Ref :- M. 49 (86).

Site :- Central Farm, Coimbatore.

Type :- 'M'.

Object :- To find out the relative merits and manurial value of Night-soil compost and F.Y.M. (1st series).

1. BASAL CONDITIONS :

(i) (a) *Cholam* — *Ragi*—Sunnhemp. (b) *Cholam*. (c) As under treatments. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 27.7.49. (iv) (a) 3 ploughings. (b) N.A. (c) 15 lb./ac. (d) 9'' \times 9''. (e) 1. (v) Nil. (vi) CO. 1 *Ragi* (late). (vii) Irrigated. (viii) Weeding once. (ix) 6.5''. (x) 26.10.49.

2. TREATMENTS :

1. Control (no manure).

2. Night soil compost at 60 lb./ac. of N.

2. F.Y.M. at 60 lb./ac. of N.

The manures were broadcast and ploughed in, 15 days before sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 25 \times 100 sq. links. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1949—1951. (b) Yes. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 684 lb./ac.
 (ii) 138.0 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	703
2.	696
3.	652
S.E./mean	= 56.3 lb./ac.

Crop :- Ragi.

Site :- Central Farm, Coimbatore.

Ref :- M. 50(91)/49(86).

Type :- 'M'.

Object :- To determine the relative merits and manurial value of Night soil compost and F.Y.M (1st series).

1. BASAL CONDITIONS :

(i) (a) *Cholam—Ragi—Sunnhemp*. (b) *Cholan*. (c) As under treatments. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 7.8.50. (iv) (a) *Mummatty* digging and preparing the ground for sowing. (b) N.A. (c) 15 lb./ac. (d) 9''×9''. (e) 1. (v) Nil. (vi) CO. 1 *Ragi* (late). (vii) Irrigated. (viii) Weeding once. (ix) 13.63''. (x) 4.11.50.

2. TREATMENTS :

- Control (no manure).
- Night soil compost at 60 lb./ac. of N.
- F.Y.M. at 60 lb./ac. of N.

Manures applied by broadcasting and mixed up with the soil 15 days before sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 25×100 sq. links. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1949—1951. (b) Yes. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 643 lb./ac.
 (ii) 71.8 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	687
2.	640
3.	602
S.E./mean	= 29.3 lb./ac.

Crop :- Ragi.

Ref:- M. 51(67)/50(91)/49(86)

Site :- Central Farm, Coimbatore.

Type :- 'M'

Object :—To study the comparative responses of *Ragi* to the application of F.Y.M. and Night soil compost (1st series).

1. BASAL CONDITIONS :

- (i) (a) *Cholam-Ragi-Sunnhemp*. (b) *Cholam*. (c) As under treatments. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 2.7.51./30.7.51. (iv) (a) *Mummatty* digging twice. (b) N.A. (c) N.A. (d) 9"×9". (e) N.A. (v) Nil. (vi) CO. I *Ragi*. (Late). (vii) Irrigated. (viii) Weeding once on 19.8.51. (ix) N.A. (x) 24.10.51.

2. TREATMENTS :

1. Control. (no manure).
2. Night soil compost at 60 lb./ac. of N.
3. F.Y.M. at 60 lb./ac. of N.

After applying manure by broadcasting, it was covered with *mummatty* diggings and levelled.

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) 100×75 sq. links. (iii) 6. (iv) (a) N.A. (b) 100×25 sq. links. (v) N.A. (vi) Yes.

4. GENERAL :

- (i) Not satisfactory due to scarcity of water. (ii) N.A. (iii) Yield of *Ragi*. (iv) (a) 1949—1951. (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) Poor yield due to scarcity of water.

5. RESULTS :

- (i) 544 lb./ac.
 (ii) 80.3 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	555
2.	541
3.	537
S.E./mean	= 32.8 lb./ac.

Crop :- Ragi.

Ref:- M. 49(87).

Site :- Central Farm, Coimbatore.

Type :- 'M'.

Object :—To find out the relative merits and manurial value of Night soil compost and F.Y.M. (2nd series).

1. BASAL CONDITIONS :

- (i) *Cholam-Ragi-Sunnhemp*. (b) N.A. (c) N.A. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 25.5.49. (iv) (a) 3 ploughings. (b) N.A. (c) 15 lb./ac. (d) 9"×9". (e) 1. (v) Nil. (vi) CO. I *Ragi* (late). (vii) Irrigated. (viii) Weeding once. (ix) 5.31". (v) 19.9.49.

2. TREATMENTS :

1. Control (no manure).
2. Night soil compost at 60 lb./ac. of N.
3. F.Y.M. at 60 lb./ac. of N.

Manures were applied by broadcasting and ploughed in, 15 days before sowing.

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 25×100 sq. links. (v) N.A. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1949—1951. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 625 lb./ac.
 (ii) 100.1 lb./ac.
 (iii) Treatment differences are not significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	638
2.	588
3.	649
S.E./mean	= 40.8 lb./ac.

Crop :- Ragi.

Ref :- M. 50(92)/49(87).

Site :- Central Farm, Coimbatore.

Type :- 'M'

Object :- To determine the relative merits and manurial value of Nightsoil compost and F.Y.M. (2nd series).

1. BASAL CONDITIONS :

(i) (a) *Cholam-Ragi-Sunnhemp*. (b) *Cholam*. (c) As under treatments. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 16.8.50. (iv) (a) *mummatty* digging twice and preparing the ground for sowing. (b) N.A. (c) 15 lb./ac. (d) 9" x 9". (e) 1. (v) Nil. (vi) CO. 1 *Ragi* (late). (vii) Irrigated. (viii) Weeding once. (ix) 13.63". (x) 17.11.50.

2. TREATMENTS :

- Control (no manure).
 - Night soil compost at 60 lb./ac. of N.
 - F.Y.M. at 60 lb./ac. of N.
- Manures applied by broadcasting and ploughed in, 15 days before sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 25 x 100 sq. links. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1949-1951. (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

- 569 lb./ac.
- 63.9 lb./ac.
- Treatment differences are not significant.
- Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	592
2.	557
3.	558
S.E./mean	= 26.1 lb./ac.

Crop :- Ragi.

Ref :- M. 51 (66)/50(92)/49(87).

Site :- Central Farm, Coimbatore.

Type :- 'M'.

Object :- To study the comparative response of *Ragi* to the application of F.Y.M. and Night soil compost (2nd series).

1. BASAL CONDITIONS :

(i) (a) *Cholam-Ragi-Sunnhemp*. (b) *Cholam*. (c) As under treatments. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 2.7 51/28, 29.7.51. (iv) (a) 2 *mummatty* diggings were given. (b) N.A. (c) N.A. (d) 9" x 9". (e) N.A. (v) Nil. (vi) CO. 1, *Ragi* (late). (vii) Irrigated. (viii) Weeding once on 23.8.51. (ix) N.A. (x) 26.10.51.

2. TREATMENTS :

- No manure (control).
- Night soil compost at 60 lb./ac. of N.
- F.Y.M. at 60 lb./ac. of N.

After applying manure by broadcast, it was covered with *mummatty*, levelled and made ready for transplanting.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) 100×75 sq. links. (iii) 6. (iv) (a) N.A. (b) 100×25 sq. links. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) N.A. (iii) Yield of Ragi. (iv) (a) 1949—1951. (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) Poor yield due to scarcity of water.

5. RESULTS :

(i) 483 lb./ac.

(ii) 107.4 lb./ac.

(iii) Treatment differences are not significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	460
2.	530
3.	458
S.E./mean	= 43.8 lb./ac.

Crop :- Ragi.

Ref :- M. 52(13).

Site :- Central Farm, Coimbatore.

Type :- 'M'.

Object :- To study the residual effect of compost manures applied to the same plots during the past 3 years.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Ragi. (c) As under treatments. (ii) (a) Black soil. (b) Refer soil analysis Coimbatore. 10.4.52/9, 10.5.52. (iv) (a) to (c) N.A. (v) Nil. (vi) CO. 1 Ragi (late). (vii) Irrigated. (viii) N.A. (ix) 14.95". (x) 26, 27.8.52.

2. TREATMENTS :

1. No manure.

2. Night soil compost at 60 lb./ac. of N.

3. F.Y.M. at 60 lb./ac. of N.

Treatments applied during previous years. Their residual effect is being studied during this year.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 100×25 sq. links. (v) Border kept. Details N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) N.A. (b) The treatments given to the same plot for the past 3 years of experimentation. (c) N.A. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 567.2 lb./ac.

(ii) 105.8 lb./ac.

(iii) Treatment differences are not significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	563.2
2.	583.2
3.	555.2
S.E./mean	= 44.0 lb./ac.

Crop :- Ragi.

Ref :- M. 52(17).

Site :- Central Farm, Coimbatore.

Type :- 'M'.

Object :- To study the residual effects of the compost manures applied to the same plots during the past 3 years.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Ragi*. (c) Compost manures as under treatments. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 10.4.52/11 to 13.5.52, (iv) (a) to (e) N.A. (v) Nil. (vi) CO. 1 *Ragi* (late). (vii) Irrigated. (viii) N.A. (ix) 14.95". (x) 26,27.8.52.

2. TREATMENTS :

1. No manure.
2. Night soil compost at 60 lb./ac. of N.
3. F.Y.M. at 60 lb./ac. of N.

Residual effect of the above treatments applied during the past 3 years is being studied this year.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 100×25 sq. links (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) N.A. (b) N.A. (c) N.A. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 652.8 lb./ac.
- (ii) 323.2 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av yield of grain in lb./ac.

Treatment	Av. yield
1.	601.6
2.	683.2
3.	673.2
S.E./mean	= 132.0 lb./ac.

Crop :- Ragi.

Ref :- M. 53(1).

Site :- Central Farm, Coimbatore.

Type :- 'M'.

Object :- To study the effect of Zinc Sulphate on the yield of *Ragi*.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Cholam*. (c) Nil. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 18.2.53/18.3.53. (iv) (a) 2 ploughings with *victory* plough and levelling with *guntaka*. (b) N.A. (c) N.A. (d) 1 link between rows and 1½ links between plants. (e) N.A. (v) Nil. (vi) CO. 2. (vii) Irrigated. (viii) 1 hoeing and 2 weedings. (ix) 7.57". (x) 3.6.53.

2. TREATMENTS :

1. C.M. at 10 ton/ac.
2. C.M. at 10 ton/ac. + Zinc Sul. at 5 lb./ac.
3. C.M. at 1 ton/ac. + G.N.C. at 3 cwt/ac.
4. C.M. at 1 ton/ac. + G.N.C. 3 cwt./ac. + Zinc Sul. at 5 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 27'×18'. (b) 25'×16'. (v) One row left. (vi) Yes.

4. GENERAL :

(i) Normal, no lodging. (ii) Nil. (iii) Grain and straw yield. (iv) (a) No. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

- (i) 1849 lb./ac.
 (ii) 114.8 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1857
2.	1786
3.	1837
4.	1908
S.E./mean	= 46.8 lb./ac.

Crop :- Ragi.

Ref :- M. 53(2).

Site :- Central Farm, Coimbatore.

Type :- 'M'

Object :- To study the effect of Zinc Sulphate on the yield of Ragi.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Sunnhemp for fodder. (c) Nil. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore.
 (iii) 2.1.53/30.1.53. (iv) (a) 2 ploughings with *victory* plough and levelling with *guntaka*. (b) to (e) N.A.
 (v) 10 ton/ac. of C.M. (vi) CO. 2. (vii) Irrigated. (viii) 1 hoeing and 2 weedings. (ix) 7.57". (x) 8.5.53.

2. TREATMENTS :

- Control.
- Zinc Sul. at 4 lb./ac.
- Zinc Sul. at 5 lb./ac.
- Zinc Sul. at 6 lb./ac.

3. DESIGN :

- (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 25'x16'. (b) 24'x15'. (v) One row left. (vi) Yes.

4. GENERAL :

- (i) Normal, no lodging. (ii) Nil. (iii) Grain and straw yield. (iv) (a) No. (b) No. (c) N.A. (v)
 (a) Nil. (b) No. (vi) and (vii) Nil.

5. RESULTS :

- (i) 3278 lb./ac.
 (ii) 229.3 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	3431
2.	3214
3.	3099
4.	3355
S.E./mean	= 93.6 lb./ac.

Crop :- Ragi.

Ref :- M. 49(107).

Site :- Millet Breeding Stn., Coimbatore.

Type :- 'M'.

Object :- To study the efficacy of Alphanon, a radio active substance in stimulating the growth of the crop.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) *Cholam* (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 16.6.49
 Transplanting 16.7.49. (iv) (a) 3 ploughings. (b) N.A. (c) 8 lb./ac. (d) 9''x9''. (e) —. (v) 10 ton/ac. of
 F.Y.M. (vi) No. (vii) Irrigated. (viii) Weeding and hoeing twice. (ix) 7.87". (x) 11.10.49.

2. TREATMENTS:

1. Control.
2. 5 lb./ac. of Alphonon.
3. 10 lb./ac. of Alphonon.
4. 20 lb./ac. of Alphonon.

3. DESIGN :

- (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 2.04 cents. (b) 1.00 cent. (v) N.A. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

- (i) 945 lb./ac.
- (ii) 121.0 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	956
2.	863
3.	971
4.	990
S.E./mean	= 49.4 lb./ac.

Crop :- Ragi.

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

Ref :- M. 50(60)

Type :- 'M'.

Object :- To study the comparative effects of Compost and C.M. on the yield of Ragi.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Groundnut. (c) 10,000 lb./ac. of C.M. (ii) (a) Sandy loam. (b) Refer soil analysis, Palur. (iii) 11.6.50/7.7.50. (iv) (a) 3 ploughings. (b) N.A. (c) N.A. (d) 6" x 6". (e) —. (v) Nil. (vi) R. 382. (vii) Irrigated. (viii) Weeding once. (ix) 14.33". (x) 3.10.50.

2. TREATMENTS :

1. No manure.
2. C.M. at 60 lb./ac. of N
3. Compost at 60 lb./ac. of N

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 54 x 45 Sq. links. (b) 50 x 41 Sq. links. (v) 2 links around. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

- (i) 1460 lb./ac.
- (ii) 84.8 lb./ac.
- (iii) Treatment differences are significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1278
2.	1541
3.	1561
S.E./mean	= 34.6 lb./ac.

Crop :- Ragi.

Ref :- M. 51(82).

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

Type :- 'M'.

Object :- To study the residual effect of Compost and C.M. (2nd area).

1. BASAL CONDITIONS :

- (i) (a) *Cumbu*—Groundnut—*Ragi*—Sunnhemp. (b) Sunnhemp. (c) Nil. (ii) (a) Loamy. (b) Refer soil analysis, Palur. (iii) 18.6.51/9.7.51. (iv) (a) 3 ploughings. (b) N.A. (c) 15 lb./ac. (d) 1×1 Sq. link. (e) 1 (v) Nil. (vi) P. 1 *Ragi*. (vii) Irrigated. (viii) Weeding oncc. (ix) 14.33". (x) 1, 2.10.52.

2. TREATMENTS :

Residual effect of :

1. No manure.
2. C.M. at 60 lb./ac. of N.
3. Compost at 60 lb./ac. of N.

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 45×54 Sq. links. (b) 41×50 Sq. links. (v) 2 links around. (vi) Yes.

4. GENERAL :

- (i) Not satisfactory due to the failure of monsoon. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949—1952. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1076 lb./ac.
 (ii) 79.1 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1009
2.	1122
3.	1098
S.E./mean	= 32.3 lb./ac.

Crop :- Ragi.

Ref :- M. 52 (61)/51 (82).

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

Type :- 'M'.

Object :- To study the comparative effects of Compost and C.M. on the yield of *Ragi* (2nd area).

1. BASAL CONDITIONS :

- (i) (a) *Cumbu*—Groundnut—*Ragi*—Sunnhemp. (b) *Ragi*. (c) [As under treatments. (ii) (a) Loamy. (b) Refer soil analysis, Palur. (iii) 25.1.52/20.2.52. (iv) (a) 3 ploughings. (b) N.A. (c) 8 lb./ac. (d) 1×1 sq. link. (e) 1. (v) Nil. (vi) P.1 (*Ragi*). (vii) Irrigated. (viii) Weeding once. (ix) 1.73". (x) 6.5.52.

2. TREATMENTS :

1. No manure
 2. C.M. at 60 lb./ac. of N.
 3. Compost at 60 lb./ac. of N.
- Manures applied 10 days before planting.

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 36'×30'. (b) 32'×28'. (v) 2'×1' left as border. (vi) Yes.

4. GENERAL :

- (i) Not satisfactory due to severe drought conditions. (ii) Nil. (iii) Yield of grain. (iv) (a) 1949—1952. (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) Nil.

5. RESULTS :

- (i) 527 lb./ac.
 (ii) 90.7 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	455
2.	582
3.	543
S.E./mean	= 37.0 lb./ac.

Crop :- Ragi.

Ref :- M. 52 (57)/52 (61)/51 (82).

Site :- Agri Res. Stn., Palur.

Type :- 'M'.

Object :- To find out the residual effect of Compost and C.M. applied during the past 3 years of experimentation (2nd area).

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Ragi. (c) As under treatments. (ii) (a) Loam. (b) Refer soil analysis, Palur. (iii) 13.6.52/7.7.52. (iv) (a) 3 ploughings. (b) N.A. (c) 8 lb./ac. (d) 1×1 sq. link. (e) 1. (v) Nil. (vi) P. 1 Ragi. (vii) Irrigated. (viii) Weeding once. (ix) 10.91". (x) 8.10.52.

2. TREATMENTS :

Residual effect of

1. No manure.
 2. C.M. at 60 lb./ac. of N.
 3. Compost at 60 lb./ac. of N.

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 43×52 sq. links. (b) 41×50 sq. links. (v) 1 link all round. (vi) Yes.

4. GENERAL :

- (i) Poor yields were obtained due to severe drought conditions and scarcity of water. (ii) Nil. (iii) Grain yield. (iv) (a) 1949—1952. (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 592 lb./ac.
 (ii) 350 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	595
2.	638
3.	542
S.E./mean	= 143.0 lb./ac.

Crop :- Ragi.

Ref :- M. 49(112)

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

Type :- 'M'.

Object :- To compare the manurial value of Compost with C.M. (3rd area).

1. BASAL CONDITIONS :

- (i) (a) *Cumbu-Groundnut-Ragi-Sunnhemp*. (b) Sugarcane. (c) 250 lb./ac. of N as F.Y.M. (ii) (a) Loamy. (b) N.A. (iii) 26.5.49./27.6.49. (iv) (a) 4 ploughings. (b) N.A. (c) 10 lb./ac. (d) 1×1 sq. link. (e) 1. (v) Nil. (vi) R-382. (vii) Irrigated. (viii) Weeding once. (ix) 17.12". (x) 23.9.49.

2. TREATMENTS :

1. No manure.
2. C.M. at 60 lb./ac. of N.
3. Compost at 60 lb./ac. of N.
Manures applied 10 days before planting.

3. DESIGN

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 54×45 sq. links. (b) 50×41 sq. links. (v) 2 links all round. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1949—1952. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1384 lb./ac.
- (ii) 141.9 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1286
2.	1445
3.	1420
S.E./mean	= 57.9 lb./ac.

Crop :- Ragi.

Ref :- M.51(81)/49(112).

Site :- Agri. Res. Stn. Palur.

Type :- 'M'

Object :- To study the residual effect of Compost and C.M. on the yield of Ragi (3rd area).

1. BASAL CONDITIONS :

- (i) (a) Cumbu-Groundnut-Ragi-sunnhemp. (b) Groundnut. (c) As under treatments. (ii) (a) Loamy clay. (b) Refer soil analysis, Palur. (iii) 18.6 51./10.7.51. (iv) (a) 3 ploughings. (b) N.A. (c) 15 lb./ac. (d) 1×1 sq. link. (e) N.A. (v) Nil. (vi) P.1 Ragi. (vii) Irrigated. (viii) Weeding once. (ix) 14.33°. (x) 3.10.51.

2. TREATMENTS :

Residual effect of

1. No manure.
2. C.M. at 60 lb./ac. of N.
3. Compost at 60 lb./ac. of N.

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 45×54 sq. links. (b) 41×50 sq. links. (v) 2 links left around. (vi) Yes.

4. GENERAL :

- (i) Not satisfactory, yield poor due to drought conditions. (ii) Nil. (iii) Grain yield. (iv) (a) 1949—1952. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1068 lb./ac.
- (ii) 103.9 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1010
2.	1118
3.	1076
S.E./mean.	= 42.4 lb./ac.

Crop :- Ragi.

Ref :- M. 52(62)/51(81)/49(112).

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

Type :- 'M'.

Object :- To study the comparative effects of Compost and C.M. on the yield of Ragi (3rd area).

1. BASAL CONDITIONS :

(i) (a) *Cumbu*—Groundnut—Ragi—Sunn hemp. (b) Ragi. (c) As under treatments. (ii) (a) Loamy. (b) Refer soil analysis, Palur. (iii) 25.1.52/0.2.52. (iv) (a) 3 ploughings. (b) N.A. (c) 8 lb./ac. (d) 1×1 sq. link. (e) 1. (v) Nil. (vi) P-1 Ragi. (vii) Irrigated. (viii) Weeding once. (ix) 1.73°. (x) 6.5.52.

2. TREATMENTS :

1. No manure.
 2. C.M. at 60 lb./ac. of N.
 3. Compost at 60 lb./ac. of N.
- Manures applied 10 days before planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 36'×30'. (b) 32'×28'. (v) 2'×1' left as border. (vi) Yes.

4. GENERAL :

(i) Not satisfactory due to severe drought conditions. (ii) Nil. (iii) Grain yield. (iv) (a) 1949—1952. (b) Yes. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 524 lb./ac.
 (ii) 61.3 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	491
2.	522
3.	559
S.E./mean	=25.0 lb./ac.

Crop :- Ragi.

Ref :- 52(58)/52(62)/51(81)/49(112).

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

Type :- 'M'.

Object :- To find out the residual effect of Compost and C.M. applied during the past 3 years of experimentation (3rd area).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Ragi. (c) As under treatments. (ii) (a) Loam. (b) Refer soil analysis, Palur. (iii) 13.6.52/7.7.52. (iv) (a) 3 ploughings. (b) N.A. (c) 8 lb./ac. (d) 1×1 sq. link. (e) 1. (v) Nil. (vi) P-1 Ragi. (vii) Irrigated. (viii) Weeding once. (ix) 10.91°. (x) 8.10.52.

2. TREATMENTS :

Residual effect of :

1. No manure.
2. C.M. at 60 lb./ac. of N.
3. Compost at 60 lb./ac. of N.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 43×52 sq. links. (b) 41×50 sq. links. (v) 1 link all round. (vi) Yes.

4. GENERAL :

(i) Poor yields due to severe drought conditions. (ii) Nil. (iii) Grain yield. (iv) (a) 1949—1952. (b) Yes. (c) Nil. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 293 lb./ac.
 (ii) 95.6 lb./ac.
 (iii) Treatment differences are not significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	329
2.	257
3.	307
S.E./mean	= 39.0 lb./ac.

Crop :- Ragi (1st crop).

Ref :- M. 53(90).

Site :- Central Sugarcane 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.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Ragi (c) As under treatments. (ii) (a) Red soil. (b) Refer soil analysis, Palur. (iii) 29.5.53/24.6.53. (iv) (a) 5 ploughings. (b), (c), (d) & (e) N.A. (v) Nil. (vi) P. 1. (vii) Irrigated. (viii) 2 weedings. (ix) 11.28". (x) 6.9.53.

2. TREATMENTS :

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

(1) 2 levels of basal dressings :- $B_0=0$ and B_1 =Lime at 450 lb./ac.+C.M. at 3 ton/ac.+Super at 30 lb./ac. of P_2O_5 .

(2) 2 sources of N :- A/S and C/N.

(3) 2 levels of N :- $N_1=40$ & $N_2=60$ lb./ac.and one control plot receiving basal dressing of lime at 450 lb./ac.+C.M. at 3 ton/ac.+Super at 30 lb./ac. of P_2O_5 .

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a) $20' \times 32\frac{1}{2}'$. (b) $19\frac{1}{2}' \times 32'$. (v) $1/4'$ all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1952-1954. (b) Yes. (c) N.A. (v) (a) N.A. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

(i) 491 lb./ac.

(ii) 76.3 lb./ac.

(iii) Treatment effects are significant.

(iv) Av. yield of grain in lb./ac.

Control=378 lb./ac.

	A/S	C/N	Mean	N_1	N_2
B_0	476	398	437	445	429
B_1	602	544	573	544	603
Mean	539	471	505		
N_1	524	465	494		
N_2	555	476	516		

S.E. of the marginal means = 17.0 lb./ac.

S.E. of body of table = 24.1 lb./ac.

Crop :- Ragi (2nd crop).

Ref :- M. 53(91).

Site :- Central Sugarcane Res. Stn. Palur.

Type :- 'M'.

Object :- To find out the relative merits of A/S and C/N alone and in combination with Lime, Compost and Super.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Ragi. (c) As under treatments. (ii) (a) Red soil. (b) Refer soil analysis, Palur. (iii) 7.12.53./5.1.54. (iv) (a) 5 ploughings. (b), (c), (d) & (e) N.A. (v) As under treatments. (vi) P-1 Ragi. (vii) Irrigated. (viii) 2 weedings. (ix) 8.46". (x) 31.3.54.

2. TREATMENTS :

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

(1) 2 levels of basal dressing :- $B_0=0$ and $B_1=Lime$ at 450 lb./ac.+C.M. at 3 ton/ac.+Super at 30 lb./ac. of P_2O_5 .

(2) 2 sources of N :- A/S and C/N.

(3) 2 levels of N :- $N_1=40$ & $N_2=60$ lb./ac.and one control plot receiving basal dressing of lime at 450 lb./ac.+C.M. at 3 ton/ac.+Super at 30 lb./ac. of P_2O_5 .

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a) $20' \times 32\frac{1}{2}'$. (b) $19\frac{1}{2}' \times 32'$. (v) 1/4' around (vi) Yes.

4. GENERAL

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1952-1954. (b) Yes. (c) N.A. (v) (a) N.A. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :

(i) 1727 lb./ac.

(ii) 205.8 lb./ac.

(iii) Treatment effects are significant.

(iv) Av. yield of grain in lb./ac.

	Control=998 lb./ac.				
	A/S	C/N	Mean	N_1	N_2
B_0	1777	1507	1642	1693	1591
B_1	2006	1982	1994	1877	2112
Mean	1892	1744	1818		
N_1	1797	1773	1785		
N_2	1987	1716	1851		

S.E. of any marginal mean =46.0 lb./ac.

S.E. of body of table =65.1 lb./ac.

Crop :- Ragi.

Ref :- M. 53(68).

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

Type :- 'M'.

Object :- To study the relative merits of the three bulky manures as sources of organic matter.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Red soil. (b) Refer soil analysis, Satyamangalam. (iii) 17.1.53. (iv) (a) 3 ploughings. (b) N.A. (c) 8 lb./ac. (d) 1 x 1 Sq. link. (e) 1. (v) 45 lb./ac. of N as A/S + 30 lb./ac. of P_2O_5 as Super. (vi) CO. 2 Ragi. (vii) Irrigated. (viii) N.A. (ix) N.A. (x) 3.4.53.

2. TREATMENTS :

All combinations of (1), (2) and (3)+a control.

(1) 3 levels of organic manure : $M_1=2500$, $M_2=5000$ and $M_3=7500$ lb./ac.

(2) 3 sources of organic matter : Sunnhemp, C.M. and Compost.

C.M and Compost applied in terms of the equivalent organic matter of Sunnhemp.

3. DESIGN :

(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 1.03 cent. (b) 0.73 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) No. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS :

(i) 2675 lb./ac.

(ii) N.A.

(iii) N.A.

(iv) Av. yield of grain in lb./ac.

Control=2745 lb./ac.

	M_1	M_2	M_3	Mean
Sunnhemp	2783	2945	2714	2814
C.M.	2380	2560	2791	2577
Compost	2863	2337	2628	2609
Mean	2675	2614	2711	2667

Crop :- Ragi.

Site :- Central Farm, Coimbatore.

Ref :- M. 49(88).

Type :- 'I'.

Object :- To determine the optimum interval and depth of irrigation for Ragi.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 16.649/11.749. (iv) (a) 3 ploughings. (b) N.A. (c) 15 lb./ac. (d) 9"×9". (e) 1. (v) F.Y.M. at 5 ton/ac. applied by broadcast and ploughed in at the time of last ploughing. (vi) CO. Ragi. (late). (vii) Irrigated. (viii) Weeding once. (ix) 8.16". (x) 18.10.49.

2. TREATMENTS :

Main-plot treatments :-

4 intervals of irrigation : $I_1=1$ week, $I_2=2$ weeks, $I_3=3$ weeks and $I_4=4$ weeks.

Sub-plot treatments :-

3 depths of irrigation : $D_1=2"$, $D_2=3"$ and $D_3=4"$.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/replication ; 3 sub-plots/main-plot. (b) 60'×120'. (iii) 4. (iv) (a) 30'×20' (sub-plot) 30'×60' (main-plot). (b) 26'×12' (sub-plot). (v) 2'×4' left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1938-1949. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) Nil.

5. RESULTS :

(i) 564 lb./ac.

(ii) (a) N.A.

(iii) (b) N.A.

(iv) Main-plot treatment effects alone are significant.

(iv) Av. yield of grain in lb./ac.

	I ₁	I ₂	I ₃	I ₄	Mean
D ₁	948	571	242	174	484
D ₂	1055	597	342	292	571
D ₃	1168	682	414	279	636
Mean	1057	617	333	248	564

Crop:-Ragi.

Ref :-M. 50(89).

Site :- Central Farm, Coimbatore.

Type :- T.

Object :- To determine the optimum interval and depth of irrigation for Ragi.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) N.A./7.7.50.
 (iv) (a) 3 ploughings. (b) N.A. (c) 15 lb./ac. (d) 9" x 9". (e) —. (v) F.Y.M. at 5 ton/ac. (vi) CO. 1 Ragi
 (late). (vii) Irrigated. (viii) Weeding once. (ix) 12.35". (x) 17.10.50.

2. TREATMENTS :

Main-plot treatments :—

3 intervals of irrigation : I₁=10, I₂=20 and I₃=30 days.

Sub-plot treatments :—

2 depths of irrigation : D₁=2" and D₂=3".

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 30 x 50 Sq.
 links. (b) 22 x 42 sq. links. (v) 4 links all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1950—1952. (b) No. (c) Nil. (v) (a) and (b) Nil.
 (vi) and (vii) Nil.

5. RESULTS :

(i) 789 lb./ac.

(ii) (a) 131.1 lb./ac.

(b) 168.6 lb./ac.

(iii) Main-plot treatment effect is highly significant ; sub-plot treatment effect is significant. Interaction effect is not significant.

(iv) Av. yield of grain in lb./ac.

	I ₁	I ₂	I ₃	Mean
D ₁	886	820	337	681
D ₂	939	1016	734	896
Mean	913	918	536	789

S.E. of difference of two

1. main-plot treatment means

= 65.5 lb./ac.

2. sub-plot treatment means

= 68.8 lb./ac.

3. sub-plot treatment means at the same level of main-plot treatment

= 119.2 lb./ac.

4. main-plot treatment means at the same level of sub-plot treatment

= 106.7 lb./ac.

Crop :- Ragi.

Ref :- M. 51(70).

Site :- Central Farm, Coimbatore.

Type :- 'I'.

Object :- To determine the optimum interval and depth of irrigation for Ragi.

1. BASAL CONDITIONS :

(i) (a) Cotton—Sunnhemp—Ragi. (b) Sunnhemp. (c) Nil. (ii) Clay loam (alkaline). (b) Refer soil analysis, Coimbatore. (iii) 12.6.51/9.7.51. (iv) (a) 2 mummy diggings. (b) N.A. (c) N.A. (d) 9"×9". (e) N.A. (v) F.Y.M. at 5 ton/ac. applied before planting. (vi) CO. 1 Ragi (late). (vii) Irrigated. (viii) Weeding once. (ix) N.A. (x) 11.10.51.

2. TREATMENTS :

Main-plot treatments :-

3 intervals of irrigation : $I_1=10$, $I_2=15$ and $I_3=20$ days.

Sub-plot treatments :-

2 depths of irrigation : $D_1=2"$ and $D_2=3"$ per acre.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 50 links×30 links. (b) 42 links×22 links. (v) 4 links all round. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) N.A. (iii) Grain and straw yield. (iv) (a) 1950—1952. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 966 lb./ac.

(ii) (a) 342.2 lb./ac.

(b) 122.3 lb./ac.

(iii) Main plot and sub-plot treatment effects are significant. Interaction is not significant.

(iv) Av. yield of grain in lb.ac.

	I_1	I_2	I_3	Mean
D_1	1109	724	561	798
D_2	1455	1048	899	1134
Mean	1282	886	730	966

S.E. of difference of two

1. main-plot treatment means = 171.1 lb./ac.

2. sub-plot treatment means = 49.9 lb./ac.

3. sub-plot treatment means at the same level of main-plot treatment = 86.5 lb./ac.

4. main-plot treatment means at the same level of sub-plot treatment = 181.7 lb./ac.

Crop :- Ragi.

Ref :- M. 52 (12).

Site :- Central Farm, Coimbatore.

Type :- 'I'.

Object :- To determine the optimum interval and depth of irrigation for Ragi.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Ragi. (c) N.A. (ii) (a) Red Loam. (b) Refer soil analysis, Coimbatore. (iii) 19.6.52/16.7.52. (iv) (a) to (e) N.A. (v) F.Y.M. at 5 ton/ac. (vi) CO. 1. (vii) As under treatments. (viii) N.A. (ix) 5.67". (x) 20.10.52.

2. TREATMENTS :

Main-plot treatments :

3 intervals of irrigation :— $I_1=10$ days, $I_2=15$ days and $I_3=20$ days.

Sub-plot treatments :

2 depths of irrigation :— $D_1=2"$ and $D_2=3"$ per acre.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 50×30 sq. links (v) Yes ; details N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1950—1952. (b) Yes. (c) N.A. (v) (a), (b) N.A. (vi) Nil. (vii) Raw data N.A.

5. RESULTS :

(i) 276 lb./ac.
 (ii) N.A.
 (iii) None of the effects is significant.
 (iv) Av. yield of grain in lb./ac.

	I ₁	I ₂	I ₃	Mean
D ₁	303	255	198	252
D ₂	335	286	278	300
Mean	319	271	238	276

S.E. N.A.

Crop :- Ragi.

Ref :- M. 49 (106).

Site :- Millet Breeding Stn., Coimbatore.

Type :- 'D'

Object :- To study the effect of hormones in increasing the yield of Ragi.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cholam. (c) N.A. (ii) (a) Red loam. (b) N.A. (iii) 25.8, 49/5, 10, 49. (iv) (a) 3 ploughings. (b) N.A. (c) 8 lb./ac. (d) 9"×9". (e) 1. (v) 10 ton/ac. of F.Y.M. (vi) CO. 2 Ragi. (vii) Irrigated. (viii) Weeding and hoeing twice. (ix) 8.03". (x) 19.12.49.

2. TREATMENTS :

1. 100% cow urine.
 2. 10% cow urine in distilled water.
 3. 1% cow urine in distilled water.
 4. Distilled water.
 5. Control.
- Treatments given before sowing of seed.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 1.12 cents. (b) 0.79 cent. (v) N.A. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

(i) 1388 lb./ac.
 (ii) 148.2 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1386
2.	1606
3.	1372
4.	1223
5.	1353
S.E./mean	= 66.3 lb./ac.

Crop :- Potato.

Ref :- M. 49(117).

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

Type :- 'M'.

Object :- To explore the possibility of reducing dosage of manure now advocated for Potato without impairing the efficacy.

1. BASAL CONDITIONS :

(i) (a) Potato—*Sanai*—Lupin. (b) Lupin. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 11.3.49. (iv) (a) 2 ploughings. (b) N.A. (c) 2000 lb./ac. (d) 27"×9". (e) 1. (v) Nil. (vi) Great Scot. (vii) Irrigated. (viii) Weeding and earthing up once. (ix) 30.60%. (x) 16 to 18,849.

2. TREATMENTS :

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

(1) 2 levels of lime : $L_0=0$ and $L_1=2$ ton/ac.

(2) 2 levels of N : $N_1=40$ and $N_2=80$ lb./ac.

(3) 4 levels of P_2O_5 : $P_0=0$, $P_1=40$, $P_2=120$ and $P_3=200$ lb./ac.

N as A/S+G.N.C. in ratio 2 : 5 and P_2O_5 as B.M.+Super in ratio 3 : 2. Manures broadcasted at the time of planting.

3. DESIGN :

(i) 2×2×4 Fact. in R.B.D. (ii) (a) 16. (b) N.A. (iii) 8. (iv) (a) N.A. (b) 20'×12'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of Potato. (iv) (a) 1949—1951. (b) Yes. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 12,239 lb./ac.

(ii) 2072 lb./ac.

(iii) Main effect of N is significant while that of P is highly significant. Other effects and interactions are not significant.

(iv) Av. yield of Potato in lb./ac.

	P_0	P_1	P_2	P_3	Mean	L_0	L_1
N_1	8418	10849	13541	14654	11866	11530	12201
N_2	9508	12008	14336	14597	12612	12786	12439
Mean	8963	11428	13939	14626	12239	12158	12320
L_0	8338	11905	13723	14666			
L_1	9588	10951	14155	14586			

S.E. of N or L marginal mean

=259.0 lb./ac.

S.E. of P marginal mean

=366.0 lb./ac.

S.E. of body of N×P or L×P table

=518.0 lb./ac.

S.E. of body of N×L table

=366.0 lb./ac.

Crop :- Potato.

Ref :- M. 50(110)/49(117).

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

Type :- 'M'.

Object :- To explore the possibility of reducing the dosage of manure now advocated for Potato without impairing the efficacy.

1. BASAL CONDITIONS :

(i) (a) Potato—*Sanai*—Lupin. (b) Lupin. (c) Nil. (ii) (a) Laterite soil, (b) Refer soil analysis, Nanjanad. (iii) 31.3.50. (iv) (a) 2 ploughings. (b) N.A. (c) 2000 lb./ac. (d) 27"×9". (e) 1. (v) 100 lb./ac. of K_2O as Pot. Sul. (vi) Great Scot. (vii) Irrigated. (viii) Weeding and earthing up once. (ix) 32.95%. (x) 20.9.50.

2. TREATMENTS :

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

(1) 2 levels of lime : $L_0=0$ and $L_1=2$ ton/ac.

(2) 2 levels of N : $N_1=40$ and $N_2=80$ lb./ac.

(3) 4 levels of P_2O_5 : $P_0=0$, $P_1=40$, $P_2=120$ and $P_3=200$ lb./ac.

N as A/S+G.N.C. in ratio 2 : 5 and P_2O_5 as B.M.+Super in ratio 3 : 2. Manures applied by broadcast at the time of planting.

3. DESIGN :

(i) $2 \times 2 \times 4$ Fact. in R.B.D. (ii) (a) 16. (b) N.A. (iii) 8. (iv) (a) N.A. (b) $20' \times 12'$. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of Potato. (iv) (a) 1949—1951. (b) Yes. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 6838 lb./ac.

(ii) 1711.5 lb./ac.

(iii) Main effect of P and interaction $N \times P \times L$ are highly significant. Interactions $N \times L$ and $N \times P$ are significant. Others are not significant.

(iv) Av. yield of Potato in lb./ac.

	P_0	P_1	P_2	P_3	Mean	L_0	L_1
N_1	5581	6285	7692	7647	6801	6149	7453
N_2	4492	7442	7318	8248	6875	6938	6813
Mean	5037	6863	7505	7948	6838	6543	7133
L_0	5015	6637	6762	7760			
L_1	5059	7090	8248	8135			

S.E. of N or L marginal mean = 213.9 lb./ac.

S.E. of P marginal mean = 302.6 lb./ac.

S.E. of body of $N \times P$ or $L \times P$ table = 427.9 lb./ac.

S.E. of body of $L \times N$ table. = 302.6 lb./ac.

Crop :- Potato.

Ref :- M. 51(80)/50(110)/49(117).

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

Type :- 'M'.

Object :- To explore the possibility of reducing the dosage of manure now advocated for Potato without impairing the efficacy.

1. BASAL CONDITIONS :

(i) (a) Potato-Sana-Lupin. (b) Lupin. (c) Nil. (ii) (a) Latérite soil (b) Refer soil analysis, Nanjanad. (iii) 7, 8.5.51. (iv) (a) 2 ploughings. (b) N.A. (c) 2000 lb./ac. (d) $27' \times 9'$. (e) 1. (v) 100 lb./ac. of K_2O as Pot. Sul. (vi) Great Scot. (vii) Irrigated. (viii) Weeding and earthing up once. (ix) 33.83%. (x) 2nd week of Sept. 51.

2. TREATMENTS :

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

(1) 2 levels of Lime : $L_0=0$ and $L_1=2$ ton/ac.

(2) 2 levels of N : $N_1=40$ and $N_2=80$ lb./ac.

(3) 4 levels of P_2O_5 : $P_0=0$, $P_1=40$, $P_2=120$ and $P_3=200$ lb./ac.

N as A/S+G.N.C. in ratio 2 : 5 and P_2O_5 as B.M.+Super in ratio 3 : 2. Manures applied by broadcast at the time of planting.

3. DESIGN :

- (i) 2x2x4 Fact. in R.B.D. (ii) (a) 16. (b) N.A. (iii) 8. (iv) (a) N.A. (b) 20'x12'. (v) N.A. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Yield of Potato. (iv) (a) 1949—1951. (b) Yes. (c) Nil. (v) (a), (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

- (i) 8058 lb./ac.
 (ii) 1123.0 lb./ac.
 (iii) Main effects of N and P are highly significant. Other effect and interactions are not significant.
 (iv) Av. yield of Potato in lb./ac.

	P ₀	P ₁	P ₂	P ₃	Mean	L ₀	L ₁
N ₁	6361	7353	7661	7917	7323	7083	7563
N ₂	7183	8810	8748	10430	8793	8604	8981
Mean	6772	8082	8204	9174	8058	7844	8272
L ₀	6044	8031	8025	9276			
L ₁	7501	8132	8384	9071			

S.E. of N or L marginal mean = 140.3 lb./ac.

S.E. of P marginal mean = 198.5 lb./ac.

S.E. of body of NxP or LxP table = 280.7 lb./ac.

S.E. of body of NxL table = 198.5 lb./ac.

Crop :- Potato (Main crop).

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

Ref :- M. 48(32).

Type :- 'M'.

Object :- To find out the best method of applying P₂O₅.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) *Sanai*. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 5.4.48. (iv) (a) 2 ploughings. (b) planting in lines. (c) 2000 lb./ac. (d) 27" x 6". (e)—(v) 5 ton/ac. of C.M. + 1610 lb./ac. of *Nanjanad mixture*. (vi) Great scot (early). (vii) Rainfed. (viii) Weeding and earthing up once. (ix) 52.25". (x) 4.10.48.

2. TREATMENTS :

- Nanjanad mixture* applied in furrows in a level with seed tubers.
- Nanjanad mixture* applied 3" below furrows.
- Phosphate of *Nanjanad mixture* applied 3" below furrow and the rest in level with seed tubers.

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1.0 cent. (v) N.A. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1946—1950. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) & (vii) Nil.

5. RESULTS :

- (i) 15933 lb./ac.
 (ii) 453.0 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of Potato in lb./ac.

Treatment	Av. yield
1.	16110
2.	16547
3.	15143
S.E./mean	= 185.0 lb./ac.

Crop :-Potato.

Ref :-M. 48(41).

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

Type :-'M'.

Object :-To find out the best method of applying P_2O_5 .

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 21.1.48. (iv) (a) 2 ploughings. (b) Planting in lines. (c) 2000 lb./ac. (d) 27"×6". (e) N.A. (v) 5 ton/ac. of C.M.+1610 lb./ac. of *Nanjanad mixture*. (vi) Great Scot. (vii) Irrigated. (viii) Weeding and earthing up once. (ix) 18.97". (x) 17.6.48.

2. TREATMENTS :

1. *Nanjanad mixture* applied in furrows in a level with seed tubers.
2. *Nanjanad mixture* applied 3" below the level of seed tubers.
3. Phosphate of *Nanjanad mixture* applied 3" below and the rest in a level with seed tubers.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1.0 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1946—1950 ; expt. failed in 1949. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- 4583 lb./ac.
- 2465 lb./ac.
- Treatment differences are not significant.
- Av. yield of potato in lb./ac.

Treatment	A v. yield
1.	6083
2.	3967
3.	3700
S.E./mean	= 1006 lb./ac.

Crop :-Potato (2nd crop).

Ref :-M. 48(37).

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

Type :-'M'.

Object :-To find out the best method of applying P_2O_5 .

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Lupin. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 1.9.48. (iv) (a) 2 ploughings. (b) Planting. (c) 2000 lb./ac. (d) 27"×6". (e) —. (v) 5 ton/ac. C.M.+1610 lb./ac. *Nanjanad mixture*. (vi) Great scot (early). (vii) Rainfed. (viii) Weeding and earthing up once. (ix) 22.4". (x) 8.1.49.

2. TREATMENTS :

1. *Nanjanad mixture* applied in furrows in a level with seed tubers.
2. *Nanjanad mixture* applied 3" below furrows and the rest in a level with seed tubers.
3. Phosphate of *Nanjanad mixture* applied 3" below the furrow and the rest in a level with seed tubers.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1.0 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1946—1949. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- 17761 lb./ac.
- 1292 lb./ac.
- Treatment differences are not significant.

(iv) Av. yield of potato in lb./ac.

Treatment	Av. yield
1.	17408
2.	17425
3.	18450
S.E./mean	= 527.3 lb./ac.

Crop :- Potato (1st. crop).

Ref :- M. 49(29).

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

Type :- 'M'.

Object :- To find out the best method of applying P_2O_5 .

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Sanal*. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 4.4.49. (iv) (a) 2 ploughings. (b) Planting in lines. (c) 2000 lb./ac. (d) 27" x 6". (e) —. (v) 5 ton/ac. of C.M. + 1610 lb./ac. of *Nanjanad mixture*. (vi) Great scot (early). (vii) Unirrigated. (viii) Weeding and earthing up once. (ix) 18.85". (x) 18.8.49.

2. TREATMENTS :

1. *Nanjanad mixture* applied in furrows in a level with seed tubers.
2. *Nanjanad mixture* applied 3" below the level of seed tubers.
3. Phosphate of *Nanjanad mixture* applied 3" below the level of seed tubers and the rest in a level with seed tubers.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1.0 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1946—1950. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) (vii) Nil.

5. RESULTS :

(i) 17206 lb./ac.
 (ii) 1327 lb./ac.
 (iii) Treatments differ significantly.
 (iv) Av. yield of potato in lb./ac.

Treatment	Av. yield
1.	17917
2.	18167
3.	15533
S.E./mean	= 542 lb./ac.

Crop :- Potato (2nd crop).

Ref :- M. 49(35).

Site :- Agri. Res. Stn. Nanjanad.

Type :- 'M'.

Object :- To find out the best method of applying P_2O_5 .

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Lupin. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 1.9.49. (iv) (a) 2 ploughings. (b) Planting in lines. (c) 2000 lb./ac. (d) 27" x 6". (e) —. (v) 5 ton/ac. of C.M. + 1610 lb./ac. of *Nanjanad mixture*. (vi) Great scot. (vii) Rainfed. (viii) Weeding and earthing up once. (ix) 18.7". (x) 10.1.50.

2. TREATMENTS :

1. *Nanjanad mixture* applied in furrows in a level with seed tubers.
2. *Nanjanad mixture* applied 3" below the level of the seed tubers.
3. Phosphate of *Nanjanad mixture* applied 3" below the level of Seed tubers and the rest in the furrows in a level with seed tubers.

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1.0 cent. (v) N.A. (vi) Yes.

GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Potato yield. (iv) (a) 1946-1949. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 4700 lb./ac.
 (ii) 560 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of potato in lb./ac.

Treatment	Av. yield
1.	5050
2.	4550
3.	4500
S.E./mean	= 228 lb./ac.

Crop :- Potato.

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

Ref :- M. 50(77).

Type :- 'M'.

Object :- To find out the best method applying P_2O_5 .

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Lupin G.M. crop. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 14.250. (iv) (a) 2 ploughings. (b) Planting in lines. (c) 2000 lb./ac. (d) 27" x 9". (e) L. (v) 5 ton/ac. of C.M. applied about 2 weeks before sowing. (vi) Great scot. (vii) Irrigated. (viii) Weeding and earthing up once. (ix) 8.8%. (x) 22.6.50.

2. TREATMENTS :

1. *Nanjanad mixture* applied in furrow in a level with seed tubers.
2. *Nanjanad mixture* applied 3" deep below the seed tubers.
3. Phosphate ingredients of the *Nanjanad mixture* applied 3" deep in furrows and the rest in a level with the seed tubers.

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) and (b) 1.0 cent. (v) Nil. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1946-1950. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 5189 lb./ac.
 (ii) 1334 lb./ac.
 (iii) Treatments do not differ significantly.
 (iv) Av. yield of potato in lb./ac.

Treatment	Av. yield
1.	4617
2.	5717
3.	5233
S.E./mean	= 544.4 lb./ac.

Crop :- Potato (main crop).

Ref :- M. 48 (31).

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

Type :- 'M'.

Object :- To find out the effect of Borax on the yield of Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Sana*. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 5.4.48
 (iv) (a) 2 ploughings. (b) Planting in lines. (c) 2000 lb./ac. (d) 27" x 6". (e) 1. (v) 5 ton/ac. C.M. +
 1610 lb./ac. of *Nanjanad mixture*. (vi) Great scot (early). (vii) Rainfed. (viii) Weeding and earthing up
 once. (ix) 52.25". (x) 4.10.48.

2. TREATMENTS :

1. No Borax.
 2. Borax at 5 lb./ac.
 3. Borax at 10 lb./ac.
 4. Borax at 20 lb./ac.
 5. Borax at 30 lb./ac.
- Borax applied at the time of sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 0.5 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1947—1950. (b) No. (c) N.A. (v) (a) Nil.
 (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 8140 lb./ac.
 (ii) 992 lb./ac.
 (iii) Treatments do not differ significantly.
 (iv) Av. yield of potato in lb./ac.

Treatment	Av. yield
1.	8075
2.	8405
3.	8385
4.	7892
5.	7942
S.E./mean	= 405 lb./ac.

Crop :- Potato.

Ref :- M. 48 (40).

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

Type :- 'M'.

Object :- To find out the effect of Borax on the yield of Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 21.1.48.
 (iv) (a) 2 ploughings. (b) Planting in lines. (c) 2000 lb./ac. (d) 27" x 6". (e) —. (v) 5 ton/ac. of C.M.
 + 1610 lb./ac. of *Nanjanad mixture*. (vi) Great scot (early). (vii) Irrigated. (viii) Weeding and earthing
 up once. (ix) 30.35". (x) 2.7.48.

2. TREATMENTS :

1. No Borax.
 2. Borax at 5 lb./ac.
 3. Borax at 10 lb./ac.
 4. Borax at 20 lb./ac.
 5. Borax at 30 lb./ac.
- Borax applied at the time of sowing by mixing with the soil.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 0.5 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1947—1950, the crop failed during 1950. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 2933 lb./ac.
 (ii) 522 lb./ac.
 (iii) Treatments differ highly significantly.
 (iv) Av. yield of potato in lb./ac.

Treatment	Av. yield
1.	3300
2.	2467
3.	3467
4.	2700
5.	2733
S.E./mean	= 213 lb./ac.

Crop :- Potato (2nd crop),
 Site :- Agri. Res. Stn. Nanjanad.

Ref :- M. 48(36),
 Type :- 'M'.

Object :—To find out the effect of Borax on the yield of Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Lupin. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 1.9.48. (iv) (a) 2 ploughings. (b) Planting in lines. (c) 2000 lb./ac. (d) 27" x 6". (e) —. (v) 5 ton/ac. of C.M.+1610 lb./ac. of Nanjanad mixture. (vi) Great scot (early). (vii) Rainfed. (viii) Weeding and earthing up once. (ix) 22.4". (x) 10.1.49.

2. TREATMENTS :

- No Borax.
- Borax at 5 lb./ac.
- Borax at 10 lb./ac.
- Borax at 20 lb./ac.
- Borax at 30 lb./ac.

Borax applied at the time of sowing by mixing with the soil.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 0.5 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1947—1949. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 9608 lb./ac.
 (ii) 497 lb./ac.
 (iii) Treatments differ significantly.
 (iv) Av. yield of potato in lb./ac.

Treatment	Av. yield
1.	10117
2.	9558
3.	9908
4.	9417
5.	9042
S.E./mean	= 203 lb./ac.

Crop :- Potato (main crop).

Ref :- M. 49(30).

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

Type :- 'M'.

Object :- To find out the effect Borax on the yield of Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Sanal*. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 2.4.49. (iv) (a) 2 ploughings. (b) Planting in lines. (c) 2000 lb./ac. (d) 27" x 6". (e) —. (v) 5 ton./ac. of C.M. + 1610 lb./ac. of *Nanjanad mixture*. (vi) Great scot (early). (vii) Rainfed. (viii) Weeding and earthing up once. (ix) 36.83". (x) 27.9.49.

2. TREATMENTS :

1. No Borax.
 2. Borax at 5 lb./ac.
 3. Borax at 10 lb./ac.
 4. Borax at 20 lb./ac.
 5. Borax at 30 lb./ac.
- Borax applied at the time of sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 0.5 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil (iii) Tuber weight. (iv) (a) 1947—1950. (b) No. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 12080 lb./ac.
- (ii) 1116 lb./ac.
- (iii) Treatments do not differ significantly.
- (iv) Av. yield of potato in lb./ac.

Treatment	Av. yield
1.	11467
2.	12367
3.	12000
4.	12800
5.	11767
S.E./mean	= 456 lb./ac.

Crop :- Potato

Ref :- M. 49(33).

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

Type :- 'M'.

Object :- To find out the effect of Borax on the yield of Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Lupin. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 12.2.49. (iv) (a) 2 ploughings. (b) Planting in lines. (c) 2000 lb./ac. (d) 27" x 6". (e) —. (v) 5 ton./ac. of C.M. + 1610 lb./ac. of *Nanjanad mixture*. (vi) Great scot. (early). (vii) Irrigated. (viii) Weeding and earthing up once. (ix) 15.3". (x) 7.6.49.

2. TREATMENTS :

1. No Borax.
 2. Borax at 5 lb./ac.
 3. Borax at 10 lb./ac.
 4. Borax at 20 lb./ac.
 5. Borax at 30 lb./ac.
- Borax applied at the time of sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 0.5 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1947—1950, the crop failed during 1950. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) Raw data is not available.

5. RESULTS :

- (i) 3626 lb./ac.
 (ii) 208 lb./ac.
 (iii) Treatments do not differ significantly.
 (iv) Av. yield of potato in lb./ac.

Treatment	Av. yield
1.	3480
2.	3651
3.	3583
4.	3480
5.	3937
S.E./mean	= 85.0 lb./ac.

Crop :- Potato (2nd crop).

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

Ref :- M. 49(36).

Type :- 'M'.

Object :- To find out the effect of Borax on the yield of Potato.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Lupin. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 1949. (iv) (a) 2 ploughings. (b) Planting in lines. (c) 2000 lb./ac. (d) 27" x 6". (e) —. (v) 5 ton/ac. of C.M. + 1610 lb./ac. of Nanjanad mixture. (vi) Great scot. (vii) Rainfed. (viii) Weeding and earthing up once. (ix) 18.7". (x) 9.1.50.

2. TREATMENTS :

1. No Borax.
 2. Borax at 5 lb./ac.
 3. Borax at 10 lb./ac.
 4. Borax at 20 lb./ac.
 5. Borax at 30 lb./ac.
 Borax applied at the time of sowing.

3. DESIGN :

- (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 0.5 cent. (v) N.A. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1947—1949. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 5747 lb./ac.
 (ii) 374 lb./ac.
 (iii) Treatments do not differ significantly.
 (iv) Av. yield of potato in lb./ac.

Treatment	Av. yield
1.	5833
2.	5500
3.	5733
4.	5800
5.	5867
S.E./mean	= 152.7 lb./ac.

Crop :- Potato.

Ref :- M. 50 (80).

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

Type :- 'M'.

Object:—To find out the effect of Borax on the yield of Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Rye*. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 21.3.50. (iv) (a) 2 ploughings. (b) planting in lines. (c) 2000 lb./ac. (d) 27"×9". (e) —. (v) 5 ton/ac. of C.M.+1610 lb./ac. of *Nanjanad mixture* at the time of planting. (vi) Great scot. (vii) Rainfed. (viii) Weeding and earthing once. (ix) 28.8". (x) 2.8.50.

2. TREATMENTS :

1. No Borax.
 2. Borax at 5 lb./ac.
 3. Borax at 10 lb./ac.
 4. Borax at 20 lb./ac.
 5. Borax at 30 lb./ac.
- Borax applied at the time of sowing mixing with the soil.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 0.5 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1947—1950. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Nil.

5. RESULTS :

- (i) 12627 lb./ac.
- (ii) 1813 lb./ac.
- (iii) Treatments do not differ significantly.
- (iv) Av. yield of Potato in lb./ac.

Treatment	Av. yield
1.	12367
2.	13300
3.	13367
4.	12367
5.	11733
S.E./mean	=740 lb./ac.

Crop :- Potato (2nd Crop).

Ref :- M. 50(75).

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

Type :- 'M'.

Object:—To find out the effect of mulching on the yield of Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Lupin G.M. crop*. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 2.10.50. (iv) (a) 2 ploughings; forming ridges and furrows. (b) Planting in lines. (c) 2000 lb./ac. (d) 27"×9". (e) —. (v) 5 ton/ac. of C.M. broadcast and covered+1610 lb./ac. of *Nanjanad mixture* at the time of planting. (vi) Great scot. (vii) Rainfed. (viii) Weeding and hoeing once; earthing up once. (ix) 14.00". (x) 27.1.51.

2. TREATMENTS :

1. No mulching.
 2. *Sanai* straw mulched at 1250 lb./ac.
 3. *Sanai* straw mulched at 2500 lb./ac.
 4. *Sanai* straw mulched at 8000 lb./ac.
 5. *Sanai* straw mulched at 10,000 lb./ac.
- Mulched 20 days before sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1.0 cent (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1950—1953. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 5245 lb./ac.
 (ii) 548 lb./ac.
 (iii) Treatments differ highly significantly.
 (iv) Av. yield of potato in lb./ac.

Treatment	Av. yield
1.	5625
2.	4150
3.	5100
4.	5825
5.	5525
S.E./mean	= 274 lb./ac.

Crop :- Potato (main crop).

Ref :- M. 51(47).

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

Type :- 'M'.

Object :—To find out if mulching the land under the crop with dried vegetable refuse, has any beneficial effect on the yield of Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Lupin. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 30.3.51.
 (iv) (a) 3 ploughings; clods breaking by *guddalies*. Open furrows and ridges with ridge plough. (b) Planting in lines. (c) 2000 lb./ac. (d) 27'×9". (e) —. (v) 5 ton/ac. of C.M. broadcast and covered Nanjanad mixture 1610 lb./ac. applied at planting. (vi) Great scot (early). (vii) Rainfed. (viii) One weeding and hoeing and earthing up once. (ix) 35.6". (x) 2.8.51.

2. TREATMENTS :

- No mulching.
 - Mulching at 1250 lb./ac.
 - Mulching at 2500 lb./ac.
 - Mulching at 8,000 lb./ac.
 - Mulching at 10,000 lb./ac.
- Mulching done about 20 days before sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) and (b) 1.0 cent (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1951-1953. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 9115 lb./ac.
 (ii) 1290 lb./ac.
 (iii) Treatments differ highly significantly.
 (iv) Av. yield of potato in lb./ac.

Treatment	Av. yield
1.	14100
2.	4825
3.	6475
4.	9025
5.	11150
S.E./mean	= 645 lb./ac.

Crop :- Potato

Ref :- M. 51(51).

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

Type :- 'M'.

Object :- To find out the effect of mulching on the yield of potato.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 1.3.51.
 (iv) (a) 2 ploughings. (b) Planting in lines. (c) 2000 lb./ac. (d) 27" x 9". (e) —. (v) 5 ton/ac. of C.M.+1610 lb./ac. of *Nanjanad mixture*. (vi) Great scot. (vii) Irrigated. (viii) Weeding and earthing up once. (ix) 10.2". (x) 19.6.51.

2. TREATMENTS :

1. No mulching.
 2. *Sanai* straw mulched at 1250 lb./ac.
 3. *Sanai* straw mulched at 2500 lb./ac.
 4. *Sanai* straw mulched at 8000 lb./ac.
 5. *Sanai* straw mulched at 10,000 lb./ac.
- Mulching done 20 days before sowing.

3. DESIGN :

- (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 0.5 cent. (v) N.A. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1951-1953. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. GENERAL :

- (i) 5470 lb./ac.
 (ii) 1271 lb./ac.
 (iii) Treatments differ significantly.
 (iv) Av. yield of potato in lb./ac.

Treatment	Av. yield
1.	4700
2.	4900
3.	4400
4.	6150
5.	7200
S.E./mean	= 636 lb./ac.

Crop :- Potato (2nd crop).

Ref :- M. 51(62).

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

Type :- 'M'.

Object :- To study the effect of mulching on the yield of Potato crop.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Rye. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 14.8.51. (iv) (a) 2 ploughings. (b) Line planting. (c) 2000 lb./ac. (d) 27" x 6". (e) —. (v) 5 ton/ac. of C.M.+1610 *Nanjanad mixture* applied at the time of planting. (vi) Great scot. (vii) Rainfed. (viii) Weeding and earthing up once. (ix) 14.6". (x) 19.1.52.

2. TREATMENTS :

2. No mulching.
 2. Mulching *Sanai* leaf at 1250 lb./ac.
 3. Mulching *Sanai* leaf at 2500 lb./ac.
 4. Mulching *Sanai* leaf at 8000 lb./ac.
 5. Mulching *Sanai* leaf at 10000 lb./ac.
- Mulching is done about 20 days before sowing.

3. DESIGN :

- (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1.0 cent. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1950-1953. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 2845 lb./ac.

(ii) 399 lb./ac.

(iii) The treatments differ highly significantly.

(iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	1700
2.	1950
3.	2750
4.	3725
5.	4100
S.E./mean	= 200 lb./ac.

Crop :- Potato (main crop).

Ref :- M. 52(8).

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

Type :- M.

Object :- To find out if mulching the land under the crop with dried vegetable refuse, such as *Sahai* straw, has any beneficial effect on the yield of tubers.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Trial crops. (c) 5 ton/ac. of C.M. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 8.4.1952. (iv) (a) 2 preliminary ploughings and breaking clods by hand. Third ploughing is done after applying F.Y.M. (b) Sowing in furrows. (c) 256 tubers/plot. (d) 24" x 9". (e) —. (v) 5 ton/ac. of C.M. broadcast and covered by *victory* plough at the third ploughing. (vi) Great scot (medium). (vii) Unirrigated. (viii) 1 weeding after 30 days; 2 earthings after 40 and 60 days respectively from the date of planting. (ix) 13.66". (x) 20.8.1952.

2. TREATMENTS:

1. Unmulched.
2. Mulching at 1250 lb./ac.
3. Mulching at 2500 lb./ac.
4. Mulching at 8000 lb./ac.
5. Mulching at 10000 lb./ac.

3. DESIGN:

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 1.0 cent. (b) 0.5 cent. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1951-1953. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) 4 months dormant seed used for sowing.

5. RESULTS:

(i) 13355 lb./ac.

(ii) 2836 lb./ac.

(iii) Treatment differences are significant.

(iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	9500
2.	10600
3.	10375
4.	17450
5.	18850
S.E./mean	= 1418 lb./ac.

Crop :- Potato (2nd crop).

Ref :- M. 52 (9).

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

Type :- 'M'.

Object :- To find out if mulching the land under the crop with dried vegetable refuse such as *Sanai* straw, has any beneficial effect on the yield of tubers second crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Sanai*. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 18.8.1952. (iv) (a) 2 preliminary ploughings and breaking clods by hand. Third ploughing after applying F.Y.M. (b) Sowing in furrows. (c) —. (d) 24" x 9". (e) —. (v) 5 ton/ac. C.M. broadcast and covered with *victory* plough at the third ploughing. (vi) Great scot (medium). (vii) Unirrigated. (viii) One weeding after 30 days; 2 earthings after 40 and 60 days, respectively from the date of planting. (ix) 20.83". (x) 16.12.1952.

2. TREATMENTS :

1. Unmulched (control).
2. Mulching at 1250 lb./ac.
3. Mulching at 2500 lb./ac.
4. Mulching at 8000 lb./ac.
5. Mulching at 10,000 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 1.0 cent. (b) 0.5 cent. (v) Yes. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1950—1953. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) 4 months dormented seed used for sowing.

5. RESULTS :

- (i) 10230 lb./ac.
 (ii) 2576 lb./ac.
 (iii) Treatments do not differ significantly.
 (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	9875
2.	9875
3.	10325
4.	10400
5.	10675
S.E./mean	= 1288 lb./ac.

Crop :- Potato (2nd crop).

Ref :- M. 53 (38).

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

Type :- 'M'.

Object :- To find out if mulching the land under the crop with dried vegetable refuse such as *Sanai* straw had any beneficial effect on the yield of tubers.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Lupin for G.M. crop. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 29.8.1953. (iv) (a) 2 preliminary ploughings and breaking clods by hand. Third ploughing done after applying F.Y.M. (b) Sown in furrows. (c) 256 plants/plot. (d) —. (e) N.A. (v) 5 ton/ac. of C.M. broadcast and covered by *victory* plough at the third ploughing. (vi) Great scot. (vii) Unirrigated. (viii) One weeding after 30 days, 2 earthings after 40 and 60 days respectively from the date of planting. (ix) 22.92". (x) 11.12.1953.

2. TREATMENTS :

1. Unmulched (control).
2. Mulching at 1250 lb./ac.
3. Mulching at 2500 lb./ac.
4. Mulching at 8000 lb./ac.
5. Mulching at 10000 lb./ac.

3. DESIGN:

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 1.0 cent. (b) 0.5 cent. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1950—1953. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) In the absence of availability of *Sanal* straw the stems of a reed (*Juncus glaucus*). Commonly growing in swamps, were used. 4 months dormented seed used for sowing.

5. RESULTS:

(i) 9995 lb./ac. (ii) 1970 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	11,125
2.	10,200
3.	9,800
4.	9,300
5.	9,550
S.E./mean	= 985 lb./ac.

Crop :- Potato (main crop).

Ref :- M. 53(40).

Site :- Agri. Res. Str., Nanjanad.

Type :- 'M'.

Object :- To find out if mulching the land under the crop with dried vegetable refuse, such as *sanal* straw, has any beneficial effect on the yield of tubers.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Rye for Ergot production. (c) No manuring. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 30.3.1953. (iv) (a) 2 preliminary ploughings and breaking clods by hand—third ploughing with F.Y.M. (b) Sowing in furrows. (c) 256 tubers/plot. (d) 24" x 9". (e) N.A. (v) 5 ton/ac. of C.M. broadcast and covered by *victory* plough at the third ploughing. (vi) Great scot (medium). (vii) Irrigated. (viii) One weeding normally after 30 days ; 2 earthings after 45 and 60 days respectively from the date of planting. (ix) 49.09". (x) 7.9.1953.

2. TREATMENTS :

1. Unmulched (control).
 2. Mulching at 1250 lb./ac.
 3. Mulching at 2500 lb./ac.
 4. Mulching at 8000 lb./ac.
 5. Mulching at 10,000 lb./ac.
- Mulching with vegetable refuse.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 1.0 cent. (b) 0.5 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1951—1953. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) 4 months dormented seed used for sowing.

5. RESULTS :

(i) 10610 lb./ac. (ii) 4086 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	9100
2.	9425
3.	9350
4.	12725
5.	12450
S.E./mean	= 2043 lb./ac.

Crop :- Potato

Ref :- M. 53(41).

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

Type :- 'M'.

Object :—To find out if mulching the land under the crop with dried vegetable refuse, such as *sanai* straw, has any beneficial effect on the yield of tubers.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Vegetables. (c) C.M. 5 ton/ac. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 3.2.1953. (iv) (a) 2 preliminary ploughings and breaking clods by hand. Third ploughing after applying F.Y.M. (b) Sown in furrows. (c) 256 tubers/plot. (d) 24"×9". (e) N.A. (v) 5 ton/ac. of C.M. broadcast and covered by *victory* plough at the third ploughing. (vi) Great Scot (medium). (vii) Irrigated. (viii) One weeding normally after 34 days ; 2 earthings after 40 and 60 days respectively from the date of planting. (ix) 12.18". (x) 8.6.1953.

2. TREATMENTS :

1. Unmulched.
2. Mulching at 1250 lb./ac.
3. Mulching at 2500 lb./ac.
4. Mulching at 8000 lb./ac.
5. Mulching at 10000 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 1.0 cent. (b) 0.5 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1951—1953. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) 4 months dormented seed used for sowing.

5. RESULTS :

- (i) 13360 lb./ac.
 (ii) 1272 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	11400
2.	12550
3.	13000
4.	15200
5.	14650
S.E./mean	= 636 lb./ac.

Crop :- Potato (main crop).

Ref :- M. 48(44).

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

Type :- 'M'.

Object :—To find out the effect of lime on the yield of Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Sanai*. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 8.4.48. (iv) (a) 2 ploughings. (b) Planting in lines. (c) 2000 lb./ac. (d) 27"×6". (e) N.A. (v) 5 ton/ac. of C.M.+ 1610 lb./ac. of Nanjanad Mixture. (vi) Great scot. (vii) 'Rainfed. (viii) Weeding and earthing up once. (ix) 53.33". (x) 1.10.48.

2. TREATMENTS :

1. No Lime.
2. Lime at 5 cwt./ac.
3. Lime at 10 cwt./ac.
4. Lime at 15 cwt./ac.
5. Lime at 20 cwt./ac.

Lime applied to the soil about 3 weeks before sowing.

3. DESIGN: (i) R.B.D. (ii) (a) 5, (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1.0 cent. (v) N.A. (vi) Yes.

4. GENERAL: (i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1947-1949. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) & (vii) Nil.

5. RESULTS: (i) 16,128 lb./ac. (ii) 4272 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	17225
2.	16200
3.	16350
4.	15729
5.	15138
S.E./mean	= 2136 lb./ac.

Crop :- Potato Ref :- M_u 48(42)
 Site :- Agri. Res. Stn., Nanjanad. Type :- 'M'

Object :- To find out the effect of lime on the yield Potato.

1. BASAL CONDITIONS: (i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 22.1.48. (iv) (a) 2 ploughings. (b) Planting in lines. (c) 2000 lb./ac. (d) 27" x 6". (e) N.A. (v) 5 ton/ac. of C.M. + 1610 lb./ac. Nanjanad mixture. (vi) Great scot. (vii) Irrigated. (viii) Weeding and earthing up once. (ix) 13.2". (x) 25.5.48.

2. TREATMENTS:
 1. No lime.
 2. Lime at 5 cwt/ac.
 3. Lime at 10 cwt/ac.
 4. Lime at 15 cwt/ac.
 5. Lime at 20 cwt/ac.
 Lime applied to the soil about 3 weeks before sowing.

3. DESIGN: (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1.0 cent. (v) N.A. (vi) Yes.

4. GENERAL: (i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1947-1949. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS: (i) 8730 lb./ac. (ii) 3016 lb./ac. (iii) Treatments do not differ significantly. (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	8500
2.	9500
3.	7775
4.	8025
5.	9850
S.E./mean	= 1508 lb./ac.

Crop :- Potato (2nd crop).

Ref :- M. 48(43).

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

Type :- 'M'.

Object :- To find out the effect of lime on the yield of Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Lupin. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 9.9.48. (iv) (a) 2 ploughings. (b) Planting in lines. (c) 2000 lb./ac. (d) 27"×6". (e) —. (v) 5 ton/ac. of C.M.+1610 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Rainfed. (viii) Weeding and earthing up once. (ix) 20.56%. (x) 6.1.49.

2. TREATMENTS :

1. No lime.
2. Lime at 5 cwt/ac.
3. Lime at 10 cwt/ac.
4. Lime at 15 cwt/ac.
5. Lime at 20 cwt/ac.

Lime applied to the soil about 3 weeks before sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1.0 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1947-1949. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 14744 lb./ac.
- (ii) 3666 lb./ac.
- (iii) Treatments do not differ significantly.
- (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	14620
2.	15213
3.	14550
4.	14838
5.	14500
S.E./mean	= 1833 lb./ac.

Crop :- Potato (main crop).

Ref :- M. 49(50).

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

Type :- 'M'.

Object :- To find out the effect of lime on the yield of Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Sanai*. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 8.4.49. (iv) (a) 2 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 27"×6". (e) N.A. (v) 5 ton/ac. of C.M.+1610 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Rainfed. (viii) Weeding and earthing up once. (ix) 28.40%. (x) 20.8.49.

2. TREATMENTS :

1. No lime.
2. Lime at 5 cwt/ac.
3. Lime at 10 cwt/ac.
4. Lime at 15 cwt/ac.
5. Lime at 20 cwt/ac.

Lime applied to the soil 3 weeks before sowing.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1.0 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1947-1949. (b) Nil. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 19890 lb./ac.
 (ii) 2221 lb./ac.
 (iii) Treatments do not differ significantly.
 (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	21975
2.	19925
3.	19400
4.	18525
5.	19625
S.E./mean	= 1110 lb./ac.

Crop :- Potato

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

Ref :- M. 49(49).

Type :- 'M'

Object :- To find out the effect of lime on the yield of Potato.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Lupin. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 11.2.49.
 (iv) (a) 2 ploughings. (b) N.A. (c) 2000 lb./ac. (d) 27" x 6". (e) N.A. (v) 5 ton/ac. of C.M. + 1610 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Irrigated. (viii) Weeding and earthing up once. (ix) 14.59".
 (ix) 7.6.49.

2. TREATMENTS :

1. No lime.
 2. Lime at 5 cwt/ac.
 3. Lime at 10 cwt/ac.
 4. Lime at 15 cwt/ac.
 5. Lime at 20 cwt/ac.

Applied to the soil 3 weeks before sowing.

3. DESIGN :

- (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1.0 cent. (v) N.A. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1947—1949. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 3297 lb./ac.
 (ii) 1234.6 lb./ac.
 (iii) Treatments do not differ significantly.
 (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	4569
2.	3175
3.	3181
4.	1912
5.	2650
S.E./mean	= 617.3 lb./ac.

* Nanjanad Mixture :

500 lb./ac. of G.N.C. + 350 lb./ac. of B.M. + 336 lb./ac. of Super +
 224 lb./ac. of Pot. Sul. + 200 lb./ac. of A/S.

Crop :- Potato (2nd Crop).

Ref :- M. 49(51).

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

Type :- 'M'.

Object :-To find out the effect of lime on the yield of Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Lupin. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 29.9.49. (iv) (a) 2 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 27" x 6". (e) N.A. (v) 5 ton/ac. of C.M.+1610 lb./ac. of *Nanjanad mixture*. (vi) Great Scot. (vii) Rainfed. (viii) Weeding and earthing up once. (ix) 17.55". (x) 10.1.50.

2. TREATMENTS :

1. No lime.
2. Lime at 5 cwt/ac.
3. Lime at 10 cwt/ac.
4. Lime at 15 cwt/ac.
5. Lime at 20 cwt/ac.

Applied to the soil 3 weeks before sowing.

3. DESIGN :

(i) (a) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1.0 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1947—1949. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 6305 lb./ac.
- (ii) 854.7 lb./ac.
- (iii) Treatments do not differ significantly.
- (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	6125
2.	6175
3.	6450
4.	6375
5.	6400
S.E./mean	= 427.4 lb./ac.

Crop :- Potato (2nd crop).

Ref :- 50(68).

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

Type :- 'M'.

Object :-To study the application of lime on the yield of Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Lupin. (c) As under treatments. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 4.10.50. (iv) (a) 2 ploughings. (b) N.A. (c) 2000 lb./ac. (d) 27" x 9". (e) N.A. (v) 1610 lb./ac. of *Nanjanad mixture*. (vi) Great Scot. (vii) Unirrigated. (viii) Weeding and earthing up once. (ix) 14.6". (x) 7.2.51.

2. TREATMENTS :

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

(1) 3 levels of slaked lime : $L_1=1$, $L_2=2$ & $L_3=4$ ton/ac.

(2) 3 methods of application of lime :

M_1 =broadcast 4 weeks before planting, M_2 =applied in two bands 4" deep on either side of the ridges, 4 weeks before planting. M_3 =applied to previous G.M. crop Lupin followed by Potato.

and 2 extra treatments are : T_1 =No lime on G.M., T_2 =Lupin ; G.M. applied (amount N.A.)

3. DESIGN :

(i) R.B.D. (ii) (a) 11. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1.0 cent (dimensions N.A.) (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of tuber. (iv) (a) 1950-1952. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 5880 lb./ac.
 (ii) 720.0 lb./ac.
 (iii) None of the effects is significant.
 (iv) Av. yield of tuber in lb./ac.

T_1 = 5400 lb./ac.
 T_2 = 6075 lb./ac.
 S.E./mean = 360.0 lb./ac.

	M_1	M_2	M_3	Mean
L_1	6300	6150	6250	6233
L_2	6100	5525	6000	5875
L_3	6025	5200	5650	5625
Mean	6142	5625	5967	5911

S.E. of any marginal mean = 207.9 lb./ac.
 S.E. of body of table = 360.0 lb./ac.

Crop :- Potato (2nd crop).

Ref :- M. 51(61).

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

Type :- 'M'.

Object :- To find the effect of lime on the yield of Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Lupin. (c) As under treatments. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 20.9.51. (iv) (a) 2 ploughings. (b) N.A. (c) 2000 lb./ac. (d) 27" x 9". (e) N.A. (v) 1610 lb./ac. of Nanjanad mixture at the time of planting. (vi) Great Scot. (vii) Rainfed. (viii) Weeding and earthing up once. (ix) 14.6" (x) 2.2.52.

2. TREATMENTS :

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

(1) 3 levels of slaked lime : $L_1=1$, $L_2=2$ and $L_3=4$ ton/ac.

(2) 3 methods of application of Lime : M_1 =broadcast 4 weeks before planting, M_2 =applied in 2 bands, 4" deep on either side of the ridges 4 weeks before planting and M_3 =broadcast to previous G.M. (Lupin) crop.

Extra treatments are :

T_1 =Control (no lime).

T_2 =No lime to previous Lupin G.M. crop.

3. DESIGN :

(i) R.B.D. (ii) (a) 11. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1.0 cent. (dimensions N.A.) (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1950-1952. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 3941 lb./ac.
 (ii) 506 lb./ac.
 (iii) None of the effects is significant.

(iv) Av. yield of tuber in lb./ac.

$T_1=3725$ lb./ac.
 $T_2=3250$ lb./ac.
 S.E./mean= 253.0 lb./ac.

	M_1	M_2	M_3	Mean
L_1	4125	3750	3800	3892
L_2	3750	4150	4025	3975
L_3	4425	3800	4550	4258
Mean	4100	3900	4125	4042

S.E. of marginal mean of L or M=146.1 lb./ac.
 S.E. of body of table =253.0 lb./ac.

Crop :- Potato (main crop).

Ref :- M. 51(56).

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

Type :- 'M'.

Object :- To find out the effect of lime on the yield of Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Lupin. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 21.4.51.
 (iv) (a) 2 ploughings. (b) Planting in lines along furrows. (c) 2000 lb./ac. (d) $27'' \times 9''$. (e) N.A.
 (v) 5 ton/ac. of C.M.+1610 lb./ac. of Nanjanad mixture applied at the time of planting. (vi) Great Scot.
 (vii) Rainfed. (viii) Weeding and earthing up once. (ix) $28.8''$ (x) 13.10.51.

2. TREATMENTS :

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

(1) 3 levels of slaked lime : $L_1=1$, $L_2=2$ and $L_3=4$ ton/ac.
 (2) 2 methods of application of lime : M_1 =broadcast 4 weeks before planting and M_2 =applied in 2 bands 4" deep on either side of ridges 4 weeks before planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 0.75 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1950-1952. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 13,767 lb./ac.

(ii) 2,053 lb./ac.

(iii) None of the effects is significant.

(iv) Av. yield of tuber in lb./ac.

Control=13667 lb./ac.

	L_1	L_2	L_3	Mean
M_1	13300	14700	14800	14267
M_2	13733	12500	13667	13300
Mean	13517	13600	14234	13784

S.E. of marginal mean of L = 726.0 lb./ac.
 S.E. of marginal mean of M = 593.0 lb./ac.
 S.E. of the body of table = 1027.0 lb./ac.

Crop :- Potato.

Ref :- M. 52(4).

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

Type :- 'M'.

Object :—To try the possibilities of using calcium carbonate slurry as an amendment for the acid soil and to test the relative value of the product against slaked lime on equal calcium oxide basis.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) *Ragi*. (c) C.M. 5 ton/ac. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 13.8.52. (iv) (a) 2 ploughings. (b) Sown in furrows. (c) —. (d) 2' x 9". (e) N.A. (v) Nil. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Weeding one month after planting. Earthing up twice—45 and 60 days after planting. (ix) 22.48". (x) 18.12.52.

2. TREATMENTS :

Main-plot treatments :—

2 levels of G.L. : G_0 = No G.L. and G_1 = G.L. at 5000 lb./ac.

Sub-plot treatments :—

5 treatments : T_1 = Control (Nanjanad mixture). T_2 = Nanjanad mixture + 1500 lb./ac. of slaked lime. T_3 = Nanjanad mixture + Calcium Carbonate slurry to supply equivalent amount of CaO. as in 1500 lb./ac. of slaked lime. T_4 = Nanjanad mixture + 3000 lb./ac. of slaked lime. T_5 = Nanjanad mixture + Calcium Carbonate slurry to supply equivalent amount of CaO. as in 3000 lb./ac. of slaked lime.

3. DESIGN :

- (i) Split plot. (ii) (a) 2 main-plots/block and 5 sub-plots/main-plot. (b) N.A. (iii) 5. (iv) (a) 1.0 cent (b) 0.5 cent. (v) N.A. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1952—1953. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) 4 months dormented seed used.

5. RESULTS :

- (i) 7626 lb./ac.
 (ii) (a) 2186 lb./ac.
 (b) 978 lb./ac.
 (iii) None of the effects is significant.
 (iv) Av. yield of tuber in lb./ac.

	T_1	T_2	T_3	T_4	T_5	Mean
G_0	7180	7840	7820	7260	7700	7560
G_1	8340	7960	7060	7420	7680	7692
Mean	7760	7900	7440	7340	7690	7626

S.E. of difference of two

1. main-plot treatment means = 792 lb./ac.
 2. sub-plot treatment means = 434 lb./ac.
 3. sub-plot treatment means at the same level of main-plot treatment = 620 lb./ac.
 4. main-plot treatment means at the same level of sub-plot treatment = 824 lb./ac.

Crop :- Potato.

Ref :- M. 53(48).

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

Type :- 'M'.

Object :— To test the relative value of the calcium carbonate sludge(slurry) against slaked lime on equal calcium oxide basis.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Potato. (c) Same experiment was in these fields. (ii) (a) Laterite soil. (b) Refer soil analysis. Nanjanad. (iii) 26.3.1953. (iv) (a) 2 ploughings. (b) Sown in furrows. (c) N.A. (d) 2' x 9". (e) N.A. (v) Nil. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Weeding after one month of planting ; 2 earthings after 45, 60 days respectively. (ix) 12.18". (x) 19.8.53.

2. TREATMENTS:

Main-plot treatments :-

2 levels of G.L. : G_0 =No. G.L. and G_1 =5000 lb./ac. of G.L.

Sub-plot treatments :-

- 7 treatments : T_1 =Nanjanad mixture,
 T_2 =Nanjanad mixture +1500 lb./ac. of lime.
 T_3 =Nanjanad mixture +1500 lb./ac. of slurry.
 T_4 =Nanjanad mixture +3000 lb./ac. of slaked lime.
 T_5 =Nanjanad mixture +3000 lb./ac. of slurry.

3. DESIGN :

- (i) Split plot. (ii) (a) 2 main-plots/block ; 5 sub-plots/main plot. (b) N.A. (iii) 5. (iv) (a) 1.0 cent. (b) 0.5 cent. (v) N.A. (vi) Yes.

4. GENERAL ;

- (i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1952-1953. (b) Yes, (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) 4 month dormented seeds used.

5. RESULTS :

- (i) 12300 lb./ac.
 (ii) (a) 2700 lb./ac. (b) 1300 lb./ac.
 (iii) None of the effects is significant.
 (iv) Av. yield of tuber in lb./ac.

	T_1	T_2	T_3	T_4	T_5	Mean
G_0	11360	12960	13240	11800	11920	12256
G_1	12120	13560	11560	11800	12680	12344
Mean	11740	13260	12400	11800	12300	12300

S.E. of difference of two

1. main-plot treatment means = 763.0 lb./ac.
 2. sub-plot treatment means = 581.0 lb./ac.
 4. sub-plot treatment means at the same level of main-plot treatment = 821.8 lb./ac.
 4. main-plot treatment means at the same level of sub-plot treatment = 1061.2 lb./ac.

Crop :- Potato.

Ref.:- M. 52(11).

Site :- Agri. Res. Stn. Nanjanad.

Type :- 'M'.

Object :- To test the relative efficiency of three forms of Nitrogen on growth and yield of Potato crop.

1. BASAL CONDITIONS :

- (i) Nil. (b) *Sanai*. (c) 5 ton/ac. of C.M. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 6.5.52.
 (iv) (a) 3 ploughings. (b) Sown in furrows. (c) N.A. (d) 24" x 9". (e) N.A. (v) Nil. (vi) Great Scot (medium).
 (vii) Unirrigated. (viii) Weeding one month after planting ; earthing up after 45 and 60 days respectively.
 (ix) 10.67%. (x) 6.9.52.

2. TREATMENTS :

Main-plot treatments :-

All combinations of (1) and (2)

- (1) 2 levels of G.L. : G_0 =0 and G_1 =5000 lb./ac.
 (2) 2 levels of lime : L_0 =0 and L_1 =1500 lb./ac.

Sub-plot treatments :-

- 4 treatments : B_1 =C/N at 80 lb./ac. of N+(P_2O_5 + K_2O of Nanjanad mixture), B_2 =Urea at 80 lb./ac. of N+(P_2O_5 + K_2O of Nanjanad mixture), B_3 =A/S at 80 lb./ac. of N+(P_2O_5 + K_2O of Nanjanad mixture) and B_4 =Control (Nanjanad mixture only).

3. DESIGN :

(i) Split plot. (ii) (a) 4 main-plots/block ; and 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 0.5 cent. (b) 0.25 cent. (vi) N.A. (vii) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1952—1954. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) 4 months dormented seed used.

5. RESULTS :

- (i) 15984 lb./ac.
 (ii) (a) 4140 lb./ac.
 (b) 1652 lb./ac.
 (iii) Main-plot treatments do not differ significantly; sub-plot treatments differ highly significantly. Interaction is not significant.
 (iv) Av. yield of tuber in lb./ac.

	G ₀ L ₀	G ₁ L ₀	G ₀ L ₁	G ₁ L ₁	Mean
B ₁	15650	16500	15500	14850	15625
B ₂	15450	17400	16400	16050	16325
B ₃	13750	14800	14850	15700	14775
B ₄	16100	18800	17250	16700	17212
Mean	15238	16876	16000	15826	15984

S.E. of the difference of two

1. main-plot treatment means = 1464 lb./ac.
 2. sub-plot treatment means = 584 lb./ac.
 3. sub-plot treatment means at the same level of main-plot treatment = 1168 lb./ac.
 4. main-plot treatment means at the same level of sub-plot treatment = 1780 lb./ac.

Crop :- Potato.

Ref :- M. 53(47)/52(11).

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

Type :- 'M'.

Object :- To find the effect of three forms of N on growth and yield of Potato crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Potato. (c) Same experiment was in these plots. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 20.3.53. (iv) (a) 3 ploughing. (b) Sown in furrows. (c).— (d) 24" × 9". (e) N.A. (v) Nil. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Weeding one month after planting, earthing up after 45 and 60 days. (ix) 53.62". (x) 21.9.53.

2. TREATMENTS :

Main-plot treatments :-

All combinations of (1) and (2)

(1) 2 levels of G.L. : G₀=0 and G₁=5000 lb./ac.

(2) 2 levels of lime : L₀=0 and L₁=1500 lb./ac.

Sub-plot treatments :-

4 treatments : B₁=C/N at 80 lb./ac. of N+(P₂O₅+K₂O of Nanjanad mixture). B₂=Urea at 80 lb./ac. of N+P₂O₅+K₂O of Nanjanad mixture, B₃=A/S at 80 lb./ac. of N+(P₂O₅+K₂O of Nanjanad +mixture) and B₄=Control (Nanjanad mixture only).

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plot/block ; and 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 0.5 cent. (b) 0.25 cent. (v) Yes. Details N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight (iv) (a) 1952—1954. (b) Yes. (c) N.A. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) 4 months dormented seed used.

5. RESULTS :

- (i) 14044 lb./ac.
 (ii) (a) 684 lb./ac.
 (b) 1060 lb./ac.
 (iii) Main plot treatments and sub-plot treatments differ highly significantly. Interaction is also highly significant.
 (iv) Av. yield of tuber in lb./ac.

	G ₀ L ₀	G ₁ L ₀	G ₀ L ₁	G ₁ L ₁	Mean
B ₁	13000	12200	14200	12400	12950
B ₂	13100	14800	16500	14000	14600
B ₃	14200	13200	14500	16200	14525
B ₄	12100	13400	15500	15400	14100
Mean	13100	13400	15175	14500	

S.E. of difference of two

1. main-plot treatment means = 241.6 lb./ac.
2. sub-plot treatment means = 374.8 lb./ac.
3. sub-plot treatment means at the same level of main-plot treatment = 749.6 lb./ac.
4. main-plot treatment means at the same level of sub-plot treatment = 692.7 lb./ac.

Crop :- Potato.

Ref :- M. 52(6).

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

Type :- 'M'.

Object :- To determine the optimum doses of N and P₂O₅ for Potato crop.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) *Sana*. (c) 5 ton/ac. of C.M. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad.
 (iii) 8.5.52. (iv) (a) Two ploughings. Third ploughing done with application of G.L. (b) Sown in furrows. (c) N.A. (d) 24" x 9". (e) N.A. (v) 1500 lb./ac. of slaked lime applied 3 weeks in advance of planting and 5000 lb./ac. of G.L. incorporated, 10 days before planting. (vi) Great Scot (Medium). (vii) Unirrigated. (viii) Weeding one month after planting and earthing up 45 & 60 days after planting. (ix) 10.76". (x) 11.9.52.

2. TREATMENTS :

All combinations of (1) and (2) + a Control (Nanjanad mixture only).

(1) 4 levels of N : N₁=60, N₂=80, N₃=100 and N₄=120 lb./ac.(2) 6 levels of P₂O₅ : P₁=30, P₂=60, P₃=120, P₄=180, P₅=200 and P₆=240 lb./ac.N as A/S and P₂O₅ as Super. All treatments except control received 100 lb./ac. of K₂O.

3. DESIGN :

- (i) R.B.D. (ii) (a) 25. (b) N.A. (iii) 4. (iv) (a) 0.5 cent. (b) 0.25 cent. (v) Yes. Details N.A. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1952-1953. (b) Yes. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) 4 months dormanted seed used. Plat wise yield data N.A.

5. RESULTS :

- (i) 18,831 lb./ac.
 (ii) N.A.
 (iii) N.A.

(iv) Av. yield of tuber in lb./ac.

	Control = 20,100 lb./ac.				Mean
	N ₁	N ₂	N ₃	N ₄	
P ₁	15100	16000	18050	14850	16000
P ₂	16600	18400	20980	18500	18620
P ₃	15650	20700	20450	19850	19162
P ₄	18850	17800	18800	20700	19038
P ₅	21250	17700	18650	21450	19763
P ₆	21200	21550	18500	19100	20088
Mean	18108	18692	19238	19075	18778

S.E. N.A.

Crop :- Potato.

Ref :- M. 53(42).

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

Type :- 'M'.

Object :- To determine the optimum doses of N & P₂O₅ for Potato yield.

- BASAL CONDITIONS :**
 - (a) Nil. (b) Potato. (c) As under treatments. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 28.3.53. (iv) (a) Two ploughings. (b) Sown in furrows. (c) N.A. (d) 24" x 9". (e) N.A. (v) 1500 lb./ac. of slaked lime + 5000 lb./ac. of G.L. incorporated 10 days before planting. (vi) Great Scot (vii) Unirrigated. (viii) Weeding one month after planting and earthing up 45 & 60 days after planting. (ix) 56.07". (x) 23, 24.9.53.
- TREATMENTS :**

All combinations of (1) and (2) + a Control (Nanjanad mixture only).

 - (1) 4 levels of N : N₁=90, N₂=80, N₃=100 and N₄=120 lb./ac.
 - (2) 6 levels of P₂O₅ : P₁=30, P₂=60, P₃=120, P₄=180, P₅=200 and P₆=240 lb./ac.

N as A/S and P₂O₅ as Super. All the plots received 100 lb./ac. of K₂O as Pot. Sul. except control.
- DESIGN :**
 - R.B.D. (ii) (a) 25. (b) N.A. (iii) 4. (iv) (a) 0.5 cent. (b) 0.25 cent. (v) Yes. (vi) Yes.
- GENERAL :**
 - Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1952-1953. (b) Yes. (c) N.A. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) 4 months dormented seeds used.
- RESULTS :**
 - 10,258 lb./ac.
 - 1156 lb./ac.
 - Main effect of P and Control vs. others are highly significant. N and NP are not significant.
 - Av. yield of tuber in lb./ac.

	Control = 11550 lb./ac.				Mean
	N ₁	N ₂	N ₃	N ₄	
P ₁	8400	7500	8800	8450	8288
P ₂	8100	9500	9250	8700	8887
P ₃	9100	10500	10250	10900	10188
P ₄	11050	11000	11000	10300	10838
P ₅	10350	12100	11500	11250	11312
P ₆	11800	10750	11800	12500	11712
Mean	9800	10433	10433	10350	10204

S.E. of the marginal mean of N = 236.0 lb./ac.
 S.E. of the marginal mean of P = 289.0 lb./ac.
 S.E. of the body of table = 578.0 lb./ac.

Crop :- Potato.

Ref :- M. 53(43).

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

Type :- 'M'.

Object :- To find the effect of application of magnesium on growth and yield of Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Potato. (c) 5 ton/ac. of C.M. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 12.4.53. (iv) (a) 2 ploughings. (b) Sown in furrows. (c) N.A. (d) 4" x 9". (e) N.A. (v) 5000 lb./ac. of G.L. to all treatments. Nanjanad mixture applied to all plots. (vi) Great scot (medium). (vii) Unirrigated. (viii) Weeding done one month after planting—2 earthings were given after 45 and 60 days respectively. (ix) About 55°. (x) 22.9.53.

2. TREATMENTS :

All combinations of (1); (2) and (3) :- $M_0 L_0 + M_0 L_1$ (1) 2 levels of Lime : $L_0=0$ and $L_1=1500$ lb./ac.(2) 3 levels of MgO. as Mg. Sul. : $M_1=10$, $M_2=20$ and $M_3=30$ lb./ac.

(3) 2 methods of application of Mg. Sul. : (a) Applied to soil at planting and (b) Sprayed when one month old.

 $M_0 L_0=0$ and $M_0 L_1=1500$ lb./ac. of Lime alone.

1500 lb./ac. of liming three weeks in advance of planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 14. (b) N.A. (iii) 4. (iv) (a) 0.5 cent. (b) 0.25 cent. Details N.A. (v) Yes. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1953—1954. (b) No. (c) N.A. (v) (a) and (b) Nil! (vi) Nil. (vii) 4 months dormanted seeds used.

5. RESULTS :

(i) 12,425 lb./ac.

(ii) 12,40 lb./ac.

(iii) Main effect of M is significant and interaction $M \times L$ is highly significant. L is not significant

(iv) Av. yield of tuber in lb./ac.

	Mg. Sul. to Soil.				Mg. Sul. Sprayed.			Mean
	M_0	M_1	M_2	M_3	M_1	M_2	M_3	
L_0	12700	12650	11600	12450	12800	13450	12400	12579
L_1	11900	12650	12950	12600	12750	11600	11450	12271
Mean	12300	12650	12275	12525	12775	12525	11925	

S.E. for the marginal mean of M = 439.0 lb./ac.

S.E. for the marginal mean of L = 235.0 lb./ac.

S.E. for the body of table = 620.0 lb./ac.

Crop :- Potato (main crop).

Ref :- M. 50(67).

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

Type :- 'M'.

Object :- To find out the best method of applying P_2O_5 manures.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Rye. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 2.3.50. (iv) (a) 2 ploughings (b) Planting along furrow. (c) 2000 lb./ac. (d) 27" x 9". (e) N.A. (v) Nil. (vi) Great Scot. (early). (vii) Nil. (viii) Weeding once. (ix) 35.5°. (x) 12.10.50.

2. TREATMENTS :

1. Nanjanad mixture along with seed tubers in furrows.

2. Applying Nanjanad mixture with furrows 3" deeper than the seed tubers.

3. Applying only Phosphatic ingredient of Nanjanad mixture 3" deeper in the furrows and the rest as usual.

All the 3 treatments have the same fertilizer.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) & (b) 1.0 cent. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight: (iv) (a) No. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 12,617 lb./ac.

(ii) 1,094 lb./ac.

(iii) Treatments differ highly significantly.

(iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	13500
2.	13317
3.	11033
S.E./mean	= 446.5 lb./ac.

Crop :- Potato (main crop).

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

Ref :- M. 51(49).

Type :- 'M'.

Object :- To find out if the substitution of Super phosphate content of the Nanjanad mixture with Fused phosphate on equivalent P_2O_5 basis, would result in improved yields.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Rye for ergot production. (ii) (a) Laterite soils. (b) Refer soil analysis Nanjanad. (iii) 3.5.51. (iv) (a) 2 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 27" x 9". (e) N.A. (v) Nil. (vi) Great Scot. (vii) Rainfed. (viii) Weeding once, earthing up once. (ix) 34.2". (x) 9.10.51.

2. TREATMENTS :

1. Nanjanad mixture.

2. Same as above but fused phosphate at 642 lb./ac. in place of Super. Mixture applied at the time of planting by placement.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a), (b) 1.0 cent. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) No. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 13604 lb./ac.

(ii) 548 lb./ac.

(iii) The treatment difference is not significant.

(iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	13,400
2.	13,808
S.E./mean	= 158 lb./ac.

Crop :- Potato (2nd crop).
Site :- Agri. Res. Stn., Nanjanad.

Ref :- M. 51(52).

Type :- 'M'.

Object :—To find out if the substitution of the Super phosphate content of the Nanjanad mixture with Fused phosphate on equivalent P_2O_5 basis would result in improved yields.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Rye. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 16.8.51. (iv) (a) 2 ploughings. (b) Planting along furrows. (c) 2000 lb./ac. (d) 27"×9". (e) N.A. (v) Nil. (vi) Great Scot. (vii) Rainfed. (viii) Weeding and earthing up once. (ix) 15.2". (x) 12.1.52.

2. TREATMENTS :

1. Nanjanad mixture at planting.
2. Same as above with Fused phosphate at 642 lb./ac. in place of Super. Applied at the time of planting by placement.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) N.A. (b) 1.0 cent. (v) N.A. (vi) No.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) No. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1925 lb./ac.
(ii) 347 lb./ac.
(iii) The treatments do not differ significantly.
(iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	1808
2.	2042
S.E./mean	= 100 lb./ac.

Crop :- Potato.

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

Ref :- M. 53(31).

Type :- 'M'.

Object :—To find out if the substitution of the Super phosphate content of the Nanjanad mixture with Fused phosphate on equivalent P_2O_5 basis, would result in improved yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Lupin for G.M. crop. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 2.9.53. (iv) (a) 3 ploughings; 3 ploughing done with application of C.M. (b) Sown in furrows. (c) 2000 lb./ac. (d) 24"×9". (e) N.A. (v) 2.5 ton/ac. of C.M. (vi) Great scot (medium). (vii) Unirrigated. (viii) Weeding one month after planting; earthing up twice 45 and 60 days after planting. (ix) 17.32". (x) 12.12.53.

2. TREATMENTS :

1. 80 lb./ac. of N as A/S+20 lb./ac. of P_2O_5 as Super+100 lb./ac. of K_2O as Pot. Sul.
2. 80 lb./ac. of N as A/S+200 lb./ac. of P_2O_5 as Kotka phosphate+100 lb./ac. of K_2O as Pot. Sul.
3. Nanjanad mixture (control)

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 10. (iv) (a) 1.0 cent. (b) 0.5 cent. (v) Yes. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) No. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) 4 months dormented seeds used.

5. RESULTS :

- (i) 10,300 lb./ac.
 (ii) 1006 lb./ac.
 (iii) Treatments do not differ significantly.
 (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	10,440
2.	9,480
3.	10,980
S.E./mean	= 318.12 lb./ac.

Crop :- Potato (main crop).

Ref :- M. 48(28).

Site :- Agri. Res. Stn. Nanjanad.

Type :- 'M'.

Object :—To compare the yields due to planting of mature and immature seeds.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) *Sanai*. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 4.4.48.
 (iv) (a) 2 ploughings. (b) Plantings in furrows. (c) 2000 lb./ac. (d) 27"×6". (e) N.A. (v) 5 ton/ac. of C.M.+1610 lb./ac. of Nanjanad mixture. (vi) Great Scot (early). (vii) No. (viii) Weeding and earthing up once. (ix) 52.25". (x) 8.10.48.

2. TREATMENTS :

1. Planting mature seeds (from harvesting the crop after 120 days).
 2. Planting immature seeds (from harvesting the crop after 90 days).

3. DESIGN :

- (i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) N.A. (b) 0.5 cent. (v) N.A. (vi) No.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1948-1951. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS :

- (i) 16,318 lb./ac.
 (ii) 1631.5 lb./ac.
 (iii) The difference due to two treatments is not significant.
 (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	15917
2.	16718
S.E./mean	= 471.0 lb./ac.

Crop :- Potato (2nd crop).

Ref :- M. 48(35):

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

Type :- 'C'.

Object :—To compare the yields due to planting of mature and immature seeds

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Lupin. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 9.9.48.
 (iv) (a) 2 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 24"×9". (e) N.A. (v) 5 ton/ac. of C.M.+1610 lb./ac. of Nanjanad mixture. (vi) Great Scot (early). (vii) Not irrigated. (viii) Weeding and earthing up once. (ix) 22.4". (x) 5.1.49.

2. TREATMENTS :

1. Planting mature seeds.
2. Planting immature seeds.

3. DESIGN .

- (i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) N.A. (b) 0.5 cent. (v) N.A. (vi) No.

4. GENERAL

- (i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1948—1951. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 11,874 lb./ac.
- (ii) 762.1 lb./ac.
- (iii) The difference in yield due to treatments is not significant.
- (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	12,792
2.	10,955
S.E./mean	= 220 lb./ac.

Crop :- Potato (main crop).

Ref :- M. 49(31).

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

Type :- 'C'.

Object :—To compare the yields due to planting of mature and immature seeds.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) *Sanai*. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 1.4.49. (iv) (a) 2 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 27" x 6". (e) N.A. (v) 5 tons/ac. of C.M.+ 1610 lb./ac. of Nanjanad mixture. (vi) Great Scot (early). (vii) Not irrigated. (viii) Weeding and earthing up once. (ix) 18.85". (x) 19.8.49.

2. TREATMENTS :

1. Planting mature seeds.
2. Planting immature seeds.

3. DESIGN :

- (i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) N.A. (b) 1.0 cent (dimensions N.A.). (v) N.A. (vi) No.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1948—1951. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 9150 lb./ac.
- (ii) 642.8 lb./ac.
- (iii) The difference due to two treatments is significant.
- (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	8817
2.	9483
S.E. mean	= 185.6 lb./ac.

Crop :- Potato (2nd crop).

Ref :- M, 49(37).

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

Type :- 'M'.

Object :- To compare yields due to planting mature and immature seeds.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Lupin. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 5.9.49. (iv) (a) 2 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 27" x 9". (e) N.A. (v) 5 ton/ac. of C.M. + 1610 lb./ac. of Nanjanad mixture. (vi) Great Scot (early). (vii) Irrigated. (viii) Weeding and earthing up once. (ix) 18.7". (x) 15.1.50.

2. TREATMENTS :

1. Planting mature seeds.
2. Planting immature seeds.

3. DESIGN :

(i) (a) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) N.A. (b) 0.5 cent (dimension N.A.). (v) N.A. (vi) N.A.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1949-1951. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 5866 lb./ac.
- (ii) 1794 lb./ac.
- (iii) The difference in yield due to treatments is highly significant.
- (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	6350
2.	5383
S.E./mean	= 517.0 lb./ac.

Crop :- Potato (main crop).

Ref :- M. 50(78).

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

Type :- 'C'.

Object :- To compare yields due to planting mature and immature seed.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Rye for ergot production. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 22.3.50. (iv) (a) 2 ploughings. (b) Forming ridges and furrows. (c) 2000 lb./ac. (d) 27" x 9". (e) N.A. (v) 5 ton/ac. of C.M. broadcast and turned + 1610 lb./ac. of Nanjanad mixture at the time of planting. (vi) Great Scot (early). (vii) Rainfed. (viii) Weeding once; earthing up once. (ix) 23.8". (x) 3.8.50.

2. TREATMENTS :

1. Planting mature seeds (from harvesting the crop after 120 days).
2. Planting immature seeds (from harvesting the crop after 90 days).

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) —. (b) 0.25 cent (dimensions N.A.). (v) Nil. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Tuber weight. (iv) (a) 1948-1951. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 14,583 lb./ac.
- (ii) 970.0 lb./ac.
- (iii) The difference in yield due to two treatments is not significant.
- (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	14,500
2.	14,666
S.E./mean	= 280.0 lb./ac.

Crop :- Potato

Ref :- M. 50(76).

Site :- Agri Res. Stn., Nanjanad.

Type :- 'C'

Object :- To compare yields due to planting mature and immature seeds.

1. BASAL CONDITIONS :

(i) (a) Nil, (b) Lupin for seed, (c) Nil. (ii) (a) Laterite soils, (b) Refer soil analysis, Nanjanad. (iii) 25.9.50. (iv) (a) 3 ploughings; breaking clods by *guddalies*. (b) Open furrows and ridges with ridge plough. (c) 2000 lb./ac. (d) 27" x 9". (e) N.A. (v) 5 ton/ac. of C.M. broadcast and covering + 1610 lb./ac. of Nanjanad mixture applied at planting. (vi) Great Scot (early). (vii) Rainfed. (viii) Weeding and hoeing once; earthing once. (ix) 14.16". (x) 8.2.51.

2. TREATMENTS :

1. Planting mature seeds.
2. Planting immature seeds.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) —. (b) 0.25 cent (dimension N.A.) (v) Nil. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1948--1951. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 6633 lb./ac.
- (ii) 965.0 lb./ac.
- (iii) The difference in yield due to treatments is not significant.
- (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	6233
2.	7033
S.E./mean	= 279.0 lb./ac.

Crop :- Potato (main crop).

Ref :- M. 51(55).

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

Type :- 'C'

Object :- To compare the yields due to planting of mature and immature seeds.

1. BASAL CONDITIONS :

(i) Nil. (b) Lupin. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 31.3.51. (iv) (a) 2 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 27" x 9". (e) N.A. (v) 5 ton/ac. C.M. + 1610 lb./ac. of Nanjanad mixture at planting. (vi) Great Scot. (vii) Rainfed. (viii) Weeding and earthing up once. (ix) (i) 28.8". (x) 30.7.51.

2. TREATMENTS :

1. Planting mature seed (seed material harvested 105 days after planting.)
2. Planting immature seed (seed material harvested 75 day after planting.)

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) N.A. (b) 0.25 cent. (v) N.A. (vi) No.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1948--1951. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 7650 lb./ac.
- (ii) 1268 lb./ac.
- (iii) The treatments do not differ significantly.
- (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	7933
2.	7366
S.E./mean	= 366.0 lb./ac.

Crop :- Potato.

Ref :-M. 51(50).

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

Type :- 'C'.

Object :- To compare the yield due to planting mature and immature seed.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Lupin. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 23.2 51. (iv) (a) 2 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 27" x 9". (e) N.A. (v) 5 ton/ac. of C.M.+1610 lb./ac. of Nanjanad mixture at planting. (vi) Great Scot. (vii) Irrigated. (viii) Weeding and earthing up once. (ix) 10.2". (x) 19.6.51.

2. TREATMENTS :

1. Planting mature seed.
2. Planting immature seed.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) N.A. (b) 0.25 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1948—1951. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 5667 lb./ac.
- (ii) 2913 lb./ac.
- (iii) The difference in yields due to treatments is highly significant.
- (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	2767
2.	8567
S.E./mean	= 841.0 lb./ac.

Crop :- Potato (2nd crop).

Ref :-M. 51(58).

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

Type :- 'C'.

Object :- To compare the yield due to planting mature and immature seed.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Rye for ergot production. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 16.8.51. (iv) (a) 2 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 27" x 9". (e) N.A. (v) 5 ton/ac. of C.M.+1610 lb./ac. of Nanjanad mixture at planting. (vi) Great Scot. (vii) Rainfed. (viii) Weeding and earthing up once. (ix) 14.6". (x) 10.1.52.

2. TREATMENTS :

1. Planting mature seed (seed obtained by harvesting after 105 days of planting).
2. Planting immature seed (seed obtained by harvesting after 75 days of planting).

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) N.A. (b) 0.25 cent. (v) N.A. (vi) No.

4. GENERAL :

(i) Poor. (ii) Nil. (iii) Tuber weight. (iv) (a) 1948—1951. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 3167 lb./ac.
- (ii) 504.4 lb./ac.
- (iii) The difference in yields due to treatments is highly significant.
- (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	3667
2.	2667
S.E./me	an= 145.6 lb./ac.

Crop :- Potato (main crop).

Ref :- M. 48(30).

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

Type :- 'C'.

Object :- To determine the optimum seed size.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Sanal*. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 4.4.48. (iv) (a) 2 ploughings. (b) Planting in furrows. (c) As under treatments. (d) 27" x 6". (e) N.A. (v) 5 ton/ac. of C.M. + 1610 lb./ac. of Nanjanad mixture. (vi) Great Scot (early). (vii) Rainfed. (viii) Weeding and earthing up once. (ix) 52.25%. (x) 7.10.48.

2. TREATMENTS :

1. Whole tuber of $\frac{1}{2}$ oz. as seed.
2. Whole tuber of 1 oz. as seed.
3. Whole tuber of 2 oz. as seed.
4. $\frac{1}{2}$ oz. tips as seed.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 0.5 cent (dimensions N.A.). (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Potato yield. (iv) (a) 1944—1948. (b) No. (c) N.A. (v) (a) and (b) N.A. (vi) N.A. (vii) Plotwise yield data N.A.

5. RESULTS :

- (i) 15665 lb./ac.
 (ii) 5400 lb./ac.
 (iii) Treatments differ significantly.
 (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	12758
2.	17058
3.	20075
4.	12767
S.E./mean	= 2204 lb./ac.

Crop :- Potato.

Ref :- M. 48(39).

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

Type :- 'C'.

Object :- To determine the optimum seed size.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 27.1.48. (iv) (a) 2 ploughings. (b) Planting in furrows. (c) As under treatments. (d) 27" x 9". (e) —. (v) 5 ton/ac. of C.M. + 1610 lb./ac. of Nanjanad mixture. (vi) Great Scot (early). (vii) Irrigated. (viii) Weeding and earthing up once. (ix) 30.35%. (x) 2.7.48.

2. TREATMENTS :

1. Whole tuber of $\frac{1}{2}$ oz. as seed.
2. Whole tuber of 1 oz. as seed.
3. Whole tuber of 2 oz. as seed.
4. $\frac{1}{2}$ oz tips as seed.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 0.5 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1944—1948. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) The growth of the plant is reported to be satisfactory but due to usual frost during these seasons, yield is generally low. (vii) Nil.

5. RESULTS :

- (i) 2375 lb./ac.
 (ii) 497.0 lb./ac.
 (iii) Treatments differ highly significantly.
 (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	1533
2.	2667
3.	4367
4.	933
S.E./mean	= 203.0 lb./ac.

Crop :- Potato.

Ref :- M. 48(34).

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

Type :- 'C'.

Object :- To determine the optimum seed size.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 1.9.1948. (iv) (a) 2 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 27" x 6". (e) N.A. (v) 5 ton/ac. of C.M.+ 1610 lb./ac. of Nanjanad mixture. (vi) Great Scot (early). (vii) Unirrigated. (viii) Weeding and earthing up once. (ix) 22.4". (x) 9.1.1949.

2. TREATMENTS :

1. whole tuber of $\frac{1}{2}$ oz. as seed.
 2. whole tuber of 1 oz. as seed.
 3. whole tuber of 2 oz. as seed.
 4. $\frac{1}{2}$ oz. tips as seed.

3. DESIGN :

- (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 0.5 cents (v) N.A. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1944—1948. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Plotwise yield data not available.

5. RESULTS :

- (i) 13836 lb./ac.
 (ii) 1134 lb./ac.
 (iii) Treatments differ significantly.
 (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	9973
2.	16347
3.	20387
4.	8637
S.E./mean	= 463 lb./ac.

Crop :- Potato.

Ref :- M. 48(29).

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

Type :- 'C'.

Object :- To find out the best method of hastening sprouting of seed for planting 2nd crop and determine the effect of such sprouting on the yield.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Lupin. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 9.9.48. (iv) (a) 2 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 27" x 6". (e) N.A. (v) 5 ton/ac. of C.M.+

1610 lb./ac. of Nanjanad mixture. (vi) Great Scot (early). (vii) Unirrigated. (viii) Weeding and earthing up once. (ix) 22.4°. (x) 7.1.49.

2. TREATMENTS :

1. Seed of irrigated crop.
2. Seed of main crop, skin peeled and sprouted by keeping in moist saw dust.
3. Seed of main crop treated with Carbon disulphide and sprouted.
4. *Ryots'* method :—Storing the freshly harvested main crop seed in bags near a hearth for quick sprouting.

3. DESIGN :

- (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 0.5 cent (dimensions N.A.) (v) N.A. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1943—1948. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 10805 lb./ac.
 (ii) 1248 lb./ac.
 (iii) Treatments differ significantly.
 (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	14600
2.	9320
3.	8620
4.	10680
S.E./mean	= 558.0 lb./ac.

Crop :- Potato.

Ref :- M. 52(5).

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

Type :- 'C'.

Object :- To study the influence of spacing on yield.

1. BASAL CONDITIONS :

- (i) (a) Nil (b) *Sana*. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 12.4.1952. (iv) (a) 2. preliminary ploughings; 3 ploughings done after applying F.Y.M. (b) Sowing done in furrows. (c) 2000 lb./ac. (d) Between plants 2"; between rows as under treatments. (v) 5 ton/ac. of C.M. broadcast and covered by victory plough at the third ploughing. (vi) Great Scot (medium). (vii) Unirrigated. (viii) One weeding after 30 days; 2 earthings after 45 and 60 days, respectively [from the date of planting. (ix) 11.61°. (x) 30.8.1952.

2. TREATMENTS :

1. Row spacing 18".
2. Row spacing 21".
3. Row spacing 24".
4. Row spacing 27" (Control).

3. DESIGN :

- (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) 1 cent. (b) 0.5 cent. (v) N.A. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1952—1953. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) 4 months dormented seed used.

5. RESULTS :

- (i) 5593 lb./ac.
 (ii) 1702 lb./ac.
 (iii) Treatments differ significantly.

(iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	6279
2.	5061
3.	6541
4.	4492
S.E./mean	= 760 0 lb./ac.

Crop :- Potato (main crop).**Ref :- M. 53(33).****Site :- Agri. Res. Stn., Nanjanad.****Type :- 'C'.****Object :-**To find the best row spacing for optimum yield.**1. BASAL CONDITIONS :**

(i) (a) Nil. (b) *Rye* for ergot production. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 25.3.1953. (iv) (a) 2 preliminary ploughings ; 3 ploughings done after applying F.Y.M. (b) Sowing done in furrows. (c) 2000 lb./ac. (d) Between plants 9" and between rows as under treatments. (e) N.A. (v) 5 ton/ac. of C.M. broadcast and covered by victory plough at the third ploughing. (vi) Great Scot (medium). (vii) Unirrigated. (viii) One weeding normally after 30 days ; 2 earthings after 45 and 60 days respectively from the date of planting. (ix) 35.5". (x) 27.7.53.

2. TREATMENTS :

1. Row spacing 18".
2. Row spacing 21".
3. Row spacing 24".
4. Row spacing 27".

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) 1.0 cent. (b) 0.5 cent. (v) Yes. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1952—1953. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 19525 lb./ac.

(ii) 1988.0 lb./ac.

(iii) Treatments differ significantly.

(iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	20660
2.	20040
3.	19160
4.	18240
S.E./mean	= 889.0 lb./ac.

Crop :- Potato (2nd crop).**Ref :- M. 53(34).****Site :- Agri. Res. Stn , Nanjanad.****Type :- 'C'.****Object :-** To find the best row spacing for optimum yield.**1. BASAL CONDITIONS :**

(i) (a) Nil. (b) *Rye* for ergot production. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 24.8.1953. (iv) (a) 2 preliminary ploughings ; 3 ploughings done after applying F.Y.M. (b) Sowing done in furrows. (c) 2000 lb./ac. (d) Between plants 9" and between rows as under treatments. (v) 5 ton/ac. of C.M. broadcast and covered by victory plough at the third ploughing. (vi) Great Scot (medium). (vii) Unirrigated. (viii) One weeding normally after 30 days. 2 earthings after 45 and 60 days respectively from the date of planting. (ix) 24.55". (x) 14.12.1953.

2. TREATMENTS :

1. Row spacing 18".
2. Row spacing 21".
3. Row spacing 24".
4. Row spacing 27".

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) 1.0 cent. (b) 0.5 cent. (v) Yes. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1952—1953. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 13755 lb./ac.

(ii) 2082 lb./ac.

(iii) Treatments differ significantly.

(iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	14660
2.	13960
3.	13640
4.	12760

S.E./mean = 931.2 lb./ac.

Crop :- Potato (main crop).

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

Ref :- M. 49 (32).

Type :- 'C'.

Object :- To find out the best time of planting of Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) As under treatments. (iv) (a) 2 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 27" x 6". (e) N.A. (v) 5 ton/ac. of C.M.+1610 lb./ac. of Nanjanad mixture. (vi) Great Scot (early). (vii) Rainfed. (viii) Weeding and earthing up once. (ix) 36.83". (x) 28.9.49.

2. TREATMENTS :

Time of planting.

1. Planted on 15.3.49.
2. Planted on 31.3.49.
3. Planted on 15.4.49.
4. Planted on 30.4.49.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 0.5 cent (dimensions N.A.). (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1949—1951. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 11150 lb./ac.

(ii) 904.0 lb./ac.

(iii) Treatments do not differ significantly.

(iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	11480
2.	10880
3.	11560
4.	10680
S.E./mean	= 404.0 lb./ac.

Crop :- Potato (2nd crop).
Site :- Agri. Res. Stn., Nanjanad.

Ref :- M. 49 (39).
Type :- 'C'.

Object :-To find out the best time of planting of Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Sanai*. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) As under treatments. (iv) (a) 2 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 27" x 6". (e) N.A. (v) 5 ton/ac. of C.M.+1610 lb./ac. of Nanjanad mixture. (vi) Great Scot (early). (vii) Unirrigated. (viii) Weeding and earthing up once. (ix) 25.3". (x) 9.1.1950.

2. TREATMENTS :

Time of planting.

1. Planted on 1.8.49.
2. Planted on 15.8.49.
3. Planted on 1.9.49.
4. Planted on 15.9.49.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 0.25 cent (dimensions N.A.). (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1949-1951. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 5640 lb./ac.
(ii) 1158 lb./ac.
(iii) Treatments differ highly significantly.
(iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	8640
2.	5920
3.	4560
4.	3440
S.E./mean	= 518.0 lb./ac.

Crop :- Potato (main crop).
Site :- Agri. Res. Stn., Nanjanad.

Ref :- M. 50 (70).
Type :- 'C'.

Object :-To find out the effect of time of planting on the yield of Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Rye for ergot production. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) As under treatments. (iv) (a) 2 ploughings. (b) N.A. (c) 2000 lb./ac. (d) 27" x 9". (e) N.A. (v) 5 ton/ac. of C.M.+1610 lb./ac. of Nanjanad mixture at the time of planting. (vi) Great Scot (early). (vii) Rainfed. (viii) Weeding once and earthing up once. (ix) 34.5". (x) 14.10.50.

2. TREATMENTS :

Time of planting.

1. Planted on 15.3.50.
2. Planted on 31.3.50.
3. Planted on 15.4.50.
4. Planted on 1.5.50.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a)—. (b) 0.5 cent (dimensions N.A.). (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1949—1951. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 10980 lb./ac.
- (ii) 1367 lb./ac.
- (iii) Treatments differ significantly.
- (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	9880
2.	10400
3.	13160
4.	10480
S.E./mean	= 611.0 lb./ac.

Crop :- Potato (2nd crop).

Ref :- M. 50(69).

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

Type :- 'C'.

Object :- To find out the best time for planting Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Oats. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) As under treatments. (iv) (a) 2 ploughings ; forming furrows and ridges. (b) Planting in furrows. (c) 2000 lb./ac. (d) 27" x 9". (v) 5 ton/ac. of C.M. broadcast and turned in + 1610 lb./ac. of Nanjanad mixture before planting. (vi) Great Scot. (vii) Rainfed. (viii) Weeding once and earthing up once. (ix) 34.0%. (x) 18.1.51.

2. TREATMENTS :

Time of planting :-

1. Planting on 1.8.50.
2. Planting on 15.8.50.
3. Planting on 1.9.50.
4. Planting on 15.9.50.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 0.5 (dimensions N.A.) (v) Nil. (vi) Yes.

4. GENERAL :

(i) Not satisfactory due to unfavourable weather conditions. (iii) Nil. (ii) Tuber weight. (iv) (a) 1949-1951. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 3900 lb./ac.
- (ii) 683.4 lb./ac.
- (iii) Treatments differ significantly.
- (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	4600
2.	3960
3.	3200
4.	3840
S.E./mean	= 305.6 lb./ac.

Crop :- Potato (main crop).

Ref :- M. 51(53).

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

Type :- 'C'.

Object :- To study the influence of time of planting on the yield of Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Nil. (c) Nil. (ii) (a) Laterite soil. (iii) As under treatments. (iv) (a) 2 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 27" x 9". (e) N.A. (v) 5 ton/ac of C.M.+1610 lb./ac. of Nanjanad mixture at the time of planting. (vi) Great Scot. (vii) Rainfed. (viii) Weeding and earthing up once. (ix) 28.8". (x) 15.10.51.

2. TREATMENTS :

Time of planting :-

1. Planting on 1.3.51.
2. Planting on 15.3.51.
3. Planting on 1.4.51.
4. Planting on 15.4.51.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 0.5 cent. (dimensions N.A.) (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1949-1951. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 17982 lb./ac.
- (ii) 1863 lb./ac.
- (iii) Treatments differ highly significantly.
- (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	16440
2.	16280
3.	22120
4.	17090
S.E./mean	= 833.0 lb./ac.

Crop :- Potato (2nd Crop).

Ref :- M. 51(63).

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

Type :- 'C'.

Object :- To study the influence of the time of planting on the yield of Potato.

1. BASAL CONDITINOS :

(i) (a) Nil. (b) Rye. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) As under treatments. (iv) (a) 2 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 27" x 9". (e) N.A. (v) 5 ton/ac. of C.M.+1610 lb./ac. of Nanjanad mixture applied at the time of planting. (vi) Great Scot. (vii) Rainfed. (viii) Weeding and earthing up once. (ix) 14.6". (x) 7.12.51.

2. TREATMENTS :

1. Planted on 1.8.51.
2. Planted on 15.8.51.
3. Planted on 1.9.51.
4. Planted on 15.9.51.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 0.5 cent (dimensions N.A.). (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1949-1951. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 8220 lb./ac.
 (ii) 1073 lb./ac.
 (iii) Treatments differ significantly.
 (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	11840
2.	7280
3.	7520
4.	6240
S.E./mean	=480.0 lb./ac.

Crop :- Potato (2nd Crop).
 Site :- Agri. Res. Stn., Nanjanad.

Ref :- M. 48(33).
 Type :- 'C'.

Object :- To compare *Ryot's* method with Farm method.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Lupin. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 19.9.48.
 (iv) (a) As under treatments. (b) N.A. (c) 2000 lb./ac. (d) 27" x 9". (e) N.A. (v) 5 ton/ac. of C.M. + 1610 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Unirrigated. (viii) Weeding and earthing up once. (ix) 20.62". (x) 2.2.49.

2. TREATMENTS :

1. Farm method :- Ploughing twice with victory plough and forming ridges along the contour with a double mould board plough.
 2. *Ryots'* method :- Forking the land with digging fork and breaking clods and forming the furrows along the slopes. All operations done with hand.

3. DESIGN :

- (i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) N.A. (b) 2.0 cents (dimensions N.A.). (v) N.A. (vi) No.

4. GENERAL :

- (i) Not satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1942-1951. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Plot wise yield data N.A.

5. RESULTS :

- (i) 7554 lb./ac.
 (ii) 2137 lb./ac.
 (iii) The difference due to treatments is not significant.
 (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	8110
2.	6997
S.E./mean	617.0 lb./ac.

Crop :- Potato (2nd crop).
 Site :- Agri. Res. Stn., Nanjanad.

Ref :- M. 49(38).
 Type :- 'C'.

Object :- To compare *Ryot's* method with Farm method.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Lupin. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 31.8.49.
 (iv) (a) and (b) As under treatments. (c) 2000 lb./ac. (d) 27" x 6". (e) N.A. (v) 5 ton/ac. of C.M. + 1610 lb./ac. of Nanjanad mixture. (vi) Great Scot (early). (vii) Unirrigated. (viii) Weeding and earthing up once. (ix) 25.3". (x) 8.1.50.

2. TREATMENTS :

1. Farm method :—Ploughing the land twice with victory plough and forming the ridges along the contours with double mould board plough. All the operations are done with the use of bullock power.
2. Ryots' method :—The land is opened up by forking deep and breaking clods. Furrows are taken along the slopes. All operations are done by hand.

3. DESIGN :

- (i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) N.A. (b) 2.0 cents (dimensions N.A.). (v) N.A. (vi) No.

4. GENERAL :

- (i) Poor. (ii) Nil. (iii) Tuber weight. (iv) (a) 1942-1951. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) Plot wise yield data not available.

5. RESULTS :

- (i) 2590 lb./ac.
 (ii) 502.0 lb./ac.
 (iii) The difference due to treatments is not significant.
 (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	2633
2.	2546
S.E./mean	= 145.0 lb./ac.

Crop :- Potato (2nd crop).

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

Ref :- M. 50(72).

Type :- 'M'.

Object :- To compare Ryots' method with Farm method.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) *Sanai*. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 31.8.50. (iv) (a) and (b) As under treatments. (c) 2000 lb./ac. (d) 27" x 9". (e) N.A. (v) 5 ton/ac. of C.M.+ 1610 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Rainfed. (viii) Weeding once and earthing up once. (ix) 18.5". (x) 8.1.51.

2. TREATMENTS :

1. Farm method :—The land is prepared by ploughing twice and the contour ridges are formed with a double mould board plough. All operations are done by bullock power.
2. Ryots' method :—The land is prepared with a digging fork and the operations like breaking clods, opening furrows and ridges are done by human labour.

3. DESIGN :

- (i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) and (b) 2 cents (dimensions N.A.). (v) Nil. (vi) Yes.

4. GENERAL :

- (i) Poor. (ii) Nil. (iii) Tuber weight. (iv) (a) 1942-1951. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 3814 lb./ac.
 (ii) 808.1 lb./ac.
 (iii) The difference due to treatments is not significant.
 (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	3883
2	3745
S.E./mean	= 233.3 lb./ac.

Crop :- Potato (2nd crop).

Ref :- M. 51 (60).

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

Type :- 'C'.

Object :- To compare *Royts*' method with Farm method.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) *Sanal*. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 29.8.51.
 (iv) (a) and (b) As under treatments. (c) 2000 lb./ac. (d) 27" x 9". (e) N.A. (v) 5 ton/ac. of C.M. + 1610 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Rainfed. (viii) Weeding and earthing up once. (ix) 14.6".
 (x) 30.1.52.

2. TREATMENTS :

1. Farm method :- After [ploughing the land twice with victory plough ridges are formed along the contours with double mould board plough. All the operations are done with the use of bullock power.
 2. *Royts*' method :- The land is opened up by forking deep after breaking the clods. Furrows are taken along the slopes by land working *Guddalies*. All operations are done by hand.

3. DESIGN :

- (i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) N.A. (b) 2.0 cents (dimensions N.A.). (v) N.A.
 (vi) Yes.

4. GENERAL :

- (i) Poor. (ii) Nil. (iii) Tuber weight. (iv) (a) 1942-1951. (b) No. (c) N.A. (v) (a) Nil. (b) Nil.
 (vi) and (vii) Nil.

5. RESULTS :

- (i) 4159 lb./ac.
 (ii) 596 lb./ac.
 (iii) The difference due to treatments is not significant.
 (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	3954
2.	4364
S.E./mean	= 172.0 lb./ac.

Crop :- Potato (2nd crop).

Ref :- M. 49 (131).

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

Type :- 'D'.

Object :- To test the effect of pre-treating Potato tubers in different growth regulating substances and see how far the growth or yields are improved thereby.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Potato. (c) N.A. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 14.9.49.
 (iv) (a) 2 ploughings. (b) N.A. (c) 2500 lb./ac. (d) 27" x 9". (e) N.A. (v) 5000 lb./ac. of C.M. + 1610 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Irrigated. (viii) N.A. (ix) 18.7". (x) 17.1.50.

2. TREATMENTS :

- Control (untreated tubers).
- Tubers soaked for 6 hours in Indole Acetic Acid 10 ppm.
- Tubers soaked for 6 hours in Indole Acetic Acid 60 ppm.
- Tubers soaked for 6 hours in Indole Acetic Acid 100 ppm.
- Tubers soaked for 6 hours in Butyric Acid 10 ppm.
- Tubers soaked for 6 hours in Butyric Acid 60 ppm.
- Tubers soaked for 6 hours in Butyric Acid 100 ppm.
- Tubers soaked in water only.

3. DESIGN

- (i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 0.5 cent (dimensions N.A.). (v) N.A. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) N.A. (iii) Yield of tuber. (iv) (a) No. (b) No. (c) No. (v) (a) Nil. (b) Nil. (vi) The details of the experiment are collected from the printed reports. Original records were N.A. (vii) Nil.

5. RESULTS :

Treatments	Av. yield in lb./ac.		
	Seed	Chats	Rejects
1	1300	1410	450
2	1226	1360	634
3	1560	1490	610
4	1210	1458	524
5	1476	1510	624
6	1626	1600	484
7	1726	1444	544
8	1434	1434	534
G.M.	1445	—	—
S.E./plot	286.7 lb./ac.	N.A.	N.A.
S.E./mean	117.0 lb./ac.	N.A.	N.A.
Significance	Significant	Not significant	Not significant

Crop :- Potato (1st crop).

Ref :- M. 51(57).

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

Type :- 'D'.

Object :—To find the effect of spraying fungicides against early blight in Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Lupin (c) Nil. (ii) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 20.8.51. (iv) (a) 2 ploughings. (b) Planting. (c) 2000 lb./ac. (d) 27" x 9". (e) N.A. (v) 5 ton/ac. of C.M. + 1610 lb./ac. of Nanjanad mixture at planting. (vi) Great Scot. (vii) Rainfed. (viii) Weeding and earthing up once. (ix) 15.8". (x) 30.1.52.

2. TREATMENTS :

1. Dithane D-24 + Zinc. sul. sprayed.
2. Dithane Z-78 sprayed.
3. Bordeaux mixture (5:5:50).
4. Control (unsprayed) Phygon XL.
5. Control (unsprayed).

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1.0 cent. (dimensions N.A.) (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) No. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) No combinations could be drawn on the relative fungicidal values of the spray treatments due to the almost complete absence of disease on the crop.

5. RESULTS :

- (i) 8100 lb./ac.
- (ii) 1302 lb./ac.
- (iii) Treatments do not differ significantly.

(iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	8350
2.	8450
3.	8183
4.	8383
5.	7133
S.E./mean	= 532.0 lb./ac.

Crop :- Potato (main crop).

Ref :- M. 51(54).

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

Type :- 'D'.

Object :- To find the effect of spraying fungicides against early blight in Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Rye. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 10.4.51. (iv) (a) 2 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 27" x 9". (e) N.A. (v) 5 ton/ac. of C.M. + 1610 lb./ac. of Nanjanad mixture at planting. (vi) Great Scot. (vii) Rainfed. (viii) Weeding and earthing up once. (ix) 28.8". (x) 22.8.51.

2. TREATMENTS :

1. Dithane D-14 + Zinc sul. sprayed.
2. Dithane Z-78. sprayed.
3. Bordeaux mixture (5:5:50).
4. Control (unsprayed) Phygon XL.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 1.0 cent (dimensions N.A.) (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) No. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 15280 lb./ac.
- (ii) 2690 lb./ac.
- (iii) Treatments do not differ significantly.
- (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	15320
2.	16680
3.	15280
4.	13840
S.E./mean	= 1203 lb./ac.

Crop :- Potato.

Ref :- M. 52 (1).

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

Type :- 'D'.

Object :- To study the influence of 'Sandoz' (a proprietary preparation) on yield of Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sanai. (c) 5 ton/ac. of C.M. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 17.4.1952. (iv) (a) Two ploughings. (b) Sown in furrows. (c) 2000 lb./ac. (d) 24" x 9". (e) N.A. (v) 5 ton/ac. of C.M. before ploughing. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Weeding one month after planting. Earthing up after 45 and 60 days of planting. (ix) 13.61". (x) 27.8.1952.

2. TREATMENTS :

1. Control (Not sprayed).
2. Bordeaux mixture (2 : 2 : 40).
3. Copper sandoz 0.4% (1 lb. in 25 gallons of water).

3. DESIGN :

- (i) R.B.D. (ii) (a) 3 (b) N.A. (iii) 10. (iv) (a) 1.0 cent. (b) 0.5 cent (dimensions N.A.). (v) Yes. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1952—1953. (b) Yes. (c) N.A. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) 4 months dormented seed were used.

5. RESULTS :

- (i) 9107 lb./ac.
 (ii) 6096 lb./ac.
 (iii) Treatments do not differ significantly.
 (iv) Av. yield of tuber in lb./ac.

Treatments	Av. yield
1.	8870
2.	9230
3.	9220
S.E./mean	= 1928.0 lb./ac.

Crop :- Potato (main crop).

Ref :- M. 53 (35).

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

Type :- 'D'.

Object :—To study the influence of Copper sandoz on yield.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Rye for ergot production. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 24.3.1953. (iv) (a) Preliminary ploughings and breaking clods by hand. (b) Sown in furrows. (c) 92 tubers/plot. (d) 24"×9". (e)—. (v) 5 ton/ac. of C.M. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Weeding one month after planting. Earthing up after 40 and 60 days after planting. (ix) 44.50". (x) 13.8.1953.

2. TREATMENTS :

1. Control (Not sprayed).
2. Bordeaux mixture.
3. Copper sandoz 0.4%. (1 lb. in 25 gallons of water).

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 10. (iv) (a) 0.75 cent. (b) 0.50 cent (dimensions N.A.) (v) Yes. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1952—1953. (b) Yes. (c) N.A. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) 4 months dormented seed were used.

5. RESULTS :

- (i) 10817 lb./ac.
 (ii) 2494 lb./ac.
 (iii) Treatments do not differ significantly.
 (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	10330
2.	10010
3.	11110
S.E./mean	= 788.7 lb./ac.

Crop :- Potato (2nd crop).
Site :- Agri. Res. Stn., Nanjanad.

Ref :- M. 53(36).

Type :- 'D'.

Object :- To study the influence of Copper sandoz on yield.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Lupin for green manure. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 22.8.53. (iv) (a) 2 ploughings and breaking clods by hand. (b) Sown in furrows. (c) N.A. (d) 24" x 9". (e) 256 tubers/plot. (v) 5 ton/ac. of C.M. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Weeding one month after planting. Earthing up 45 and 60 days after planting. (ix) 26.84. (x) 10.12.53.

2. TREATMENTS :

1. Control (no spraying).
2. Bordeaux mixture.
3. Copper sandoz (1 lb. in 25 gallons of water).

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 10. (iv) (a) 1.0 cent. (b) 0.5 cent. (v) Yes. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Nil. (iv) (a) 1952-1953. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) 4 months dormented seed were used.

5. RESULTS :

- (i) 8020 lb./ac.
(ii) 336.0 lb./ac.
(iii) The treatments differ highly significantly.
(iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	8050
2.	8480
3.	7530
S.E./mean	= 106.2 lb./ac.

Crop :- Potato.
Site :- Agri. Res. Stn., Nanjanad.

Ref :- M. 48(38).

Type :- 'D'.

Object :- To find out the effect of treating seed tubers in storage against 'Tuber moth' on the yield of Potato.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Rye for ergot production. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 25.1.48. (iv) (a) 2 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 27" x 6". (e) N.A. (v) 5 ton/ac. of C.M. + 1610 lb./ac. of Nanjanad mixture. (vi) Great Scot (early). (vii) Irrigated. (viii) Weeding and earthing up once. (ix) 13.12. (x) 20.5.48.

2. TREATMENTS :

1. Seed tubers untreated.
2. Seed tubers treated with Magnesite.
3. Seed tubers treated with D.D.T. (5%).
4. Seed tubers treated with 666 (5%).
5. Seed tubers treated with Acorus (Pure).
6. Seed tubers treated with Derries (Pure).
7. Seed tubers treated with Pyrethrum (Pure).

3. DESIGN :

- (i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 0.25 cent. (dimensions N.A.). (v) N.A. (vi) Yes.

4. GENERAL :

- (i) Poor. (ii) Nil. (iii) Tuber weight. (iv) (a) No. (b) No. (c) No. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 3067 lb./ac.
 (ii) 889.2 lb./ac.
 (iii) Treatments do not differ significantly.
 (iv) Av. yield of tubers in lb./ac.

Treatment	Av. yield
1.	3200
2.	3067
3.	2800
4.	2933
5.	3067
6.	3200
7.	3200
S.E./mean	= 513.2 lb./ac.

Crop :- Potato.

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

Ref :- M. 52(7).

Type :- D'.

Object :- To find out if treatment of potato seed with some hormones and also of the crop with foliar sprays of copper and manganese in the form of sulphates has any effect on Potato yield.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) *Sanai*. (c) No manuring. (ii) a Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 12.8.52.
 (iv) (a) 2 preliminary ploughings and breaking clods by hand. (b) Sown in furrows. (c) 2000 lb./ac.
 (d) 24" x 9". (e) N.A. (v) 5 ton/ac. of C.M. applied before sowing. (vi) Great Scot (medium). (vii) Un-irrigated. (viii) Weeding one month after planting ; earthing-up after 45 and 60 days of planting. (ix) 22.59".
 (x) 17.12.52.

2. TREATMENTS :

- Control (untreated).
- 120 ppm. of Indole Acetic Acid.
- 60 ppm. of 2-4 D.
- 30 ppm. of 2-4 D.
- Manganese sulphate 10 lb./ac. in 100 gallons.
- Copper sulphate 15 lb./ac. in 100 gallons.
- Water only.

Treatments 2, 3 and 4 were sprayed on seed tubers before planting and treatments 5, 6 and 7 were sprayed on one month old crop.

3. DESIGN :

- (i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 6. (iv) (a) 0.5 cent. (b) 0.25 cent. (v) N.A. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) No. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Seeds dormented for a period of 4 months were used.

5. RESULTS :

- (i) 7676 lb./ac.
 (ii) 4820 lb./ac.
 (iii) Treatments do not differ significantly.
 (iv) Av. yield of tubers in lb./ac.

Treatment	Av. yield
1.	7833
2.	7967
3.	7767
4.	6767
5.	7833
6.	7233
7.	8333
S.E /mean	= 1968 lb./ac.

Crop :- Potato.

Ref :- M. 53(37).

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

Type :- 'D'.

Object :—To investigate the possibility of increasing the yield of the Potato crop by spraying with 1% Bordeaux mixture.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Rye for ergot production. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 30.3.1953. (iv) (a) 2 preliminary ploughings and breaking clods by hand. Third ploughing done after applying F.Y.M. (b) Sown in furrows. (c) 2000 lb./ac. (d) 24" x 9". (e) N.A. (v) 5 ton/ac. of C.M. broadcast and covered by *victory* plough at the third ploughing. (vi) Great Scot (medium). (vii) Unirrigated. (viii) One weeding after 30 days of planting. Two earthing-up after 40 and 60 days respectively from the date of planting. (ix) 49.05". (x) 7.9.1953.

2. TREATMENTS :

1. Not sprayed (control).
2. Sprayed once, 45 days after planting.
3. Sprayed twice, 45 days and 60 days after planting.
4. Sprayed twice, 60 and 75 days after planting
1% Bordeaux mixture sprayed.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) 1.0 cent. (b) 0.5 cent (dimensions N.A.) (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1950—1953. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Seeds dormanted for a period of 4 months were used.

5. RESULTS :

- (i) 10,420 lb./ac.
- (ii) 1046 lb./ac.
- (iii) Treatments do not differ significantly.
- (iv) Av. yield of tubers in lb./ac.

Treatment	Av. yield
1.	10,500
2.	10,440
3.	10,560
4.	10,180
S.E./mean	= 467.6 lb./ac.

Crop :- Potato (2nd crop).

Ref :- M. 53(39).

Site :- Agri. Res. Stn. Nanjanad.

Type :- 'D'.

Object :—To investigate the possibility of increasing the yield of Potato crop by spraying with one percent Bordeaux mixture.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Lupin for G.M. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 20.8.1953. (iv) (a) Two preliminary ploughings. Third ploughing done after applying F.Y.M. (b) Sowing done in furrows. (c) 2000 lb./ac. (d) 24" x 9". (e) N.A. (v) 5 ton/ac of C.M. broadcast and covered by *victory* plough at the third ploughing. (vi) Great Scot (medium). (vii) Unirrigated. (viii) One weeding after 30 days ; 2 earthing-up after 45 and 60 days respectively from the date of planting. (ix) 24.55". (x) 9.12.1953.

2. TREATMENTS :

1. Not sprayed.
2. Sprayed once, 45 days after planting.
3. Sprayed twice, 45 and 60 days after planting.
4. Sprayed twice, 60 and 75 days after planting.
1% Bordeaux mixture sprayed.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) 1.0 cent. (b) 0.5 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1950—1953. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 11750 lb./ac.
 (ii) 3598 lb./ac.
 (iii) Treatments do not differ significantly
 (iv) Av. yield of tubers in lb./ac.

Treatment	Av. yield
1.	11400
2.	12260
3.	11500
4.	11840
S.E./mean	=1609 lb./ac.

Crop :- Potato(main crop).

Ref :- M. 50(71).

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

Type :- 'D'.

Object :- To find out the effect of spraying Bordeaux mixture on the yield.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Santai*. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 1.4.50.
 (iv) (a) 2 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 27" x 9". (e) N.A. (v) 5 ton/ac. of C.M.+1610 lb./ac. of *Nanjanad mixture* at planting. (vi) Great Scot (medium). (vii) Rainfed. (viii) Weeding once; earthing up once. (ix) 34.5". (x) 6.10.50.

2. TREATMENTS :

- No spraying.
 - Sprayed on 10th July.
 - Sprayed on 10th July and 20th July.
 - Sprayed on 20th July and 30th July.
- Bordeaux mixture 100 gallons/ac. sprayed.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) and (b) 1.0 cent (dimensions N.A.). (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1950-1951. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 10970 lb./ac.
 (ii) 1691 lb./ac.
 (iii) Treatments differ significantly.
 (iv) Av. yield of tubers in lb./ac.

Treatment	Av. yield
1.	11000
2.	9760
3.	12280
4.	10840
S.E./mean	=756.2 lb./ac.

Crop :- Potato (2nd crop).

Ref :- M. 50(79).

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

Type :- 'D'.

Object :- To find out the effect of spraying with 1% Bordeaux mixture in increasing the yield.

1. **BASAL CONDITIONS :**
 - (i) (a) Nil. (b) *Sanat*. (c) Nil (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 5.10.50. (iv) (a) 2 ploughings. (b) Planting along furrows. (c) 2000 lb./ac. (d) 27" x 9". (e) N.A. (v) 5 ton/ac. of C.M. + 1610 lb./ac. of *Nanjanad mixture* at planting. (vi) Great Scot. (vii) Rainfed. (viii) Weeding and earthing-up once. (ix) 14.6". (x) 6.2.51.
2. **TREATMENTS :**
 1. No spraying. (Control)
 2. Sprayed on 20.11.50.
 3. Sprayed on 20.11.50. and 30.11.50.
 4. Sprayed on 30.11.50. and 10.12.50.
Bordeaux mixture sprayed at 100 gallons/ac. per spray.
3. **DESIGN :**
 - (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 0.5 cent (dimensions N.A.) (v) N.A. (vi) Yes.
4. **GENERAL :**
 - (i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1950—1951. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.
5. **RESULTS :**
 - (i) 3991 lb./ac.
 - (ii) 2300 lb./ac.
 - (iii) Treatments differ significantly.
 - (iv) Av. yield of tubers in lb./ac.

Treatment	Av. yield
1.	413
2.	4266
3.	3400
4.	4166
S.E./mean	= 939.0 lb./ac.

Crop :- Potato (main crop).

Ref :- M. 51(48).

Site :- Agri. Res. Stn. Nanjanad.

Type :- 'M'.

Object :- To study the effect of Bordeaux mixture spray on the yield of Potato.

1. **BASAL CONDITIONS :**
 - (i) (a) Nil. (b) *Sanat*. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 14.4.51. (iv) (a) 2 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 27" x 9". (e) N.A. (v) 5 ton/ac. of C.M. + 1610 lb./ac. of *Nanjanad mixture* at planting. (vi) Great Scot. (vii) Rainfed. (viii) Weeding once, earthing-up once. (ix) 34.2". (x) 10.10.51.
2. **TREATMENTS :**
 1. Not sprayed. (Control)
 2. Sprayed once, 45 days after planting.
 3. Sprayed twice, 45 days and 60 days after planting.
 4. Sprayed twice, 60 days and 75 days after planting.
Bordeaux mixture at 100 gallons/ac. per spray.
3. **DESIGN :**
 - (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) and (b) 1.0 cent (dimensions N.A.) (v) Nil. (vi) Yes.
4. **GENERAL :**
 - (i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1950. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) Nil.

5. RESULTS

- (i) 7055 lb./ac.
 (ii) 2001 lb./ac.
 (iii) Treatments do not differ significantly.
 (iv) Av. yield of tubers in lb./ac.

Treatment	Av. yield
1.	7020
2.	7260
3.	6140
4.	7800
S.E./mean	= 894.9 lb./ac.

Crop :- Potato.

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

Ref :- M. 51(59).

Type :- 'D'.

Object :- To find out the effect of Bordeaux mixture. on the yield

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) *Rye*. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 16.8.51. (iv) (a) 2 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 27" x 9". (e) N.A. (v) 5 ton/éc. of C.M. + 1610 lb./ac. of *Nanjanad mixture* at planting. (vi) Great Scot. (vii) Rainfed. (viii) Weeding and earthing-up once. (ix) 14.6". (x) 16.1.52.

2. TREATMENTS :

- Not sprayed (control)
 - Sprayed once, 45 days after planting.
 - Sprayed twice, 45 and 60 days after planting.
 - Sprayed twice, 60 and 75 days after planting.
- Bordeaux mixture at the rate of 100 gallons/ac. per spray.

3. DESIGN :

- (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 1.0 cent. (v) N.A. (vi) Yes.

4. GENERAL :

- (i) Not satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1950—1951. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1935 lb./ac.
 (ii) 219.3 lb./ac.
 (iii) Treatments do not differ significantly.
 (iv) Av. yield of tubers in lb./ac.

Treatment	Av. yield
1.	2060
2.	1840
3.	1920
4.	1920
S.E./mean	= 98.1 lb./ac.

Crop :- Potato (main crop).

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

Ref :- M. 52(10).

Type :- 'D'.

Object :- To study the effect of Bordeaux mixture spray on the yield.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) *Sanat* (c) 5 ton/ac. of F.Y.M. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 10.4.52. (iv) (a) 2 preliminary ploughings and breaking clods by hand. (b) Sown in furrows. (c) —. (d) 24" x 9". (e) 256 tubers/plot. (v) 5 ton/ac. of C.M. broadcast and covered by *victory* plough at the third ploughing. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Weeding one month after planting and earthing up 45 and 60 days after planting. (ix) 30.5". (x) 25.8.52.

2. TREATMENTS :

1. Not sprayed (control).
2. Sprayed once, 45 days after planting
3. Sprayed twice, 45 and 60 days after planting.
4. Sprayed twice, 60 and 75 days after planting.
1% Bordeaux mixture sprayed 100 gallons/ac. per spray.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) 1.0 cent. (b) 0.5 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1950—1953. (b) Nil. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 6200 lb./ac.
- (ii) 2314 lb./ac.
- (iii) Treatments do not differ significantly.
- (iv) Av. yield of tubers in lb./ac.

Treatment	Av. yield
1.	6340
2.	6400
3.	6040
4.	6020
S.E./mean	= 1040 lb./ac.

Crop :- Potato (2nd crop).

Ref :- M. 52(3).

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

Type :- 'D'.

Object :—To investigate the possibility of increasing the yield of Potato crop by spraying with 1% Bordeaux mixture.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Sanal*. (c) 5 ton/ac. of F.Y.M. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 18.8.52. (iv) (a) 2 preliminary ploughings. Third ploughing done after applying F.Y.M. (b) Sown in furrows. (c) 255 tubers/plot (d) 24" x 9". (e) N.A. (v) 5 ton/ac. of C.M. broadcast and covered by *victory* plough at the third ploughing. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Weeding done one month after planting. Earthing up done twice, after 45 and 60 days of planting. (ix) 12.98". (x) 16.12.52.

2. TREATMENTS :

1. Not sprayed (control).
2. Sprayed once, 45 days after planting.
3. Sprayed twice, 45 and 60 days after planting.
4. Sprayed twice, 60 and 75 days after planting.
1% Bordeaux mixture at 100 gallons/ac. per spray

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) 1.0 cent. (b) 0.5 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1950—1953. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) Nil.

5. RESULTS :

- (i) 7855 lb./ac.
- (ii) 4802 lb./ac.
- (iii) Treatments do not differ significantly.

(iv) Av. yield of tubers in lb./ac.

Treatment	Av. yield
1.	8380
2.	7680
3.	7900
4.	7460
S.E./mean	= 805.6 lb./ac.

Crop :- Potato.

Ref :- M. 52(2).

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

Type :- 'D'.

Object :- To test the new brands of fungicides in comparison with Bordeaux mixture for the control of early blight and on yield of Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Lupin*. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 31.3.52. (iv) (a) 3 ploughings. (b) Sown in furrows. (c) 2000 lb./ac. (d) 24" x 9". (e) N.A. (v) 5 ton/ac. of C.M. before planting. (vi) Great Scot (local). (vii) Unirrigated. (viii) Weeding one month after planting ; earthing-up after 45 and 60 days respectively. (ix) 33.75". (x) 26.8.52.

2. TREATMENTS :

1. Dithane D. 14+Zinc Sulphate.
2. Dithane Z. 78.
3. Blitox.
4. Fermate.
5. Yellow cuprocide.
6. Coppersan.
7. Copper sandoz.
8. Bordeaux mixture.
9. Control (not sprayed)

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 1.0 cent. (b) 1.0 cent(dimensions N.A.). (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Incidence of early blight. (iii) Tuber weight and % of incidence of blight. (iv) (a) 1951-1953. (b) No. (c) N.A. (v) (a) and (t) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 7868 lb./ac.
 (ii) 4824 lb./ac.
 (iii) Treatments differ significantly
 (iv) Av. yield of tubers in lb./ac.

Treatment	Av. yield
1.	7680
2.	9840
3.	8010
4.	7840
5.	8440
6.	7700
7.	7800
8.	6520
9.	6980
S.E./mean	= 2412 lb./ac.

Crop :- Potato.

Ref :- M. 53(32).

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

Type :- 'D'.

Object :- To test the new brands of fungicides in comparison with Bordeaux mixture for the control of early blight and on yield of Potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Potato. (c) 5 ton/ac. of C.M.+Nanjanad mixture 1610 lb./ac. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 1/3.4.53. (iv) (a) 3 ploughings. (b) Sown in furrows. (c) 2000 lb./ac. (d) 24" x 9". (e) —. (v) 5 ton/ac. of C.M. (vi) Early Scot. (vii) Unirrigated. (viii) Weeding one month after planting. Earthing-up after 45 and 60 days of planting. (ix) 47.78". (x) 19/21.8.53.

2. TREATMENTS :

1. Wet col 15.
2. Zinc col.
3. Bordeaux mixture + Zinc Sulphate.
4. Bordeaux mixture.
5. Dithane—Z, 78.
6. Perenox.
7. Unsprayed (control).

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) and (b) 5.0 cents. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Early blight attack noticed (iii) Tuber weight. (iv) (a) 1951-1953. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 10790 lb./ac.
 (ii) N.A.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of potato in lb./ac.

Treatment	Av. yield
1.	9760
2.	11350
3.	11130
4.	11100
5.	11610
6.	10980
7.	9600
S.E./mean	=N.A.

Crop :- Sweetpotato.

Ref :- M. 51(93).

Site :- Central Farm, Coimbatore.

Type :- 'M'.

Object :- To determine a suitable manurial recipe for Sweetpotato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 15.11.51. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) 24" x 9". (e) 1. (v) Nil. (vi) IB. 22. (vii) Irrigated. (viii) 3 weedings and turned twice. (ix) N.A. (x) 25.3.52.

2. TREATMENTS :

Main-plot treatments :-

3 levels of manure : M_0 = Control, M_1 = F.Y.M. and M_2 = G.L. each at 10,000 lb./ac.

Sub-plot treatments :-

3 levels of N : N_0 = 0, N_1 = 50 and N_2 = 100 lb./ac.

Sub-sub-plot treatments :-

3 levels of K_2O : K_0 = 0, K_1 = 40 and K_2 = 80 lb./ac.

Sub-sub-sub-plot treatments :-

2 levels of P_2O_5 : P_0 = 0 and P_1 = 80 lb./ac.

N as A/S, K_2O as Pot. Sul. and P_2O_5 as Super were applied at planting.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/replication; 3 sub-plots/main-plot; 3 sub-sub-plots/sub-plot and 2 sub-sub-sub plots/sub-sub-plot. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 10'x4'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) weight of tuber. (iv) (a) 1951-1953. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 9918 lb./ac.

(ii) (a) 2365.0 lb./ac.

(b) 3398.0 lb./ac.

(c) 2697.0 lb./ac.

(d) 2812.0 lb./ac.

(iii) Main effect of N is highly significant and main effect of M is significant. Other effects and interactions are not significant.

(iv) Av. yield of tubers in lb./ac.

	M ₀	M ₁	M ₂	Mean	K ₀	K ₁	K ₂	P ₀	P ₁
N ₀	11459	12608	10781	11616	11477	11023	12348	11264	11968
N ₁	9952	10842	8809	9868	10636	8996	9970	9834	9902
N ₂	8766	9432	6613	8270	8391	8739	8040	7993	8547
P ₀	9716	10760	8616	9697	10199	9219	9673		
P ₁	10402	11162	8852	10139	10137	9713	10567		
K ₀	10515	11283	8706	10168					
K ₁	10049	9771	8579	9466					
K ₂	9613	11828	8918	10120					
Mean	10059	10961	8734	9918					

S.E. of difference of two

M marginal means = 455.1 lb./ac.

N marginal means = 653.9 lb./ac.

K marginal means = 519.1 lb./ac.

P marginal means = 441.8 lb./ac.

M means at the same level of N = 1030.7 lb./ac.

N means at the same level of M = 1132.7 lb./ac.

M means at the same level of K = 863.6 lb./ac.

K means at the same level of M = 899.0 lb./ac.

M means at the same level of P = 707.1 lb./ac.

P means at the same level of M = 765.3 lb./ac.

N means at the same level of K = 983.1 lb./ac.

K means at the same level of N = 899.0 lb./ac.

N means at the same level of P = 848.8 lb./ac.

P means at the same level of N = 765.3 lb./ac.

K means at the same level of P = 749.8 lb./ac.

P means at the same level of K = 765.3 lb./ac.

Crop :- Sweet potato.

Ref :- M. 52(68).

Site :- Central Farm, Coimbatore.

Type :- 'M'.

Object :- To determine the manurial recipe for Sweet potato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 27.11.52. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) 24" x 9". (e) 1. (v) Nil. (vi) Local. (vii) Irrigated. (viii) Weeding and turning up twice. (ix) 24.8". (x) 9.5.53.

2. TREATMENTS :

Main-plot treatments :-

3 levels of manure : M_0 =control, M_1 =F.Y.M. and M_2 =G.M. each 10,000 lb./ac.

Sub-plot treatments :-

All combinations of (1) and (2)

(1) 3 levels of N : $N_0=0$, $N_1=50$ and $N_2=100$ lb./ac.(2) 3 levels of K_2O : $K_0=0$, $K_1=80$ and $K_2=160$ lb./ac.

Sub-sub-plot treatments :-

2 levels of P_2O_5 : $P_0=0$ and $P_1=80$ lb./ac.N as A/S, K_2O as Pot. Sul. and P_2O_5 as Super.

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) 4. (iv) (a) N.A. (b) 10" x 4". (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) tuber weight (iv) (a) 1951-1953. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 5368 lb./ac.

(ii) (a) 316.3 lb./ac.

(b) 127.1 lb./ac.

(c) 115.8 lb./ac.

(iii) Main effect of N and interactions $N \times M$ and $N \times K \times M$ are highly significant. Other effects and interactions are not significant.

(iv) Av. yield of tuber in lb./ac.

	M_0	M_1	M_2	Mean	K_0	K_1	K_2	P_0	P_1
N_0	5612	5215	7422	6083	5454	5970	6826	6076	6090
N_1	4206	6058	4912	5059	4836	5422	4918	5083	5035
N_2	4997	4813	5076	4962	4935	5363	4589	5040	4884
P_0	4768	5534	5897	5400	5328	5372	5500		
P_1	5108	5190	5710	5336	4822	5798	5388		
K_0	4634	5343	5247	5075					
K_1	4566	5760	6429	5585					
K_2	5615	4983	5734	5444					
Mean	4938	5362	5803	5368					

S.E. of difference of two

1. M marginal means

=52.5 lb./ac.

2. N or K marginal means

=21.2 lb./ac.

3. P marginal means

=15.8 lb./ac.

4. M means at the same level of N or K

=60.6 lb./ac.

5. N or K means at the same level of M

=36.7 lb./ac.

6. M means at the same level of P

=56.1 lb./ac.

7. P means at the same level of M

=27.3 lb./ac.

8. N or K means at the same level of P

=28.6 lb./ac.

9. P means at the same level of N or K

=27.3 lb./ac.

Crop :- Sweetpotato.

Ref :-M. 53(85)

Site :-Central Farm, Coimbatore.

Type :-M'

Object :-To determine a suitable manurial recipe for Sweetpotato under local conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Cholam*. (c) 10 ton./ac. of F.Y.M. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 21.11.53. (iv) (a) 4 ploughings, Cambridge roller worked once and ridging once. (b) to (c) N.A. (v) Nil. (vi) Local. (vii) Irrigated. (viii) 2 weedings. (ix) 28.34". (x) 28.4.54.

2. TREATMENTS :

Main-plot treatments :-

3 levels of manure : $M_0=0$, $M_1=F.Y.M.$ and $M_2=G.M.$ each at 10,000 lb./ac.

Sub-plot treatments :-

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

(1) 3 levels of N : $N_0=0$, $N_1=50$ and $N_2=100$ lb./ac.(2) 3 levels of K_2O : $K_0=0$, $K_1=80$ and $K_2=160$ lb./ac.(3) 2 levels of P_2O_5 : $P_0=0$ and $P_1=80$ lb./ac.N as A/S and K_2O as Mur. of Pot. or Pot. Sul. were applied one month after planting. P_2O_5 as Super was applied one week before planting.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication ; 18 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 10'x6'. (b) 8'x2'. (v) 1'x2' left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) weight of tuber. (iv) (a) 1951—contd. (b) No. (c) N.A. (v) (a) Paddy Breed- ing station, Mangalore (Mysore State). (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 5776 lb./ac.

(ii) (a) 1233.0 lb./ac.

(b) 889.8 lb./ac.

(iii) N.A.

(iv) Av. yield of tubers in lb./ac.

	M_0	M_1	M_2	Mean	K_0	K_1	K_2	P_0	P_1
N_0	6364	6877	4943	6061	6194	5882	6108	5430	6693
N_1	5560	6395	6519	6158	7172	5374	5928	6416	5900
N_2	3684	7203	4436	5108	4322	5204	5797	5394	4821
P_0	5224	6853	5163	5747	5742	5225	6273		
P_1	5182	6797	5436	5805	6050	5748	5616		
K_0	6265	5714	5709	5896					
K_1	4592	7061	4807	5487					
K_2	4752	7700	5382	5945					
Mean	5203	6825	5299	5776					

S.E. of difference of two

1. M marginal means =205.5 lb./ac.
 2. N or K marginal means =148.3 lb./ac.
 3. P marginal means =121.1 lb./ac.
 4. N or K means at the same level of M =256.9 lb./ac.
 5. M means at the same level of N or K =293.6 lb./ac.
 6. P means at the same level of M =209.7 lb./ac.
 7. M means at the same level of P =253.4 lb./ac.
- S.E. of body of $N \times P$ or $K \times P$ table =148.3 lb./ac.
S.E. of body of $N \times K$ table =181.7 lb./ac.

Crop :- Sweetpotato.

Ref :- M. 48 (58).

Site :- Central Farm, Coimbatore.

Type :- 'M'.

Object :- To find out the effect of Boron in increasing the yield of tuber and to determine the optimum dose of Borax to be applied.

1. BASAL CONDITIONS :

- (i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 30.11.48. (iv) (a) N.A. (b) N.A. (c) N.A. (d) 2' between ridges, 6" between plants. (e) N.A. (v) F.Y.M. 10 ton/ac. applied about four weeks before planting. (vi) N.A. (vii) Irrigated. (viii) Earthing up once. (ix) N.A. (x) 2 to 9.5.49.

2. TREATMENTS :

1. No Borax.

2. Borax at 40 lb./ac.

3. Borax at 80 lb./ac.

4. Borax at 120 lb./ac.

Borax applied to the soil on 30.10.48.

3. DESIGN :

- (i) R.B.D. (ii) (a) 4. (b) 66' x 40'. (iii) 6. (iv) (a), (b) 16.5' x 40'. (v) Nil. (vi) Yes.

4. GENERAL :

- (i) Not satisfactory due to unfavourable seasonal conditions. (ii) N.A. (iii) Yield of tuber. (iv) (a) 1948-1949. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 4586 lb./ac.

(ii) 1235.0 lb./ac.

(iii) Treatment differences are significant.

(iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	4311
2.	5900
3.	4489
4.	3644
S.E./mean	= 504.0 lb./ac.

Crop :- Sweetpotato.

Ref :- M. 49 (90).

Site :- Central Farm, Coimbatore.

Type :- 'M'.

Object :- To study the effect of Borax on Sweetpotato and also to determine its optimum dose.

1. BASAL CONDITIONS :

- (i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 3rd and 4th September, 49. (iv) (a) 3 ploughings. (b) N.A. (c) N.A. (d) 2' between ridges and 6" between plants in either side of ridge. (e) N.A. (v) F.Y.M. at 10 ton/ac. other details N.A. (vi) N.A. (vii) Irrigated. (viii) Weeding and earthing up once. (ix) 7.25". (x) 23rd to 25th January 1950.

2. TREATMENTS :

1. No Borax.

2. Borax 20 lb./ac.

3. Borax 30 lb./ac.

4. Borax 40 lb./ac.

Borax applied to the soil on 29.7.49.

3. DESIGN : (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 40'×24'. (b) 32'×16'. (v) 4' left all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) tuber weight (iv) (a) 1947—1949. (b) No. (c) Nil. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 7889 lb./ac.
 (ii) 1128.0 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of tubers in lb./ac.

Treatment	Av. yield
1.	7598
2.	7827
3.	8108
4.	8023
S.E./mean	= 460.4 lb./ac.

Crop :- Sweetpotato.

Ref :- M. 50(53).

Site :- Central Farm, Coimbatore.

Type :- 'C'.

Object :- To find out the proper method of planting Sweetpotato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 30.11.50. (iv) (a) 3 ploughings. (b), (c) N.A. (d) 2'×9". (e) N.A. (v) 5 ton/ac. of F.Y.M. (vi) I.B.22. (vii) Irrigated. (viii) The vines were turned twice. Two weedings. (ix) 10.8°. (x) 14.5.51.

2. TREATMENTS :

1. Planting vines erect.
2. Planting vines horizontal.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 9. (iv) (a) 20'×4'. (b) 20'×2'. (v) One row on either side left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) tuber weight (iv) (a) 1950—1955. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 4955 lb./ac.
 (ii) 2137 lb./ac.
 (iii) Treatment difference is not significant.
 (iv) Av. yield of tubers in lb./ac.

Treatment	Av. yield
1.	4880
2.	5030
S.E./mean	= 712.0 lb./ac.

Crop :- Sweetpotato.

Ref :- M. 52(18).

Site :- Central Farm, Coimbatore.

Type :- 'C'.

Object :- To find the proper method of planting sweetpotato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 25.10.52.
 (iv) (a) 4 ploughings. (b) As per treatments. (c) N.A. (d) 2'x1'. (e) N.A. (v) 10 ton/ac. of F.Y.M.
 (vi) Local. (vii) Irrigated. (viii) 2 weedings, the vines were turned twice. (ix) 24.8". (x) 5.3.53.

2. TREATMENTS :

1. Vines planted erect.
2. Vines planted horizontal.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 10. (iv) (a), (b) 20'x2'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) tuber weight. (iv) (a) 1950-1955. (b) No. (c) N.A. (v) (a) Nil.
 (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 6643 lb./ac.
- (ii) 2753 lb./ac.
- (iii) The treatment difference is not significant.
- (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	6861
2.	6425
S.E./mean	= 871.2 lb./ac.

Crop :- Sweetpotato.

Ref :- M. 53(8).

Site :- Central Farm, Coimbatore.

Type :- 'C'.

Object :- To find out the proper method of planting Sweetpotato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Cholam*. (c) 10 ton/ac. of F.Y.M. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore.
 (iii) 3.10.53. (iv) (a) Ploughings 4 times. Working Cambridge roller once and ridging once. (b) As
 per treatment (c) N.A. (d) 2'x1'. (e) -. (v) 5-7 ton of F.Y.M. applied at the time of last ploughing (vi)
 V₆ (F.A. 17. Red China). (vii) Irrigated. (viii) 2 weedings. (ix) 28.34". (x) 4.3.54.

2. TREATMENTS :

1. Planting vines erect.
2. Planting vines like sugarcane setts in planting them end to end.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 10. (iv) (a) 15'x4'. (b) 15'x2'. (v) 2 rows on either side. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) tuber weight. (iv) (a) 1950—contd. (b) No. (c) N.A. (v) (a) Paddy Breeding
 station Mangalore. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 11061 lb./ac.
- (ii) 3605.3 lb./ac.
- (iii) Treatment difference is not significant.

(iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	9906
2.	12216
S.E./mean	= 1140.9 lb./ac.

Crop :- Sweetpotato.

Ref :- M. 51(41).

Site :- Central Farm, Coimbatore.

Type :- 'C'.

Object :- To compare yield of vines from tubers and vines from tubers.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 16.9.51. (iv) (a) 3 ploughings. (b) 9" cuttings planted. (c) — (d) 9" apart. (e) — (v) 5 ton/ac. of F.Y.M. (vi) J.B. 22. (vii) Irrigated. (viii) Weeding thrice. (ix) 8.8". (x) 9.2.52.

2. TREATMENTS :

1. Vines from vines.
2. Vines from tubers.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 10. (iv) (a) 20' x 4'. (b) 20' x 2'. (v) 1' along breadth. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Weight of tuber. (iv) (a) 1951-1954. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 13594 lb./ac.
- (ii) 3251.0 lb./ac.
- (iii) Treatment difference is not significant.
- (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	12523
2.	14153
S.E./mean	= 1027.0 lb./ac.

Crop :- Sweetpotato.

Ref :- M. 52(20).

Site :- Central Farm, Coimbatore.

Type :- 'C'.

Object :- To compare yield of vines raised from tubers and vines raised from vines.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sweetpotato. (c) 10 ton/ac. of F.Y.M. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 25.10.52. (iv) (a) 4 ploughings. (b) and (c) N.A. (d) 2' x 1'. (e) N.A. (v) 10 ton/ac. of F.Y.M. (vi) Local. (vii) Irrigated. (viii) 2 weedings, vines were turned twice. (ix) 24.8". (x) 5.3.53.

2. TREATMENTS :

1. Vines from vines.
2. Vines from tubers.

3. DESIGN :

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 10. (iv) (a). (b) 20' x 2'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1951-1956. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 12143 lb./ac.
 (ii) 3991.7 lb./ac.
 (iii) Treatment difference is not significant.
 (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1.	12524
2.	11761.
S.E./mean	= 1263.2 lb./ac.

Crop :- Sweetpotato.

Ref :- M. 53(10).

Site :- Central Farm, Coimbatore.

Type :- 'C'.

Object :- To compare yield of vines from vines and vines from tubers.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) *Cholam*. (c) 10 ton/ac. of F.Y.M. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 30.10.53. (iv) (a) Ploughing 4 times, working of Cambridge roller once and ridging once. (b), (c) N.A. (d) 2'x1'. (e) —. (v) 5-7 ton/ac. of F.Y.M. applied at the time of last ploughing. (vi) Local. (vii) Irrigated. (viii) 2 weedings. (ix) 28.34%. (x) 4.3.54.

2. TREATMENTS:

1. Vines raised from vines.
 2. Vines raised from tubers (as planting material).

3. DESIGN :

- (i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 10. (iv) (a) 15'x6'. (b) 15'x4'. (v) 1' along length (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1951—1954. (b) No. (c) No. (v) (a) Paddy Breeding Station, Mangalore (Mysore State). (vi) and (vii) Nil.

5. RESULTS :

- (i) 5275 lb./ac.
 (ii) 3487.7 lb./ac.
 (iii) Treatment difference is not significant.
 (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield.
1.	4557
2.	5994
S.E./mean	= 1103.7 lb./ac.

Crop :- Sweetpotato.

Ref :- M. 51 (40).

Site :- Central Farm, Coimbatore.

Type :- 'C'.

Object :- To study the method of planting and also to find suitable spacing for Sweetpotato.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 17.10.51. (iv) (a) 3 ploughings. (b) As per treatments. (c) N.A. (d) As per treatments. (e) —. (v) 5 ton/ac. of F.Y.M. (vi) B. 4004. (vii) Irrigated. (viii) 2 weedings and earthing up twice. (ix) 13.5%. (x) 4.3.52.

2. TREATMENTS :

Main-plot treatments :—

2 methods of planting :— M_1 =Bed planting and M_2 =Furrow planting.

Sub-plot treatments :—

3 spacings :— $S_1=4' \times 6'$, $S_2=3' \times 9'$ and $S_3=2' \times 12'$.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) $20' \times 30'$. (b) $20' \times 24'$. (v) About 3' along length (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1951—1955. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 4305. lb./ac.

(ii) (a) 1684.7 lb./ac.

(b) 2192.7 lb./ac.

(iii) Main-plot treatments are significant ; sub-plot treatments and the interaction are not significant.

(iv) Av. yield of tuber in lb./ac.

	M_1	M_2	Mean
S_1	4749	3528	4138
S_2	4755	3539	4147
S_3	4680	4583	4632
Mean	4728	3883	4305

S.E. of difference of two

1. Main-plot treatment marginal means

= 687.9 lb./ac.

2. Sub-plot treatment marginal means

= 1096.3 lb./ac.

3. Sub-plot treatment means at the same level of main-plot treatment

= 1550.7 lb./ac.

4. Main-plot treatment means at the same level of Sub-plot treatment

= 1441.1 lb./ac.

Crop :- Sweetpotato.

Site :- Central Farm, Coimbatore.

Ref :- M. 52 (19).

Type :- C

Object :—To test the difference in yield performances when the vines were planted in beds and in furrows.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sweetpotato. (c) 10 ton F.Y.M./ac. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 28.11.52. (iv) (a) 4 ploughings. (b) As per treatments. (c) N.A. (d) As per treatments. (e) N.A. (v) 10 ton of F.Y.M./ac. (vi) Local. (vii) Irrigated. (viii) 2 weedings. (ix) 24.8" (x) 28.3.53.

2. TREATMENTS :

Main-plot treatments :—

2 methods of planting : M_1 =planting in beds and M_2 =planting in furrows.

Sub-plot treatments :—

3 spacings : $S_1=4' \times 6'$, $S_2=3' \times 9'$ and $S_3=2' \times 12'$.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) $20' \times 20'$. (b) $20' \times 12'$. (v) 4' on either side along breadth (vi) Yes.

4. GENERAL :

(i) Poor. (ii) Nil. (iii) Length and circumference measurements were taken for ten tubers in each plot at random. Tuber weight. (iv) (a) 1951—1955. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (i) Nil.

5. RESULTS :

- (i) 5514 lb./ac.
 (ii) (a) 327.5 lb./ac.
 (b) 951.9 lb./ac.
 (iii) None of the effects is significant.
 (iv) Av. yield of tuber in lb./ac.

	M ₁	M ₂	Mean
S ₁	5318	5490	5386
S ₂	6478	4818	5679
S ₃	6015	4863	5421
Mean	5937	5090	5514

S.E. of the difference of two

1. M marginal means = 109.1 lb./ac.
 2. S marginal means = 338.6 lb./ac.
 3. S means at the same level of M = 549.6 lb./ac.
 4. M means at the same level of S = 461.8 lb./ac.

Crop :- Sweetpotato.

Ref :- M. 53(13).

Site :- Central Farm, Coimbatore.

Type :- 'C'.

Object :- To find out the effect of length of cuttings on the final yield of tuber in Sweetpotato.

1. BASAL CONDITIONS:

- (i) (a) Nil. (b) *Cholum*. (c) 10 ton/ac. of F.Y.M.; (ii) (a) Red loam, (b) Refer soil analysis, Coimbatore.
 (iii) 3.10.53; (iv) (a) Ploughing four times, working Cambridge roller once and ridging once. Details N.A.
 (b) and (c) N.A. (d) 2' x 1'. (e) —. (v) 5—7 ton/ac. of F.Y.M. at the time of last planting. (vi) Local.
 (vii) Irrigated. (viii) 2 weedings. (ix) 28.34°. (x) 4.3.54.

2. TREATMENTS :

1. Long vines of 18" length.
 2. Short vines of 9" length.
 Used as planting material.

3. DESIGN

- (i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 10. (iv) (a) 15' x 6'. (b) 15' x 4'. (v) 1' along breadth. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) N.A. (iii) Tuber weight. (iv) (a) 1952—contd. (b) No. (c) N.A. (v) (a) Paddy Breeding Stn., Mangalore (Mysore State). (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 7412 lb./ac.
 (ii) 1956.6 lb./ac.
 (iii) Treatment difference is not significant.
 (iv) Av. yield of tuber in lb./ac.

Treatment Av. yield

1. 7452

2. 7371

S.E./mean = 618.7 lb./ac.

Crop :- Sweetpotato.
Site :- Central Farm, Coimbatore.

Ref :- M. 52(42).
Type :- 'D'.

Object :- To compare the different insecticides for controlling weevil in Sweetpotato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 2.12.52. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) 2' x 9". (e) —. (v) 5 ton/ac. of F.Y.M. (vi) Local. (vii) Irrigated. (viii) Weeding twice and turning up twice. (ix) 10.2". (x) 13.5.53.

2. TREATMENTS :

1. DDT 5% dust.
2. DDT 0.1% spray.
3. Lindane 5% dust.
4. Lindane 0.1% spray.
5. Calcium arsenate and lime dust in 1 : 4
6. Calcium arsenate and lime spray 1 : 1 oz. in one gallon of water.
7. No treatment.

Three rounds of treatments were given on 10.3.53 ; 31.3.53 and 24.4.53.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) and (b) 20' x 10'. (v) Nil. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Infestation of weevil was noticed. Measures taken as per treatments. (iii) Tuber weight (iv) (a) and (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 6132 lb./ac.
- (ii) 789.0 lb./ac.
- (iii) Treatment differences are significant.
- (iv) Av. yield of tuber in lb /ac.

Treatment	Av. yield
1.	6235
2.	5472
3.	4861
4.	4883
5.	5254
6.	6344
7.	9875
S.E./mean	= 394.5 lb./ac.

Crop :- Sweetpotato.
Site :- Central Farm, Coimbatore.

Ref :- M. 53(9).
Type :- 'M'.

Object :- To compare the different insecticides for controlling weevil in Sweetpotato.

1. BASAL CONDITIONS :

(i) (a) No. (b) Cholan. (c) 10 ton/ac. of F.Y.M. (ii) (a) Loam. (b) Refer soil analysis, Coimbatore. (iii) 22.11.53. (iv) (a) 4 ploughings ; working of Cambridge roller once and ridging up once. (b) and (c) N.A. (d) 2' x 1' (e) —. (v) 5—7 tons of F.Y.M. applied at the time of last ploughing. (vi) Local. (vii) Irrigated. (viii) 2 weedings. (ix) 28.34". (x) 14.4.54.

2. TREATMENTS :

1. DDT 5% dust.
2. DDT 0.1% spray.
3. Lindane 5% dust.
4. Lindane 0.1% spray.
5. Calcium arsenate and lime 1:4 dust.
6. Calcium arsenate and lime 1.oz, 10 oz. in one gallon of water applied as spray.
7. No treatment (control)

Three rounds of treatments were given.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) 15'×8'. (b) 15'×4'. (v) 2' along length. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of affected tubers. (iv) (a) 1953—contd. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 3831 lb./ac.
 (ii) 2232.8 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of tuber in lb./ac.

Treatment	Av. yield
1	3630
2.	4944
3.	2606
4.	5830
5.	3703
6.	3311
7.	2585
S.E./mean	=1116.4 lb./ac.

Crop :- Tapioca.

Site :- Central Farm, Coimbatore.

Ref :- M. 51(92).

Type :- 'M'.

Object :- To determine a suitable manurial recipe for Tapioca.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 6.10.51. (iv) (a) 3 ploughings. (b) N.A. (c) 12000 cuttings/ac. (d) 2'×1½'. (e) —. (v) Nil. (vi) Valenca. (vii) Irrigated. (viii) Weeding twice. (ix) N.A. (x) 8.10.52.

2. TREATMENTS :

Main-plot treatments :-

3 levels of manure : M_0 =Control (no manure), M_1 =F.Y.M. at 10,000 lb./ac. and M_2 =G. L. at 10,000 lb./ac.

Sub-plot treatments :-

3 levels of N : N_0 =0, N_1 =50 and N_2 =100 lb./ac.

Sub-sub-plot treatments :-

3 levels of K_2O : K_0 =0, K_1 =40 and K_2 =80 lb./ac.

Sub-sub-sub-plot treatments :-

2 levels of P_2O_5 : P_0 =0 and P_1 =80 lb./ac.

N as A/S., K_2O as Pot. Sul. and P_2O_5 as Super.

3. DESIGN :

(i) Split—split - Split-plot. (ii) (a) 3 main-plots/replication ; 3 sub-plots/main-plot ; 3 sub-sub-plots/sub-plot ; 2 sub-sub-sub-plots/sub-sub-plot. (b) N.A. (iii) 4. (iv) (a) 24'×15'. (b) 18'×12'. (v) 3'×1½' left as border. (vi) Yes.

4. GENERAL :

(i) Not satisfactory due to lack of irrigation. (ii) Nil. (iii) Yield of tapioca. (iv) (a) 1951—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1259 lb./ac.
 (ii) (a) 1.96 lb./ac.
 (b) 675 lb./ac.
 (c) 592 lb./ac.
 (d) 614 lb./ac.
 (iii) Only interaction $P \times K$ is highly significant. Other effects and interactions are not significant.

(iv) Av. yield of tuber in lb./ac.

	M ₀	M ₁	M ₂	Mean	K ₀	K ₁	K ₂	P ₀	P ₁
N ₀	1325	1305	950	1193	1201	1049	1329	1159	1227
N ₁	1226	1346	1144	1239	1462	1238	1017	1269	1209
N ₂	1451	1487	1097	1345	1127	1490	1211	1255	1435
P ₀	1330	1337	1006	1228	1466	1176	1041		
P ₁	1338	1411	1122	1290	1194	1342	1335		
K ₀	1435	1434	1121	1330					
K ₁	1288	1473	1016	1259					
K ₂	1279	1230	1055	1183					
Mean	1334	1379	1064	1259					

S.E. of difference of two

1. M marginal means = 249.3 lb./ac.
2. N marginal means = 112.5 lb./ac.
3. K marginal means = 98.7 lb./ac.
4. P marginal means = 83.5 lb./ac.
5. M means at the same level of N = 295.8 lb./ac.
6. N means at the same level of M = 194.9 lb./ac.
7. M means at the same level of K = 285.7 lb./ac.
8. K means at the same level of M = 170.9 lb./ac.
9. M means at the same level of P = 269.5 lb./ac.
10. P means at the same level of M = 144.7 lb./ac.
11. N means at the same level of K = 149.6 lb./ac.
12. K means at the same level of N = 170.9 lb./ac.
13. N means at the same level of P = 152.1 lb./ac.
14. P means at the same level of N = 144.7 lb./ac.
15. K means at the same level of P = 142.1 lb./ac.
16. P means at the same level of K = 144.7 lb./ac.

Crop :- Tapioca.

Ref :- M. 52(69).

Site :- Central Farm, Coimbatore.

Type :- 'M'.

Object :- To determine a suitable manurial recipe for Tapioca.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 6.10.52. (iv) (a) 3 ploughings. (b) N.A. (c) 12000 cuttings/ac. (d) 2' x 1½'. (e) —. (v) Nil. (vi) Valenca. (vii) Irrigated. (viii) Earthing up once and weeding twice. (ix) Nil. (x) 25.8.53.

2. TREATMENTS :

Main-plot treatments :-

3 levels of manure : M₀=0, M₁=F.Y.M. at 10,000 lb./ac. and M₂=G.L. at 10,000 lb./ac.

Sub-plot treatments :-

All combinations of (1) and (2)

(1) 3 levels of N : N₀=0, N₁=50 and N₂=100 lb./ac.(2) 3 levels of K₂O : K₀=0, K₁=80 and K₂=160 lb./ac.

Sub-sub-plot treatments :-

2 levels of P₂O₅ : P₀=0 and P₁=80 lb./ac.N as A/S, K₂O as Pot. Sul. and P₂O₅ as Super.

3. DESIGN :

(i) Split-split plot. (ii) (a) 3 main-plots/replication ; 9 sub-plots/main-plot ; 2 sub-sub-plots/sub-plot. (b) N.A. (iii) 4. (iv) (a) 24' x 15'. (b) 18' x 12'. (v) 3' x 1½' left as border. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. (ii) Nil. (iii) Yield of tuber. (iv) (a) 1951—contd. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1578 lb./ac.

(ii) (a) 330.8 lb./ac.

(b) 531.5 lb./ac.

(c) 472.8 lb./ac.

(iii) Main effects of N, K and interactions NPK, M x P x K, M x N x P x K are highly significant. Main effect of M and interaction M x N x K are significant. Main effect of P and other interactions are not significant.

(iv) Av. yield of tuber in lb./ac.

	M ₀	M ₁	M ₂	Mean	K ₀	K ₁	K ₂	P ₀	P ₁
N ₀	1383	1581	1468	1477	1510	1578	1344	1452	1502
N ₁	1829	1751	1624	1735	1523	1981	1701	1787	1683
N ₂	1236	1544	1242	1341	1464	1526	1032	1435	1247
P ₀	1575	1655	1445	1558	1563	1758	1354		
P ₁	1391	1595	1445	1477	1435	1632	1364		
K ₀	1432	1736	1330	1499					
K ₁	1724	1582	1778	1695					
K ₂	1294	1558	1225	1359					
Mean	1483	1625	1445	1518					

S.E. of difference of two

1. M marginal means = 55.1 lb./ac.
2. N or K marginal means = 88.6 lb./ac.
3. P marginal means = 64.3 lb./ac.
4. M means at the same level of N or K = 136.9 lb./ac.
5. N or K means at the same level of M = 153.4 lb./ac.
6. M means at the same level of P = 96.2 lb./ac.
7. P means at the same level of M = 111.4 lb./ac.
8. N or K means at the same level of P = 118.6 lb./ac.
9. P means at the same level of N or K = 111.4 lb./ac.

Crop :- Tapioca.

Site :- Central Farm, Coimbatore.

Ref :- M. 53 (84).

Type :- 'M'.

Object :- To determine a suitable manurial recipe for Tapioca under local conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Chalam. (c) 10 ton/ac. of F.Y.M. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 20, 31.8.53. (iv) (a) 4 ploughings. Working of Cambridge roller and ridging up once. (b) to (e) N.A. (v) Nil. (vi) Valenca. (vii) Irrigated. (viii) 2 weedings. (ix) 28.34". (x) 26" to 28.753.

2. TREATMENTS:

Main-plot treatments :

3 levels of manures : $M_0=0$, $M_1=F.Y.M.$ at 10000 lb./ac. and $M_2=GL.$ at 10,000 lb./ac.

Sub-plot treatments : -

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

(1) 3 levels of N : $N_0=0$, $N_1=50$ and $N_2=100$ lb./ac.

(2) 3 levels of K_2O : $K_0=0$, $K_1=80$ and $K_2=160$ lb./ac.

(3) 2 levels of P_2O_5 : $P_0=0$ and $P_1=80$ lb./ac.

N as A/S, K_2O as Mur., of Pot. and P_2O_5 as Super applied one week before planting.

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 18 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) $15' \times 8'$ (b) $10' \times 4'$. (v) $2\frac{1}{2}' \times 2'$ left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) 1951—contd. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Nil. (vii) Plot wise yield data not available.

5. RESULTS :

- (i) 8093 lb./ac.
- (ii) (a) 5202 lb./ac.
- (b) 672 lb./ac.
- (iii) Significance N.A.
- (iv) Av. yield of tuber in lb./ac.

	M_0	M_1	M_2	Mean	K_0	K_1	K_2	P_0	P_1
N_0	7463	8531	7919	7971	8147	8512	7254	7834	8107
N_1	9018	9446	8761	9075	8216	10118	8891	9790	8360
N_2	6670	8326	6698	7231	7896	8234	5564	7729	6733
P_0	8632	8929	7794	8452	8431	9106	7816		
P_1	6802	8607	7792	7734	7742	8802	6656		
K_0	7724	9363	7174	8087					
K_1	8732	8537	9594	8954					
K_2	6695	8404	6610	7236					
Mean	7717	8768	7793	8093					

S.E. of body of $N \times P$ or $K \times P$ table

=112 lb./ac.

S.E. of body of $N \times K$ table

=137 lb./ac.

S.E. of difference of two

- 1. M marginal means =417 lb./ac.
- 2. N or K marginal means =112 lb./ac.
- 3. P marginal means = 91 lb./ac.
- 4. N or K means at the same level of M =194 lb./ac.
- 5. M means at the same level of N or K =446 lb./ac.
- 6. P means at the same level of P =158 lb./ac.
- 7. M means at the same level of P =432 lb./ac.

Crop :- Tapioca.

Ref :- M. 51(42).

Site :- Central Farm, Coimbatore.

Type :- 'C'.

Object :- To find differences in yield by planting setts on mounds and ridges.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 17.8.51. (iv) (a) 3 ploughings. (b) As under treatments. (c) N.A. (d) As under treatments. (e) N.A. (v) 5 ton/ac. of F.Y.M. (vi) Valenca. (vii) Irrigated. (viii) 3 weedings; vines turned up twice. (ix) 11.8". (x) 14.6.52.

2. TREATMENTS :

Main-plot treatments :-

2 methods of planting : M_1 =On mounds and M_2 =On ridges.

Sub-plot treatments :-

3 spacings : $S_1=2' \times 15''$, $S_2=3' \times 12''$ and $S_3=4' \times 9''$.

3. DESIGN :

- (i) Split-plot. (ii) (a) 2 main-plots/replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) (a) $30' \times 30'$, (b) $30' \times 24'$ (v) 3' on either side of breadth. (vi) Yes.

4. GENERAL :

- (i) Poor growth due to shortage of water. (ii) Nil. (iii) Tubers weight. (iv) (a) 1951-1954. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 6187 lb./ac.
 (ii) (a) 219.6 lb./ac.
 (b) 1453.8 lb./ac.
 (iii) Only the main effect of M is highly significant.
 (iv) Av. yield of tapioca in lb./ac.

	M_1	M_2	Mean
S_1	5379	5828	5603
S_2	6756	6734	6745
S_3	6050	6373	6212
Mean	6062	6312	6187

S.E. of difference of two

1. M marginal means = 103.4 lb./ac.
 2. S marginal means = 839.4 lb./ac.
 3. S means at the same level of M = 1186.9 lb./ac.
 4. M means at the same level of S = 974.7 lb./ac.

Crop :- Tapioca.

Ref :- M. 53(12).

Site :- Central Farm, 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) Ragi. (c) F.Y.M. 10 ton/ac. and 50 lb./ac. of A/S. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 16.10.53. (iv) (a) Ploughing four times, working Cambridge roller once and ridging up once. Details N.A. (b) As per treatments. (c) to (e) N.A. (v) 5-7 ton/ac. of F.Y.M. applied at the time of last ploughing. (vi) Local. (vii) Irrigated. (viii) 2 weedings. (ix) 28.34". (x) 28.7.54.

2. TREATMENTS

All combinations of M_1 and M_2 (1) 2 methods of planting : M_1 =On mounds and M_2 =On ridges.(2) 3 spacings (between rows \times between plants) : $S_1=2' \times 3'$, $S_2=3' \times 2'$ and $S_3=4' \times 1\frac{1}{2}'$.

3. DESIGN :

(i) 3×2 Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 3. (iv) (a) Varies. (b) $12' \times 12'$. (v) 2 rows on either side. (vi) Yes.

4. GENERAL :

(i) Not very satisfactory. (ii) Nil. (iii) Yield of tapioca. (iv) (a) 1951—1954. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Nil. (vii) Initially 4 replications were planned but 4th replication is excluded for the purpose of analysis as it contained 3 missing plots.

5. RESULTS :

(i) 1528 lb./ac.

(ii) 822.7 lb./ac.

(iii) Main effects and interaction are not significant.

(iv) Av. yield of tapioca in lb./ac.

	M_1	M_2	Mean
S_1	1373	871	1122
S_2	2971	1476	2223
S_3	1519	959	1239
Mean	1954	1102	1528

S.E. of marginal mean of M = 274.2 lb./ac.

S.E. of marginal mean of S = 335.9 lb./ac.

S.E. of body of table = 475.0 lb./ac.

Crop :- Sugarcane.

Site :- Central Farm, Coimbatore.

Ref :- M. 49(91).

Type :- 'M'.

Object :- To determine the relative merits and manurial value of Night soil compost and F.Y.M. (1st series).

1. BASAL CONDITIONS :

(i) (a) Sugarcane-Paddy-Paddy-Sugarcane. (b) Paddy. (c) N.A. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 23, 25.4.49. (iv) (a) 5 ploughings. (b) (c) 6000 setts/ac. (d) $32' \times 3$ links. (e) 3-budded setts. (v) Nil. (vi) CO. 419. (vii) Irrigated. (viii) Weeding once; mummy hoeing and earthing up once. (ix) 16.31%. (x) 12 to 26.4.50.

2. TREATMENTS :

1. Control.

2. Night soil compost at 60 lb./ac. of N.

3. F.Y.M. at 60 lb./ac. of N.

 $\frac{1}{3}$ of manure applied by broadcast 15 days before planting and ploughed in, the rest 45 days after.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 25×100 sq. links. (v) N.A. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

- (i) 53.13 ton/ac.
 (ii) 4.87 ton/ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of sugarcane in ton/ac.

Treatment	Av. yield
1.	50.82
2.	55.49
3.	53.28
S.E./mean	= 1.99 ton./ac.

Crop :- Sugarcane.

Ref :- M. 50(87).

Site :- Central Farm, Coimbatore.

Type :- 'M'.

Object :- To find out the relative merits and manurial value of Night soil compost and F.Y.M. (2nd series).

1. BASAL CONDITIONS :

- (i) (a) Sugarcane-Paddy-Paddy-Sugarcane. (b) Paddy. (c) As under treatments, with 60 lb./ac. of N instead of 250 lb./ac. of N. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 21, 22.4.50, (iv) (a) 3 ploughings and ridge forming. (b) —. (c) 1500, 3-budded setts/ac. (d) 32" x 3 links. (e) N.A., (v) Nil. (vi) CO. 419. (vii) Irrigated. (viii) Weeding on 22 and 24.6.50; earthing up during 27.9.50 and 4.10.50. (ix) N.A. (x) 12.4.51.

TREATMENTS :

1. Control.
 2. Night soil compost at 250 lb./ac. of N.
 3. F.Y.M. at 250 lb./ac. of N.

Manures were applied on 11, 12.4.50, and then ridges and furrows were formed by ridge plough.

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 100 x 25 sq. links. (v) N.A. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Cane yield. (iv) (a) No. (b) Nil. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 41.75 ton/ac.
 (ii) 5.82 ton/ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of cane in ton/ac.

Treatment	Av. yield
1.	36.27
2.	46.26
3.	42.72
S.E./mean	= 2.38 ton/ac.

Crop :- Sugarcane.

Ref :- M. 48 (26).

Site :- Sugarcane Res. Stn., Gudiyattam.

Type :- 'M'.

Object :- To study the effect of P in combination with high doses of N on the yield of Sugarcane.

1. BASAL CONDITIONS :

- (i) (a) Sugarcane-Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S + 150 lb./ac. of Super. (ii) (a) Sandy loam. (b) Refer soil analysis, Gudiyattam. (iii) 2nd to 4th April 1948. (iv) (a) 6 ploughings. (b) N.A., (c) 15,000, 3-budded setts/ac., (d) 32" x 3 links. (e) N.A., (v) 10 ton/ac. of F.Y.M. applied on 19th, 22nd and 24th March 1948. (vi) CO. 419. (vii) Irrigated. (viii) 7 weedings and hoeings; earthing up once. (ix) 44.0°. (x) 11th to 26th April 1949.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of N : $N_1=200$ and $N_2=250$ lb./ac. of N.

(2) 3 levels of P_2O_5 : $P_0=0$, $P_1=50$ and $P_2=100$ lb./ac. of P_2O_5 .

N applied as A/S and G.N.C. in the ratio 1 : 2, P_2O_5 applied as steamed B.M.

3. DESIGN :

(i) 2×3 Fact. in R.B.D. (ii) (a) 6. (b) $96' \times 104'$. (iii) 6. (iv) (a) $48' \times 34'-8''$. (b) $40' \times 24'$. (v) About $4' \times 5'$ left as border. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Yield of sugarcane. (iv) (a) 1948-1950. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 37.01 ton/ac.

(ii) 4.58 ton/ac.

(iii) Main effects of N, P and interaction NP are not significant.

(iv) Av. yield of sugarcane in ton/ac.

	P_0	P_1	P_2	Mean
N_1	35.80	36.56	36.33	36.23
N_2	39.29	37.02	37.04	37.78
Mean	37.55	36.79	36.69	37.01

S.E. of marginal mean of N = 1.08 ton/ac.

S.E. of marginal mean of P = 1.32 ton/ac.

S.E. of body of table = 1.87 ton/ac.

Crop :- Sugarcane.

Site :- Sugarcane Res. Stn., Gudiyattam.

Ref :- M. 49 (13)

Type :- 'M'.

Object :- To study the effect of P in combination with high doses of N, on the yield of Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Sugarcane-Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super.

(ii) (a) Sandy loam. (b) Refer soil analysis, Gudiyattam. (iii) 30, 31.3.49 and 1.4.49. (iv) (a) 6 ploughings. (b) —. (c) 15,000, 3 budded setts/ac. (d) $32' \times 4$ links. (e) —. (v) 10 tons/ac. of F.Y.M. on 24th to 26th March 1949. (vi) CO. 419. (vii) 36 irrigations from well and tank to a depth of 2" at an interval of about 10 days. (viii) 6 weedings and hoeings. Earthing up once. (ix) 36.55%. (x) March-April, 1950.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of N : $N_1=200$ and $N_2=250$ lb./ac.

(2) 3 levels of P : $P_0=0$, $P_1=50$ and $P_2=100$ lb./ac.

N applied as A/S and G.N.C. in the ratio 1 : 2; $\frac{1}{2}$ N at planting and $\frac{1}{2}$ at earthing up; P_2O_5 applied as steamed B.M.

3. DESIGN :

(i) 3×2 Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) $48' \times 34'-8''$. (b) $40' \times 24'$. (v) About $4' \times 5'$ left as border. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Sugarcane yield. (iv) (a) 1948-1950. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 49.38 ton/ac.
 (ii) 4.10 ton/ac.
 (iii) Main effects and interaction are not significant.
 (iv) Av. yield of sugarcane in ton/ac.

	P ₀	P ₁	P ₂	Mean
N ₁	47.41	48.01	48.41	47.94
N ₂	50.49	50.89	51.10	50.83
Mean	48.95	49.45	49.76	49.38

S.E. of marginal mean of N = 0.96 ton/ac.
 S.E. of marginal mean of P = 1.18 ton/ac.
 S.E. of body of table = 1.67 ton/ac.

Crop :-Sugarcane.

Ref :-M. 50(66).

Site :-Sugarcane Res. Strn., Gudiyattam.

Type :-'M'.

Object :—To study the effect of P₂O₅ in combination with high doses of N on the yield of Sugarcane.

1. BASAL CONDITIONS :

- (i) (a) Sugarcane—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super.
 (ii) (a) Sandy loam. (b) Refer soil analysis, Gudiyattam. (iii) 12th to 15th March 1950. (iv) (a) 6 ploughings.
 (b) —. (c) 15000, 3-budded setts/ac. (d) 32"×4 links. (e) —. (v) 10 ton/ac. of F.Y.M. (vi) CO. 419. (vii)
 Irrigated. (viii) 6 weedings and hoeings ; earthing up once. (ix) 18.19". (x) 3rd to 27th April 1951.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 levels of N : N₁=200 and N₂=250 lb./ac.(2) 3 levels of P₂O₅ : P₀=0, P₁=50 and P₂=100 lb./ac.N applied as A/S and G.N.C. in the ratio 1 : 2. $\frac{1}{2}$ N applied at the time of planting and $\frac{1}{2}$ at earthing up.
P₂O₅ applied as Super.

3. DESIGN :

- (i) 3×4 Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 89×42 sq. links. (b) 60×36 sq. links. (v) 14 $\frac{1}{2}$ ×3
 sq. links left as border. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Sugarcane yield. (iv) (a) 1948—1950. (b) No. (c) N.A. (v) (a) Nil. (b) N.A.
 (vi) and (vii) Nil.

5. RESULTS :

- (i) 40.88 ton/ac.
 (ii) 4.19 ton/ac.
 (iii) Main effect of N alone is highly significant. P and NP are not significant.
 (iv) Av. yield of sugarcane in ton/ac.

	P ₀	P ₁	P ₂	Mean
N ₁	39.18	37.07	38.07	38.11
N ₂	45.13	41.91	43.14	43.66
Mean	42.53	39.49	40.60	40.88

S.E. of marginal mean of N = 0.99 ton/ac.
 S.E. of marginal mean of P = 1.21 ton/ac.
 S.E. of body of table = 1.71 ton/ac.

Crop :- Sugarcane.

Ref :- M. 49(114).

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

Type :- 'M'.

Object :- To compare the manurial value of compost with that of C.M.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—Cumbu—Groundnut—Ragi—Sunnhemp. (b) *Pillipesara*. (c) Nil. (ii) (a) Loam. (b) Refer soil analysis, Palur. (iii) 30.3.49. (iv) (a) 4 ploughings. (b) to (e) N.A. (v) Nil. (vi) CO. 449. (vii) Irrigated. (viii) Weeding and earthing up once. (ix) 32.27". (x) 28.3.50.

2. TREATMENTS :

1. No manure.
2. C.M. at 250 lb./ac. of N.
3. Compost at 250 lb./ac. of N.
Manures applied one week before planting.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 30' × 36'. (b) 24' × 36'. (v) 3' left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of sugarcane. (iv) (a) 1949—1952. (b) Yes. (c) Nil. (v) (a) and (b) Nil (vi) and (vii) Nil.

5. RESULTS :

- (i) 25.30 ton/ac.
- (ii) 1.52 ton/ac.
- (iii) Treatment differences are significant.
- (iv) Av. yield of sugarcane in ton/ac.

Treatment	Av. yield
1.	20.60
2.	29.80
3.	25.50
S.E./mean	= 0.62 ton/ac.

Crop :- Sugarcane.

Ref :- M. 48(61).

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

Type :- 'M'.

Object :- To study the effect of adding varying doses of P_2O_5 to a high dose of N on the yield of Sugarcane.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Sunnhemp (c) Nil. (ii) (a) Loamy. (b) Refer soil analysis, Palur. (iii) 4.5.3.48. (iv) (a) 4 ploughings. (b) to (e) N.A. (v) 3000 lb./ac. of G.M.+20 C.L./ac. of C.M. (vi) CO. 349. (vii) Irrigated. (viii) Weeding and earthing up once. (ix) 56.57". (x) 1 to 4.4.49.

2. TREATMENTS :

1. No manure.
2. No P_2O_5 . (but a basal dressing as mentioned below).
3. 50 lb./ac. of P_2O_5 as Super.
4. 100 lb./ac. of P_2O_5 as Super.
5. 200 lb./ac. of P_2O_5 as Super.
6. 400 lb./ac. of P_2O_5 as Super.
Treatments 2 to 6 received a basal dressing of 400 lb./ac. of N as A/S+G.N.C. in the ratio 1:3. N applied in 2 doses, half at planting and the other half at earthing up.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 60' × 20'. (b) 54' × 20'. (v) 3' left along length. (vi) Yes.

4. GENERAL :

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

5. RESULTS:

- (i) 36.14 tbd/ac.
- (ii) 5.14 ton/ac.
- (iii) Treatment differences are highly significant.
- (iv) Av. yield of sugarcane in ton/ac.

Treatment	Av. yield
1.	20.07
2.	38.41
3.	37.68
4.	37.84
5.	41.18
6.	41.68
S.E./mean	= 2.57 ton/ac.

Crop :- Sugarcane.**Ref :- M. 49 (115).****Site :- Agri. Res. Stn., Palur.****Type :- 'M'.****Object :- To study effect of adding varying doses of P_2O_5 to a high dose of N on the yield of Sugarcane.****1. BASAL CONDITIONS :**

- (i) (a) N.A. (b) Fodder *chulam*. (c) Nil. (ii) (a) Clay loam. (b) Refer soil analysis, Palur. (iii) 15.3.49.
- (iv) (a) 5 ploughings. (b) to (e) N.A. (v) 20 C.L./ac. of F.Y.M. (vi) CO. 349. (vii) Irrigated. (viii) Weeding once. (ix) 32.27". (x) 22.3.50.

2. TREATMENTS :

- 1. No manure
- 2. No P_2O_5 . (but a basal dressing as mentioned below).
- 3. 50 lb./ac. of P_2O_5 as Super.
- 4. 100 lb./ac. of P_2O_5 as Super.
- 5. 200 lb./ac. of P_2O_5 as Super.
- 6. 400 lb./ac. of P_2O_5 as Super.

Treatments 2 to 6 received a basal dressing of 400 lb./ac. of N as A/S+G.N.C. in the ratio 1:3. N applied in 2 doses after planting ; P_2O_5 before planting.

3. DESIGN :

- (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 36' x 20' (b) 30' x 20'. (v) 2 rows left as border. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

- (i) 52.40 ton/ac.
- (ii) 3.20 ton/ac.
- (iii) Treatment differences are highly significant.
- (iv) Av. yield of sugarcane in ton/ac.

Treatment	Av. yield
1.	29.09
2.	59.20
3.	56.08
4.	57.01
5.	56.00
6.	57.03
S.E./mean	= 1.60 ton/ac.

Crop :- Sugarcane.

Ref :- M. 48(62).

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

Type :- 'M'.

Object :- To determine the optimum dose of N₂ applied as G.N.C. and A/S. for Sugarcane.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Cotton. (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Palur. (iii) 18.4.48. (iv) (a) 4 ploughings. (b) to (e) N.A. (v) C.M. at 20 C.L./ac. (vi) CO. 349. (vii) Irrigated. (viii) Weeding and earthing up once. (ix) 56.57". (x) 11th to 14th April 1949.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 6 levels of N : N₁=250, N₂=300, N₃=350, N₄=400, N₅=450 and N₆=500 lb./ac.
 (2) 2 proportions : R₁=G.N.C. alone and R₂=G.N.C.+A/S in the ratio 3 : 1.

3. DESIGN :

(i) 6x2 Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) 45'x20'. (b) 39'x20'. (v) 3' left on either side length wise. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Sugarcane yield. (iv) (a) 1948—contd. (b) Yes. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 42.62 ton/ac.
 (ii) 3.00 ton/ac.
 (iii) Main effects and interaction are not significant.
 (iv) Av. yield of sugarcane in ton/ac.

	R ₁	R ₂	Mean
N ₁	42.71	41.55	42.13
N ₂	41.50	42.32	41.91
N ₃	43.03	42.82	42.92
N ₄	43.63	42.14	42.88
N ₅	44.03	46.23	45.13
N ₆	38.27	43.23	40.75
Mean	42.20	43.03	42.62

S.E. of marginal mean of R = 0.41 ton/ac.

S.E. of marginal mean of N = 1.06 ton/ac.

S.E. of body of table = 1.50 ton/ac.

Crop :- Sugarcane.

Ref :- M. 49(116).

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

Type :- 'M'.

Object :- To determine the optimum dose of N applied as G.N.C. and A/S. Sugarcane for Sugarcane.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Sunahemp. (c) Nil. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 12.3.49. (iv) (a) 5 ploughings. (b) to (e) N.A. (v) G.M. at 2613 lb./ac. (vi) CO. 349. (vii) Irrigated. (viii) Weeding once. (ix) 32.27". (x) 8th to 15th March 1950.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 6 levels of N : N₁=250, N₂=300, N₃=350, N₄=400, N₅=450 and N₆=500 lb./ac.(2) 2 proportions : R₁=G.N.C. alone and R₂=G.N.C.+A/S in the ratio 3 : 1.

Manures applied at the time of planting.

3. DESIGN :

(i) 6×2 Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) 45'×20'. (b) 39'×20'. (v) 3' left as border along length (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Sugarcane yield. (iv) (a) 1948—N.A. (b) Yes. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 46.80 ton/ac.
 (ii) 2.64 ton/ac.
 (iii) Main effects and interaction are not significant.
 (iv) Av. yield of sugarcane in ton/ac.

	R ₁	R ₂	Mean
N ₁	46.00	48.05	47.03
N ₂	48.03	47.07	47.55
N ₃	46.09	45.08	45.59
N ₄	46.04	45.03	45.54
N ₅	47.00	48.05	47.53
N ₆	49.05	46.09	47.57
Mean	47.04	46.56	46.80

S.E. of marginal mean of R = 0.54 ton/ac.

S.E. of marginal mean of N = 0.93 ton/ac.

S.E. of body of table = 1.32 ton/ac.

Crop :- Sugarcane.

Ref :- M. 48(15).

Site :- Sugarcane Res. Stn., Gudiyattam.

Type :- 'CV'.

Object :- To study whether a plant crop planted in May or the plant crop planted in March together with its ratoon crop, gives better yield.

1. BASAL CONDITIONS :

(i) (a) Sugarcane—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super.
 (ii) (a) Sandy loam. (b) Refer soil analysis, Gudiyattam. (iii) As under treatments. (iv) (a) 6 ploughings. (b) —. (c) 5,000, 3-budded setts/ac. (d) 32"×3 links. (e) —. (v) 10 ton/ac. of F.Y.M.+200 lb./ac. of N as Castorcake and A/S in 2 : 1 in 2 doses one at planting and the other at earthing up. (vi) As under treatments. (vii) Irrigated. (viii) 6 weedings and hoeings. Earthing up once. (ix) About 44". (x) As under treatments.

2. TREATMENTS :

Main-plot treatments :—

T₁ = Planting in March 48—Harvesting in Feb. 49. allowed to ratoon and harvest of ratoon in December, 1949.

T₂ = Planting in May 48—Harvesting in December.

Sub-plot treatments :—

2 varieties : V₁ = CO. 419 and V₂ = CO. 449.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 112×20 sq. links. (b) 104×12 sq. links. (b) 4 links left all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Sugarcane yield. (iv) (a) 1948-1950. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 57.50 ton/ac.
 (ii) (a) 7.18 ton/ac.
 (b) 3.88 ton/ac.
 (iii) Main effects of T, V and their interaction are highly significant.
 (iv) Av. yield of sugarcane in ton/ac.

	V ₁	V ₂	Mean
T ₁	64.35	68.61	66.48
T ₂	38.77	58.27	48.52
Mean	51.56	63.44	57.50

S.E. of difference of two

1. T marginal means = 2.93 ton/ac.
 2. V marginal means = 1.58 ton/ac.
 3. V means at the same level of T = 2.24 ton/ac.
 4. T means at the same level of V = 3.33 ton/ac.

Crop :- Sugarcane.

Ref :- M. 49(27)

Site :- Sugarcane Res. Stn., Gudiyattam.

Type :- 'CV'.

Object :- To find out the best time of planting Sugarcane.

1. BASAL CONDITIONS :

(i) Sugarcane—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Sandy loam. (b) Refer soil analysis, Gudiyattam. (iii) As under treatments. (iv) (a) 6 ploughings. (b) —. (c) 15000, 3-budded setts/ac. (d) 32"×3 links. (e) —. (v) 10 ton/ac. of F.Y.M.+200 lb./ac. of N as Ca tor cake and A/S in the ratio 2 : 1 in 2 equal doses one at the time of planting and the other at earthing up. (vi) As under treatments. (vii) Irrigated. (viii) 7 weedings and earthing up once. (ix) 36.55". (x) For March planting, from 16th to 20th Feb. 50; for ratoon crop of March planting, from 16th to 26th Nov. 50; and for May planting, from 16th to 26th Nov. 50.

2. TREATMENTS :

Main-plot treatments :—

2 times of planting : T₁=March (15.3.49) and T₂=May (3.5.49).

Sub-plot treatments :—

2 varieties : V₁=CO. 419 and V₂=CO. 449.

3. DESIGN :

(i) Split-plot. (ii) (a) 2 main-plots/replication; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 112×20 sq. links. (112×40 sq links) main-plot. (b) 104×12 sq. links. (v) 4 links around. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Sugarcane yield. (iv) (a) 1948—1950. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 60.80 ton/ac.
 (ii) (a) 5.12 ton/ac.
 (b) 5.43 ton/ac.
 (iii) Main effect of T alone is highly significant.

(iv) Av. yield of sugarcane in ton/ac.

	V ₁	V ₂	Mean
T ₁	75.97	77.64	76.80
T ₂	44.70	44.90	44.80
Mean	60.33	61.27	60.80

S.E. of difference of two

1. T marginal means = 2.09 ton/ac.
2. V marginal means = 2.22 ton/ac.
3. V means at the same level of T = 3.14 ton/ac.
4. T means at the same level of V = 3.05 ton/ac.

Crop :- Sugarcane.

Ref :- M. 50(59).

Site :- Sugarcane Res. Stn., Gudiyattam.

Type :- 'CV'.

Object :- To find out the best time of planting Sugarcane.

1. BASAL CONDITIONS :

- (i) (a) Sugarcane-Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super.
- (ii) (a) Sandy loam. (b) Refer soil analysis, Gudiyattam. (iii) As under treatments. (iv) (a) 6 ploughings. (b) —. (c) 15000,3-budded setts/ac. (d) 32" × 3 links spacing. (e) —. (v) 10 ton/ac. of F.Y.M.+200 lb./ac. of N as G.N.C. and A/S in the ratio 2 : 1 in 2 equal doses, one at ploughing and the other at earthing up.
- (vi) As under treatments. (vii) Irrigated. (viii) 6 weedings, 6 hoeings and earthing up once. (ix) About 30".
- (x) For March planting in Feb. 51 and its ratoon in Dec. 51 for May planting in Dec. 51.

2. TREATMENTS :

Main-plot treatments :-

2 times of planting : T₁=March and T₂=May.

Sub-plot treatments :-

2 varieties : V₁=CO. 419 and V₂=CO. 449.

3. DESIGN :

- (i) Split-plot. (ii) (a) 2 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) Main-plot 74'-6" × 26'-8" ; Sub-plot 74'-6" × 13'-4". (b) Sub-plot 68'-6" × 8". (v) 3' × 2'-8" left as border.
- (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Sugarcane yield. (iv) (a) 1948—1950. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS :

- (i) 48.23 ton/ac.
- (ii) N.A.
- (iii) T and V effects are significant. Interaction is not significant
- (iv) Av. yield of sugarcane in ton/ac.

	V ₁	V ₂	Mean
T ₁	57.34	61.08	59.21
T ₂	26.90	47.60	37.25
Mean	42.12	54.34	48.23

S.E. s = N.A.

Crop :- Sugarcane.

Ref :- M. 51(46).

Site :- Sugarcane Res. Stn., Gudiyattam.

Type :- 'CV'.

Object :- To find the optimum combination of time of planting and age at harvest for two varieties of Sugarcane.

1. BASAL CONDITIONS :

- (i) (a) Sugarcane-Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super.
 (ii) (a) Sandy loam. (b) Refer soil analysis, Gudiyattam. (iii) As under treatments. (iv) (a) 6 ploughings.
 (b) —. (c) 15000, 3-budded setts/ac. (d) 32"×3 links. (e) —. (v) 10 ton/ac. of F.Y.M.+200 lb./ac. of N as
 Castorcake and A/S in 2 : 1 in 2 doses one at the time of planting, and the other after 45 days. (vi) As under
 treatments. (vii) Irrigated. (viii) 7 weedings and hoeings with hand hoes and earthing up once. (ix) 39.7".
 (x) As under treatments.

2. TREATMENTS:

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

(1) 3 times of planting : T_1 =January, T_2 =May and T_3 =September.(2) 3 ages at harvest : A_1 =10 months, A_2 =12 months and A_3 =14 months.(3) 2 varieties : V_1 =CO. 419 and V_2 =CO. 449.

3. DESIGN :

- (i) 3×3×2 Fact. in R.B.D. (ii) (a) 18. (b) N.A. (iii) 4. (iv) (a) 13'-4"×73'-6". (b) 8'×68'-6". (v) about
 2½' left as border. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Light attack of mosaic and early shoot borer. (iii) Yield of sugarcane. (iv) (a)
 1951—1953. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 36.99 ton/ac.
 (ii) 4.80 ton/ac.
 (iii) Main effect of T and interaction $V \times A$ are highly significant. Main effect of A and interactions $V \times T$,
 $T \times A$ are significant. Main effect of V and other interactions are not significant.
 (iv) Av. yield of Sugarcane in ton/ac.

	T_1	T_2	T_3	Mean	V_1	V_2
A_1	45.08	35.17	24.61	34.95	36.70	33.21
A_2	54.15	38.47	24.45	39.02	38.42	39.62
A_3	51.99	33.69	25.26	36.99	34.08	39.89
Mean	50.41	35.78	24.77	36.99	36.40	37.57
V_1	50.99	36.43	21.78			
V_2	49.83	35.12	27.77			

S.E. of marginal mean of A or T = 0.98 ton/ac.

S.E. of marginal mean of V = 0.80 ton/ac.

S.E. of body of table A×T = 1.70 ton/ac.

S.E. of body of table A×V or V×T = 1.39 ton/ac.

Crop :- Sugarcane.

Ref :- M. 52(43).

Site :- Sugarcane Res. Stn., Gudiyattam.

Type :- 'CV'.

Object :- To find the optimum combination of the time of planting and age at harvest for two varieties of Sugarcane.

1. BASAL CONDITIONS :

- (i) (a) Sugarcane—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super.
 (ii) (a) Sandy loam. (b) Refer soil analysis, Gudiyattam. (iii) As under treatments. (iv) (a) 6 ploughings.
 (b) —. (c) 15000, 3-budded setts/ac. (d) 32"×3 links. (e) —. (v) 200 lb./ac. of N as A/S and Castor
 cake in 2 : 1 ratio as top dressing ; 10 ton/ac. of F.Y.M. (vi) As under treatments. (vii) Irrigated. (viii)
 7 weedings and hoeings and earthing up once. (ix) Varies from treatment to treatment. (x) As under
 treatments.

2. TREATMENTS :

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

- (1) 3 times of planting : T_1 =January, T_2 =May and T_3 =September.
 (2) Age at harvest : A_1 =10 months, A_2 =12 months and A_3 =14 months.
 (3) 2 varieties : V_1 =CO. 419 and V_2 =CO. 449.

3. DESIGN :

- (i) $3 \times 3 \times 2$ Fact. in R.B.D. (ii) (a) 18. (b) N.A. (iii) 4. (iv) (a) $73' - 6'' \times 13' - 4''$. (b) $68' - 6'' \times 8''$.
 (v) $2\frac{1}{2}'$ left as border. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Mild attack of early shoot borer, Spraying of DDT 50%. (iii) Height and weight measurements. (iv) (a) 1951-1953. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 28.11 ton/ac.
 (ii) 4.97 ton/ac.
 (iii) Main effects of T, V and interactions $T \times V$ and $A \times V$ are highly significant. Main effect A and of interactions $T \times A$ and $T \times A \times V$ are not significant.
 (iv) Av. yield of sugarcane in lb./ac.

	T_1	T_2	T_3	Mean	V_1	V_2
A_1	28.67	31.67	19.51	26.61	27.07	26.16
A_2	30.95	37.51	21.02	29.83	25.64	34.02
A_3	33.29	31.34	19.04	27.89	21.85	33.92
Mean	30.91	33.51	19.85	28.11	24.85	31.37
V_1	30.13	30.75	13.69			
V_2	31.80	36.28	26.02			

S.E. of marginal mean of A or T = 0.48 ton/ac.
 S.E. of marginal mean of V = 0.39 ton/ac.
 S.E. of body of table $V \times T$ or $V \times A$ = 0.68 ton/ac.
 S.E. of body of table $A \times T$ = 0.83 ton/ac.

Crop :- Sugarcane.

Ref :- M. 53(54).

Site :- Sugarcane Res. Stn., Gudiyattam.

Type :- CV'.

Object :- To find the optimum combination of time of planting and age at harvest for two varieties of Sugarcane.

1. BASAL CONDITIONS :

- (i) (a) Sugarcane-Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super.
 (ii) (a) Sandy loam. (b) Refer soil analysis, Gudiyattam. (iii) As under treatments. (iv) (a) 4 ploughings with Cooper-11 plough and 2 with victory plough. (b) —. (c) 15000 3-budded setts/ac. (d) $32'' \times 3$ links. (e) —. (v) 10 ton/ac. of F.Y.M. as basal dressing. 200 lb./ac. of N as A/S and Castor cake in the ratio 2 : 1 as top dressing in 2 doses 1st after 45 days of planting and the next after another 45 days. (vi) CO. 419 (late) CO. 449 (medium). (vii) Irrigated. (viii) 7 weedings and earthing up once. (ix) $40.2''$. (x) As under treatments.

2. TREATMENTS :

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

- (1) 2 times of planting : T_1 =January and T_2 =May.
 (2) Age at harvest : A_1 =10, A_2 =12 and A_3 =14 months.
 (3) 2 varieties : V_1 =CO. 419 and V_2 =CO. 449.

3. DESIGN :

- (i) $2 \times 3 \times 2$ Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) $73' - 6'' \times 13' - 4''$. (b) $68' - 6'' \times 8''$.
 (v) $2\frac{1}{2}'$ left as border. (vi) Yes.

4. GENERAL:

- (i) Satisfactory. (ii) Early shoot borer. Sprayed DDT 50%. (iii) Wt. of canes. (iv) (a) 1951-1953. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

- (i) 37.44 ton./ac.
 (ii) 9.23 ton./ac.
 (iii) Main effect of V and T are highly significant. Interactions $V \times A$ and $T \times A$ are significant. Effect of A and interactions $V \times T$ are not significant.
 (iv) Av. yield of sugarcane in ton/ac.

	T ₁	T ₂	Mean	V ₁	V ₂
A ₁	39.63	40.88	40.41	38.48	42.33
A ₂	44.92	30.68	37.80	32.02	48.59
A ₃	40.92	27.31	34.12	23.26	44.96
Mean	41.92	32.96	37.44	31.25	43.63
V ₁	37.14	25.37			
V ₀	46.71	40.55			

S.E. of marginal mean of T or V = 1.88 ton/ac.
 S.E. of marginal mean of A = 2.31 ton/ac.
 S.E. of body of table $T \times A$ or $V \times A$ = 3.26 ton/ac.
 S.E. of body of table $T \times V$ = 2.66 ton/ac.

Crop :- Sugarcane.

Ref :- M. 52(44).

Site :- Sugarcane Res. Stn., Gudiyattam.

Type :- 'CV'.

Object :- To find out the suitability of Java method of planting *Rayamgans* i.e., seedlings sprouted on the standing crop of cane.

1. BASAL CONDITIONS :

- (i) (a) Sugarcane—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super.
 (ii) (a) Sandy loam. (b) Refer soil analysis, Gudiyattam. (iii) 22.2.52. (iv) (a) 6 ploughings. (b) —.
 (c) 8000 setts for *Rayamgan* and slips and 10,000 setts of sprouted setts. (d) 48"×8" (e) —. (v) 10 ton/ac. of F.Y.M.+200 lb./ac. of N as Castorcake and A/S in 2:1 in two equal doses at 45 and 90 days after planting. (vi) CO. 419 and CO. 449. (vii) Irrigated. (viii) 7 weedings and hoeings and earthing up once. (ix) 37.9". (x) 20.2.33 to 15.3.53.

2. TREATMENTS :

Main-plot treatments :-

3 planting materials : P₁=*Rayamgans*, P₂=Sprouted slips and P₃=Ordinary setts.

Sub-plot treatments :-

2 varieties : V₁=CO. 419 and V₂=CO. 449.

3. DESIGN :

- (i) Split plot. (ii) (a) 3 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) Main-plot 72×44 sq. links; 36×44 sq. links sub-plot. (b) Sub-plot 24×42 sq. links. (v) 6 links×1 [link left as border. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Mild attack of early shoot borer. 50% DDT sprayed. (iii) Sugarcane yield. (iv) (a) 1952—1954. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 38.24 ton/ac.
 (ii) (a) 3.44 ton/ac.
 (b) 2.63 ton/ac.
 (iii) Main effect of P and interaction P×V are highly significant.
 (iv) Av. yield of sugarcane in ton/ac

	P ₁	P ₂	P ₃	Mean
V ₁	40.48	32.77	38.37	37.21
V ₂	45.27	26.66	45.90	39.28
Mean	42.87	29.72	42.14	38.24

S.E. of difference of two

1. P marginal means = 1.72 ton/ac.
2. V marginal means = 1.08 ton/ac.
3. V means at the same level of P = 1.86 ton/ac.
4. P means at the same level of V = 2.17 ton/ac.

Crop :- Sugarcane.

Ref :- M. 53(53).

Site :- Sugarcane Res. Stn., Gudiyattam.

Type :- 'CV'.

Object :- To find out the suitability of the Java method of planting *Rayamgans* i.e. seedlings sprouted on the standing crop of cane.

1. BASAL CONDITIONS

- (i) (a) Sugarcane-Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super.
 (ii) (a) Sandy loam. (b) Refer soil analysis, Gudiyattam. (iii) 1.3.53. (iv) (a) 4 ploughings with Cooper and two with victory plough. (b) N.A. (c) N.A. (d) As per treatments (e) N.A. (v) 1 ton/ac of F.Y.M. +200 lb./ac. of N as Castor cake and A/S in 2 : 1 as top dressing half at the time of planting and the rest 45 days after. (vi) CO. 419 (late) and CO. 449 (medium). (vii) Irrigated. (viii) Weeding 7 times and earthing. (ix) 36.5". (x) N.A.

2. TREATMENTS :

- All combinations of (1), (2) and (3)
 (1) 2 planting materials : P₁=*Rayamgans* and P₂=Top setts.
 (2) 3 spacings : S₁=6"×6", S₂=12"×12" and S₃=18"×18".
 (3) 2 varieties : V₁=CO. 419 and V₂=CO. 449.

3. DESIGN :

- (i) 3×2×2 Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 2. (iv) (a) 53×40 sq. links. (b) 45×30 sq. links. (v) 4×5 links left as border. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Mild attack of early shoot borer. Spraying of 50% D D T (iii) Height measurements. Cane yield (iv), (a) 1952-1954. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Nil. (vii) Raw data and other details N.A.

5. RESULTS :

- (i) 44.81 ton/ac.
 (ii) N.A.
 (iii) None of the effects is significant.

(iv) Av. yield of sugarcane in ton./ac.

	P ₀	P ₁	Mean	V ₀	V ₁
S ₀	43.87	45.32	44.59	46.50	42.69
S ₁	47.34	48.80	48.07	50.95	45.19
S ₂	47.08	36.46	41.77	43.07	40.47
V ₁	47.18	46.50	46.84		
V ₂	45.01	40.56	42.79		

Crop :- Sugarcane.

Ref :- M. 48(27).

Site :- Sugarcane Res. Stn., Gudiyattam.

Type :- 'IV'.

Object :- To find the optimum water requirement of sugarcane.

1. BASAL CONDITIONS :

(i) (a) Sugarcane-Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. +150 lb./ac. of Super. (ii) (a) Sandy loam. (b) Refer soil analysis, Gudiyattam. (iii) 7,8,9,3,48. (iv) (a) 6 ploughings. (b) & (c) —. (d) 32' × 3 links. (e) 13000,3-budded setts/ac. (v) 10 ton/ac. of F.Y.M. +100 lb./ac. of N as Caster cake and A/S in the ratio 2:1 in 2 equal doses at the time of planting and the other at the time of earthing up. (vi) CO. 449 and CO. 419. (vii) From well and tank as under treatments. (viii) 6 to 8 weedings and earthing up once. (ix) 44.0°. (x) 28th Feb. to 4th March 49.

2. TREATMENTS :

Main-plot treatments :-

3 intensities of irrigation : I₁ = Once in 6 days, I₂ = Once in 12 days and I₃ = Once in 18 days.

Sub-plot treatments :-

2 varieties : V₁ = CO. 419 and V₂ = 449.

3. DESIGN :

(i) Split plot. (ii) (a) 3 main-plots/black ; 2 sub-plots/main-plot. (b) Nil. (iii) 6. (iv) (a) Main-plot 48'-0" × 69'-4" ; sub-plot : 48' × 34'-8" (b) sub-plot : 35' × 18'-8". (v) 6½ × 8' left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Sugarcane yield. (iv) (a) 1947 1953. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 40.13 ton/ac.
(ii) (a) 4.19 ton/ac.
(b) 2.79 ton/ac.
(iii) Varieties alone differ highly significantly.
(iv) Av. yield of sugarcane in ton/ac.

	I ₁	I ₂	I ₃	Mean
V ₁	36.48	38.18	37.50	37.39
V ₂	42.94	44.69	41.01	42.88
Mean	39.71	41.44	39.26	40.13

S.E. of difference of two

1. I means = 1.71 ton/ac.
2. V means = 0.93 ton/ac.
3. V means at a level of I = 1.61 ton/ac.
4. I means at a level of V = 2.06 ton/ac.

Crop :- Sugarcane.

Ref :- M. 49 (28).

Site :- Sugarcane Res. Stn. Gudiyattam.

Type :- 'IV'.

Object :- To find out the optimum requirement of irrigation for Sugarcane.

1. BASAL CONDITIONS :

(i) (a) Sugarcane Paddy. (b) Paddy. (c) 5000 lb./ac. G.L.+100 lb./ac. Super+130 lb./ac. of A/S. (ii) (a) Sandy loam. (b) Refer soil analysis, Gudiyattam. (iii) 18th to 20.3.49. (iv) (a) 6 ploughings ; (b) —. (c) 15000, 3-budded setts/ac. (d) 32" x 3 links. (e) —. (v) 10 tons/ac. of F.Y.M.+100 lb./ac. of N as Castorcake and A/S in the ratio 2 : 1 once at the time of planting and other at earthing up in 2 equal doses. (vi) As per treatments. (vii) Irrigated. (viii) 7 weedings and earthing up once. (ix) 36.55". (x) 21st Feb to 6th March 1950.

2. TREATMENTS :

Main-plot treatments :-

3 intensities of irrigation : I_1 =Once in 6 days, I_2 =Once in 12 days and I_3 =Once in 18 days.

Sub-plot treatments :-

2 varieties : V_1 =CO. 419 and V_2 =449.

3. DESIGN :

(i) Split plot. (ii) (a) 3 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 48' x 69'-4" main-plot ; 48' x 34'-8" sub-plot (b) 35' x 18'-8" (sub-plot). (v) 6½ x 8' left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Sugarcane yield. (iv) (a) 1947—1950. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(a) 37.23 ton/ac.

(ii) (a) 8.71 ton/ac.

(b) 2.53 ton/ac.

(iii) Varieties alone differ highly significantly.

(iv) Av. yield of sugarcane in ton./ac.

	I_1	I_2	I_3	Mean
V_1	35.18	34.21	36.34	35.25
V_2	40.01	38.06	39.57	39.21
Mean	37.59	36.14	37.95	37.23

S.E. of difference of two

1. I means

=3.55 ton/ac.

2. V means

=1.84 ton/ac.

3. V means at the same level of I

=1.46 ton/ac.

4. I means at the same level of V

=3.84 ton/ac.

Crop :- Sugarcane (Ratoon).

Ref :- 50 (65).

Site :- Sugarcane Res. Stn., Gudiyattam.

Type :- 'IV'.

Object :- To find optimum requirement of irrigation for Sugarcane.

1. BASAL CONDITIONS:

(i) (a) Sugarcane-Paddy. (b) Sugarcane (plant). (c) 10 ton/ac. F.Y.M. as basal dressing+100 lb./ac. of N as Castorcake and A/S in 2 : 1. (ii) (a) Sandy loam. (b) Refer soil analysis, Gudiyattam. (iii) As under treatments. (iv) (a) Earthing up once. (b) N.A. (c) N.A. (d) 32" x 4 links. (e) —. (v) 10 ton/ac of F.Y.M.+100 lb./ac. of N as Castor cake and A/S in 2 : 1, half of N applied at the time of 1st earthing and the other half at 2nd earthing up in June. (vi) As under treatments. (vii) Irrigated by well. As under treatments. (viii) Earthing up twice. (ix) 18.19". (x) 4th to 17th May, 1951.

2. TREATMENTS :-

Main-plot treatments :-

3 intensities of irrigation :- I_1 = Once in 6 days, I_2 = Once in 12 days and I_3 = Once in 18 days.

Sub-plot treatments :-

2 varieties :- V_1 = CO.419 and V_2 = CO.449.

3. DESIGN :

(i) Split plot. (ii) (a) 3 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 75 x 53 Sq. links. (b) 53½ x 28 sq. links. (v) 9 x 12 sq. links left as border. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Sugarcane yields. (iv) (a) 1947—1950. (b) No. (c) Nil. (v) (a) Nil. (b) N.A. (vi) Nil. (vii) This experiment is on the ratoon crop of 1949.

5. RESULTS :

	I_1	I_2	I_3	Mean
V_1	23.37	18.92	19.98	20.76
V_2	28.47	22.61	24.61	25.08
Mean	25.92	20.76	22.07	22.92

S.E. of difference of two

- | | |
|-----------------------------------|---------------|
| 1. I means | =1.98 ton/ac. |
| 2. V means | =0.61 ton/ac. |
| 3. V means at the same level of I | =1.06 ton/ac. |
| 4. I means at the same level of V | =2.12 ton/ac. |

Crop :- Cotton.

Site :- Govt. Agri. Chemist, Coimbatore.

Ref :- M. 52 (65).

Type :- 'M'.

Object :- To determine the optimum dose of green manure for the black soils under irrigated conditions.

1. BASAL CONDITIONS :

(i) (a) *Jonna*-Cotton. (b) *Jonna*. (c) As under treatments. (ii) (a) Black soil. (b) Refer soil analysis, Coimbatore. (iii) N.A. (iv) (a) to (e) N.A. (v) Nil. (vi) N.A. (vii) Irrigated. (viii) N.A. (ix) N.A. (x) N.A.

2. TREATMENTS :

- Control.
- G.M. crop raised with field and applied.
- 2500 lb./ac. of G.M. from out side applied.
- 5000 lb./ac. of G.M. from out side applied.
- 7500 lb./ac. of G.M. from out side applied.
- 10000 lb./ac. of G.M. from out side applied.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) N.A. (b) N.A. (v) N.A. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) N.A. (iii) Yield of kapas. (iv) (a) 1951 (*Jonna*)—1952 (cotton). (b) Yes. (c) N.A. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) Original records N.A.

5. RESULTS :

- 613 lb./ac.
- N.A.

(iv) Av. yield of kapas in lb./ac.

Treatment	Av. yield
1.	322
2.	1066
3.	398
4.	514
5.	635
6.	741
S.E./mean	=N.A.

Crop :- Cotton.

Ref :- M. 48(90).

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

Type :- 'M'.

Object :—To find out whether the application of Boron would increase the yield of Cotton and also to prevent excessive boll shedding in Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Irangu Chalam*. (c) Nil. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) 15.10.48. (iv) (a) 3 ploughings. (b) N.A. (c) 12 lb./ac. (d) 18" x 6". (e) 1. (v) Nil. (vi) K-1. (vii) Rainfed. (viii) Weeding once. (ix) 19.84". (x) 30.3.49. to 28.4.49

2. TREATMENTS :

1. No Boron.
 2. 10 lb./ac. of Boron.
 3. 20 lb./ac. of Boron.
 4. 30 lb./ac. of Boron.
 5. 40 lb./ac. of Boron.
- Boron applied in the form of Boric acid.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 1.65 cent. (b) 0.75 cents. (dimension N.A.) (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of cotton. (iv) (a) 1948—1951. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 383 lb./ac.
- (ii) 66.24 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of kapas in lb./ac.

Treatment	Av. yield
1.	364
2.	420
3.	405
4.	368
5.	360
S.E./mean	= 33.12 lb./ac.

Crop :- Cotton.

Ref :- M. 49(1)/48(90)

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

Type :- 'M'.

Object :—To find out whether the application of Boron would increase the yield of cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton. (c) As under treatments. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) 20.10.49. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) 1' x 1'. (e) —. (v) F.Y.M. at 5 C.L./ac. (vi) K-2. (vii) Rainfed. (viii) Weeding once. (ix) 13.8". (x) 16.2.50 to 6.7.50.

2. TREATMENTS :

1. No Boron.
2. 10 lb./ac. of Boron.
3. 20 lb./ac. of Boron.
4. 30 lb./ac. of Boron.
5. 40 lb./ac. of Boron.

Boron applied in the form of Boric acid.

3. DESIGN :

- (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) 90×18 sq. links. (b) 81×9 sq. links. (v) $4\frac{1}{2}$ links on all sides. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Yield of cotton. (iv) (a) 1948—1951. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 544 lb./ac.
 (ii) 96.1 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of kapas in lb./ac.

Treatment	Av. yield
1.	476
2.	539
3.	552
4.	556
5.	596
S.E./mean	= 48.1 lb./ac.

Crop :- Cotton.

Ref :- M. 50(103)/49(1)/48(90).

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

Type :- 'M'.

Object :- To find out whether application of Borax would give increased yield of Cotton.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Cotton. (c) As under treatments. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) 24.10.50. (iv) (a) 3 ploughings. (b) N.A. (c) 12 lb./ac. (d) $18' \times 6'$. (e) 1. (v) Nil. (vi) K-2. (vii) Rajnfed. (viii) Weeding once. (ix) 13.04'. (x) 19.2.51 to 19.7.51.

2. TREATMENTS :

1. No Boron
2. 10 lb./ac. of Boron.
3. 20 lb./ac. of Boron.
4. 30 lb./ac. of Boron.
5. 40 lb./ac. of Boron.

Boron applied in the form of Boric acid.

3. DESIGN :

- (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 1.65 cents. (b) 0.75 cent. (dimension N.A.) (v) N.A. (vi) Yes.

4. GENERAL :

- (i) Due to severe drought conditions very poor yield was obtained (ii) Nil. (iii) Yield of cotton. (iv) (a) 1948—1951. (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 259 lb./ac.
 (ii) 30.4 lb./ac.
 (iii) Treatment differences are not significant.

(iv) Av. yield of kapas in lb./ac.

Treatment	Av. yield
1.	248
2.	250
3.	252
4.	258
5.	240
S.E./mean	= 15.22 lb./ac.

Crop :- Cotton.

Ref :- M. 51(14)/50(103)/49(1)/48(90).

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

Type :- 'M'.

Object :- To find out whether the application of Boron would increase the yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton. (c) As under treatments. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) 9.11.51. (iv) (a) 3 ploughings. (b), (c) N.A. (d) 1'x1'. (e) N.A. (v) 5 C.L./ac. of F.Y.M. (vi) K-2. (vii) Rainfed. (viii) Two weedings. (ix) 14.5%. (x) 31.3.52 to 26.8.52.

2. TREATMENTS :

- 0 lb./ac. of Boron.
- 10 lb./ac. of Boron.
- 20 lb./ac. of Boron.
- 30 lb./ac. of Boron.
- 40 lb./ac. of Boron.

Boron applied in the form boric acid at the time of last ploughing.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 90x18 sq. links. (b) 81x9 sq. links. (v) About 4½ links on all sides. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Kapas yield. (iv) (a) 1948-1951. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 264 lb./ac.
 (ii) 40.1 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of kapas in lb./ac.

Treatment	Av. yield
1.	236
2.	272
3.	255
4.	315
5.	240
S.E./mean	= 20.1 lb./ac.

Crop :- Cotton.

Ref :- M. 53(19).

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

Type :- 'M'.

Object :- To study the effect of C/N and A/S on Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton. (c) As under treatments. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) 11.10.53. (iv) (a) 3 ploughings. (b) Drilled in the gorru. (d) 1½'x1½'. (e) 1. (v) Nil. (vi) K. 2. (vii) Rainfed. (viii) Weeding once. (ix) 16.3%. (x) 1.4.54 to 3.7.54.

2. TREATMENTS :

All combinations of (1), (2) and (3) + a Control.

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

(2) 2 levels of N : $N_1=30$ lb./ac. and $N_2=80$ lb./ac.

(3) 2 levels of basal dressing : $B_0=0$, B_1 =Lime at 450 lb./ac.+C.M. at 3 ton/ac.+Super at 30 lb./ac. of P_2O_5 .

Control—as under B_1 above.

Basal dressing before planting ; C/N and A/S applied one month after planting.

3. DESIGN :

(i) Fact. in R.B.D. (ii) 9. (iii) 5. (iv) (a) 60×27 sq. links. (b) 51×18 sq. links. (v) About $4\frac{1}{2}$ links on all sides. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Kapas yield. (iv) (a) 1952—1954. (b) Yes. (c) N.A. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 409 lb./ac.

(ii) 47.90 lb./ac.

(iii) None of the effects is significant.

(iv) Av. yield of kapas in lb./ac.

Control=396 lb./ac.

	B_0	B_1	Mean	N_1	N_2
A/S	413	396	404	392	416
C/N	401	432	417	409	424
Mean	407	414	411	401	420
N_1	396	406			
N_2	418	422			

S.E. of any marginal mean

=10.80 lb./ac.

S.E. of body of table

=15.20 lb./ac.

Crop :- Cotton.

Ref :- M. 48(60).

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

Type :- 'M'.

Object :- To study the effect of G.N.C. as compared to A/S as source of N.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) Ragl. (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Palur. (iii) 16.2.48. (iv) (a) 4 ploughings. (b) to (e) N.A. (v) Nil. (vi) CO. 4. and 40. (vii) Irrigated. (viii) Weeding once. (ix) 13.78%. (x) 10.6.48 to 22.7.48.

2. TREATMENTS :

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

(1) 5 levels of N : $N_0=0$, $N_1=25$, $N_2=50$, $N_3=75$ and $N_4=100$ lb./ac.

(2) 2 sources of N : $S_1=A/S$ and $S_2=G.N.C.$

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

3. DESIGN :

(i) $5 \times 2 \times 3$ Fact. in R.B.D. (ii) (a) 30. (b) N.A. (iii) 3. (iv) 50×20 sq. links. (b) 40×12 sq. links. (v) 5×4 sq. links left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of cotton (kapas). (iv) (a) 1946—1948. (b) Yes. (c) Nil. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 880 lb./ac.
 (ii) 190 lb./ac.
 (iii) No effect is significant.
 (iv) Av. yield of kapas in lb./ac.
 $P_0=871$ lb./ac., $P_1=786$ lb./ac. and $P_2=845$ lb./ac. (without Nitrogen).

	N ₁	N ₂	N ₃	N ₄	Mean	P ₀	P ₁	P ₂
A/S	942	963	817	793	879	907	829	899
G.N.C.	847	827	997	907	934	872	927	913
Mean	894	895	907	869	891	889	878	906
P ₀	1004	856	883	815				
P ₁	883	907	880	842				
P ₂	796	922	957	949				

S.E. of marginal mean of N = 44.8 lb./ac.
 S.E. of marginal mean of Source = 31.7 lb./ac.
 S.E. of marginal mean of P = 38.7 lb./ac.
 S.E. of body of table N × source = 63.3 lb./ac.
 S.E. of body of table N × P = 77.6 lb./ac.
 S.E. of body of table P × Source = 54.8 lb./ac.

Crop :- Cotton.

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

Ref :- M. 52 (71).

Type :- 'M'.

Object :- To study the effect of application of organic matter in different forms and doses.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Red soil. (b) Refer soil analysis, Satyamangalam. (iii) 9.12.52.
 (iv) (a) N.A. (b) N.A. (c) N.A. (d) 18" × 10". (e) N.A. (v) 45 lb./ac. of N as A/S + 30 lb./ac. of P₂O₅ as Super. (vi) MU 1 (cotton). (vii) Irrigated. (viii) N.A. (ix) N.A. (x) 16.4.53 to 30.6.53.

2. TREATMENTS :

All combinations of (1) and (2) + Control (no manure).

- (1) 3 levels of G.L. : G₁=2500, G₂=5000 and G₃=7500 lb./ac.
 (2) 2 sources of G.L. : S₁=Cassia leaf and S₂=Sunnhemp.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) 1.03 cents. (b) 0.62 cents. (v) N.A. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

- (i) 1048 lb./ac.
 (ii) 134.0 lb./ac.
 (iii) Main effects of levels and sources of G.L. are significant. Interaction and 'control vs. others' are not significant.

(iv) Av. yield of kapas in lb./ac.

Control = 1008 lb./ac.

	G ₁	G ₂	G ₃	Mean
S ₁	1025	1071	1237	1111
S ₂	925	928	1145	999
Mean	975	1000	1191	1056

S.E. of marginal mean of G = 47.4 lb./ac.
 S.E. of marginal mean of S = 38.7 lb./ac.
 S.E. of body of table = 67.0 lb./ac.

Crop :- Cotton.

Ref :- M. 48 (59).

Site :- Central Farm, Coimbatore.

Type :- 'C'.

Object :- To determine the extent and type of preparatory cultivation operations that are necessary for garden lands to obtain the best yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) *Ragi* (c) 15 ton/ac. of F.Y.M. (ii) (a) Black soil. (b) Refer soil analysis, Coimbatore. (iii) 1.2.48. (iv) (a) As under treatments. (b) N.A. (c) 15 lb./ac. (d) 30" x 9". (e) 1. (v) Nil. (vi) CO. 2. (vii) Irrigated. (viii) Intercultivation with Junior hoe and weeding once. (ix) N.A. (x) 29.1.49 to 16.4.49.

2. TREATMENTS :

1. Preparatory cultivation with 16-coultured plough once, followed by 1 country plough just before forming beds.
2. Preparatory cultivation with 16-coultured plough twice followed by country plough once.
3. Country plough thrice (Ryots' method).
4. Country plough 6 times.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) 200' x 170'. (iii) 5. (iv) (a) 100' x 85'. (b) 72' x 57'. (v) Border plants are left. A channel all round the plot is also included in the gross plot size. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Severe attack of leaf roller pest was noticed; rolled leaves were crushed by hand to destroy the insect. (iii) Yield of kapas. (iv) (a) 1942-1948. (b) N.A. (c) N.A. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) Original records could not be traced.

5. RESULTS :

- (i) 1234 lb./ac.
- (ii) N.A.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of kapas in lb./ac.

Treatment	Av. yield
1.	1225
2.	1263
3.	1179
4.	1276
S.E./mean	=N.A.

Crop :- Cotton.

Ref :- M. 48(89).

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

Type :- 'C'.

Object :- To study the response of K-2 Cotton strain to closer spacing.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Cumbu*. (c) Nil. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) 14.10.48.
 (iv) (a) 3 ploughings. (b) N.A. (c) N.A. (d) As per treatments. (e) —. (v) Nil. (vi) K-2 (a tall strain
 without branching habit). (vii) Rainfed. (viii) Weeding once. (ix) 19.84". (x) 30.3.49 to 7.5.49.

2. TREATMENTS :

Spacings.

1. 18" × 4½"
2. 18" × 6"
3. 18" × 9"

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 0.68 cent. (b) 0.38 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of kapas. (iv) (a) 1947-1948. (b) No. (c) Nil. (v) (a) Nil. (b)
 Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 558 lb./ac.

(ii) 42.53 lb./ac.

(iii) Treatment differences are not significant.

(iv) Av. yield of kapas in lb./ac.

Treatment	Av. yield
1.	562
2.	576
3.	537
S E./mean	= 15.04 lb./ac.

Crop :- Cotton.

Ref :- M. 48(88).

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

Type :- 'C'.

Object :- To study whether under late sowing conditions, a higher seed rate would assist in improving Cotton yields.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Cumbu*. (c) Nil. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) As under
 treatments. (iv) (a) 3 ploughings. (b) N.A. (c) and (d) As under treatments. (v) Nil. (vi) K-1. (vii)
 Rainfed. (viii) Weeding once. (ix) 19.84". (x) 28.3.49 to 28.4.49.

2. TREATMENTS :

Main-plot treatments :- (dates of sowing).

D₁ = 1st sowing (14.10.48), D₂ = 2nd sowing (8.11.48) and D₃ = 3rd sowing (20.11.48).

Sub-plot treatments :- (spacings).

With in row spacings : S₁ = 4½", S₂ = 6" and S₃ = 9".

Between rows 1'-6" constant.

3. DESIGN :

(i) Split-plot design. (ii) (a) 3 main-plots/replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a)
 2.34 cents (b) 1.08 cents., details N.A. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of cotton (kapas). (iv) (a) 1947-1948. (b) No. (c) N.A. (v) (a) Nil.
 (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 351 lb./ac.
 (ii) (a) 74.7 lb./ac.
 (b) 41.3 lb./ac.
 (iii) Main-plot treatments alone are highly significant.
 (iv) Av. yield of kapas in lb./ac.

	D ₁	D ₂	D ₃	Mean
S ₁	527	295	269	364
S ₂	537	273	252	354
S ₃	527	238	238	334
Mean	530	269	253	351

S.E. of the difference of two

1. main-plot treatment means = 30.5 lb./ac.
 2. sub-plot treatment means = 16.9 lb./ac.
 3. sub-plot treatment means at the same level of main-plot treatment = 29.2 lb./ac.
 4. main-plot treatment means at the same level of sub-plot treatment = 49.3 lb./ac.

Crop :- Cotton.

Ref :- M. 48(93).

Site :- Agri. Res. Stn. Kailpati.

Type :- 'C'.

Object :- To determine the seed rate of Indigo that should be mixed with *Irangu Cholam* and the time of ploughing of the Indigo crop to overcome the *Cholam* effect on the succeeding crops of Cotton.

1. BASAL CONDITIONS :

- (i) (a) Cereals-Cotton. (b) Cereals (*Cholam*, indigo and *cumbu* as under treatments.) (c) Nil. (ii) Black soil.
 (b) Refer soil analysis, Kailpati. (iii) 16.10.48. (iv) (a) 3 ploughings. (b) to (e) N.A. (v) Nil. (vi) Cotton K₂
 (vii) Rainfed. (viii) Weeding once. (ix) 19.8.49. (x) 12th March 49 to 21st April 1949.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 times of ploughing in of Indigo : T₁ = Early and T₂ = Late

(2) 4 previous crops grown :

A = *Cholam* (60 lb/ac.) + Indigo (8 lb/ac.)B = *Cholam* (60 lb/ac.) + Indigo (12 lb/ac.)C = *Cholam* pureD = *Cumbu* pure

3. DESIGN :

- (i) 2x4 Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 6. (iv) (a) 1.66 cents. (b) 0.75 cent. Measurements N.A. (v) Details N.A. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Yield of kapas. (iv) (a) 1947-1951. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS :

- (i) 450 lb./ac.
 (ii) N.A.
 (iii) N.A.

(iv) Av. yield of kapas in lb./ac.

	T ₁	T ₂	
A	424	463	443
B	484	394	439
C	—	—	453
D	—	—	495
	454	428	

Crop :- Cotton.

Ref :-M. 49(104)/48(93).

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

Type :- 'C'.

Object:—To determine the seed rate of Indigo that should be mixed with *Irangu Cholan* and the optimum time of ploughing in of the Indigo crop to remove the *Cholan* effect on succeeding crop of Cotton.

1. BASAL CONDITIONS :

(i) As under treatments. (b) As under treatments. (c) Nil. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) 9.10.49. (iv) (a) 3 ploughings. (b) to (e) N.A. (v) Nil. (vi) Cotton K-2 (vii) Rainfed. (viii) Weeding once. (ix) 18.46". (x) 9.3.50 to 12.6.50.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 times of ploughing in of Indigo crop : T₁=Early and T₂=Late.(2) 4 previous crops grown : A=*Cholan*+Indigo at 8 lb./ac.B=*Cholan*+Indigo at 12 lb./ac.C=*Cholan* alone.D=*Cumbu* alone.

3. DESIGN :

(i) 2x4 Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 6. (iv) (a) 1.66 cents. (b) 0.75 cent. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of cotton. (iv) (a) 1947—1951. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) N.A. (vii) Raw data N.A. and hence the results could not be verified.

6. RESULTS :

(i) 344 lb./ac.

(ii) 87.2 lb./ac.

(iii) None of the effects is significant.

(iv) Av. yield of kapas in lb./ac.

Cholan (pure)

=337 lb./ac.

Cumbu (pure)

=351 lb./ac.

	T ₁	T ₂	Mean
A	347	311	329
B	360	353	359
Mean	356	332	344

S.E. of any marginal means

=17.8 lb./ac.

S.E. of body of table

=35.6 lb./ac.

Crop :-Cotton.

Ref :-M. 50(104)/49(104)/48(93).

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

Type :-'C'.

Object :-To determine the seed rate of Indigo that should be mixed up with *Irangu Cholam* and the optimum time of ploughing in Indigo crop to remove the *Cholam* effect on the succeeding crop of Cotton.

1. BASAL CONDITIONS :

(i) (a) As under treatments. (b) As under treatments. (c) Nil. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) 24.10.50. (iv) (a) 3 ploughings. (b) to (e) N.A. (v) Nil. (vi) Cotton K-2. (viii) Weeding once. (ix) 13.04. (x) Cotton pickings on 27.2.51 to 14.7.51.

2. TREATMENTS :

All combinations of (1) and (2)

(2) 2 times of ploughing in of Indigo crop : T_1 =Early (April-May) and T_2 =Late (Aug.-Sept)

(2) 4 previous crops sown : A=*Cholam*+Indigo at 8 lb./ac., B=*Cholam*+Indigo at 12 lb./ac., C=*Cholam* alone and D=*Cumbu* alone.

3. DESIGN :

(i) 2x4 Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 6. (iv) (a) 1.66 cents. (b) 0.75 cents. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of cotton. (iv) (a) 1947-1951. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 237 lb./ac.

(ii) 66.2 lb./ac.

(iii) Indigo vs. no indigo and times of ploughing are highly significant. Others are not significant.

(iv) Av. yield of kapas in lb./ac.

Cholam (pure) = 274 lb./ac.

Cumbu (pure) = 271 lb./ac.

	T_1	T_2	Mean
A	256	157	207
B	264	128	196
Mean	260	143	201

S.E. of any marginal mean = 19.1 lb./ac.

S.E. of body of table = 27.0 lb./ac.

Crop :-Cotton.

Ref :-M. 51(79)/50(104)/49(104)/48(93).

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

Type :-'C'.

Object :-To determine the seed rate of Indigo that should be mixed up with *Irangu Cholam* and the optimum time of ploughing in the Indigo to remove the *Cholam* effect on the succeeding crop of Cotton.

1. BASAL CONDITIONS :

(i) (a) As under treatments. (b) As under treatments. (c) Nil. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) 9.11.51. (iv) (a) 3 ploughings. (b) to (e) N.A. (v) Nil. (vi) K-2. (vii) Rainfed. (viii) Weeding once. (ix) 13.61". (x) 5.4.52 to 15.6.52.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 times of ploughing in of Indigo crop : T_1 =Early (April-May) and T_2 =Late (Aug.-Sept.)

(2) 4 previous crops sown : A=*Cholam*+Indigo at 8 lb./ac., B=*Cholam*+Indigo at 12 lb./ac., C=*Cholam* alone and D=*Cumbu* alone.

3. DESIGN: (i) 2x4 Fact. in R.B.D. (ii) (a) 8, (b) N.A. (iii) 6. (iv) (a) 1.66 cents, (b) 0.75 cents, (v) Details N.A. (vi) Yes.

4. GENERAL: (i) Satisfactory. (ii) Nil. (iii) Yield of cotton. (kapas) (iv) (a) 1947—1951. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Raw data N.A. and hence the results could not be verified.

5. RESULTS: (i) 261 lb./ac. (ii) 80.9 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of kapas in lb./ac.

Cholam (pure) = 261 lb./ac.
Cumbu (pure) = 291 lb./ac.

	T ₁	T ₂	Mean
A	238	247	243
B	268	226	247
Mean	253	237	145

S.E. of any marginal mean = 23.3 lb./ac.
S.E. of body of table = 32.9 lb./ac.

Crop :- Cotton.

Ref :- M. 48/116).

Site :- Cotton Specialist, Coimbatore.

Type :- 'CV'.

Object :- To study the effect of topping on different varieties of Cotton.

1. BASAL CONDITIONS :

(i) (a) N.A., (b) N.A. (c) N.A. (ii) (a) Black soil. (b) Refer soil analysis, Coimbatore. (iii) N.A. (iv) (a) to (e) N.A. (v) N.A. (vi) As per treatments. (vii) N.A. (viii) N.A. (ix) N.A. (x) N.A.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 varieties : V₁=K-5 and V₂=K-1.

(2) 3 times of topping : T₁=At squaring stage, T₂=At flowering stage and T₃=No topping (control).

3. DESIGN :

(i) 2x3 Fact. in R.B.D. (ii) (a) 6, (b) N.A. (iii) N.A. (iv) (a), (b) N.A. (v) N.A. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) N.A. (iii) Kapas yield. (iv) (a) 1948—1950. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 378 lb./ac.

(ii) N.A.

(iii) None of the effects is significant.

(iv) Av. yield of kapas in lb./ac.

	V ₁	V ₂	Mean
T ₁	357	361	359
T ₂	394	422	408
T ₃	347	384	366
Mean	366	389	378

Crop :- Cotton.

Ref :- M. 49(144).

Site :- Cotton Specialist, Coimbatore.

Type :- 'CV'.

Object :- To study the effect of topping on different varieties of Cotton.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Black soil. (b) Refer soil analysis, Coimbatore. (iii) N.A. (iv) (a) to (e) N.A. (v) N.A. (vi) As per treatments. (vii) N.A. (viii) N.A. (ix) N.A. (x) N.A.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 varieties : $V_1=K-5$ and $V_2=K-1$.(2) 3 times of topping : $T_1=$ At squaring stage, $T_2=$ At flowering stage and $T_3=$ No topping (control).

3. DESIGN :

(i) 2×3 Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) N.A. (iv) (a), (b) N.A. (v) N.A. (vi) Yes

4. GENERAL :

(i) N.A. (ii) N.A. (iii) Yield of cotton(kapas). (iv) (a) 1948-1950. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 294 lb./ac.

(ii) N.A.

(iii) None of the effects is significant.

(vi) Av. yield of kapas in lb./ac.

	V_1	V_2	Mean
T_1	272	319	296
T_2	263	314	291
T_3	257	330	294
Mean	266	321	294

Crop :- Cotton.

Ref :- M. 50 (115).

Site :- Cotton Specialist, Coimbatore.

Type :- 'CV'.

Object :- To study the effect of topping on different varieties of Cotton.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Black soil. (b) Refer soil analysis, Coimbatore. (iii) N.A. (iv) (a) to (e) N.A. (v) N.A. (vi) As per treatments. (vii) N.A. (viii) N.A. (ix) N.A. (x) N.A.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 varieties : $V_1=K-5$ and $V_2=K-1$.(2) 3 times of topping : $T_1=$ At squaring stage, $T_2=$ At flowering stage and $T_3=$ No topping (control).

3. DESIGN :

(i) 2×3 Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) N.A. (iv) (a) N.A. (b) N.A. (v) N.A. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) N.A. (iii) kapas yield data. (iv) (a) 1948-1950. (b) No. (c) Nil. (v) (a) Nil (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS :

- (i) 295 lb./ac.
- (ii) N.A.
- (iii) None of the effects is significant.
- (iv) Av. yield of kapas in lb./ac.

	V ₁	V ₂	Mean
T ₁	275	290	283
T ₂	272	327	300
T ₃	290	312	301
Mean	279	310	295

Crop :- Cotton.

Ref :- M. 49 (109).

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

Type :- 'CM'.

Object :- To find out whether P₂O₅ stimulates the Indigo crop and thus enhances the cumulative manurial effect on the succeeding Cotton crop.

1. BASAL CONDITIONS :

- (i) (a) As under treatments. (b) As under treatments. (c) As under treatments. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) 9.11.49. (iv) (a) 3 ploughings. (b) —. (c) 12 lb./ac. (d) 1½' × 6". (e) N.A. (v) Nil. (vi) K-2 (vii) Not irrigated. (viii) Weeding once. (ix) 13.52". (x) 1.3.50 to 7.6.50.

2. TREATMENTS :

Main-plot treatments :— (previous crops).

- M₁ = Sorghum + Indigo.
- M₂ = Sorghum + Indigo + 30 lb./ac. of P₂O₅.
- M₃ = Cumbu + Indigo.
- M₄ = Cumbu + Indigo + 30 lb./ac. of P₂O₅.
- M₅ = Sorghum alone.
- M₆ = Sorghum + 30 lb./ac. of P₂O₅.
- M₇ = Cumbu alone.
- M₈ = Cumbu + 30 lb./ac. of P₂O₅.
- M₉ = Indigo alone.
- M₁₀ = Indigo + 30 lb./ac. of P₂O₅.

Sub-plot treatments :—

2 levels of N : N₀ = 0, N₁ = 30 lb./ac.

N applied to cotton crop.

Residual effect of main-plot treatments studied.

3. DESIGN :

- (i) Split-plot. (ii) (a) 10 main-plots 1 replication ; 2 sub-plots/main-plot. (iii) 4. (iv) (a) N.A. (b) 1.01 cent. (v) N.A. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Yield of cotton (kapas). (iv) (a) 1948—1953; the 1st legume crop was raised in 1948 but the cotton crop was grown in 1949 to study the residual effect. (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) The raw data N.A.

5. RESULTS :

- (i) 506 lb./ac.
- (ii) (a) N.A.
- (b) N.A.
- (iii) Levels of N alone differ significantly.

(iv) Av. yield of kapas in lb./ac.

	M ₁	M ₂	M ₃	M ₄	M ₅	M ₆	M ₇	M ₈	M ₉	M ₁₀	Mean
N ₀	367	420	451	439	335	369	452	450	487	479	425
N ₁	571	588	533	606	542	681	597	649	521	605	586
Mean	469	489	492	523	439	525	525	550	504	542	506

Crop :- Cotton.

Ref :- M. 51(78)/50(N.A.)/49(109).

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

Type :- 'CM'.

Object :- To find out an economic method of overcoming effect of cereals on succeeding crop of Cotton.

1. BASAL CONDITIONS :

(i) (a) As under treatments. (b) As under treatments. (c) As under treatments. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) 9.11.51. (iv) (a) 2 ploughings. (b) N.A. (c) 12 lb./ac. (d) 18" x 6". (e) N.A. (v) Nil. (vi) Cotton K-2 (vii) Rainfed. (viii) Weeding once. (ix) 13.61". (x) 20.4.52. to 7.52.

2. TREATMENTS :

Main-plot treatments :-

M₁ = Sorghum (previous crop) + Indigo.M₂ = Sorghum (previous crop) + Indigo + 30 lb./ac. of P₂O₅.M₃ = *Cumbu* (previous crop) + Indigo.M₄ = *Cumbu* (previous crop) + Indigo + 30 lb./ac. of P₂O₅.M₅ = Sorghum (previous crop).M₆ = Sorghum + 30 lb./ac. of P₂O₅.M₇ = *Cumbu* alone (previous crop).M₈ = *Cumbu* (previous crop) + 30 lb./ac. of P₂O₅.M₉ = Indigo only.M₁₀ = Indigo + 30 lb./ac. of P₂O₅.

Sub-plot treatments :-

2 levels of N : N₀ = 0 and N₁ = 30 lb./ac.

N applied to cotton crop.

3. DESIGN :

(i) Split-plot. (ii) (a) 10 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1.01 cents. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. Poor yield due to drought conditions. (ii) Nil. (iii) Yield of cotton. (kapas) (iv) (a) 1948—1953. (b) Yes. (c) Nil. (v) (a), (b) Nil. (vi) Nil. (vii) Crop failed in 1950.

5. RESULTS :

(i) 272 lb./ac.

(ii) (a) 35.9 lb./ac.

(b) 32.4 lb./ac.

(iii) Main-plot and sub-plot treatments differ significantly.

(iv) Av. yield of kapas in lb./ac.

	M ₁	M ₂	M ₃	M ₄	M ₅	M ₆	M ₇	M ₈	M ₉	M ₁₀	Mean
N ₀	255	252	227	275	269	306	269	274	245	254	263
N ₁	275	309	249	288	284	308	258	293	291	253	281
Mean	265	281	238	282	277	307	264	284	268	254	272

S.E. of difference of two

1. M marginal means

= 17.9 lb./ac.

2. N marginal means

= 7.3 lb./ac.

3. N means at the same level of M

= 29.9 lb./ac.

4. M means at the same level of N

= 24.2 lb./ac.

Crop :- Cotton.

Ref :- M. 53(60)/51(78)/49(109).

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

Type :- 'CM'.

Object :- To find out an economic method for over-coming the effect of cereals on [the succeeding crop of Cotton.

1. BASAL CONDITIONS :

(i) (a) *Irungu Cholam* or *Cumbu*-Cotton (As under treatments), (b) As under treatments. (c) As under treatments. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) 11.10.53. (iv) (a) 2 ploughings. (b) Dibbling. (c) 12 lb./ac. (d) 18" x 6". (e) 1 seed/hole. (v) Nil. (vi) K-2 cotton. (vii) Rainfed. (viii) Weeding once. (ix) 19.75". (x) 2.4, 54 to 3.7, 54.

2. TREATMENTS :

Main-plot treatments :- (previous crops)

M₁ = Sorghum + Indigo.M₂ = Sorghum + Indigo + 30 lb./ac. of P₂O₅.M₃ = *Cumbu* + Indigo.M₄ = *Cumbu* + Indigo + 30 lb./ac. of P₂O₅.M₅ = Sorghum alone.M₆ = Sorghum + 30 lb./ac. of P₂O₅.M₇ = *Cumbu* alone.M₈ = *Cumbu* + 30 lb./ac. of P₂O₅.M₉ = Indigo alone.M₁₀ = Indigo + 30 lb./ac. of P₂O₅.

Sub-plot treatments :-

2 levels of N : N₀ = 0 and N₁ = 30 lb./ac.

N applied as A/S. to cotton

3. DESIGN :

(i) Split-plot. (ii) (a) 10 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 108 x 45 sq. links (main-plot) ; 108 x 15 sq. links (b) 90 x 15 sq. (links) (sub-plot) (v) 9 links left length wise for each plot and 7 links left on either side of main-plot breadthwise and in between 2 sub-plots one foot left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of kapas. (iv) (a) 1948—1953. (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) Crop failed in 1952.

5. RESULTS :

(i) 195 lb./ac.
 (ii) (a) 46.1 lb./ac.
 (b) 24.7 lb./ac.
 (iii) M and N effects are highly significant. Interaction is significant.
 (iv) Av. yield of kapas in lb./ac.

	M ₁	M ₂	M ₃	M ₄	M ₅	M ₆	M ₇	M ₈	M ₉	M ₁₀	Mean
N ₀	160	193	194	171	146	288	170	183	199	223	187
N ₁	179	206	204	174	150	222	140	253	250	249	203
Mean	170	200	199	173	148	225	155	218	225	236	195

S.E. of difference of two

1. M marginal means = 23.1 lb./ac.
2. N marginal means = 5.5 lb./ac.
3. N means at the same level of M = 17.5 lb./ac.
4. M means at the same level of N = 26.2 lb./ac.

Crop :- Cotton.

Ref :- M. 48(57).

Site :- Central Farm, Coimbatore.

Type :- 'I'.

Object :- To find out the optimum interval between two successive irrigations and the suitable depth of irrigation to be given for the gardenland crops like Cotton etc.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Black soil. (b) Refer soil analysis, Coimbatore. (iii) 10.9.48. (iv) (a) Victory plough once, country plough twice and the ridges formed. (b) Dibbling. (c) 15 lb./ac. (d) 30" x 9". (e) 2 seeds/hole. (v) F.Y.M. at 5 ton/ac. (vi) CO. 2 (cambodia). (vii) Irrigated. (viii) Intercultivation with junior hoe once. (ix) N.A. (x) 4.2.49 to 22.4.49.

2. TREATMENTS :

Main-plot treatments :-

4 intervals of irrigation : I_1 = Ryots' interval (details N.A.), I_2 = 2 weeks, I_3 = 3 weeks and I_4 = 4 weeks.

Sub-plot treatments :-

3 depths of irrigation : D_1 = 2", D_2 = 3" and D_3 = 4".

3. DESIGN :

(i) Split plot. (ii) (a) 4 main-plots/block ; 3 sub-plots/main-plot. (b) 60' x 120'. (iii) 4. (iv) (a) 30' x 60' (main-plot). 30' x 20' sub-plot. (b) 26' x 12' (sub-plot) (v) 2' x 4' left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of kapas. (iv) (a) 1938-1949. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 1648 lb./ac.
 (ii) (a), (b) N.A.
 (iii) None of the effects and interaction is significant.
 (iv) Av. yield of kapas in lb./ac.

	I_1	I_2	I_3	I_4	Mean
D_1	1468	1691	1630	1721	1627
D_2	1767	1603	1848	1451	1667
D_3	1608	1728	1754	1516	1651
Mean	1614	1674	1744	1562	1582

S.E.'s N.A.

Crop :- Cotton.

Ref :- M. 49(89).

Site :- Central Farm, Coimbatore.

Type :- 'I'.

Object :- To determine the optimum interval between two successive irrigations and the suitable depth of each irrigation to be given for the three main gardenland crops of Ragi, Cotton and Cholam.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 20, 21.9.49. (iv) (a) 3 ploughings. (b) Dibbled. (c) 15 lb./ac. (d) 30" x 9". (e) 2 seeds/hole (v) F.Y.M. at 5 ton/ac. applied broadcast and ploughed in 15 days before sowing. (vi) CO. 2. (vii) Irrigated. (viii) Hoeing and intercultivation once. (ix) 8.42". (x) 7.2.50 to 23.3.50.

2. TREATMENTS :

Main-plot treatments :-

4 intervals of irrigation : I_1 = 1 week, I_2 = 2 weeks, I_3 = 3 weeks and I_4 = 4 weeks.

Sub-plot treatments :-

3 depths of irrigation : D_1 = 2", D_2 = 3" and D_3 = 4".

3. DESIGN :

(i) Split-plot. (ii) (a) 3 main-plots/block ; 3 sub-plots/main-plot (b) 60'×120' (iii) 4. (iv) (a) 30'×60' main-plot. 30'×20' sub-plot. (b) 26'×12' (sub-plot) (v) 2'×4' left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of kapas. (iv) (a) 1948—1949. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) Nil. (vii) Raw data not available.

5. RESULTS :

(i) 1454 lb./ac.
 (ii) (a), (b) N.A.
 (iii) None of the effects and interaction is significant.
 (iv) Av. yield of kapas in lb./ac.

	I ₁	I ₂	I ₃	I ₄	Mean
D ₁	1316	1508	1458	1472	1439
D ₂	1519	1578	1320	1352	1442
D ₃	1488	1612	1407	1412	1480
Mean	1441	1566	1395	1412	1454

S.E.'s N.A.

Crop :- Cotton.

Site :- Cotton Specialist, Coimbatore.

Ref :- M. 48(117).

Type :- 'IV'.

Object :- To study the effect of irrigation on different varieties of Cotton.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Black soil. (b) Refer soil analysis, Coimbatore. (iii) N.A. (iv) (a) to (e) N.A. (v) N.A. (vi) As per treatments. (vii) As per treatments. (viii) N.A. (ix) N.A. (x) N.A.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 varieties : V₁=K-5 and V₂=K-1.

(2) 2 levels of irrigation : I₁=Irrigated and I₂=Unirrigated.

3. DESIGN :

(i) 2×2 Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) N.A. (iv) (a) and (b) N.A. (v) N.A. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) Nil. (iii) Yield of cotton, kapas, halo length, ginning % and seed index. (iv) (a) 1948—1950. (b) N.A. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS :

(i) 625 lb./ac.
 (ii) N.A.
 (iii) Treatments differ significantly.
 (iv) Av. yield of kapas in lb./ac.

Treatment	Av. yield
1. K-5 Irrigated	942
2. K-5 Rainfed	406
3. K-1 Irrigated	730
4. K-1 Rainfed	426

Crop :- Cotton.

Ref :- M. 49(145).

Site :- Cotton Specialist, Coimbatore.

Type :- 'IV'.

Object :- To study the effect of irrigation on different varieties of Cotton.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Black soil. (b) Refer soil analysis, Coimbatore. (iii) N.A. (iv) (a) to (e) N.A. (v) N.A. (vi) As per treatments. (vii) As per treatments. (viii) N.A. (ix) N.A. (x) N.A.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 varieties : $V_1=K-5$ and $V_2=K-1$.(2) 2 levels of irrigation : $I_1=Irrigated$ and $I_2=Unirrigated$.

3. DESIGN :

(i) 2×2 Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) N.A. (iv) (a) and (b) N.A. (v) N.A. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) N.A. (iii) Yield of cotton kapas, halo, length, ginning percentage and seed index. (iv) (a) 1948-1950. (b) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS :

(i) 649 lb./ac.

(ii) N.A.

(iii) Treatments differ significantly.

(iv) Av. yield of kapas in lb./ac.

Treatment	Av. yield
K-5 Irrigated	520
K-5 Rainfed	394
K-1 Irrigated	619
K-1 Rainfed	404

Crop :- Cotton.

Ref :- M. 50(116).

Site :- Cotton Specialist, Coimbatore.

Type :- 'IV'.

Object :- To study the effect of irrigation on different varieties of Cotton.

1. BASAL CONDITIONS :

(i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Black soil. (b) Refer soil analysis, Coimbatore. (iii) N.A. (iv) (a) to (c) N.A. (v) N.A. (vi) As per treatments. (vii) As per treatments. (viii) N.A. (ix) N.A. (x) N.A.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 varieties : $V_1=K-5$ and $V_2=K-1$.(2) 2 levels of irrigation : $I_1=Irrigated$ and $I_2=Unirrigated$.

3. DESIGN :

(i) 2×2 Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) N.A. (iv) (a) and (b) N.A. (v) N.A. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) N.A. (iii) Yield of cotton (kapas), halo length, ginning % and seed index. (iv) (a) 1948-1950. (b) N.A. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS :

- (i) 641 lb/ac.
 (ii) N.A.
 (iii) Treatments differ significantly.
 (iv) Av. yield of kapas in lb/ac.

Treatment	Av. yield in
K-5 Irrigated	935
K-5 Rainfed	229
K-1 Irrigated	1082
K-1 Rainfed	319

Crop :- Groundnut.

Ref :- M. 50(109).

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

Type :- 'M'.

Object :- To compare the manurial value of compost with that of residual effect of C.M.

1. BASAL CONDITIONS :

- (i) (a) *Cumbu*—Groundnut—*Ragi*—Sunnhemp. (b) *Cumbu*. (c) As under treatments. (ii) (a) Clay loam. (b) Refer soil analysis, Palur. (iii) 22.1.50. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) 1×2 sq. links. (e) N.A. (v) Nil. (vi) TMV—4 groundnut. (vii) Irrigated. (viii) Weeding once. (ix) 4.68". (x) 10, 11.6.50.

2. TREATMENTS :

Residual effect of :-

- No manure.
- C.M. at 60 lb./ac. of N.
- Compost at 60 lb./ac. of N.

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 35.6'×29.7'. (b) 34.3'×27.1' (v) 0.7'×1.3' left as border. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Yield of pod. (iv) (a) 1949-1952. (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) Nil.

5. RESULTS :

- (i) 2965 lb./ac.
 (ii) 109.5 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of pod in lb./ac.

Treatment	Av. yield
1.	2585
2.	3210
3.	3101
S.E./mean	44.7 lb./ac.

Crop :- Groundnut.

Ref :- M. 51(84).

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

Type :- 'M'.

Object :- To compare the manurial value of compost with that of C.M. (residual effect).

1. BASAL CONDITIONS :

(i) (a) *Cumbu*-Groundnut-*Ragi*-*Sunnhemp*-. (b) *Cumbu*. (c) As per treatments. (ii) (a) Loamy. (b) Refer soil analysis, Palur. (iii) 25.1.51. (iv) (a) 3 ploughings. (b) N.A. (c) N.A. (d) 2 links \times 1 link. (e) 1. (v) Nil. (vi) TMV-4 groundnut. (vii) Irrigated. (viii) Weeding once. (ix) 7.99". (x) 1.7.51.

2. TREATMENTS :

Residual effect of

1. No manure.
2. C.M. at 60 lb./ac. of N.
3. Compost at 60 lb./ac. of N.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 35.6' \times 29.7'. (b) 34.3' \times 27.1'. (v) 0.7' \times 1.3' left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Attacked by *Alternaria* sp. and Bordeaux mixture sprayed twice to check it. (iii) Yield of pod. (iv) (a) 1949—1952. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1639 lb./ac.
- (ii) 346.9 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of pod in lb./ac.

Treatment	Av. yield
1.	1475
2.	1875
3.	1566
S.E./mean	= 141.6 lb./ac.

Crop :- Groundnut.

Ref :- M. 48(110).

Site :- Agri. Res. Stn. Tindivanam.

Type :- 'M'.

Object :- To find out the optimum and economic dose of P_2O_5 and K_2O for Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 5000 lb./ac. of town rubbish. (ii) (a) Red sandy loam. (b) Refer soil analysis, Tindivanam. (iii) 12.9.48. (iv) (a) 3 ploughings. (b) N.A. (c) 80 lb./ac. (d) 9' \times 9'. (e) 1. (v) Nil. (vi) TMV-3 spreading. (vii) Unirrigated. (viii) One weeding. (ix) 20.71". (x) 8.9.2.49.

2. TREATMENTS :

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

- (1) 2 levels of B.D. : B_0 =No B.D. and B_1 =B.D. of C.M. at 100 lb./ac. of N.
- (2) 4 levels of K_2O : K_0 =0, K_1 =25, K_2 =50 and K_3 =75 lb./ac.
- (3) 4 levels of P_2O_5 : P_0 =0, P_1 =20, P_2 =40 and P_3 =60 lb./ac. of K_2O as Pot. Sulphate and P_2O_5 as Super.

3. DESIGN :

(i) 2 \times 4 \times 4 Fact. in R.B.D. (ii) (a) 32. (b) N.A. (iii) 4. (iv) (a) 31½' \times 6'. (b) 28½' \times 4½'. (v) 1½' \times 3½' left as border all round. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of pod. (iv) (a) 1948—1952. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

- (i) 727 lb./ac.
 (ii) 154.4 lb./ac.
 (iii) Only the interaction PK is significant. Others are not significant.
 (iv) Av. yield of pod in lb./ac.

	K ₀	K ₁	K ₂	K ₃	Mean	B ₀	B ₁
P ₀	713	742	722	771	737	718	756
P ₁	530	827	762	701	705	712	698
P ₂	804	730	650	805	747	773	721
P ₃	757	733	629	749	717	668	766
Mean	701	758	691	747	727		
B ₀	656	764	693	759			
B ₁	746	752	689	755			

S.E. of marginal mean of P or K = 27.3 lb./ac.
 S.E. of marginal mean B. = 19.3 lb./ac.
 S.E. of body of table P×K = 54.6 lb./ac.
 S.E. of body of table P×B or K×B = 38.6 lb./ac.

Crop :- Groundnut.

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

Ref :- M. 50 (100).

Type :- 'M'.

Object :—To determine the optimum dose of K₂O and P₂O₅ that would give maximum return.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) As per treatments. (ii) (a) Red sandy loam. (b) Refer soil analysis, Tindivanam. (iii) 20.8.50. (iv) (a) 3 ploughings. (b) N.A. (c) N.A. (d) 9'×9'. (e) N.A. (v) Nil. (vi) T.M.V.—3 (spreading). (vii) Unirrigated. (viii) Weeding once. (ix) 18.67%. (x) 19.251.

2. TREATMENTS :

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

(1) 2 levels of C.M. : C₀=0 and C₁=100 lb./ac. of N.

(2) 4 levels of K₂O : K₀=0, K₁=25, K₂=50 and K₃=75 lb./ac.

(3) 4 levels of P₂O₅ : P₀=0, P₁=20, P₂=40 and P₃=60 lb./ac.

K₂O as Pot. Sul. and P₂O₅ as Super.

3. DESIGN :

(i) 4×4×2 Fact. in R.B.D. (ii) (a) 32. (b) N.A. (iii) 4. (iv) (a) 31½'×6'. (b) 28½'×4½'. (v) 1½'×½' left as border. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) N.A. (iii) Yield of pod. (iv) (a) 1948—1953. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Nil.

5. RESULTS :

(i) 403 lb./ac.
 (ii) 99.8 lb./ac.
 (iii) None of the effects is significant.

(iv) Av. yield of pod in lb./ac.

	P ₀	P ₁	P ₂	P ₃	Mean	K ₀	K ₁	K ₂	K ₃
C ₀	350	386	389	415	385	387	384	354	415
C ₁	429	422	422	413	421	409	394	440	441
Mean	389	404	405	414	403	398	389	397	428
K ₀	392	415	391	394					
K ₁	342	407	411	395					
K ₂	413	366	396	413					
K ₃	409	426	424	453					

S.E. of marginal mean of C = 12.5 lb./ac.

S.E. of marginal mean of P or K = 17.6 lb./ac.

S.E. of body of table C×P or C×K = 25.0 lb./ac.

S.E. of body of table P×K = 35.3 lb./ac.

Crop :- Groundnut.

Ref :- M. 51 (25).

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

Type :- 'M'.

Object :- To determine the optimum and economic dose of K₂O and P₂O₅ for Groundnut.

1. BASAL CONDITION :

(i) (a) Nil. (b) Groundnut. (c) As per treatments. (ii) (a) Loam. (b) Refer soil analysis, Tindivanam, (iii) 23.8.51. (iv) (a) 4 ploughings. (b) and (c) N.A. (d) 9"×9". (e) N.A. (v) Nil. (vi) T.M.V.-3. (vii) Irrigated. (viii) 2 weedings. (ix) 16.5". (x) 31.1.52.

2. TREATMENTS :

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

(1) 2 levels of C.M. : C₀=0 and C₁=5 ton/ac.(2) 4 levels of K₂O : K₀=0, K₁=25, K₂=50 and K₃=75 lb./ac.(3) 4 levels of P₂O₅ : P₀=0, P₁=20, P₂=40 and P₃=60 lb./ac.K₂O as Pot. Sul. and P₂O₅ as Super C.M. was applied at the time of last ploughing. K₂O one month after and P₂O₅ at the time of sowing.

3. DESIGN :

(i) 4×4×2 Fact. in R.B.D. (ii) (a) 32. (b) N.A. (iii) 4. (iv) (a) 28'×6'. (b) 24'×4½' (v) 2'×½' left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of pod. (iv) (a) 1948-1953. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 469 lb./ac.

(ii) 94.0 lb./ac.

(iii) Interaction P×K alone is significant. No other effect is significant.

(iv) Av. yield of pod in lb./ac.

	P ₀	P ₁	P ₂	P ₃	Mean	K ₀	K ₁	K ₂	K ₃
C ₀	449	434	468	475	457	509	450	474	489
C ₁	482	449	467	516	480	431	444	441	511
Mean	469	442	468	496	419	470	447	457	500
K ₀	402	492	460	527					
K ₁	425	413	454	398					
K ₂	449	438	449	505					
K ₃	502	435	509	555					

S.E. of marginal mean of C = 11.8 lb./ac.

S.E. of marginal mean of P or K = 16.6 lb./ac.

S.E. of body of table C×P or C×K = 23.5 lb./ac.

S.E. of body of table P×K = 33.2 lb./ac.

Crop :- Groundnut.

Ref :- M: 52(70).

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

Type :- 'M'.

Object :- To determine the optimum and economic dose of P₂O₅ and K₂O for Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) As per treatments. (ii) (a) (b) Refer soil analysis, Tindivanam. (iii) 20.8.52.
 (iv) (a) 4 ploughings. (b) N.A. (c) 50 lb./ac. (d) 9"×9". (e) N.A. (v) Nil. (vi) TMV-3. (vii) Irrigated
 (viii) 2 weedings. (ix) 15.7" (x) 7.2.53.

2. TREATMENTS :

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

(1) 2 levels of C.M. : C₀=0 and C₁=5 ton/ac.(2) 4 levels of K₂O : K₀=0, K₁=25, K₂=50 and K₃=75 lb./ac.(3) 4 levels of P₂O₅ : P₀=0, P₁=20, P₂=40 and P₃=60 lb./ac.K₂O as Pot. Sulphate and P₂O₅ as Super. Other details N.A.

3. DESIGN :

(i) 2×4×4 Fact. in R.B.D. (ii) (a) 32. (b) N.A. (iii) 4. (iv) (a) 28'×6'. (b) 24'×4½'. (v) 2'×4' left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of pod. (iv) (a) 1948—1953. (b) Yes. (c) N.A. (v) (a), (b) Nil.
 (vi) Season unfavourable for crop growth. (vii) Nil.

5. RESULTS :

(i) 194 lb./ac.

(ii) 30.0 lb./ac.

(iii) Main effect of P and C are highly significant. Main effect of K and interactions are not significant.

(iv) Av. yield of pod in lb./ac.

	P ₀	P ₁	P ₂	P ₃	Mean.	K ₀	K ₁	K ₂	K ₃
C ₀	201	135	176	163	169	179	149	170	178
C ₁	250	201	230	195	219	233	189	234	222
Mean.	226	168	203	179	194	206	169	202	200
K ₀	220	176	254	173					
K ₁	176	176	164	159					
K ₂	273	157	193	185					
K ₃	235	164	203	199					

S.E. of marginal mean of C = 3.70 lb./ac.

S.E. of marginal mean of P or K = 5.30 lb./ac.

S.E. of body of table P×K = 10.60 lb./ac.

S.E. of body of table C×P or C×K = 7.50 lb./ac.

Crop :- Groundnut.

Ref :- M. 53(110).

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

Type :- 'M'.

Object :- To determine the optimum and economic dose of P₂O₅ and K₂O for Groundnut.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Groundnut. (c) As per treatments. (ii) (a) Loamy. (b) Refer soil analysis, Tindivanam.
 (iii) 23.7.53. (iv) (a) 4 ploughings. (b) N.A. (c) 60 lb./ac. (d) 9'×9'. (e) Nil. (v) Nil. (vi) TMV-3.
 (vii) Irrigated. (viii) 2 weedings. (ix) 22.28°. (x) 29.31.12.53.

2. TREATMENTS :

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

- (1) 2 levels of C.M. : C₀=0 and C₁=5 ton/ac.
 (2) 2 levels of K₂O : K₀=0, K₁=25, K₂=50 and K₃=75 lb./ac.
 (3) 4 levels of P₂O₅ : P₀=0, P₁=20, P₂=40 and P₃=60 lb./ac.

K₂O as Pot. Sul. and P₂O₅ as Super. Other details N.A.

3. DESIGN :

- (i) (a) 4×4×2 Fact. in. R.B.D. (ii) (a) 32. (b) N.A. (iii) 4. (iv) (a) 27'×6'. (b) 24'×4½'. (v) Length wise 1½ feet on either side, breadth wise ½ feet on either side. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Yield of pod. (iv) (a) 1948—1943. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 551 lb./ac.
 (ii) 646.4 lb./ac.
 (iii) None of the effects is significant.

(iv) Av. yield of pod in lb./ac.

	P ₀	P ₁	P ₂	P ₃	Mean	K ₀	K ₁	K ₂	K ₃
C ₀	558	525	526	539	537	508	519	544	578
C ₁	596	539	544	583	565	554	536	548	623
Mean	577	532	535	561	551	531	528	546	600
K ₀	513	543	529	539					
K ₁	569	501	499	541					
K ₂	564	532	532	558					
K ₃	662	554	581	606					

S.E. of marginal mean of C = 80.8 lb./ac.

S.E. of marginal mean of P or K = 114.3 lb./ac.

S.E. of body of P×K table = 228.5 lb./ac.

S.E. of body of C×P or C×K table = 161.6 lb./ac.

Crop :- Groundnut.

Ref :- M. 53(108).

Site :- Agri. Res. Stn. Tindivanam.

Type :- 'M'.

Object :- To study the comparative merit of different methods of application of manures.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 10 C.L. of C.M. (ii) (a) Sandy loam. (b) Refer soil analysis, Tindivanam. (iii) 25.7.53. (iv) (a) 4 ploughings. (b) N.A. (c) 80 lb./ac. (d) 9'×9'. (e) —. (v) N.A. (vi) T.M.V.—3. (vii) Unirrigated. (viii) 2 weedings. (ix) 28.4%. (x) 28.12.53.

2. TREATMENTS :

All combinations of (1) and (2) + a Control (no manure).

(1) 2 manures : (A) Manures mixture I and (B) Manure mixture II.

(2) 3 methods of application : M₁—Broadcast, M₂—Side placement and M₃—Below seed.

Details of manure mixtures N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 6. (iv) (a) 67½'×9'. (b) 60'×6'. (v) 7.5'×3'. (vi) Yes.

4. GENERAL :

(i) Below normal. (ii) Surul pest and Tikka leaf spot disease noticed. No control measures taken. (iii) Yield of pod. (iv) (a) 1953—contd. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 472 lb./ac.

(ii) 85.9 lb./ac.

(iii) None of the effects is significant.

(iv) Av. yield of pod in lb./ac.

	Control=414 lb./ac.		Mean
	A	B	
M ₁	486	558	522
M ₂	531	472	502
M ₃	413	430	422
Mean	477	487	482

S.E. of marginal mean of A or B = 20.2 lb./ac.

S.E. of marginal mean of M = 24.8 lb./ac.

S.E. of body of table = 35.1 lb./ac.

S.E. of control vs. any mean in the body of table = 49.6 lb./ac.

Crop :- Groundnut.

Ref :- M. 48(87)

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

Type :- 'C'

Object :- To find out the best and the most economic cultivation practice for Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Castor. (c) N.A. (ii) (a) Red sandy loam. (b) Refer soil analysis, Tindivanam. (iii) 12.9.48. (iv) (a) As per treatments. (b) and (c) N.A. (d) 9" x 9". (e) —. (v) 10,000 lb./ac. of town-rubbish. (vi) TMV-3 (spreading). (vii) Unirrigated. (ix) 20.71%. (x) 12.2.49.

2. TREATMENTS :

1. Ploughing with country plough twice.
2. Ploughing with country plough 4 times.
3. Ploughing with country plough 6 times.
4. Ploughing with iron plough 2 times.
5. Ploughing with iron plough 4 times.
6. Ploughing with iron plough once and working major hoe twice.
7. Ploughing with iron plough once and working junior hoe 4 times.
8. Ploughing with iron plough twice and working junior hoe twice.
9. Ploughing with iron plough twice and working junior hoe 4 times.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 82½' x 12'. (b) 66' x 6½'. (v) Border left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of pod. (iv) (a) 1948—contd. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 597 lb./ac.
 (ii) 121.9 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of pod in lb./ac.

Treatment	Av. yield
1.	633
2.	708
3.	529
4.	710
5.	568
6.	559
7.	546
8.	562
9.	555
S.E./mean	= 60.9 lb./ac.

Crop :- Groundnut.

Ref :- M. 49(5).

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

Type :- 'C'

Object :- To find out the best and the most economic cultivation practice for Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 10,000 lb./ac. of town rubbish. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 2.7.49. (iv) (a) As per treatments. (b) N.A. (c) 80 lb./ac. of kernels. (d) 9" x 9". (e) —. (v) 10,000 lb./ac. of town rubbish. Time and method of application N.A. (vi) TMV-3 (spreading). (vii) Unirrigated. (viii) Twice weeding and hoeing. (ix) 19.33%. (x) 20.12.49.

2. TREATMENTS :

1. Ploughing with country plough 2 times.
2. Ploughing with country plough 4 times.
3. Ploughing with country plough 6 times.
4. Ploughing with iron plough 2 times.
5. Ploughing with iron plough 4 times.
6. Ploughing with iron plough once and working junior hoe twice.
7. Ploughing with iron plough once and working junior hoe 4 times.
8. Ploughing with iron plough twice and working junior hoe twice.
9. Ploughing with iron plough twice and working junior hoe 4 times.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 82½'×12'. (b) 66'×6'. (v) 16½'×6'. (vi) Yes.

4. GENERAL :

(i) (a) Poor. (ii) Nil. (iii) Yield of pod. (iv) (a) 1948—contd. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Seasonal conditions unfavourable to crop. (vii) Nil.

5. RESULTS :

- (i) 382 lb./ac.
- (ii) 83.6 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of pod in lb./ac.

Treatment	Av. yield
1.	346
2.	396
3.	309
4.	368
5.	432
6.	409
7.	371
8.	403
9.	404
S.E./mean	= 41.8 lb./ac.

Crop :-Groundnut.

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

Ref :-M. 50(57).

Type :-'C'.

Object :—To determine the best and the most economic cultivation practice for Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 10,000 lb./ac. of town rubbish. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 20.8.50. (iv) (a) As per treatments. (b) N.A. (c) 80 lb./ac. of kernels. (d) 9"×9". (e) 1. (v) 10,000 lb./ac. of town rubbish. (vi) TMV—3 (spreading). (vii) Unirrigated. (viii) 2 weedings. (ix) 18.58". (x) 21.12.50.

2. TREATMENTS :

1. Ploughing with country plough twice.
2. Ploughing with country plough 4 times.
3. Ploughing with country plough 6 times.
4. Ploughing with mould board plough twice.
5. Ploughing with mould board plough 4 times.
6. Ploughing with mould board plough and junior hoe twice.
7. Ploughing with mould plough once and junior hoe 4 times.
8. Ploughing with mould plough twice and junior hoe twice.
9. Ploughing with 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) 82½'×12'. (b) 60'×6'. (v) 16½'×6'. (vi) Yes.

4. GENERAL :

(i) Very poor. (ii) Slight attack of "Sural Poochi". No control measures taken. (iii) Yield of dry pod. (iv) (a) 1948—contd. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Seasonal conditions unfavourable to crop. (vii) Nil.

5. RESULTS :

(i) 405 lb./ac.

(ii) 62.0 lb./ac.

(iii) Treatment differences are not significant.

(iv) Av. yield of pod in lb./ac.

Treatment	Av. yield
1.	404
2.	410
3.	385
4.	397
5.	425
6.	410
7.	402
8.	414
9.	395
S.E./mean	= 31.0 lb /ac.

Crop :- Groundnut.

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

Ref :- M. 51(23).

Type :- 'C'.

Object :- To determine the best and the most economical cultivation practice for Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 10,000 lb./ac. of town rubbish. (ii) (a) Red sandy loam. (b) Refer soil analysis, Tindivanam. (iii) 20.8.51. (iv) (a) As under treatments. (b) N.A. (c) 60 lb./ac. (d) 1'x1'. (e) N.A. (v) 10,000 lb./ac. of town rubbish applied at the time of last planting (broadcast and ploughed in). (vi) TMV-3 (spreading). (vii) Irrigated. (viii) N.A. (ix) 16.5". (x) 30.1.52.

2. TREATMENTS :

1. Ploughing twice with country plough.
2. Ploughing 4 times with country plough.
3. Ploughing 6 times with country plough.
4. Ploughing twice with iron plough.
5. Ploughing 4 times with iron plough.
6. Ploughing with iron plough once and junior hoe twice.
7. Ploughing with iron plough once and junior hoe 4 times.
8. Ploughing with iron plough twice and junior hoe twice.
9. Ploughing with iron plough twice and junior hoe 4 times.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 12"×82'.5". (b) 6'×66'. (v) 8½'×3'. left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of pod. (iv) (a) 1948—Contd. (b) Yes, Reference N.A. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 511 lb./ac.

(ii) 80.5 lb./ac.

(iii) Treatment differences are not significant.

(iv) Av. yield of pod in lb./ac.

Treatment	Av. yield
1.	505
2.	552
3.	546
4.	594
5.	498
6.	504
7.	497
8.	471
9.	435
S.E./mean	= 40.3 lb./ac.

Crop :- Groundnut.

Ref :- M. 52(36).

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

Type :- 'C'.

Object :—To determine the best cultivation practice for the crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 10,000 lb./ac. of town rubbish. (ii) (a) Red sandy loam. (b) Refer soil analysis, Tindivanam. (iii) 20.8.52. (iv) (a) As per treatments. (b) N.A. (c) 60 lb./ac. (d) 12" x 12". (e) N.A. (v) 10,000 lb./ac. of town rubbish. (vi) TMV-3 (medium). (vii) Unirrigated. (viii) 2 weedings. (ix) 15.2". (x) 29.1.53.

2. TREATMENTS :

1. Ploughing twice with country plough.
2. Ploughing 4 times with country plough.
3. Ploughing 6 times with country plough.
4. Ploughing twice with iron plough.
5. Ploughing 4 times with iron plough.
6. Ploughing with iron plough once and junior hoe twice
7. Ploughing with iron plough twice and junior hoe 4 times.
8. Ploughing with iron plough twice and junior hoe twice.
9. Ploughing with iron plough twice and junior hoe 4 times.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 8½' x 12'. (b) 66' x 3'. (v) 8½' x 6' left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of dry pod. (iv) (a) 1948-contd. (b) Yes ; Reference N.A. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 442 lb./ac.
(ii) 77.5 lb./ac.
(iii) Treatment differences are highly significant.
(iv) Av. yield of dry pod in lb./ac.

Treatment	Av. yield
1.	398
2.	482
3.	512
4.	312
5.	512
6.	346
7.	455
8.	489
9.	476
S.E./mean	= 38.8 lb./ac.

Crop :- Groundnut.

Ref :- M. 53(113).

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

Type :- 'C'.

Object :- To determine the best cultivation practice for the crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 10,000 lb./ac. of manure mixture (equal parts of compost, tank silt and red earth). (ii) (a) Sandy loam. (b) Refer soil analysis, Tindivanam. (iii) 24.7.53. (iv) (a) As per treatments. (b) N.A. (c) 60 lb./ac. (d) 1' x 1'. (e) — (v) As per item. (i) (c) (vi) TMV-3. (vii) Unirrigated. (viii) 2 weedings. (ix) 22.28". (x) 29.12.53.

2. TREATMENTS :

1. Ploughing twice with country plough.
2. Ploughing 4 times with country plough.
3. Ploughing 6 times with country plough.
4. Ploughing twice with iron plough.
5. Ploughing 4 times with iron plough.
6. Ploughing with iron plough once and junior hoe twice.
7. Ploughing with iron plough once and junior hoe 4 times.
8. Ploughing with iron plough twice and junior hoe twice.
9. Ploughing with iron plough twice and junior hoe 4 times.

3. DESIGN :

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 82' x 12'. (b) 66' x 6' (v) A border 6' lengthwise and 3' breadthwise. (vi) Yes.

4. GENERAL :

(i) Growth of the plants was not vigorous. (ii) *Stomopteryx Neteria* (pest) attack was noticed in September. Tikka leaf spot disease noticed in October. No control measures were taken. (iii) Groundnut yield (wt. of clean dry pods.) (iv) (a) 1948—contd. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Unfavourable distribution of rainfall. (vii) Nil.

5. RESULTS :

- (i) 484 lb./ac.
 (ii) 137.5 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of pod in lb./ac.

Treatment	Av. yield
1.	483
2.	582
3.	486
4.	431
5.	501
6.	389
7.	565
8.	437
9.	480
S.E./mean	= 69.3 lb./ac.

Crop :- Groundnut.

Ref :- M. 53 (109).

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

Type :- 'C'.

Object :- To find out the optimum spacing for the bunch groundnut under irrigated conditions.

1. BASAL CONDITIONS :

(i) (a) Gingelly-Groundnut-Gingelly. (b) Gingelly. (c) 10 C.L./ac. of F.Y.M. (ii) (a) Loamy. (b) Refer soil analysis, Tindivanam. (iii) 30.3.53. (iv) (a) 4 ploughings. (b) and (c) N.A. (d) As under treatments. (e) —. (v) 10,000 lb./ac. of compost. (vi) T.M.V.—2 (Bunch). (vii) Irrigated. (viii) 2 weedings. (ix) 6.75". (x) 7.8.53.

2. TREATMENTS :

1. Spacing of 6" × 6".
2. Spacing of 9" × 6".
3. Spacing of 9" × 9".
4. Spacing of 12" × 9".
5. Spacing of 12" × 12".

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) Varies as per treatments. (b) 24' × 6'. (v) Border left, varies as per treatments. (vi) Yes.

4. GENERAL :

(i) Poor. (ii) No. (iii) Yield of pod. (iv) (a) 1952—1955. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Severe summer condition. (vii) Nil.

5. RESULTS :

- (i) 635 lb./ac.
- (ii) 85.3 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of pod in lb./ac.

Treatments	Av. yield
1.	639
2.	745
3.	674
4.	515
5.	602
S.E./mean	=34.8 lb./ac.

Crop :- Groundnut.

Ref :- M. 48 (75).

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

Type :- 'C'.

Object :-To study the mixed cropping of bunch and spreading types of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Castor. (c) N.A. (ii) (a) Red loamy soil. (b) Refer soil analysis, Tindivanam. (iii) 13.9.48. (iv) (a) 4 ploughings. (b) N.A. (c) N.A. (d) As per treatments. (e) N.A. (v) 10,000 lb./ac. of town rubbish. (vi) Bunch groundnut T.M.V.—2. Spreading groundnut T.M.V.—3. (vii) Unirrigated. (viii) One weeding. (ix) 18.71". (x) Bunch 30.12.48 Spreading 16.2.49.

2. TREATMENTS :

Treatments	Spacing
1. Bunch pure.	6" × 6".
2. $\frac{1}{2}$ Bunch + $\frac{1}{2}$ Spreading.	6.9" × 6.9".
3. $\frac{1}{2}$ Bunch + $\frac{1}{2}$ Spreading.	7.6" × 7.6".
4. $\frac{1}{2}$ Bunch + $\frac{1}{2}$ Spreading.	8.4" × 8.4".
5. Spreading pure.	9" × 9".

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 40' × 9'. (b) 38½' × 7½'. (v) Yes, one row left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of groundnut pod. (iv) (a) 1948—1950. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 755 lb./ac.
- (ii) 102.2 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of pod in lb./ac.

Treatment	Av. yield
1.	771
2.	784
3.	695
4.	787
5.	740
S.E./mean	=41.7 lb./ac.

Crop :- Groundnut.

Ref :- M. 49(6).

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

Type :- 'C'.

Object :- To study the mixed cropping of bunch and spreading types of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 10,000 ton/ac. of town rubbish. (ii) (a) Red loamy. (b) Refer soil analysis, Tindivanam. (iii) 10.749. (iv) (a) 3 ploughings. (b) N.A. (c) and (d) As per treatments. (e) —. (v) 10,000 lb./ac. of town rubbish. Time and method of application N.A. (vi) TMV-3 spreading and T M V-2 bunch. (vii) Unirrigated. (viii) 2 weedings and hoeings. (ix) 18.00". (x) Burch : 24.10.49 ; Spreading : 22.12.49.

2. TREATMENTS :

	Spacings
1. Bunch pure.	6" × 6".
2. $\frac{1}{2}$ Bunch + $\frac{1}{2}$ Spreading.	6.9" × 6.9".
3. $\frac{1}{2}$ Bunch + $\frac{1}{2}$ Spreading.	7.6" × 7.6".
4. $\frac{3}{4}$ Bunch + $\frac{1}{4}$ Spreading.	8.4" × 8.4".
5. Spreading pure.	9" × 9".

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 40' × 9'. 38 $\frac{1}{2}$ ' × 7 $\frac{1}{2}$ '. (v) 1 $\frac{1}{2}$ ' × 1 $\frac{1}{2}$ '. (vi) Yes.

4. GENERAL :

(i) Fair. (ii) Nil. (iii) Yield of pod. (iv) 1948—1949. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

(i) 796 lb./ac.
 (ii) 141.1 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of pod in lb./ac.

Treatment	Av. yield
1.	853
2.	745
3.	839
4.	788
5.	753
S.E./mean	= 57.6 lb./ac.

Crop :- Groundnut.

Ref :- M. 52(59).

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

Type :- 'I'.

Object :- To find out the optimum number of irrigations to be given to the Groundnut crop.

1. BASAL CONDITIONS :

(i) (a) No. (b) Paddy. (c) 10 ton/ac. of F.Y.M. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 14.252. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) 1' × 1'. (e) 1. (v) 20 C.L./ac. of compost. (vi) TMV-4. (vii) Irrigated. (viii) 2 weedings with hand hoes. (ix) 7.21". (x) 8.8.52.

2. TREATMENTS :

1. Irrigation every 10th day after flowering.
 2. Irrigation every 15th day after flowering.
 3. Irrigation every 20th day after flowering.
 4. Irrigation every 25th day after flowering.

Life irrigation, 2nd irrigation after 10 days and 3rd irrigation at the time of flowering are common to all treatments.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 27' × 12'. (b) 23' × 10'. (v) 2' × 1' left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of pod. (iv) (a) 1952—1954. (b) No. (c) N.A. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1546 lb./ac.
 (ii) 231.5 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of pod in lb./ac.

Treatment	Av. yield
1.	1843
2.	1725
3.	1302
4.	1314
S.E./mean	= 94.5 lb./ac.

Crop :- Groundnut.

Ref :- M. 53(5).

Site :- Agri. Res. Stn. Palur.

Type :- 'T'.

Object :- To compare the different intervals of irrigation.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Groundnut. (c) 10 C.L./ac. of C.M. broadcast and ploughed in, a fortnight before sowing. (ii) (a) Loamy clay. (b) Refer soil analysis, Palur. (iii) 23.2.53. (iv) (a) 4 ploughings. (b) N.A. (c) 80 lb./ac. (d) 1'×1'. (e) —. (v) 10 C.L./ac. of C.M. broadcast and ploughed in, a fortnight before sowing. (vi) TMV—4. (vii) Irrigated. (viii) Weeding once. (ix) 8.1". (x) 19.20.53.

2. TREATMENTS :

1. Irrigation every 10th day after flowering.
2. Irrigation every 15th day after flowering.
3. Irrigation every 20th day after flowering.
4. Irrigation every 25th day after flowering.

3. DESIGN :

- (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 36'×13'. (b) 32'×8'. (v) A border of 2'×1' left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of pod. (iv) (a) Yes, 1952-1954. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 847 lb./ac.
 (ii) 403.2 lb./ac.
 (iii) The treatment differences are highly significant.
 (iv) Av. yield of pod in lb./ac.

Treatment	Av. yield
1.	1668
2.	950
3.	459
4.	312
S.E./mean	= 164.6 lb./ac.

Crop :- Groundnut.

Ref :- M. 53(111).

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

Type :- 'I'.

Object :- To find out the optimum number of irrigations required for the Groundnut crop.

1. BASAL CONDITIONS :

(i) (a) Gingelly—Groundnut—Gingelly. (b) Gingelly. (c) 10 C.L./ac. of F.Y.M. (ii) (a) Loamy. (b) Refer soil analysis, Tindivanam. (iii) 23.2.53. (iv) (a) 4 ploughings. (b) N.A. (c) 60 lb./ac. (d) 1'×1'. (e) —. (v) 20 C.L./ac. of compost. (vi) T.M.V.—4. (vii) As per treatments. (viii) 2 weedings. (ix) 4.91". (x) 11.8.53.

2. TREATMENTS :

1. Irrigation every 10th day to a depth of 2".
2. Irrigation every 15th day to a depth of 2".
3. Irrigation every 20th day to a depth of 2".
4. Irrigation every 25th day to a depth of 2".

These treatments were given from the 1st flowering stage before which two irrigations were given uniformly to all the plots.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 36'×10'. (b) 34'×8'. (v) 1 foot border left all on sides. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of pod. (iv) (a) 1952-1954. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 844.5 lb./ac.
- (ii) 422.8 lb./ac.
- (iii) Treatment differences are significant.
- (iv) Av. yield of pod in lb./ac.

Treatment	Av. yield
1.	1659
2.	946
3.	456
4.	307
S.E./mean	= 172.6 lb./ac.

Crop :- Gingelly.

Ref :- M. 50 (58).

Site :- Agri Res. Stn., Tindivanam.

Type :- 'C'.

Object :- To determine the economic spacing to be adopted for gingelly grown under rainfed conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Cholam*. (c) 10,000 lb./ac. of C.M. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam (iii) 15.12.50. (iv) (a) Iron ploughing once ; 3 country ploughings. (b) to (e)—. (v) 10,0.0 lb./ac. of C.M. (vi) T.M.V.—3. (vii) Rainfed. (viii) 2 weedings and hoeings. (ix) 1.63". (x) 27.2.51 and 15.3.51.

2. TREATMENTS :

Spacings :-

1. 6"×6"
2. 9"×9"
3. 1'×1'.
4. 1½'×1½'.
5. 2'×2'.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 48'×9', 48'×9', 48'×9', 48'×9' and 48'×10'. (b) 42'×6'. (v) About 3'×1½' left as border. (vi) Yes.

4. GENERAL :

(i) Poor. (ii) Nil. (iii) Wt. of gingelly seed. (iv) (a) 1947—1950. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Unfavourable seasonal conditions. (vii) Crop failed in 1949.

5. RESULTS :

- (i) 80 lb./ac.
 (ii) 18.1 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of seed in lb./ac.

Treatment	Av. yield
1.	70
2.	69
3.	74
4.	107
5.	89
S.E./mean	= 7.4 lb./ac.

Crop :- Gingelly.

Ref :- 52 (34).

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

Type :- 'C'.

Object :- To determine the optimum and economic spacing for cold weather gingelly crop (rainfed crop).

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Groundnut. (c) 10 ton/ac. of C.M. (ii) (a) Loamy. (b) Refer soil analysis, Tindivanam. (iii) 29.12.52. (iv) (a) 4 ploughings. (b), (c) N.A. (d) As per treatments. (e) —. (v) 10,000 lb./ac. of town rubbish. (vi) TMV-3 (medium). (vii) Rainfed. (viii) Two weedings. (ix) 5.2". (x) 24, 27, 31.3.53.

2. TREATMENTS :

1. 6" x 6".
 2. 9" x 9".
 3. 12" x 12".
 4. 18" x 18".
 5. 24" x 24".

3. DESIGN :

- (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 36' x 6' for 1 to 4 treatments and 36' x 10' for 5th treatment (b) 30' x 6'. (v) 3' x 1½' left as border for treatments 1 to 4; 3' x 2' left as border for treatment No. 5. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Growth measurements ; yield of seed. (iv) (a) 1948—1953. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 120 lb./ac.
 (ii) 61.8 lb./ac.
 (iii) The treatments differ highly significantly.
 (iv) Av. yield of seeds in lb./ac.

Treatment	Av. yield
1.	135
2.	158
3.	147
4.	91
5.	68
S.E./mean	= 25.2 lb./ac.

Crop :- Gingelly.

Ref :- M. 51(22).

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

Type :- 'C'.

Object :- To determine the optimum spacing for the irrigated crop of gingelly.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Groundnut. (c) 10 ton/ac. of C.M. (ii) (a) Loamy. (b) Refer soil analysis, Tindivanam. (iii) 20.3.51. (iv) (a) 4 ploughings. (b) and (c) N.A. (d) As per treatments. (e) —. (v) 10,000 lb./ac. of town rubbish applied at the time of last ploughing (broadcast and ploughed in.) (vi) TMV-3. (vii) Irrigated. (viii) 2 weedings. (ix) 7.2". (x) 12.6.51.

2. TREATMENTS :

Spacings.

1. 6"×6".
2. 9"×9".
3. 12"×12".
4. 18"×18".
5. 24"×24".

3. DESIGN :

- (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 36'×9' for treatments 1 to 4 and 36'×10' for 5th, (b) 32'×6' (v) 2'×1½' left as border for treatments 1 to 4 ; 2'×2' left as border for treatment 5. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Weight of gingelly seed. (iv) (a) 1948—1953. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 220 lb./ac.
 (ii) 57.1 lb./ac.
 (iii) The treatments are not significantly different.
 (iv) Av. yield of seed in lb./ac.

Treatment	Av. yield
1.	270
2.	186
3.	236
4.	227
5.	180
S.E./mean	= 23.3 lb./ac.

Crop :- Gingelly.

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

Ref :- M. 52(35).

Type :- 'M'.

Object :- To determine the economic spacing to be adopted for Gingelly under irrigated conditions.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) *Ptilipesara*. (c) Nil. (ii) (a) Loamy. (b) Refer soil analysis, Tindivanam. (iii) 15.3.52. (iv) (a) 4 ploughings. (b) and (c) N.A. (d) As per treatments. (e) N.A. (v) 10,000 lb./ac. of F.Y.M. (vi) T M V—3. (vii) Irrigated. (viii) Weeding twice. (ix) 6.8". (x) 9.6.52.

2. TREATMENTS :

Spacing :-

1. 6"×6".
2. 9"×9".
3. 12"×12".
4. 18"×18".
5. 24"×24".

3. DESIGN :

- (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 36'×9' for 1 to 4 ; 36'×10' for the 5th. (b) 30'×6'. (v) 3'×1½' left as border treatments 1 to 4 and 3'×2' left as border for treatments (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) The shoot webber caterpillar noticed in a mild form during summer season ; D.D.T. dusting and hand picking kept the infestation down. (iii) Yield of seed. (iv) (a) 1948-1953. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 74 lb./ac.
 (i) 21.0 lb./ac.
 (iii) Treatments are significantly different.
 (iv) Av. yield of seed in lb./ac.

Treatment	Av. yield
1.	45
2.	79
3.	93
4.	86
5.	67
S.E./mean	= 8.6 lb./ac.

Crop :- Gingelly.

Ref :- M. 53(112).

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

Type :- 'C'.

Object :- To determine the optimum spacings to be adopted for the Gingelly crop under irrigated conditions.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 150 lb./ac. of A/S; 150 lb./ac. of Super and 5,000 lb./ac. of G.M. (ii) (a) Loamy. (b) Refer soil analysis, Tindivanam. (iii) 20.4.53. (iv) (a) 4 ploughings. (b) N.A. (c) 5 lb./ac. (d) As under treatments. (e) —. (v) Compost manure at 13 C.L./ac. (vi) TMV-3. (vii) Irrigated. (viii) 2 weedings. (ix) 1.32". (x) 31.7.53 and 1.8.53.

2. TREATMENTS :

Spacings :-

1. 2'x2'.
2. 1½'x1½'.
3. 1'x1'.
4. 9"x9".
5. 6"x6".

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) Varies as per treatments. (b) 30'x6'. (v) Varies as per treatments. (vi) Yes.

4. GENERAL :

(i) Poor. (ii) *Amigastia catalanvalis* pest noticed, no control measures were taken. (iii) Yield of seed. (iv) (a) 1948-1953. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Severe summer condition and pest attack. (vii) Nil.

5. RESULTS :

(i) 95 lb./ac.

(ii) 31.5 lb./ac.

(iii) Treatment differences are significant.

(iv) Av. yield of seed in lb./ac.

Treatment	Av. yield
1.	48
2.	78
3.	134
4.	101
5.	113
S.E./mean	= 12.9 lb./ac.

Crop :- Cumbu.

Ref :- M. 49(113).

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

Type :- 'M'.

Object :- To compare the manurial value of compost with that of C.M.

1. BASAL CONDITIONS :

(i) (a) *Cumbu*-Groundnut—*Ragi*-Sunnhemp. (b) Sugarcane. (c) As under treatments (with 250 lb./ac. of N instead of 60 lb./ac. of N). (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 30.6.49. (iv) (a) 3 ploughings. (b) N.A. (c) 10 lb./ac. (d) and (e) N.A. (v) Nil. (vi) CO. 3 *Cumbu*. (vii) Unirrigated. (viii) One weeding. (ix) 13.30". (x) 9.9.49.

2. TREATMENTS :

1. No manure.
2. C.M. at 60 lb./ac. of N.
3. Compost at 60 lb./ac. of N.

3. DESIGN :

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 29.7'x35.6'. (b) 29.7'x31.7'. (v) 2' left as border. (vi) Yes.

4. GENERAL :

(i) Growth satisfactory, but due to continuous rains during flowering period yield is poor. (ii) Nil. (iii) Grain yield. (v) (a) 1949—1952. (b) Yes. (c) Nil. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 325 lb./ac.
 (ii) 55.1 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of *cumbu* in lb./ac.

Treatment	Av. yield
1.	317
2.	345
3.	313
S.E./mean	= 22.5 lb./ac.

Crop :- *Cumbu*.
 Site :- Agri. Res. Stn., Palur.

Ref :- M. 50(61),
 Type :- 'M'.

Object :—To compare the manurial value of compost with that of C.M.

1. BASAL CONDITIONS :

- (i) (a) Nil. (b) Sunnhemp (G.M. crops). (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Palur.
 (iii) 6.7.50. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) 6'×6'. (e) —. (v) Nil. (vi) CO. 3. (vii) Irrigated.
 (viii) Weeding once. (ix) 12.09". (x) 11.9.50.

2. TREATMENTS :

1. No manure.
 2. C M. 60 lb./ac. of N.
 3. Compost 60 lb./ac. of N.

3. DESIGN :

- (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 33'×36'. (b) 28'×32'. (v) 1'×2' left as border. (vi) Yes.

4. GENERAL :

- (i) Good. (ii) Nil. (iii) Grain yields. (iv) (a) No. (b) Nil. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1606 lb./ac.
 (ii) 114.7 lb./ac.
 (iii) Treatments are significantly different.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1411
2.	1713
3.	1695
S.E./mean	= 46.8 lb./ac.

Crop :- *Tenai*.
 Site :- Millet Breeding Stn., Coimbatore.

Ref :- M. 48(95).
 Type :- 'C'.

Object :—To determine the optimum seed-rate required for sowing an acre of *Tenai* crop.

1. BASAL CONDITIONS

- (i) (a) Nil. (b) Fodder *cholam*. (c) Nil. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) N.A.
 (iv) (a) 2 ploughing. (b), (c), (d) and (e) N.A. (v) 2½ ton/ac. of F.Y.M. (vi) *Tenai* CO. 1. (vii) Un-irrigated. (viii) 1 weeding. (ix) 13.17". (x) N.A.

2. TREATMENTS :

Seed-rates :

1. 2 lb./ac.
2. 3 lb./ac.
3. 4 lb./ac.
4. 5 lb./ac.
5. 6 lb./ac.
6. 7 lb./ac.
7. 8 lb./ac.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 6. (iv) (a) 0.84 cent. (b) 0.80 cent. (details N.A.) (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield data. (iv) (a) No. (b) No. (c) Nil. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 484 lb./ac.
 (ii) 74.0 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	400
2.	448
3.	502
4.	516
5.	509
6.	527
7.	487
S.E./mean	= 30.2 lb./ac.

Crop :- Tenai.

Ref :- M. 48(94).

Site :- Millet Breeding Stn., Coimbatore.

Type :- 'C'.

Object :- To ascertain the optimum spacing required between rows of Tenai plants.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fodder *cholam*. (b) Nil. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 15.10.48. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) As per treatments. (e) N.A. (v) Nil. (vi) Tenai CO. 1. (vii) Unirrigated. (viii) 1 weeding. (ix) 13.17". (x) 52.49.

2. TREATMENTS :

Spacing between rows :

1. 0.7'.
2. 1.0'.
3. 1.3'.
4. 1.6'.
5. 2.0'.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 0.4 cents. (details N.A.) (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield data. (iv) (a) No. (b) No. (c) Nil. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 1326 lb./ac.
 (ii) 32.25 lb./ac.
 (iii) Treatment differences are highly significant.

(iv) Av. yield of grain in lb./ac.

Treatment	Av. yield
1.	1601
2.	1399
3.	1272
4.	1355
5.	1003
S.E./mean	= 9.08 lb./ac.

Crop :- Cotton, *Irungu cholam*, *Cumbu*.

Ref :- M. 48(91).

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

Type :- 'R'.

Object :—To determine the optimum preparatory cultivation that is necessary for different crops of the tract, taking into account the rotation of these crops also.

1. BASAL CONDITIONS :

(i) (a) As under treatments. (b) *Cumbu*. (c) 10 C.L./ac. of F.Y.M. (ii) (a) Black soil. (b) N.A. (iii) 20.10.1943. (iv) (a) to (e) N.A. (v) Nil. (vi) Cotton K—1, *Cumbu* K—1, *Cholam* K—1. (vii) Unirrigated. (viii) Weeding once. (ix) 19.84° (20.10.48 to 20.4.1949). (x) Cotton 13.3.49 to 20.4.49, *Cumbu* 25.1.49 and *Irungu cholam* 15.2.1949.

2. TREATMENTS :

Main-plot treatments :

Rotations

1. *Cumbu*—Cotton—*Cholam*—Cotton.
2. Cotton—*Cholam*—Cotton—*Cumbu*.
3. *Cholam*—Cotton—*Cumbu*—Cotton.
4. Cotton—*Cumbu*—Cotton—*Cholam*.

Sub-plot treatments :—

1. Country plough 3 times.
2. R.E. *Guntak* 3 times.
3. No cultivation.
4. Country plough twice + Cooper once.
5. Cooper 2 times.
6. Cooper once.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/block ; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 4.95 cents (sub-plots) ; 29.7 cents main-plot. (b) 3.4₀ cents. (v) Details N.A. (vi) Yes.

4. GENERAL :

(i) Normal. (ii) Nil. (iii) Yield of cotton and other grains. (iv) (a) 1948—1953. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

I. Crop :- *Cumbu*.

(i) 477.8 lb./ac.
(ii) 68.20 lb./ac.
(iii) Treatment difference are not significant.
(iv) Av. yield in lb./ac.

Treatment No :	1	2	3	4	5	6
Av. yield	477.5	454.4	534.6	518.0	396.6	485.5
S.E./mean	=34.10 lb./ac.					

II. Crop :- *Irungu Cholam*.

(i) 223.7 lb./ac.
(ii) 31.79 lb./ac.
(iii) Treatment difference are not significant.
(iv) Av. yield in lb./ac.

Treatment No.	1	2	3	4	5	6
Av. yield	241.0	210.1	228.0	222.6	216.0	224.0
S.E./mean	=15.89 lb./ac.					

III. Crop :- Cotton (*Pooled*).

(i) 436.7 lb./ac.
(ii) 55.48 lb./ac.
(iii) Treatment differences are significant.

Treatment No.	1	2	3	4	5	6
Av. yield	503.5	361.0	430.2	503.6	407.5	414.6
S.E./mean	=19.67 lb./ac.					

Crop :- Cotton, Cholam etc.

Ref :- M. 49 (102)/48 (91).

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

Type :- 'R'.

Object :—To determine the optimum preparatory cultivation that is necessary for different crops of the tract, taking into account the rotation of these crops also.

1. BASAL CONDITIONS :

(i) (a) As under treatments. (b) As under treatments. (c) Nil. (ii) (a) Black soil. (b) N.A. (iii) 10.10.49. (iv) (a) to (e) N.A. (v) Nil. (vi) Cotton K—2; Cumbu K—1; Irungucholam. (vii) Unirrigated. (viii) Weeding once. (ix) 18.46" (10.10.49 to 12.6.50). (x) Cotton. 20.3.50 to 12.6.50 and Cumbu 6, 7.1.50 and Cholam 3 to 5.3.1950.

2. TREATMENTS :

Main-plot treatments :—

Rotations.

1. Cumbu—Cotton—Cholam—Cotton.
2. Cotton—Cholam—Cotton—Cumbu.
3. Cholam—Cotton—Cumbu—Cotton.
4. Cotton—Cumbu—Cotton—Cholam.

Sub-plot treatments :—

1. Country plough 2 to 3 times.
2. R.E. Guntaka 2 to 3 times.
3. No cultivation.
4. Country plough twice and cooper plough once.
5. Cooper plough twice.
6. Cooper plough once.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/block; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 4.95 cents. (b) 3.46 cents. (v) Details N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of cotton and other crops. (iv) (a) 1948—1953. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

I. Crop : Cholam

- (i) 5615 lb./ac.
 (ii) 658.9 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield in lb./ac.

Treatments No.	1	2	3	4	5	6
Av. yield	5519	5193	5375	6155	5592	5837

S.E./mean=329.5 lb./ac.

II. Crop : Cumbu

- (i) 442.2 lb./ac.
 (ii) 56.35 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield in lb./ac.

Treatment No.	1	2	3	4	5	6
Av. yield	460.5	433.5	442.5	442.5	467.8	406.4

S.E./mean=28.17 lb./ac.

III. Crop : Cotton (after Cumbu)

- (i) 516.0 lb./ac.
 (ii) 64.73 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield in lb./ac.

Treatment No.	1	2	3	4	5	6
Av. yield	507.1	527.3	478.3	605.0	506.1	472.3

S.E./mean=32.36 lb./ac.

IV. Crop : Cotton (after Cholam)

- (i) 371.6 lb./ac.
 (ii) 58.66 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield in lb./ac.

Treatment No.	1	2	3	4	5	6
Av. yield	373.9	403.8	338.9	378.9	412.4	321.8

S.E./mean=29.33 lb./ac.

Crop :- Cotton, Cholam etc.

Ref :- M: 50 (107)/49 (102)/48 (91).

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

Type :- 'R'.

Object :- To determine the optimum preparatory cultivation necessary for different crops of tract taking into account the rotations of these crops.

1. BASAL CONDITIONS :

(i) (a) and (b) As under treatments. (c) Nil. (ii) (a) Black soil. (b) N.A. (iii) 2, 5.10.50. (iv) (a) to (e) N.A. (v) Nil. (vi) Cotton K-2; Cumbu K-1. Cholam K-1. (vii) Unirrigated. (viii) Weeding once. (ix) 13.04* (25.10.50 to 11.7.1950). (x) Cotton 28.2.1951 to 11.7.50, Cumbu 26.1.1951, Cholam,

2. TREATMENTS :

Main-plot treatments :-

Rotations

1. Cumbu—Cotton—Cholam—Cotton.
2. Cotton—Cholam—Cotton—Cumbu.
3. Cholam—Cotton—Cumbu—Cotton.
4. Cotton—Cumbu—Cotton—Cholam.

Sub-plot treatments :-

1. Country plough 2-3 times.
2. R.E. Guntaka 2-3 times.
3. No cultivation.
4. Country plough 3 times and Cooper once.
5. Cooper plough twice.
6. Cooper plough once.

3. DESIGN :

(i) Split-plot. (ii) (a) 4 main-plots/block; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 4.95 cents. (b) 3.46 cents. (v) Details N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield. (iv) (a) 1948-1953. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

I. Crop : Cotton (after Irungu Cholam)

- (i) 288.6 lb./ac.
 (ii) 61.84 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield in lb./ac.

Treatment No.	1	2	3	4	5	6
Av. yield	314.8	259.0	249.0	298.2	276.6	333.7

S.E./mean=30.92 lb./ac.

II. Crop : Cotton (after Cumbu)

- (i) 191.2 lb./ac.
 (ii) 43.35 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield in lb./ac.

Treatment No.	1	2	3	4	5	6
Av. yield	256.9	127.9	95.44	223.2	191.8	251.9

S.E./mean=21.67 lb./ac.

III. Crop : Irungu Cholam (Straw)

- (i) 675.8 lb./ac.
 (ii) 379.7 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield in lb./ac.

Treatment No.	1	2	3	4	5	6
Av. yield	559.9	994.3	469.6	547.2	578.0	905.8

S.E./mean=189.8 lb./ac.

IV. Crop : Cumbu

- (i) 51.02 lb./ac.
 (ii) 55.77 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield in lb./ac.

Treatment No.	1	2	3	4	5	6
Av. yield	35.83	22.25	21.24	80.84	87.78	58.16

S.E./mean=27.88 lb./ac.

Crop :- Cotton *Cholam* etc.

Ref :- M. 51(77)/50(107)/49(102)/48(91).

Site :- Agri. Res. Stn. Koilpatti.

Type :- 'R'.

Object :- To determine the optimum preparatory cultivation necessary for the different crops of the tract and also to study the rotation of these crops side by side.

1. BASAL CONDITIONS :

- (i) (a) and (b) As under treatments. (c) 5 ton/ac. of F.Y.M. (ii) (a) Black soil. (b) N.A. (iii) Cotton 9.11.51. *Cumbu* and *Cholam* 3.11.1951. (iv) (a) to (e) N.A. (v) 5 ton/ac. of F.Y.M. (vi) Cotton K. 2 : *Cumbu* K. 1 ; *Irungu cholam* K. 1. (vii) Unirrigated. (viii) Weeding once. (ix) 13.61" (3.11.51 to 10.6.1952). (x) *Cumbu* 27.2.1952 ; *Cholam*, 13.3.52, Cotton 9.3.1952 to 10.6.1952.

2. TREATMENTS :

Main-plot treatments :-

Rotations

1. *Cumbu*—Cotton—*Cholam*—Cotton.
2. Cotton—*Cholam*—Cotton—*Cumbu*.
3. *Cholam*—Cotton—*Cumbu*—Cotton.
4. Cotton—*Cholam*—Cotton—*Cumbu*.

Sub-plot treatments :-

1. Country plough 3 times.
2. R.E. *Guntaka* 3 times.
4. No cultivation.
4. Country plough twice and Cooper once.
5. Cooper plough twice.
6. Cooper plough once.

3. DESIGN :

- (i) Split-plot. (ii) (a) 4 main-plots/block ; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 4.95 cents. (b) 3.46 cents. (v) Details N.A. (vi) Yes.

4. GENERAL :

- (i) Satisfactory. (ii) Nil. (iii) Yield. (iv) (a) 1948—53. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

I. Crop : Cotton (after *Cholam*)

- (i) 299.1 lb./ac.
(ii) 59.82 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield in lb./ac.

Treatment No.	1	2	3	4	5	6
Av. yield	320.0	331.0	264.1	255.6	322.4	301.6
S.E./mean = 29.91 lb./ac.						

II. Crop : Cotton (after *Cumbu*)

- (i) 355.9 lb./ac.
(ii) 43.06 lb./ac.
(iii) Treatments are not significant.
(iv) Av. yield in lb./ac.

Treatment No.	1	2	3	4	5	6
Av. yield	396.8	306.6	344.1	366.6	372.9	348.6
S.E./mean = 21.53						

III. Crop : *Cumbu*

- (i) 264.1 lb./ac.
(ii) 70.22 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield in lb./ac.

Treatment No.	1	2	3	4	5	6
Av. yield	278.1	249.2	247.4	299.8	216.7	293.4
S.E./mean = 35.11 lb./ac.						

IV. Crop : *Cholam* Straw

- (i) 3612 lb./ac.
(ii) 568.9 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield in lb./ac.

Treatment No.	1	2	3	4	5	6
Av. yield	3720	3258	3388	3634	3872	3800
S.E./mean = 284.1 lb./ac.						

Crop :- Cotton, *Cumbu*, *Cholam*.

Ref :- M. 52(52)/51(77)/50(107)/49(102)/48(91).

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

Type :- 'R'.

Object :—To determine the optimum preparatory cultivation for the 3 important rainfed crops (Cotton, *Cholam Cumbu*) and also to study the rotation of these crops side by side.

1. BASAL CONDITIONS :

(i) (a) and (b) As under treatments. (c) 5 ton/ac. of F.Y.M. (ii) (a) Black soil. (b) N.A. (iii) 9.11.1952. (iv) (a) to (e) N.A. (v) 5 ton/ac. of F.Y.M. (vi) Cotton K₁. *Irungu cholam* K₁. *Cumbu* K₁. (vii) Unirrigated. (viii) Weeding once. (ix) 11.63". (x) *Irungu cholam* 17.2.53, *Cumbu*, 17.2.53. Cotton. 30.3.53 to 23.6.1953.

2. TREATMENTS :

Main-plot treatments :—

Rotations

1. *Cumbu*—Cotton—*Cholam*—Cotton.
2. Cotton—*Cholam*—Cotton—*Cumbu*.
3. *Cholam*—Cotton—*Cumbu*—Cotton.
4. Cotton—*Cumbu*—Cotton—*Cholam*.

Sub-plot treatments :—

1. Country plough 2-3 times.
2. R.E. *Guntaka* 2-3 times.
3. No cultivation.
4. Country plough once + Cooper once.
5. Cooper plough twice.
6. Cooper plough once.

3. DESIGN :

(i) Split—plot. (ii) (a) 4 main-plots/block; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 4.95 cents (b) 3.46 cents. (v) Details N.A. (vi) Yes.

4. GENERAL :

(i) Not satisfactory. Poor yield due to severe drought conditions. (ii) Nil. (iii) Yield of cotton etc. (iv) (a) 1948—53. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

I. Crop : *Cumbu*

- (i) 67.13 lb./ac.
 (ii) 45.08 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield in lb./ac.

Treatment No.	1	2	3	4	5	6
Av. yield	65.02	63.21	48.76	83.08	88.50	54.18
S.E./mean	= 22.54 lb./ac.					

II. Crop : *Irungu Cholam* (Straw)

- (i) 2200 lb./ac.
 (ii) 632.9 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield in lb./ac.

Treatment No.	1	2	3	4	5	6
Av. yield	2304	1524	1589	2210	3207	2362
S.E./mean	= 316.4 lb./ac.					

III. Crop : Cotton (after *Cumbu*)

- (i) 88.14 lb./ac.
 (ii) 68.49 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield in lb./ac.

Treatment No.	1	2	3	4	5	6
Av. yield	62.4	36.5	106.5	82.2	121.0	120.1
S.E./mean	= 34.24.					

IV. Crop : Cotton (after *Cholam*)

- (i) 42.38 lb./ac.
 (ii) 33.23 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield in lb./ac.

Treatment No.	1	2	3	4	5	6
Av. yield	52.38	8.16	40.67	64.15	28.03	60.91
S.E./mean	= 16.61 lb./ac.					

Crop :- Cotton, Cumbu, Cholan.

Ref :- M. 53(59)/52(52)/51(77)/50
(107)/49(102)/48(91).

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

Type :- 'R'.

Object :- To determine the optimum preparatory cultivation, for the three important rainfed crops of the black soils of the tract and also to study the rotation of these crops;

1. BASAL CONDITIONS :

(i) (a) and (b) As under treatments. (c) 5 ton/ac. of F.Y.M. (ii) (a) Black soil, (b) NA. (iii) 11.10.1953. (iv) (a) to (e) N.A. (v) 5 ton/ac. of F.Y.M. (vi) Cotton-K₂; Cumbu-K₁ Irugu cholam-K₁. (vii) Unirrigated. (viii) Weeding once. (ix) 17.09. (11.10.53 to 25.6.54). (x) Cholam 11.2.54 Cumbu 17.1.54 Cotton 30.3.54 to 25.6.1954.

2. TREATMENTS :

Main-plot treatments :-

Rotations

1. Cumbu—Cotton—Cholan—Cotton.
2. Cotton—Cholan—Cotton—Cumbu.
3. Cholan—Cotton—Cumbu—Cotton.
4. Cotton—Cumbu—Cotton—Cholan.

Sub-plot treatments :-

1. Country plough 2—3 times.
2. R.E. Guntaka 2—3 times.
3. No cultivation.
4. Country plough twice+cooper once.
3. Cooper plough twice.
6. Cooper plough once.

3. DESIGN :

(i) Split-plot. (ii) 4 main-plots/block ; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 4.95 cents. (b) 3.46 cents. (v) Details N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of cotton etc. (iv) (a) 19 18-53. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

I. Crop : Cholan (straw)

- (i) 6020 lb./ac.
(ii) 817.2 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield in lb./ac.

Treatment No.	1	2	3	4	5	6
Av. yield	6249	5888	5599	5960	6372	6054

S.E./mean=408.6 lb./ac.

II. Crop : Cumbu

- (i) 517.5 lb./ac.
(ii) 89.87 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield in lb./ac.

Treatment No.	1	2	3	4	5	6
Av. yield	594.2	527.4	519.4	494.1	464.2	505.6

S.E./mean=44.93 lb./ac.

III. Crop : Cotton (after Cumbu)

- (i) 263.3 lb./ac.
(ii) 36.99 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield in lb./ac.

Treatment No.	1	2	3	4	5	6
Av. yield	286.4	240.8	237.9	271.4	257.1	286.4

S.E./mean=18.49 lb./ac.

IV. Crop : Cotton (after Cholan)

- (i) 249.2 lb./ac.
(ii) 36.70 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield in lb./ac.

Treatment	1	2	3	4	5	6
Av. yield	289.5	241.5	210.4	263.7	243.9	246.5

SE/mean=18.35 lb./ac.

Crop :- Cotton, Cholam etc.
Site :- Agri. Res. Stn., Koilpatti.

Ref :- M. 48(92).
Type :- 'R'.

Object :- To study the different systems of crop rotations of the tract and also to study the physico-chemical problem of the soils of the tract in relation to the systems of cropping.

1. BASAL CONDITIONS :

(i) (a) As per treatments. (b) As under treatments. (c) Nil. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) 21.10.48. (iv) (a) 3 ploughings. (b) to (e) N.A. (v) Nil. (vi) Cotton K₁, Cumbu K-1 and Cholam K-1. (vii) Rainfed. (viii) Weeding once. (ix) 19.84". (x) Cumbu 21.4.49, Irungucholam 9.2.49 and Cotton 11.3.49 to 15.4.49.

2. TREATMENTS :

Rotations as follows :-

- | | |
|---|---------------------------------|
| 1. Cotton every year. | 7. Cumbu every year. |
| 2. (Cotton+Black gram) every year. | 8. (Cumbu+Indigo) every year. |
| 3. Cotton-(Cholam+Indigo). | 9. Cholam every year. |
| 4. (Cotton+Black gram)-(Cholam+Indigo). | 10. (Cholam+Indigo) every year. |
| 5. Cotton-Cumbu. | 11. Cholam-Cotton. |
| 6. Cotton-(Cumbu+Indigo). | |

3. DESIGN :

(i) R.B.D. (ii) (a) 16. (b) N.A. (iii) 4. (iv) (a) 3.27 cents. (b) 1.5 cents. (v) N.A. (vi) No, as per rotation.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield data. (iv) (a) 1947-1951. (b) Yes, as per rotation. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

I. Crop : Cumbu

(i) 637.8 lb./ac.

(ii) 103.8 lb./ac.

(iii) Treatment differences are not significant.

(iv) Av. yield of grain in lb./ac.

Rotation No.	5	6	7	8
Previous crop	Cotton	Cotton	Cumbu	Cumbu+Indigo
Av. yield	626.5	643.7	569.2	711.7

S.E./mean=51.9 lb./ac.

II. Crop : Cholam

(i) 243.1 lb./ac.

(ii) 74.87 lb./ac.

(iii) Treatment differences are not significant.

(iv) Av. yield of grain lb./ac.

Rotation No.	3	4	9	10	11
Previous crop	Cotton	Cotton+Black gram	Cholam	Cholam+Indigo	Cotton
Av. yield	276.5	234.0	183.8	252.8	268.5

S.E./mean=37.44 lb./ac.

III. Crop : Cotton

(i) 562.9 lb./ac.

(ii) 104.4 lb./ac.

(iii) Treatment differences are highly significant.

(iv) Av. yield of kapas in lb./ac.

Rotation No.	1	2	5	6	11	3	4
Previous crop	Cotton	Cotton+Blackgram	Cumbu	Cumbu+Indigo	Cholam	Cholam+Indigo	Cholam+Indigo
Av. yield	659.8	312.5	670.8	696.5	647.2	602.3	351.2

S.E./mean=52.2 lb./ac.

Note :- Yield data of Blackgram and Indigo are N.A.

Crop :- Cotton, Cumbu etc.

Ref :- M. 49(103)/48(92).

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

Type :- 'R'.

Object :—To study the different systems of crop rotations of the tract and also to study the Physico-chemical problem of soils of the tract in relation to systems of cropping.

1. BASAL CONDITIONS :

(i) (a) As per rotation. (b) As under treatments. (c) Nil. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) 12.10.49. (iv) (a) 3 ploughings. (b) to (e) N.A. (v) Nil. (vi) Cotton K—2; Irangu cholam K—1; Cumbu K—1. (vii) Rainfed. (viii) Weeding once. (ix) 18.46%. (x) Cotton 9.3.50 to 12.6.50, Cumbu 18.1.50 and Cholam 27.2.50.

2. TREATMENTS :

11. Rotation as follows :

- | | |
|---|-------------------------------|
| 1. Cotton every year. | 7. Cumbu every year. |
| 2. (Cotton+Black gram) every year. | 8. (Cumbu+Indigo) every year. |
| 3. Cotton—(Cholam+Indigo). | 9. Cholam every year. |
| 4. (Cotton+Black gram)—(Cholam+Indigo). | 10. (Cholam+Indigo). |
| 5. Cotton—Cumbu | 11. (Cholam—Cotton). |
| 6. Cotton—(Cumbu+Indigo). | |

3. DESIGN :

(i) R.B.D. (ii) (a) 16, (b) N.A. (iii) 4. (iv) (a) 82.5'×17.8'. (b) 73.3'×8.9'. (v) 3.3'×4.5' left as border. (vi) No, as per rotation.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield data. (iv) (a) 1947—1951. (b) Yes, as per rotation. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

I. Crop : Cumbu.

- (i) 527.1 lb./ac.
 (ii) 66.03 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of grain in lb./ac.

Rotation No.	7	8	5	6
Previous crop	Cumbu	Cumbu+Indigo	Cotton	Cotton
Av. yield	512.7	562.7	541.7	487.5
S.E./mean	= 33.02 lb./ac.			

II. Crop : Cholam.

- (i) 5996 lb./ac.
 (ii) 2058.7 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of straw in lb./ac.

Rotation No	9	10	11	3	4
Previous Crop	Cholam	Cholam+Indigo	Cotton	Cotton	Cotton+Black gram
Av. yield	7783	5533	6333	5750	4583
S.E./mean	= 1004.4 lb./ac.				

III. Crop : Cotton.

- (i) 226.4 lb./ac.
 (ii) 57.18 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of kapas in lb./ac.

Rotation No.	1	2	3	4	5	6	11
Previous Crop	Cotton	Cotton+ Black gram	Cholam+Indigo	Cholam+Indigo	Cumbu	Cumbu	Cholam
Av. yield	216.0	117.8	284.7	110.7	283.8	340.0	231.5
S.E./mean	= 28.59 lb./ac.						

Note :—Yield data of Black gram and Indigo are N.A.

Crop :- Cotton, *Cholam* etc.

Ref :- M. 50(106)/49(103)/48(92).

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

Type :- 'R'.

Object :—To study the different systems of crop rotations of the tract and to study the physico-chemical problem of the soils of the tract in relation to the systems of cropping.

1. BASAL CONDITIONS :

- (i) (a) As per treatments. (b) As per treatments. (c) Nil. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) 24.10.50. (iv) (a) 3 ploughings. (b) to (e) N.A. (v) Nil. (vi) Cotton K-2 ; *Cumbu Irungu cholam*. (vii) Rainfed. (viii) Weeding once. (ix) 13.04". (x) Cotton 17.2.51 to 17.7.51. *Cumbu* 23.1.51 *Irungucholam* 1.2.51.

2. TREATMENTS :

II. rotations as follows :—

- | | |
|---|---|
| 1. Cotton every year. | 7. <i>Cumbu</i> every year. |
| 2. (Cotton+Black gram) every year. | 8. (<i>Cumbu</i> +Indigo) every year. |
| 3. Cotton—(<i>Cholam</i> +Indigo). | 9. <i>Cholam</i> every year. |
| 4. (Cotton+Blackgram)—(<i>Cholam</i> +Indigo). | 10. (<i>Cholam</i> +Indigo), every year. |
| 5. Cotton <i>Cumbu</i> . | 11. <i>Cholam</i> —Cotton. |
| 6. Cotton—(<i>Cumbu</i> +Indigo). | |

3. DESIGN :

- (i) R.B.D. (ii) (a) 16. (b) N.A. (iii) 4. (iv) (a) 82.5×17.8'. (b) 73.3'×8.9' (v) 3.3'×4.5' left as border. (vi) No, as per rotation.

4. GENERAL :

- (i) Not satisfactory. Due to severe drought conditions very poor yields were obtained. (ii) Nil. (iii) Yield data. (iv) (a) 1947—1951. (b) Yes, as per rotation. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

I. Crop : *Cumbu* :

- (i) 51.8 lb./ac.
(ii) 39.50 lb./ac.
(iii) Treatment differences are highly significant.
(iv) Av. yield of grain in lb./ac.

Rotation No.	7	8	5	6
Previous crop	<i>Cumbu</i>	<i>Cumbu</i> -Indigo	Cotton	Cotton
Av. yield	127.2	31.3	23.3	25.3
	S.E./mean = 19.77 lb./ac.			

II. Crop :- *Cholam*

- (i) 1159 lb./ac.
(ii) 469.2 lb./ac.
(iii) Treatment differences are highly significant.
(iv) Av. yield of straw in lb./ac.

Rotation No ;	9	10	11	3	4
Previous crop	<i>Cholam</i>	<i>Cholam</i> +Indigo	Cotton	Cotton	Cotton+Blackgram
Av. yield.	3133	1125	533	407	600
	S.E./mean = 234.6 lb./ac.				

III. Crop :- Cotton.

- (i) 261.6 lb./ac.
(ii) 57.01 lb./ac.
(iii) Treatment differences are highly significant.
(iv) Av. yield of kapas in lb./ac.

Rotation No :	1	2	3	4	5	6	11
Previous Crop :	Cotton	Cotton+ Blackgram	<i>Cholam</i> + Indigo	<i>Cholam</i> + Indigo	<i>Cumbu</i>	<i>Cumbu</i> + Indigo	<i>Cholam</i>
Av. yield	57.50	62.00	330.2	365.2	312.3	154.7	549.3
	S.E./mean = 28.50 lb./ac.						

Note :— Yield data of Black gram and Indigo are N.A.

Crop :- Cotton, Cholam Cumbu etc. Ref :- M. 51(76)/50(106)/49(103)/48(92).

Site :- Agri. Res. Stn., Koilpatti. Type :- 'R'.

Object :- To study the different systems of crop rotations of the tract and to study the physico-chemical problem of the soils of the tract in relation to the system of cropping.

1. BASAL CONDITIONS :

(i) (a) As per rotations. (b) As under treatments. (c) Nil. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti (iii) 4.11.51. (iv) (a) 3 ploughings. (b) to (e) N.A. (v) Nil. (vi) Cotton K₂; Cholam K-2; Cumbu K-1. (vii) Rained. (viii) Weeding once. (ix) 14.30°. (x) Cumbu 26.2.52; Irungu Cholam 1.3.52; Cotton 24.3.52 to 9.6.52

2. TREATMENTS :

11 Rotations as follows :-

- | | |
|---------------------------------------|---------------------------------|
| 1. Cotton every year. | 7. Cumbu every year. |
| 2. (Cotton+Black gram) every year. | 8. (Cumbu+Indigo) every year. |
| 3. Cotton-(Cholam+Indigo). | 9. Cholam every year. |
| 4. Cotton+Black gram-(Cholam+Indigo). | 10. (Cholam+Indigo) every year. |
| 5. Cotton Cumbu | 11. Cholam-Cotton. |
| 6. Cotton-(Cumbu+Indigo). | |

3. DESIGN :

(i) R.B.D. (ii) (a) 16. (b) N.A. (iii) 4. (iv) (a) 82.5'×17.8'. (b) 71.3'×8.9'. (v) 3.3'×4.5'. (vi) No, as per rotations.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield data. (iv) (a) 1947-1951. (b) Yes, as per rotation. (c) Nil. (vi) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

I. Crop : Cumbu.

- (i) 392.7 lb./ac.
 (ii) 53.45 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of grain in lb./ac.

Rotation No :	7	8	5	6
Previous crop :	Cumbu	Cumbu+Indigo	Cotton	Cotton
Av. yield :	458.3	379.2	408.3	325.0
S.E./mean	=26.73 lb./ac.			

II. Crop : Cholam.

- (i) 5006 lb./ac.
 (ii) 698.5 lb./ac.
 (iii) Treatment differences are highly significant.
 (iv) Av. yield of straw in lb./ac.

Rotation No.	9	10	11	3	4
Previous crop :	Cholam	Cholam+Indigo	Cotton	Cotton	Cotton+Black gram
Av. yield	6763	6092	4413	4208	3554
S.E./mean	=349.3 lb./ac.				

III. Crop : Cotton.

- (i) 222.9 lb./ac.
 (ii) 40.40 lb./ac.
 (iii) Treatment differences are highly significant.
 (iv) Av. yield of kapas in lb./ac.

Rotation No.	1	2	3	4	5	6	11
Previous crop :	Cotton	Cotton+Blackgram	Cholam+Indigo	Cholam+Indigo	Cumbu	Cholam+Indigo	Cumbu
Av. yield	126.0	192.7	241.3	245.5	270.7	209.2	274.8
S.E./mean	=20.20 lb./ac.						

Note :- Yiled data of Blackgram and Indigo are N.A.

Crop :- Groundnut and Cereal.

Ref :- M. 48 (76).

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

Type :- 'R'.

Object :- To study the rotation of Groundnut (Spreading variety) with cereal crops.

1. BASAL CONDITIONS :

(i) (a) and (b) As under treatments. (c) 5000 lb./ac. of town rubbish. (ii) (a) Red loamy soil. (b) N.A. (iii) 28.7.48. (iv) (a) 3 ploughings. (b) N.A. (c) N.A. (d) 9"×9" for groundnut ; 1'×1' for others. (e) N.A. (v) 5000 lb./ac. of town rubbish. (vi) T.M.V.—3 Groundnut ; others local varieties. (vii) Unirrigated. (viii) Weeding once. (ix) 26.14". (x) Groundnut—24.12.48 ; *Cholam*, 18.1.1949, *Cumbu*, 20.10.1948.

2. TREATMENTS :

- | | |
|--|--|
| 1. <i>Cholam</i> followed by <i>Cholam</i> . | 7. Groundnut followed by <i>Cumbu</i> . |
| 2. <i>Varagu</i> followed by <i>varagu</i> . | 8. Groundnut followed by Gingelly. |
| 3. <i>Cumbu</i> followed by <i>Cumbu</i> . | 9. <i>Cholam</i> followed by Groundnut. |
| 4. Groundnut followed by Groundnut. | 10. <i>Varagu</i> followed by Groundnut. |
| 5. Groundnut followed by <i>Cholam</i> . | 11. <i>Cumbu</i> followed by Groundnut. |
| 6. Groundnut followed by <i>Varagu</i> . | |

3. DESIGN :

(i) R.B.D. (ii) (a) 11. (b) N.A. (iii) 4. (iv) (a) 62'×13'. (b) 56'×6'. (v) 3'×3½' left as border. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) N.A. (iii) Yield data. (iv) (a) 1945—contd. [(b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

I. Crop : Groundnut

- (i) 977 lb./ac.
(ii) 202.5 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield in lb./ac.

Treatment (previous crops)	Groundnut	<i>Cholam</i>	<i>Varagu</i>	<i>Cumbu</i> .
Av. yield	1009	847	966	1085
	S.E./mean=102.2 lb./ac.			

II. Crop : *Cholam*

- (i) 989 lb./ac.
(ii) 442.4 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield in lb./ac.

Treatment (previous crops) :	<i>Cholam</i>	Groundnut.
Av. yield	639	1339
	S.E./mean=221.2 lb./ac.	

III. Crop : *Varagu*

- (i) 605.0 lb./ac.
(ii) 355.7 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield in lb./ac.

Treatment (previous crops)	<i>Varagu</i>	Groundnut.
Av. yield	489.7	720.5
	S.E./mean=177.8 lb./ac.	

IV. Crop : *Cumbu*

- (i) 166.3 lb./ac.
(ii) 43.00 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield in lb./ac.

Treatment (previous crops)	<i>Cumbu</i>	Groundnut.
Av. yield	132.0	175.7
	S.E./mean=21.50 lb./ac.	

V. Gingelly

Gingelly = 852.8 lb./ac.

Crop :- Groundnut and Cereals.

Ref :- M. 49 (100)/48 (76).

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

Type :- 'R'.

Object :- To study the rotation of Groundnut (Spreading variety) with cereal crops.

1. BASAL CONDITIONS :

- (i) (a) and (b) As under treatments. (c) 5000 lb./ac. of town rubbish. (ii) (a) Red sandy loam. (b) N.A. (iii) 10.7.1949. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) 6'x6' for groundnut. 1'x6' for other crops. (e) N.A. (v) 5000 lb./ac. of town rubbish. (vi) T.M.V.—3 Groundnut, Other local varieties. (vii) Unirrigated. (viii) Weeding once. (ix) 17.30". (x) Groundnut—10.12.49, *Cholam*. 25.12.1949. *Cumbu*, 10.9.1949 ; *Varagu*, 23.12.1949.

2. TREATMENTS :

- | | |
|-------------------------------|-------------------------------------|
| 1. <i>Cholam</i> —Groundnut. | 7. Groundnut— <i>Cumbu</i> . |
| 2. <i>Varagu</i> Groundnut. | 8. Groundnut—Gingelly. |
| 3. <i>Cumbu</i> —Groundnut. | 9. <i>Cholam</i> — <i>Cholam</i> . |
| 4. Groundnut—Groundnut. | 10. <i>Cumbu</i> — <i>Cumbu</i> . |
| 5. Groundnut— <i>Cholam</i> . | 11. <i>Varagu</i> — <i>Varagu</i> . |
| 6. Groundnut— <i>Varagu</i> . | |

3. DESIGN :

- (i) R.B.D. (ii) (a) 11. (b) N.A. (iii) 4. (iv) (a) 62'x13'. (b) 56'x6'. (v) 3'x3½' left as border. (vi) Yes.

4. GENERAL :

- (i) N.A. (ii) N.A. (iii) Grain yield. (iv) (a) 1945—contd. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

I. Crop : Groundnut

- (i) 1023 lb./ac.
(ii) 181.4 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield in lb./ac.

Treatment (previous crop).	Groundnut	<i>Cholam</i>	<i>Varagu</i>	<i>Cumbu</i>	Gingelly
Av. yield	1036	881	1087	1057	1056
	S.E./mean=90.7 lb./ac.				

II. Crop : Cholam

- (i) 103.3 lb./ac.
(ii) 125.2 lb./ac.
(iii) Treatment difference is not significant.
(iv) Av. yield in lb./ac.

Treatment (previous crop)	Groundnut	<i>Cholam</i>
Av. yield	34.70	172.0
	S.E./mean=63.6 lb./ac.	

III. Crop : Varagu

- (i) 163.0 lb./ac.
(ii) 33.80 lb./ac.
(iii) Treatment difference is highly significant.
(iv) Av. yield in lb./ac.

Treatment (previous crop)	Groundnut	<i>Varagu</i>
Av. yield	30.0	293.0
	S.E./mean=16.90 lb./ac.	

IV. Crop : Cumbu

- (i) 324.1 lb./ac.
(ii) 74.50 lb./ac.
(iii) Treatment difference is highly significant.
(iv) Av. yield in lb./ac.

Treatment (previous crop)	Groundnut	<i>Cumbu</i>
Av. yield	517.7	130.5
	S.E./mean=37.25 lb./ac.	

Crop :- Groundnut and Cereals.

Ref :- M. 50(99)/49(100)/48(76).

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

Type :- 'R'.

Object :- To study the rotation of Groundnut (spacing variety) with Cereal crops.

1. BASAL CONDITIONS :

(i) (a) and (b) As under treatments. (c) 5000 lb./ac. of town rubbish. (ii) (a) Red sandy loam. (b) N.A. (iii) 20.8.1950. (iv) (a) 3 ploughings. (b), (c) N.A. (d) 9'x9' for groundnut and 1'x1' for other crops. (e) N.A. (v) 5000 lb./ac of town rubbish, time and method of application N.A. (vi) TMV.-3 Groundnut. Others local varieties. (vii) Unirrigated. (viii) Weeding once. (ix) 17.67". (x) Groundnut 18.12.50; Cumbu, 9.10.50; Cholam, 21.12.50, Varagu 11.1.1951.

2. TREATMENTS :

- | | |
|-------------------------------------|------------------------------------|
| 1. Cholam followed by Cholam. | 7. Groundnut followed by gingelly. |
| 2. Varagu followed by Varagu | 8. Groundnut followed by Cholam. |
| 3. Groundnut followed by Varagu. | 9. Cholam followed by Groundnut. |
| 4. Varagu followed by Groundnut. | 10. Cumbu followed by Cumbu. |
| 5. Cumbu followed by Groundnut | 11. Groundnut followed by Cumbu. |
| 6. Groundnut followed by Groundnut. | |

3. DESIGN :

(i) R.B.D. (ii) (a) 11. (b) N.A. (iii) 4. (iv) (a) 62'x13'. (b) 56'x6'. (v) 3'x3½' left as border. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) N.A. (iii) Yield data. (iv) (a) 1945—contd. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

I. Crop : Groundnut

- (i) 839.0 lb./ac.
(ii) 103.0 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield in lb./ac.

Treatmen (previous crop)	Varagu	Cumbu	Gr. nut	Cholam
Av. yield	818.7	928.0	765.2	844.2

S.E./mean = 51.5 lb./ac.

II. Crop : Cholam

- (i) 1211 lb./ac.
(ii) 554.0 lb./ac.
(iii) Treatment difference is not significant.
(iv) Av. yield in lb./ac.

Treatments (previous crop)	Cholam	Groundnut
Av. yield	906	1515

S.E./mean = 277.0 lb./ac.

III. Crop : Varagu

- (i) 597.2 lb./ac.
(ii) 196.0 lb./ac.
(iii) Treatment difference is not significant.
(iv) Av. yield in lb./ac.

Treatments (previous crop)	Varagu	Groundnut
Av. yield	548.5	526.0

S.E./mean = 98.0 lb./ac.

IV. Crop : Cumbu :

- (i) 597.7 lb./ac.
(ii) 107.5 lb./ac.
(iii) Treatment difference is not significant.
(iv) Av. yield in lb./ac.

Treatments (previous crops)	Cumbu	Groundnut
Av. yield	477.0	718.5

S.E./mean = 53.8 lb./ac.

V. Crop : Gingelly

= 794 lb./ac.

Crop :- Groundnut and Cereals.

Ref :- M. 51(75)/50 (99)/49(100)/48(76).

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

Type :- 'R'

Object :—To study the rotation of Groundnut (spreading variety) with cereal crops.

1. BASAL CONDITIONS :

(i) (a) and (b) As under treatments. (c) 5000 lb./ac. of town rubbish. (ii) (a) Red sandy loam. (b) N.A. (iii) 15.8.1951. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) 6'×6" for Groundnut 1'×1' for other crops. (e) N.A. (v) 5000 lb./ac. of town rubbish. (vi) TMV.-3 Groundnut ; others local varieties. (vii) Unirrigated. (viii) Weeding once. (ix) 22.07". (x) *Cumbu* 15.10.1251 ; Groundnut 23.12.51 ; *Cholam*, 7.11.52 ; *Varagu*, 6.2.1952.

2. TREATMENTS :

1. *Cholam* followed by Groundnut.
2. *Cumbu* followed by Groundnut.
3. *Varagu* followed by Groundnut.
4. Groundnut followed by Groundnut.
5. Groundnut followed by *Cholam*.
6. Groundnut followed by *Cumbu*.
7. Groundnut followed by *Varagu*.
8. Groundnut followed by gingelly.
9. *Cholam* after *Cholam*.
10. *Cumbu* after *Cumbu*.
11. *Varagu* after *Varagu*.

3. DESIGN :

(i) R.B.D. (ii) (a) 11. (b) N.A. (iii) 4. (iv) (a) 62'×13'. (b) 56'×6'. (v) 3'×3½' left as border. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) N.A. (iii) Yield data. (iv) (a) 1945—contd. (b) Yes. (c) Nil. (v) (a) and (b) Nil, (vi) and (vii) Nil.

5. RESULTS :

I. Crop : Groundnut

- (i) 762.6 lb./ac.
 (ii) 100.2 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield in lb./ac.

Treatment (previous crop)	Gr. nut	<i>Cholam</i>	<i>Cumbu</i>	<i>Varagu</i>	Gingelly
Av. yield	724.0	821.2	772.2	697.7	797.7
S.E./mean = 50.1 lb./ac.					

II. Crop : *Cholam*

- (i) 885.3 lb./ac.
 (ii) 84.30 lb./ac.
 (iii) Treatment difference is not significant.
 (iv) Av. yield in lb./ac.

Treatments (previous crop)	Groundnut	<i>Cholam</i>
Av. yield	942.2	828.5
S.E./mean = 42.15 lb./ac.		

III. Crop : *Varagu*

- (i) 145.0 lb./ac.
 (ii) 39.20 lb./ac.
 (iii) Treatment difference is not significant.
 (iv) Av. yield in lb./ac.

Treatments (previous crop)	Groundnut	<i>Varagu</i>
Av. yield	178.2	111.5
S.E./mean = 19.60 lb./ac.		

IV. Crop : *Cumbu*

- (i) 569.8 lb./ac.
 (ii) 98.60 lb./ac.
 (iii) Treatment difference is not significant.
 (iv) Av. yield in lb./ac.

Treatments (previous crop)	Groundnut	<i>Cumbu</i>
Av. yield	824.5	515.2
S.E./mean = 49.30 lb./ac.		

Crop :- Groundnut and Cereals.

Ref :- M. 52(72)/51(75)/
50(99)/49(100)/48(76).

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

Type :- 'R'.

Object : To study the rotation of Groundnut (spreading variety) with cereals crops.

1. BASAL CONDITIONS :

(i) (a) and (b) As under treatments. (c) 10,000 lb./ac. of manure mixture (equal parts of compost, tank silt and red earth). (ii) (a) Red sandy loam. (b) N.A. (iii) 20.7.52. (i) (v) (a) 4 ploughings. (b) N.A. (c) 90 lb./ac. for Gr. nut ; 10 lb./ac. for cereals. (d) 9'x9' for Gr. nut ; 1'x6' for others. (e) N.A. (v) 10,000 lb./ac. of manure mixture. (vi) Groundnut TMV-3, cereal local varieties. (vii) Unirrigated. (viii) Weeding once. (ix) N.A. (x) 10.12.1952.

2. TREATMENTS :

- | | |
|-------------------------|----------------------|
| 1. Groundnut—Groundnut. | 7. Cumbu—Groundnut. |
| 2. Groundnut—Cholam | 8. Varagu—Groundnut. |
| 3. Groundnut—Cumbu. | 9. Cholam—Cholam. |
| 4. Groundnut—Varagu. | 10. Cumbu—Cumbu. |
| 5. Groundnut—Gingelly. | 11. Varagu—Varagu. |
| 6. Cholam—Groundnut. | |

3. DESIGN :

(i) R.B.D. (ii) (a) 11. (b) N.A. (iii) 4. (iv) (a) 68'x13'. (b) 60'x6'. (v) 4'x3½' left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. But *Varagu* crop failed completely. (ii) Nil. (iii) Yield data. (iv) (a) 1945-contd. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

I. Crop : Groundnut

- (i) 516.2 lb./ac.
(ii) 63.95 lb./ac.
(iii) Treatment differences are significant.
(iv) Av. yield of grain in lb./ac.

Treatments (previous crop)	Gr. nut	Cholam	Cumbu	Varagu
Av. yield	416.1	549.9	553.2	545.5

S.E./mean = 31.98 lb./ac.

II. Crop : Cholam

- (i) 746.5 lb./ac.
(ii) 332.7 lb./ac.
(iii) Treatment difference is not significant.
(iv) Av. yield of grain in lb./ac.

Treatment (previous crop)	Gr. nut	Cholam
Av. yield	816.0	676.9

S.E./mean = 166.4 lb./ac.

III. Crop : Cumbu

- (i) 43.35 lb./ac.
(ii) 11.69 lb./ac.
(iii) Treatment difference is not significant.
(iv) Av. yield of grain in lb./ac.

Treatment (previous crop)	Gr. nut.	Cumbu
Av. yield	49.68	37.01

S.E./mean = 5.85 lb./ac.

(iv). *Varagu* failed.

(v). Gingelly mean yield = 533.9 lb./ac.

Crop :- Groundnut and Cereals.

Ref :- M. 48(77).

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

Type :- 'R'.

Object :- To study the rotation of Groundnut (bunch variety) crop with cereals crops.

1. BASAL CONDITIONS :

(i) (a) and (b) As under treatments. (c) 5,000 lb./ac. of town rubbish (ii) (a) Red loamy soil. (b) N.A. (iii) 28.7.1948. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) 6' x 6' for groundnut and 1' x 6' for other crops. (e) N.A. (v) 5000 lb./ac. of town rubbish. (vi) TMV-2 Groundnut ; others local varieties. (vii) Unirrigated. Weeding once. (ix) 26.14". x) 3.12.1948 for Groundnut ; *Cholam* 18.1.1949. *Cumbu*. 20.10.1948

2. TREATMENTS

1. Groundnut followed by Groundnut.
2. *Cholam* followed by Groundnut.
3. *Cumbu* followed by Groundnut.
4. *Varagu* followed by Groundnut.
5. Groundnut followed by gingelly.
6. Groundnut followed by *Varagu*.
7. Groundnut followed by *Cholam*.
8. *Varagu* after *Varagu*.
9. *Cholam* after *Cholam*.
10. *Cumbu* after *Cumbu*.
11. Groundnut followed by *Cumbu*.

3. DESIGN :

(i) R.B.D. (ii) (a) 11. (b) N.A. (iii) 4. (iv) (a) 62' x 13'. (b) 56' x 6'. (v) 3' x 3½' left as border. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield data. (iv) (a) 1945—contd. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

I. Crop : Groundnut

- (i) 521.0 lb./ac.
(ii) 107.4 lb./ac.
(iii) Treatment difference is not significant.
(iv) Av. yield in lb./ac.

Treatment (previous crops)	Gr. nut	<i>Cholam</i>	<i>Cumbu</i>	<i>Varagu</i>
Av. yield	431.5	558.2	625.1	469.3

S.E./mean = 53.7 lb./ac.

II. Crop : *Cholam*

- (i) 579.2 lb./ac.
(ii) 254.6 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield in lb./ac.

Treatment (previous crop)	Gr. nut	<i>Cholam</i>
Av. yield	780.5	378.0

S.E./mean = 127.3 lb./ac.

III. Crop : *Cumbu*

- (i) 123.0 lb./ac.
(ii) 34.66 lb./ac.
(iii) Treatment difference is not significant.

(iv) Av. yield in lb./ac.

Treatment (previous crop)	Gr. nut	<i>Cumbu</i>
Av. yield	97.9	148.1

S.E./mean = 17.33 lb./ac.

IV. Crop : *Varagu*

- (i) 410.1 lb./ac.
(ii) 181.6 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield in lb./ac.

Treatment (previous crop)	Gr. nut	<i>Varagu</i>
Av. yield	614.9	205.3

S.E./mean = 90.8 lb./ac.

V. Crop : Gingelly

Gingelly = 513.2 lb./ac.

Crop :- Groundnut and Cereals.

Ref :- M. 49(99)/48(77).

Site :- Agri. Res. Stn. Tindivanam:

Type :- 'R'.

Object :—To study the rotation of Groundnut (bunch variety) crop with cereal crops.

1. BASAL CONDITIONS :

(i) (a) and (b) As under treatments. (c) 5000 lb./ac. of town rubbish. (ii) (a) Red sandy loam. (b) N.A. (iii) 10.7.1949. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) 6'×6' for groundnut; 1'×6' for other crops. (e) N.A. (v) 5000 lb./ac. of G.L. (vi) T.M.V.—2 Groundnut; Other local varieties. (vii) Unirrigated. (viii) Weeding once. (ix) 17.30°. (x) Groundnut 18.10.49; *Cholam*, 25.12.1949. *Cumbu*, 13.9.1949; *Varagu*, 22.12.1949.

2. TREATMENTS :

- | | |
|--|---|
| 1. <i>Cholam</i> followed by groundnut. | 7. Groundnut followed by <i>cumbu</i> . |
| 2. <i>Varagu</i> followed by groundnut. | 8. Groundnut followed by gingelly. |
| 3. <i>Cumbu</i> followed by groundnut. | 9. <i>Cholam</i> after <i>cholam</i> . |
| 4. Groundnut followed by groundnut. | 10. <i>Varagu</i> after <i>varagu</i> . |
| 5. Groundnut followed by <i>cholam</i> . | 11. <i>Cumbu</i> after <i>cumbu</i> . |
| 6. Groundnut followed by <i>varagu</i> . | |

3. DESIGN :

(i) R.B.D. (ii) (a) 11. (b) N.A. (iii) 4. (iv) (a) 62'×13'. (b) 56'×6'. (v) 3'×3½' left as border. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) N.A. (iii) Grain yield. (iv) (a) 1945—contd. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

I. Crop : Groundnut

- (i) 1300 lb./ac.
(ii) 219.8 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield in lb./ac.

Treatments (previous crop)	Groundnut	<i>Cholam</i>	<i>Varagu</i>	<i>Cumbu</i>	Gingelly
Av. yield	1272	1313	1335	1297	1281
	S.E./mean=109.9 lb./ac.				

II. Crop : *Cholam*

- (i) 177.9 lb./ac.
(ii) 168.7 lb./ac.
(iii) Treatment difference is not significant.
(iv) Av. yield in lb./ac.

Treatments (previous crop)	Groundnut	<i>Cholam</i>
Av. yield	252.2	103.7
	S.E./mean=84.35 lb./ac.	

III. Crop : *Varagu*

- (i) 24.92 lb./ac.
(ii) 15.90 lb./ac.
(iii) Treatment difference is not significant.
(iv) Av. yield in lb./ac.

Treatment (previous crop)	Groundnut	<i>Varagu</i>
Av. yield	13.00	36.20
	S.E./mean=7.95 lb./ac.	

IV. Crop : *Cumbu*

- (i) 227.8 lb./ac.
(ii) 38.24 lb./ac.
(iii) Treatment difference is significant.
(iv) Av. yield in lb./ac.

Treatments (previous crop)	Groundnut	<i>Cumbu</i>
Av. yield	286.5	169.0
	S.E./mean=19.12 lb./ac.	

Crop :- Groundnut and Cereals.

Ref :- M. 50 (98)/49 (99)/48 (77).

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

Type :- 'R'.

Object :- To study the rotation of Groundnut (bunch variety) with cerea crops.

1. BASAL CONDITIONS :

(i) (a) and (b) As under treatments. (c) 5000 lb./ac. of town rubbish. (ii) (a) Red sandy loam. (b) N.A. (iii) 21.8.1950. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) 6'×6' for groundnut and 1'×6' for other crops. (e) N.A. (v) 5000 lb./ac. town rubbish; time and method of application N.A. (vi) T M V-2 Groundnut; others local varieties. (vii) Unirrigated. (viii) Weeding once. (ix) 17.67'. (x) Groundnut 13.11.1950; Cholam, 21.12.1950; Cumbu 13.10.1950. Varagu, 11.1.1951.

2. TREATMENTS :

1. Cholam followed by groundnut.
2. Varagu followed by groundnut.
3. Groundnut followed by groundnut.
4. Cumbu followed by groundnut.
5. Groundnut followed by Varagu.
6. Groundnut followed by Cholam.
7. Groundnut followed by Cholam.
8. Groundnut followed by Gingelly.
9. Cholam followed by Cholam.
10. Varagu followed by Varagu.
11. Cumbu followed by Cumbu.

3. DESIGN :

(i) R.B.D. (ii) (a) 11. (b) N.A. (iii) 4. (iv) (a) 62'×13'. (b) 56'×6'. (v) 3'×3½' left as border. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) N.A. (iii) Yield data. (iv) (a) 1945—contd. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

I. Crop : Groundnut

- (i) 790.8 lb./ac.
 (ii) 86.49 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield in lb./ac.

Treatment (prev. crop)	Cholam	Varagu	Groundnut	Cumbu.
Av. yield	845.9	780.8	684.6	851.8
S.E./mean=43.24 lb./ac.				

II. Crop : Cholam

- (i) 1182 lb./ac.
 (ii) 410.8 lb./ac.
 (iii) Treatment difference is not significant.
 (iv) Av. yield in lb./ac.

Treatment (prev. crop)	Groundnut	Cholam
Av. yield	1611	755
S.E./mean=205.4 lb./ac.		

III. Crop : Varagu

- (i) 313.4 lb./ac.
 (ii) 144.5 lb./ac.
 (iii) Treatment difference is not significant.
 (iv) Av. yield in lb./ac.

Treatment (prev. crop)	Groundnut	Varagu
Av. yield	345.0	281.7
S.E./mean=72.3 lb./ac.		

IV. Crop : Cumbu

- (i) 627.1 lb./ac.
 (ii) 144.6 lb./ac.
 (iii) Treatment difference is not significant.
 (iv) Av. yield in lb./ac.

Treatment (prev. crop)	Groundnut	Cumbu
Av. yield	755.5	498.7
S.E./mean=72.3 lb./ac.		

V. Crop : Gingelly

Gingelly Mean yield = 698.0 lb./ac.

Crop :- Groundnut and Cereals.

Ref :- M. 51(74)/50(98)/49(99)/48(77).

Site :- Agri. Res. Stn., Tindivanam. Type :- 'R'.

Object :- To study the rotation of Groundnut (bunch variety) with cereals crops.

1. BASAL CONDITIONS :

(i) (a) and (b) As per treatments. (c) 5000 lb./ac. of town rubbish. (ii) (a) Red sandy loam. (b) Refer soil analysis, Tindivanam. (iii) 15.8.1958. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) 6" x 6" for groundnut; 1' x 6" for other crops. (e) N.A. (v) 5000 lb./ac. of town rubbish. (vi) TMV-2 groundnut; Other local varieties. (vii) Unirrigated. (viii) Weeding once. (ix) 22.07". (x) 15.10.1951 *Chumbu*; Gr. nut. 27.11.51; *Cholam* 7.1.1952; *Varagu* 6.2.1952.

TREATMENTS :

- | | |
|--|---|
| 1. <i>Cholam</i> followed by Groundnut. | 7. Groundnut followed by <i>Cumbu</i> . |
| 2. <i>Varagu</i> followed by Groundnut. | 8. Groundnut followed by Gingelly. |
| 3. Groundnut followed by Groundnut. | 9. <i>Cholam</i> after <i>Cholam</i> . |
| 4. <i>Cumbu</i> followed by Groundnut. | 10. <i>Cumbu</i> after <i>Cumbu</i> . |
| 5. Groundnut followed by <i>Cholam</i> . | 11. <i>Varagu</i> after <i>Varagu</i> . |
| 6. Groundnut followed by <i>Varagu</i> . | |

3. DESIGN :

(i) R.B.D. (ii) (a) 11. (b) N.A. (iii) 4. (iv) (a) 62' x 13'. (b) 56' x 6'. (v) 2' x 3½' left as border. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) N.A. (iii) Yield data. (iv) (a) 1945—contd. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

I. Crop : Groundnut.

- (i) 693.0 lb./ac.
(ii) 117.3 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield of grain in lb./ac.

Treatments (previous crop)	Gr. nut	<i>Cholam</i>	<i>Varagu</i>	<i>Cumbu</i>	Gingelly
Av. yield	734.7	587.1	786.8	666.6	690.4
	S.E./mean	= 58.6 lb./ac.			

II. Crop : Cholam

- (i) 707.0 lb./ac.
(ii) 269.4 lb./ac.
(iii) Treatment difference is not significant.
(iv) Av. yield in lb./ac.

Treatments (previous crop)	Groundnut	<i>Cholam</i>
Av. yield	841.4	572.6
	S.E./mean	= 134.7 lb./ac.

III. Crop : Varagu

- (i) 84.56 lb./ac.
(ii) 26.57 lb./ac.
(iii) Treatment difference is not significant.
(iv) Av. yield in lb./ac.

Treatment (previous crop)	Groundnut	<i>Varagu</i>
Av. yield	96.90	72.10
	S.E./mean	= 13.28 lb./ac.

IV. Crop : Cumbu

- (i) 443.8 lb./ac.
(ii) 11.34 lb./ac.
(iii) Treatment difference is not significant.
(iv) Av. yield in lb./ac.

Treatments (previous crop)	Groundnut	<i>Cumbu</i>
Av. yield	459.4	428.3
	S.E./mean	= 5.67 lb./ac.

Crop :- Groundnut and Cereals. Ref :- M. 52(73)/51(74)/50(98)/49(99)/48(77).

Site :- Agri. Res. Stn. Tindivanam. Type :- 'R'.

Object :- To study the rotation of Groundnut (bunch variety) with Cereal crops.

1. BASAL CONDITIONS :

(i) (a) and (b) As under treatments. (c) 5000 lb./ac. of town rubbish. (ii) (a) Red sandy loam. (b) N.A. (iii) 25.7.1952. (iv) (a) 3 ploughings. (b) N.A. (c) Groundnut 100 to 120 lb./ac.; Cereal 10 lb./ac. (d) 6' x 6' for Groundnut; 1' x 6' for others. (v) 5000 lb./ac. of town rubbish. (vi) TMV.-3 groundnut. Others local varieties. (vii) Unirrigated. (viii) Weeding once. (ix) N.A. (x) 16.11.1952.

2. TREATMENTS :

- | | |
|-------------------------|----------------------|
| 1. Groundnut—Groundnut. | 7. Cumbu—Groundnut. |
| 2. Groundnut—Cholam. | 8. Varagu—Groundnut. |
| 3. Groundnut—Cumbu. | 9. Cholam—Cholam. |
| 4. Groundnut—Varagu. | 10. Cumbu—Cumbu. |
| 5. Groundnut—Gingelly. | 11. Varagu—Varagu. |
| 6. Cholam—Groundnut. | |

3. DESIGN :

(i) R.B.D. (ii) (a) 11. (b) N.A. (iii) 4. (iv) (a) 60' x 13'. (b) 55' x 6'. (v) 3' x 3½' left as border. (vi) Yes.

4. GENERAL

(i) Satisfactory, but *Varagu* crop failed. (ii) Nil. (iii) Yield data. (iv) (a) 1945—contd. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

I. Crop : Groundnut

- (i) 494.2 lb./ac.
 (ii) 98.36 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield in lb./ac.

Treatments (previous crop)	Groundnut	Cholam	Cumbu	Varagu
Av. yield	456.2	455.5	623.4	441.6
S.E./mean	= 49.18 lb./ac.			

II. Crop : Cholam

- (i) 765.4 lb./ac.
 (ii) 220.7 lb./ac.
 (iii) Treatment difference is not significant.
 (iv) Av. yield in lb./ac.

Treatment (previous crop)	Groundnut	Cholam
Av. yield	853.1	677.7
S.E./mean	= 110.4 lb./ac.	

III. Crop : Cumbu

- (i) 23.26 lb./ac.
 (ii) 23.12 lb./ac.
 (iii) Treatment difference is not significant.
 (iv) Av. yield in lb./ac.

Treatment (previous crop)	Groundnut	Cumbu
Av. yield	24.15	22.36
S.E./mean	= 11.56	

IV. Crop : Varagu

Varagu failed.

V. Crop : Gingelly

Mean yield in lb./ac. = 475 lb./ac.

Crop :- Groundnut, Cotton.

Ref :- M. 52(33).

Site :- Agri. Res. Stn. Tindivnam.

Type :- 'X.'

Object :- To find out Cotton strains suited for being grown as a mixture with Groundnut crop.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Groundnut. (c) 10,000 lb./ac. of town rubbish: (ii) (a) Loamy. (b) Refer soil analysis Tindivanam. (iii) 20.8.52. (iv) (a) 4 ploughing. (b) and (c) N.A. (d) 9"×9". for Groundnut and 9"×9" for cotton. (e) N.A. (v) 10,000 lb./ac. of town rubbish. (vi) TMV.-3 Groundnut. (vii) Irrigated. (viii) 2 weedings. (ix) 15.2". (x) 1.2.53.

2. TREATMENTS :

1. Groundnut pure.
2. Groundnut+MCV., cotton.
3. Groundnut+CO. 2 cotton.
4. Groundnut+P. 216 F cotton.
5. Groundnut+H. 420 cotton.

3. DESIGN .

(i) R.B.D. (ii) (a) N.A. (b) N.A. (iii) 4. (iv) (a) 69'×'18'. (b) 66'×6'. (v) 1½'×6' left as border. (vi) Yes.

4. GENERAL :

(i) Due to adverse seasonal conditions, all the cotton strains failed. (ii) Nil. (iii) Yield of groundnut. (iv) (a) 1951—1956 (Modified from 1952). (b) No. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

- (i) 540 lb./ac.
- (ii) 62.6 lb./ac.
- (iii) Treatment differences are not significant.
- (iv) Av. yield of pod in lb./ac.

Treatment	Av. yield
1.	602
2.	517
3.	487
4.	577
5.	515
S.E./mean	= 31.3 lb./ac.

Crop :- Mixed Cropping.

Ref :- M. 48(78).

Site :- Agri. Res. Stn.. Tindivanam.

Type :- 'X'.

Object :- To study the effect of mixed cropping of *Cholam*, *Cumbu*, Redgram and Castor on the bunch and spreading varieties of Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Red sandy loam. (b) Refer soil analysis, Tindivanam. (iii) 30.7.48. (iv) (a) 3-4 ploughings. (b) and (c) N.A. (d) Groundnut (Bunch) 6"×6"; Groundnut spreading 9"×8"; Castor 3'×2'; Redgram 6'×9"; *Cholam* 6"×6"; *Cumbu* 3'×6". (e) N.A. (v) 20 C.L./ac. of compost. (vi) Bunch Groundnut—TMV.-2; Castor TMV.-3 Redgram, *Cholam*, *Cumbu* local varieties. (vii) Unirrigated. (viii) Weeding once. (ix) N.A. (x) N.A.

2. TREATMENTS :

1. Bunch-Groundnut pure.
 2. Bunch-Groundnut+Castor
 3. Bunch-Groundnut+Redgram.
 4. Bunch-Groundnut+*Cholam*.
 5. Bunch-Groundnut+*Cumbu*.
 6. Spreading Groundnut.
 7. Spreading Groundnut+Castor.
 8. Spreading Groundnut+Redgram.
 9. Spreading Groundnut pure .
 10. Spreading Groundnut pure .
 11. *Cholam* pure.
 12. *Cumbu* pure.
 13. Castor pure.
 14. Redgram pure.
- Other details N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 14. (b) N.A. (iii) 4. (iv) (a) 39' x 18'. (b) 33' x 6'. (v) 3' x 6' left as border. (vi) Yes.

4. GENERAL :

(i) N.A. (ii) N.A. (iii) Yield data. (iv) (a) 1946—1948. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) Nil. (vii) Results are available in the form given below.

5. RESULTS :

(i) to (iv) Av. yield in lb./ac.

Treatment	Groundnut	Subsidiary Crop	Treatment	Groundnut	Subsidiary Crop
1.	771	Nil	8.	746	303
2.	433	71	9.	559	319
3.	622	210	10.	611	108
4.	427	237	11.	—	407
5.	436	65	12.	—	262
6.	900	Nil	13.	—	328
7.	738	106	14.	—	1169

Treatment differences are not significant.

Crop :- Cotton & Pulses.

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

Ref :- M. 48(98).

Type :- 'X'.

Object :- To study the effect of growing cotton (after *Cumbu*) in association with short duration pulses.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Cumbu* (c) Nil. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) 19.10.48. (iv) (a) 3 ploughings. (b) to (e) N.A. (v) Nil. (vi) Cotton K 2; Others, local varieties. (vii) Unirrigated. (viii) Weeding once. (ix) 16.74". (x) 10.3.49 to 14.4.49.

2. TREATMENTS :

1. Cotton Pure.
2. Cotton+Groundnut.
3. Cotton+Blackgram.
4. Cotton+Horse gram.
5. Cotton+*Pilliperara*.
6. Cotton+Sunnhemp.

Other details are N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 6, (b) N.A. (iii) 6. (iv) (a) 1/20th ac. (b) 1/33 ac. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of cotton. (iv) (a) 1947—1950. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Main crop is cotton and so the yields of other crops are not recorded.

5. RESULTS :

- (i) 203 lb./ac.
 (ii) N.A.
 (iii) Treatment differences are significant.
 (iv) Av. yield of kapas in lb./ac.

Treatment	Av. yield
1.	327
2.	294
3.	170
4.	192
5.	93
6.	143
S.E./mean	=N.A.

Crop :- Cotton & Pulses.

M. 49(110)/48(98).

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

Type :- 'X'.

Object :—To study the effects of growing cotton in association with short duration pulses. (after *Cumbu* crop).

1. BASAL CONDITIONS :

(i) Nil. (b) *Cumbu*. (c) Nil. (ii) Black soil. (b) Refer soil analysis, Koilpatti. (iii) 8.10.49. (iv) (a) 3 ploughings. (b) to (e) N.A. (v) G.N.C. at 40 lb./ac. of N. (vi) Cotton—2. (vii) Unirrigated. (viii) Weeding once. (ix) 19.9%. (x) Cotton 6.3.50 to 11.6.50 ; Pulses 27.12.49. to 16.2.50.

2. TREATMENTS :

1. Cotton pure.
 2. Cotton+Groundnut.
 3. Cotton+Black gram.
 4. Cotton+Horse gram.
 5. Cotton+*Pillipesara*.
 6. Cotton+Sunnhemp.
- Others details N.A.

3. DESIGN :

(i) R.B.D. (ii) a) 6. (b) N.A. (iii) 6. (iv) (a) 5.8 cents. (b) 4.0 cents. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of cotton. (iv) (a) 1947—1950. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Main crop is cotton so the yields of other crops are not recorded.

5. RESULTS :

- (i) 408 lb./ac.
 (ii) 48.08 lb./ac.
 (iii) Treatment differences are highly significant.
 (iv) Av. yield of kapas in lb./ac.

Treatment	Av. Yield
1.	646
2.	507
3.	255
4.	454
5.	185
6.	399
S.E./mean	= 19.6 lb./ac.

Crop :- Cotton & Pulses.

Ref :- M: 50 (101)/49 (110)/48 (98)

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

Type 'X'.

Object :—To study the effect of growing cotton in association with short duration pulses (after *cumbu*).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Cumbu*. (c) Nil. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) 23.10.50. (iv) (a) 3 ploughings. (b) to (e) N.A. (v) 40 lb./ac. of N as A/S. (vi) Cotton K—2 ; Local varieties for other. (vii) Rainfed. (viii) Weeding once. (ix) 13.04%. (x) Pulses 12th to 14th Feb. 1951 cotton 18.2.1951 to 14.7.1951.

2. TREATMENTS :

1. Cotton pure.
 2. Cotton+Groundnut.
 3. Cotton+Horse gram.
 4. Cotton+Coriander.
- Other details N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (a) N.A. (iii) 4. (iv) (a) 4.7 cents. (b) 2.7 cents. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Cotton—Satisfactory Pulses—Failed to come up. (ii) Nil. (iii) Yield of cotton. (iv) (a) 1947—1950. (b) Yes. (c) Nil. (v) (a) Nil, (b) Nil. (vi) Nil. (vii) The main crop is cotton, so the yield data of cotton alone is recorded.

5. RESULTS :

- (i) 348.4 lb./ac.
 (ii) 23.83 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of kapas in lb./ac.

Treatment /	Av. yield
1.	343.8
2.	364.6
3.	313.7
4.	371.6
S.E./mean	= 11.92

Crop :- Cotton & Pulses.

Ref :- M. 50 (48).

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

Type :- 'X'

Object :- To find out whether mixed sowing of pulses with cotton increases the yield of cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Cumbu*. (c) N.A. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) 23.10.50.
 (iv) (a) 3 ploughings. (b) to (e) N.A. (v) A/S at 20 lb./ac. of N+G.N.C. at 20 lb./ac. of N. (vi) Cotton K-2; Groundnut T.M.V.—2; coriander 731 bulk; horsegram local. (vii) Rainfed. (viii) Weeding once.
 (ix) 17.1°. (x) Cotton 8.3.51 to 10.7.51.

2. TREATMENTS :

1. Cotton alone.
 2. Cotton+Groundnut.
 3. Cotton+Horsegram.
 4. Cotton+Coriander.
- Other details N.A.

3. DESIGN :

(i) R.B.D. (ii) 4. (iii) (a) 4. (b) N.A. (iv) (a) 66'×31.2'. (b) 52.8'×22.3'. (v) About 6.6'×4' left. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of cotton. (iv) (a) No. (b) No. (c) N.A. (v) (a) NIL. (b) N.A. (vi) Nil. (vii) Main crop is cotton so the yields of subsidiary crops are not recorded.

5. RESULTS :

- (i) 301 lb./ac.
 (ii) 58.7 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of kapas in lb./ac.

Treatment	Av. yield
1.	323
2.	282
3.	221
4.	377
S.E./mean	= 29.3 lb./ac.

Crop :- Cotton & Pulses.

Ref :- M. 48(99).

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

Type :- 'X'.

Object :- To study the effect of growing cotton in association with short duration pulses. (after *Iranga Cholam*).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Irangucholam*. (c) Nil. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) 20.10.48.
 (iv) (a) 3 ploughings. (b) to (e) N.A. (v) Nil. (vi) Cotton K-2 ; others, local varieties. (vii) Unirrigated.
 (viii) Weeding once. (ix) 16.74". (x) 12.3.49 to 20.4.49. cotton pickings.

2. TREATMENTS :

1. Cotton pure.
2. Cotton+Groundnut.
3. Cotton+Blackgram.
4. Cotton+Horsegram.
5. Cotton+*Pillipesara*.
6. Cotton+Sunnhemp.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 5.0 cents. (b) 3.0 cents. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. Pulses did not come up well. (ii) Nil. (iii) Yield of cotton. (iv) (a) 1947-1950. (b) Yes.
 (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Main crop is cotton so the yields of subsidiary crops are not recorded.

5. RESULTS :

(i) 347 lb./ac.

(ii) 63.7 lb./ac.

(iii) Treatment differences are significant.

(iv) Av. yield of kapas in lb lb./ac.

Treatment	Av. yield
1.	525
2.	499
3.	337
4.	315
5.	100
6.	304
S.E./mean	= 26.0 lb./ac.

Crop :- Cotton & Pulses.

Ref :- M. 49(111)/48(99).

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

Type :- 'X'.

Object :- To study the effects of growing [cotton in association with short duration pulses (after *Iranga-cholam*).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Irangucholam*. (c) Nil. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) 7.10.49.
 (iv) (a) 3 ploughings. (b) to (e) N.A. (v) G.N.C. at 40 lb./ac. of N. (vi) K-2 cotton. (vii) Unirrigated.
 (viii) Weeding once. (ix) 19.09". (x) 6.3.50 to 11.6.50. (Pulses 27.12.49 to 16.2.50.)

2. TREATMENTS :

1. Cotton pure.
2. Cotton+Groundnut.
3. Cotton+Black gram.
3. Cotton+Horse gram.
5. Cotton+*Pillipesara*.
6. Cotton+Sunnhemp.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 5.8 cents. (b) 4.0 cents. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield of cotton. (iv) (a) 1947-1950. (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) Main crop is cotton so the yields of subsidiary crops are not recorded.

5. RESULTS :

- (i) 256 lb./ac.
 (ii) 30.85 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of kapas in lb./ac:

Treatment	Av. yield
1.	426
2.	305
3.	180
4.	220
5.	92
6.	315
S.E./mean	= 12.59 lb./ac.

Crop :- Cotton & Cereals.

Ref :- M. 50(102)/49(111)/48(99).

Site :- Agri. Res. Str., Koilpatti.

Type 'X'.

Object :- To study the effect of growing Cotton in association with short duration pulses (after *Irangucholam*).

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Irangucholam*. (c) Nil. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) 23.10.50. (iv) (a) 3 ploughings. (b) to (e) N.A. (v) 40 lb./ac. of N as A/S. (vi) Cotton K-2; others, local varieties. (vii) Rainfed. (viii) Weeding once. (ix) 13.04%. (x) Pulses 12th to 14th Feb. 51. Cotton 24.2.51 to 18.7.51.

2. TREATMENTS :

1. Cotton pure.
2. Cotton+Groundnut.
3. Cotton+Horse gram.
4. Cotton+Coriander.

3. DESIGN :

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 4.7 cents. (b) 2.7 cents. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory, pulses failed. (ii) Nil. (iii) Yield of cotton. (iv) (a) 1947-1950. (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) Only the yield of cotton is recorded as all the subsidiary crops failed completely.

5. RESULTS :

- (i) 234.0 lb./ac.
 (ii) 36.87 lb./ac.
 (iii) Treatment differences are not significant.
 (iv) Av. yield of kapas in lb./ac:

Treatment	Av. yield
1.	254.7
2.	221.7
3.	202.0
4.	257.5
S.E./mean	= 18.44 lb./ac.

Crop :- Cotton & Pulses.

Ref :- M. 53(52).

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

Type :- 'X'.

Object :- To find out whether mixed sowing of pulses with cotton increases the yield of Cotton.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Cotton and pulses. (c) 20 lb./ac. of N as G.N.C. and 20 lb./ac. of N as A/S applied as top dressing. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) 12.10.53. (iv) (a) 3 ploughings. (b) to (e) N.A. (v) A/S at 20 lb./ac. of N and G.N.C. at 20 lb./ac. of N applied as top dressing. (vi) Cotton K-2 ; Groundnut TMV-2 ; Coriander 731 bulk ; Horse gram local. (vii) Rainfed. (viii) Weeding once. (ix) 17.09". (x) Cotton ; 15.3.54 to 25.6.54 ; Groundnut 26.1.54 ; Coriander 10.2.54 ; Horse gram ; 27.2.54.

2. TREATMENTS :

1. Cotton alone.
2. Cotton+Groundnut.
3. Cotton+Horse gram.
4. Cotton+Coriander.

3. DESIGN :

(i) R.B.D. (ii) 4. (iii) (a) 4. (b) N.A. (iv) (a) 66'x31.2'. (b) 52.8'x22.3'. (v) About 6.6'x4' links left as border. (vi) Yes.

4. GENERAL :

(i) Horse gram and Coriander failed completely. (ii) Nil. (iii) Yield of cotton. (iv) (a) 1950-1953, (1952 crop failed). (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Nil. (vii) Main crop is cotton and also the subsidiary crops failed.

5. RESULTS :

- (i) 114 lb./ac.
- (ii) 25.5 lb./ac.
- (iii) Treatment differences are highly significant.
- (iv) Av yield of kapas in lb./ac.

Treatment	Av. yield
1.	126
2.	136
3.	56
4.	139
S.E./mean	= 12.8 lb./ac.

Crop :- Cotton, Groundnut.

Ref :- M. 50(105).

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

Type :- 'M'.

Object :- To study the feasibility of growing Cotton and Groundnut.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) *Cumbu*. (c) Nil. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) 22.10.50. (iv) (a) 3 ploughings. (b) to (e) N.A. (v) 40 lb./ac. of N as A/S. (vi) Cotton K-2 ; Groundnut as under treatments. (vii) Rainfed. (viii) Weeding once. (ix) 13.04". (x) Cotton pickings. 20.2.51 to 13.7.51 Groundnut failed.

2. TREATMENTS :

1. Cotton+Groundnut TMV.-2.
 2. Cotton+Groundnut A.H. 4515.
 3. Cotton+Groundnut A.H. 4218.
 4. Cotton+Groundnut Spanish peanut.
 5. Cotton+Groundnut A.H. 4711.
 6. Cotton+Bombay bunch Groundnut.
- Other details N.A.

3. DESIGN:-

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 4.00 cents. (b) 2.25 cents. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Cotton—satisfactory ; Groundnut did not come up due to drought conditions. (ii) Nil. (iii) Yield of cotton. (iv) (a) No. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Groundnut crop failed completely. Hence only yield of cotton recorded.

5. RESULTS :

(i) 415 lb./ac.
 (ii) 52.36 lb./ac.
 (iii) Treatment differences are significant.
 (iv) Av. yield of kapas in lb./ac.

Treatment	Av. yield
1.	411
2.	463
3.	364
4.	388
5.	445
6.	419
S.E./mean	= 21.37 lb./ac.

Crop :- *Ragi*, Cotton and Groundnut.

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

Ref :- M. 48(63).

Type :- 'X'.

Object :- To find out whether a mixed crop of cotton and groundnut can replace the local method of growing groundnut as an interplanted crop in *Ragi*.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Loam. (b) N.A. (iii) 8.1.48 ; 12.3.48. (iv) (a) 4 ploughings. (b) to (c) N.A. (v) 36 C.L./ac. of C.M. (vi) N.A. (vii) Irrigated. (viii) Weeding once. (ix) 28.87% (x) 27.3.48 ; 25.31.5.48 ; 16.17.9.48.

2. TREATMENTS :

1. *Ragi* (January)+Groundnut (March).
2. Cotton (January)+Groundnut (March).
3. Cotton (January)+Groundnut (January).
4. Cotton (January).

Other details N.A.

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 35.6'×14.9'. (b) 26.7'×8.9'. (v) 3.0' border around. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1945—1948. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 399.50 Rs./ac.
 (ii) 68.6 Rs./ac.
 (iii) Treatments differ significantly.
 (iv) Monetary value in Rs./ac.

Treatment	Rs./ac.
1.	701.00
2.	396.00
3.	320.00
4.	181.00
S.E./mean	= 28.00 Rs./ac.

Crop :- *Ragi*, Groundnut, Cotton.

Ref :- M. 52 (60)

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

Type :- 'X'.

Object :- To find out economics of raising mixed crops of groundnut, cotton and *ragi*.

1. BASAL CONDITIONS

(i) (a) Nil. (b) Sunnhemp. (c) Nil. (ii) (a) Loamy clay. (b) Refer soil analysis, Palur. (iii) *Ragi* 2.1.1952/1.2.1952. (iv) (a) 3 ploughings. (b) to (c) N.A. (d) *Ragi* 9"×9"; Groundnut 1'×1'. (e) N.A. (v) 2000 lb./ac. of G.L.+15 C.L./ac. of F.Y.M. (vi) Groundnut T.M.V.—4; *Ragi* P—1; cotton P—216 F. (vii) Irrigated. (viii) Weeding once. (ix) 7.21". (x) Cotton 3.2.1952; Groundnut 7.3.1952/3.8.1952.

2. TREATMENTS :

1. Groundnut pure.
2. Cotton pure.
3. *Ragi* pure.
4. *Ragi*+Cotton.
5. *Ragi*+Groundnut.
6. *Ragi*+Groundnut+Cotton.

First *Ragi* was sown in the field; cotton along the bunds; groundnut was dibbled just before the harvest of *ragi* crop.

Other details N.A.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 39.6'×26.4'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield data; Monetary values at local market rates calculated. (iv) (a) 1952—1954. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) Nil.

5. RESULTS :

(i) to (iv)

Treatment	Avg. yield in lb./ac.			Monetary value
	<i>Ragi</i>	Groundnut	Cotton	
1.	—	1291	—	267—12—0
2.	—	—	217	95—13—0
3.	1150	—	—	113—13—0
4.	734	—	156	141—2—0
5.	1017	1036	—	311—7—0
6.	961	838	156	344—4—0

"Monetary values are significant".
[Raw data are not available]

Crop :- Groundnut, *Ragi*., Cotton.

Ref :- M. 53 (95)

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

Type :- 'X'.

Object :- To assess the economics of growing crops of *ragi*, cotton and groundnut as pure crops and as mixed crops.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Sunnhemp. (c) Nil. (ii) (a) Red soil. (b) Refer soil analysis, Palur. (iii) *Ragi* 4.1.3.2.1953; Cotton 12.2.1953; Groundnut 4.4.1953. (iv) (a) 4 ploughings. (b) N.A. (c) N.A. (d) *Ragi* 9"×9" Groundnut 1'×1' cotton N.A. (v) 2000 lb./ac. Sunnhemp+15 C.L./ac. of F.Y.M.+40 lb./ac. of A/S. (vi) *Ragi* P—1; Cotton P—216 F; Groundnut T.M.V.—4. (vii) Irrigated. (viii) Weeding once. (ix) 16.5". (x) *Ragi* 2.5.1953; Cotton 30.9.1953; Groundnut 7.9.1953.

2. TREATMENTS :

1. *Ragi* pure.
2. Cotton pure.
3. Groundnut pure.
4. *Ragi*+Cotton.
5. *Ragi*+Groundnut.
6. *Ragi*+Cotton+Groundnut.

3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 33'×26.4'. (v) N.A. (vi) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Yield data. (iv) (a) 1952—1954. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) [The details are collected from the printed reports. Original records N.A.]. (vii) Nil.

5. RESULTS :

- (i) 396.08 Rs./ac.
 (ii) 55.51 Rs./ac.
 (iii) Treatment differences are significant (for monetary value).
 (iv) Av yield in lb./ac.

Treatment	Monetary value in Rs./ac	Av. yield in lb./ac.
1.	190.00	1144
2.	331.14	758
3.	380.14	1149
4.	384.40	(Ragi) 1208+419 (cotton)
5.	516.40	(Ragi) 1286+910 (Groundnut)
6.	574.40	(Ragi) 1296+289 (cotton)+691 (Groundnut)
	S.E./mean=24.81 N.A.	

Crop :- Banana.

Ref :- M. 51(29).

Site :- Central Banana Res. Stn., Aduthurai.

Type :- 'M'.

Object :- To find out the value of different manurial *i.e.* C.M. G.N.C. and A/S. and to ascertain in general how far the addition of Potash or P_2O_5 would contribute to yield (wet-lands).

1. BASAL CONDITIONS :

(i) Paddy crop. (ii) (a) Alluvial. (b) N.A. (iii) Clonal plants (*Suckers*). (iv) Poovan. (v) March 1951 spacing. (vi) 4 months old sword suckers. (vii) 25 lb. of C.M./plant. at the time of planting. (viii) Digging up 3 times. (ix) Nil. (x) Irrigated. (xi) 33.45". (xii) Sept. '52.

2. TREATMENTS :

- Control (no manure).
- C.M. at $\frac{1}{2}$ lb. N/Plant
- C.M. at $\frac{1}{2}$ lb. N/plant+A/S as $\frac{1}{2}$ lb. N/plant.
- C.M. at $\frac{1}{2}$ lb. N/plant+G.N.C. at $\frac{1}{2}$ lb. N/plant.
- G.N.C. at $\frac{1}{2}$ lb. N/plant+A/S at $\frac{1}{2}$ lb. N/plant.
- C.M. at $\frac{1}{2}$ lb. N/plant+Super at $\frac{1}{2}$ lb. P_2O_5 /plant.
- C.M. at $\frac{1}{2}$ lb. N/plant+Pot. Sul. at $\frac{1}{2}$ lb. K_2O /plant.
- C.M. at $\frac{1}{2}$ lb. N/plant+Super at $\frac{1}{2}$ lb. P_2O_5 /plant+Pot. Sul. at $\frac{1}{2}$ lb. K_2O /plant.

3. DESIGN :

(i) R.B.D. (ii) (a) 8. (b) N.A. (c) 16. (iii) 4. (iv) One row of plants. (v) Yes.

4. GENERAL :

(i) Satisfactory. (ii) Nil. (iii) Height, & girth measurements. (iv) (a) Nil. (b) N.A. (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

- (i) 22.5 lb./bunch.
 (ii) 3.2 lb./bunch.
 (iii) Treatment differences are highly significant.
 (iv) Mean branch weight in lb.

Treatment	Av. yield
1.	16.1
2.	20.0
3.	33.9
4.	29.2
5.	30.0
6.	16.2
7.	18.3
8.	16.6
S.E./mean	= 1.6 lb/bunch.