INSTITUTE OF AGRICULTURAL RESEARCH STATISTICS

NATIONAL INDEX

OF

AGRICULTURAL

FIELD

EXPERIMENTS

VOL. 7 PART 1

MADRAS

1948–53

PUBLISHED BY
INDIAN COUNCIL OF AGRICULTURAL RESEARCH
NEW DELHI
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 up to 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.

A.D. PANDIT

Vice-President,

Indian Council of Agricultural Research.

New Delhi,
August 20, 1962.
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 manural 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.
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
Institute of Agricultural Research Statistics
(I.C.A.R.)

NEW DELHI,
August 16, 1962.
REGIONAL SUPERVISORS FOR THE NATIONAL INDEX
OF FIELD EXPERIMENTS

<table>
<thead>
<tr>
<th>Region and headquarters</th>
<th>Regional Supervisors</th>
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</thead>
<tbody>
<tr>
<td>Andhra Pradesh (Hyderabad)</td>
<td>Shri D.V.G. Krishnamoorthy, Deputy Director of Food Production, Andhra Pradesh. Shri Jagannath Rao, Joint Director of Agriculture (Research), Andhra Pradesh. Dr. Khadruddin Khan, Joint Director of Agriculture (Research), Andhra Pradesh.</td>
</tr>
<tr>
<td>Assam, Manipur and Tripura (Shillong)</td>
<td>Shri L.K. Handique, Director of Agriculture, Assam. Shri S. Majid, Director of Agriculture, Assam. Dr. S.R. Barooha, Director of Agriculture, Assam.</td>
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<tr>
<td>Bihar (Sabour)</td>
<td>Dr. R. Richaria, Principal, Agriculture College, Sabour. Shri R.S. Roy, Principal, Agriculture College, Sabour.</td>
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<tr>
<td>Kerala (Trivandrum)</td>
<td>Shri N. Shankara Menon, Director of Agriculture, Kerala. Shri P.D. Nair, Director of Agriculture, Kerala.</td>
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<tr>
<td>Madhya Pradesh (Gwalior)</td>
<td>Dr. T.R. Mehta, Principal, Agriculture College, Gwalior.</td>
</tr>
<tr>
<td>Madras (Coimbatore)</td>
<td>Shri C.R. Sheshadri, Vice-Principal &amp; Secretary, Research Council, Agriculture College, Coimbatore. Shri P.A. Venkateswaran, Vice-Principal &amp; Secretary, Research Council, Agriculture College, Coimbatore. Late Shri M. Bhavani Sankara Rao, Vice-Principal &amp; Secretary, Research Council, Agriculture College, Coimbatore. Shri T. Natarajan, Agronomist &amp; Secretary, Research Council, Agriculture College, Coimbatore. Shri A.H. Sarma, Extension Specialist &amp; Secretary, Research Council, Agriculture College, Coimbatore.</td>
</tr>
<tr>
<td>Maharashtra &amp; Gujarat (former Bombay Statistician, Department of Agriculture, State) (Poona)</td>
<td>Shri D.S. Ranga Rao, Poona.</td>
</tr>
</tbody>
</table>

*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.*
(vi)
F.Y.M.—Farm Yard Manure.
G.M.—Green Manure.
G.N.C.—Groundnut cake.
K.—Potash.
lb.—Pounds.
M.C.—Municipal Compost.
Mur. Pot.—Muriate of Potash.
N.—Nitrogen.
Nitro phos—Nitro phosphate.
P.—Phosphate.
Pot. Sul.—Potassium Sulphate.
Super—Super Phosphate.
T.C.—Town compost.
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 ; Conf.d.—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 ; Conf.d.—Confounded. (other designs and modifications of the above indicated in full). (ii) (a) No. of plots per block. (b) Block dimensions (iii) No. of replications. (iv) No. of trees/plot. (v) Border or guard rows kept. (vi) Are treatments randomised.

C. For experiments on cultivators’ fields:
   (i) Method of selection of experimental sites. (ii) No. and distribution of experiments. (iii) Plot size. (a) Gross. (b) Net. (iv) Whether treatments are randomised.
GENERAL

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.
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<th>Sl. No.</th>
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<th>Botanical name</th>
<th>Assamese</th>
<th>Bengali</th>
<th>Oriya</th>
<th>Telugu</th>
<th>Tamil</th>
<th>Malayalam</th>
<th>Kannada</th>
<th>Marathi</th>
<th>Gujarati</th>
<th>Hindi</th>
<th>Punjabi</th>
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<td>Bhatta</td>
<td>Bhat</td>
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<td>Keppu;</td>
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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 hils 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.

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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>East Coast (Chingleput, South Arcot and Tanjore districts)</td>
<td>12.70</td>
<td>35.00</td>
<td>0.14</td>
<td>2.58</td>
<td>50.42</td>
</tr>
<tr>
<td>2</td>
<td>Northern Region (North Arcot district)</td>
<td>19.96</td>
<td>17.08</td>
<td>0.12</td>
<td>3.34</td>
<td>40.50</td>
</tr>
<tr>
<td>3</td>
<td>Central Region (Salem, Tiruchirapalli, Madurai, Ramanathapuram &amp; Tirunelveli districts)</td>
<td>9.66</td>
<td>17.77</td>
<td>0.17</td>
<td>5.15</td>
<td>32.75</td>
</tr>
<tr>
<td>4</td>
<td>Coimbatore district.</td>
<td>5.98</td>
<td>11.69</td>
<td>0.08</td>
<td>4.33</td>
<td>22.08</td>
</tr>
<tr>
<td>5</td>
<td>(Nilgiris and Kanyakumari districts)</td>
<td>26.25</td>
<td>16.02</td>
<td>0.27</td>
<td>10.16</td>
<td>52.70</td>
</tr>
</tbody>
</table>

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)

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

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, Tiruchirapalli and Salem. The practice of growing Sorghum under irrigation is more common in these districts.

Bajra:—Chief bajra growing districts are Coimbatore, Salem, Tiruchirapalli 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, Paturkottai and Tirurukkamp. 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 along with 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>
<thead>
<tr>
<th>Sl. No.</th>
<th>Crop</th>
<th>M</th>
<th>MV</th>
<th>C</th>
<th>CM</th>
<th>CV</th>
<th>CMV</th>
<th>I</th>
<th>CI</th>
<th>VI</th>
<th>D</th>
<th>DV</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Paddy</td>
<td>149</td>
<td>60</td>
<td>27</td>
<td>4</td>
<td>6</td>
<td>7</td>
<td>10</td>
<td>1</td>
<td>18</td>
<td>1</td>
<td></td>
<td>283</td>
</tr>
<tr>
<td>2.</td>
<td>Ragi</td>
<td>22</td>
<td>—</td>
<td>—</td>
<td>2</td>
<td>—</td>
<td>4</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
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<td>27</td>
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<tr>
<td>3.</td>
<td>Jowar</td>
<td>4</td>
<td>2</td>
<td>—</td>
<td>—</td>
<td>2</td>
<td>4</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>4.</td>
<td>Cotton</td>
<td>8</td>
<td>7</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>26</td>
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<tr>
<td>5.</td>
<td>Sugarcane</td>
<td>10</td>
<td>—</td>
<td>8</td>
<td>—</td>
<td>—</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>21</td>
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<tr>
<td>6.</td>
<td>Groundnut</td>
<td>8</td>
<td>9</td>
<td>—</td>
<td>—</td>
<td>3</td>
<td>—</td>
<td>3</td>
<td></td>
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<td>7.</td>
<td>Gingelly</td>
<td>—</td>
<td>6</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
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<td>6</td>
</tr>
<tr>
<td>8.</td>
<td>Potato</td>
<td>45</td>
<td>25</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>18</td>
<td>—</td>
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<td>Sweet Potato</td>
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<td>—</td>
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<td>Tapioca</td>
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<td>—</td>
<td>3</td>
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<td>11.</td>
<td>Banana</td>
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<td>60</td>
<td>89</td>
<td>7</td>
<td>17</td>
<td>7</td>
<td>12</td>
<td>10</td>
<td>6</td>
<td>39</td>
<td>1</td>
<td>545</td>
</tr>
</tbody>
</table>

TABLE 3

Distribution of experiments according to crops and types of treatments tried.
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. Tirurkuppar, 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 FYM 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 FYM. each to supply 60 lb. of nitrogen per acre and a control.

The 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.
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of the experimental Stations</th>
<th>District in which located.</th>
<th>Year of establishment</th>
<th>Major crops</th>
<th>Soil Type</th>
<th>Normal Rainfall (in inches)</th>
<th>Irrigation facilities &amp; any proper drainage system</th>
<th>No. of experiments</th>
<th>General description of topography</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Aduthurai, Tanjore, Agri. Res. Stn.</td>
<td>4 furlongs from Aduthurai Rly. Stn.</td>
<td>1922</td>
<td>Paddy</td>
<td>Alluvial clay</td>
<td>June 2.15</td>
<td>Flow of irrigation from river Cauvery</td>
<td>44—Paddy</td>
<td>A plane surface with a slight gradient from West to East and North to South.</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>July 4.91</td>
<td>from the inception of farm. The area is well drained.</td>
<td>1—Potato</td>
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<td>Aug. 4.95</td>
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<td>45—Total</td>
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<td>Oct. 7.60</td>
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<td>Soil analysis:</td>
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<td>Nov. 5.04</td>
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<tr>
<td>(i)</td>
<td>Chem. analysis: (%)</td>
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<td></td>
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<td>Dec. 1.22</td>
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</tr>
<tr>
<td>Moisture N</td>
<td>P₂O₅</td>
<td>K₂O</td>
<td>Lime</td>
<td></td>
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<td>Jan. 0.63</td>
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<tr>
<td>6.35</td>
<td>0.075</td>
<td>0.099</td>
<td>0.472</td>
<td>1.22</td>
<td></td>
<td>Feb. 0.31</td>
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<tr>
<td>(ii)</td>
<td>Mech analysis: (%)</td>
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<td></td>
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<td>Mar. 0.27</td>
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<td></td>
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</tr>
<tr>
<td>Clay</td>
<td>Silt</td>
<td>Fine sand</td>
<td></td>
<td></td>
<td></td>
<td>April 2.64</td>
<td></td>
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</tr>
<tr>
<td>44.06</td>
<td>15.04</td>
<td>27.23</td>
<td></td>
<td></td>
<td></td>
<td>May 1.72</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Coarse sand</td>
<td>Acid.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total 38.92</td>
<td></td>
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<tr>
<td>11.95</td>
<td>1.72</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(1949 to 58)</td>
<td></td>
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<td>1</td>
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</tr>
<tr>
<td>2.</td>
<td>Aduthurai, Tanjore. Deltaic area.</td>
<td>1949</td>
<td>Banana</td>
<td>June</td>
<td>2.15</td>
<td>From June to January water flows from river Cauvery. During other months pump irrigation from wells and filter points available from inception. The soil is well drained and water is led only in trenches.</td>
<td></td>
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</tr>
<tr>
<td>Central Banana P.O. Aduthurai. Res. Stn.</td>
<td></td>
<td></td>
<td></td>
<td>4.91</td>
<td>4.95</td>
<td>6.93</td>
<td>7.60</td>
<td>5.04</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>hard sub-stratum is found up to a considerable depth.</td>
<td></td>
<td></td>
<td>(i) Chemical Analysis (%)</td>
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<td></td>
<td></td>
<td>N</td>
<td>K₂O (Total)</td>
<td>K₂O (Avl.)</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>0.077</td>
<td>0.1378</td>
<td>0.0038</td>
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<td></td>
<td></td>
<td></td>
<td>P₂O₅ (Total)</td>
<td>P₂O₅ (Avl.)</td>
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<td></td>
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<td></td>
<td>0.1169</td>
<td>0.0166</td>
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<td></td>
<td>(ii) Mechanical Analysis (%)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Fine sand</td>
<td>Coarse sand</td>
<td>Total</td>
<td>(1949 to 1958)</td>
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<td></td>
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<td></td>
<td>30.57</td>
<td>12.47</td>
<td>38.92</td>
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<td></td>
<td></td>
<td></td>
<td>Clay</td>
<td>Silt.</td>
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<td></td>
<td></td>
<td>40.56</td>
<td>16.49</td>
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<td></td>
<td></td>
<td></td>
<td>Plains at slight gradation from West to East.</td>
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</table>
### STATEMENT SHOWING DETAILS OF EXPERIMENTAL STATIONS

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of Station</th>
<th>State</th>
<th>Year</th>
<th>Type of Station</th>
<th>Details</th>
</tr>
</thead>
</table>
2. Depth: 5'-10'.  
5. Soil Analysis:  
   (i) Chemical Analysis: N.A.  
   June | 1.01 | Nathunni channel from Tambraparni river.  
   July | 0.90 | The soil is mostly loamy with a fair admixture of sand resulting in easy sub-soil drainage.  
   Aug. | 0.31 |  
   Sept. | 1.38 |  
   Oct. | 4.71 |  
   Nov. | 8.46 |  
   Dec. | 4.73 |  
   Jan. | 2.69 |  
   Feb. | 1.50 |  
   Mar. | 1.87 |  
   Apr. | 3.40 |  
   May | 2.09 |  
2. Depth: 5'.  
3. Colour: Greyish black.  
5. Soil Analysis:  
   (i) Chem. Analysis: N.A.  
   June | 0.92 | Tank irrigation available for about two months in the year and for the rest of the period it is supplemented by well irrigation.  
   July | 2.11 |  
   Aug. | 1.76 |  
   Sept. | 1.41 |  
   Oct. | 3.38 |  
   Nov. | 2.78 |  
   Dec. | 1.16 |  
   Jan. | 0.09 |  
   Feb. | 0.28 |  
   Mar. | 0.40 |  
   Apr. | 3.72 |  
   May | 1.21 |  
|     | Total | 33.05 |  
|     | Av. for 1949 to 1952 |  
|     | 20.59 |  
|     | 46-Paddy |  

The water available from Tambraparni river prior to completion of project. Proper drainage system available. 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.
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</thead>
<tbody>
<tr>
<td>5. Coimbatore.</td>
<td>Coimbatore</td>
<td>It represents</td>
<td>1906</td>
<td>In black soil Cholam, Cotton and Bengal gram as pure crop in a regular three year rotation-Cholam, Cotton and Tenai are generally sown either as mixed crop or as pure crop. In red soil — Cholam-lab-lab mixture, red-graund nut mixture. In garden lands-Cholam, Combodia cotton, Ragi or any green manure crop, in a two year rotation.</td>
<td>As given below.</td>
<td>June 1.42</td>
<td>Irrigation facilities since the establishment are available from 14—Paddy is 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.</td>
<td></td>
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<tr>
<td>(i) Central Farm, Agri. College and Research Rly. Station.</td>
<td>Coimbatore 3½ miles from the tract of black soil in the dry tract of Madras State and also represents the tract of wet cultivation.</td>
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<tr>
<td>(ii) Agri. Chemist, Millet specialist and Horticulturist, Coimbatore.</td>
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</tbody>
</table>

2. Depth 4"—10".  
3. Colour — Red and black, Red soil and Clay loam respectively.  
4. Structure — do —  
5. Soil Analysis.  
   (i) Chemical Analysis  
<table>
<thead>
<tr>
<th>N</th>
<th>K₂O (Avl)</th>
<th>P₂O₅ (Avl)</th>
<th>Fe₂O₃</th>
<th>Al₂O₃</th>
<th>Ca O</th>
<th>Mg O</th>
<th>K₂O</th>
<th>O₂</th>
<th>Co₂</th>
<th>P₂O₅</th>
<th>So₂</th>
<th>Sand and insoluble</th>
<th>Fine gravel</th>
<th>Coarse sand</th>
<th>Fine sand</th>
<th>Silt</th>
<th>Fine silt</th>
<th>Clay</th>
<th>Moisture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garden</td>
<td>0.056</td>
<td>0.18</td>
<td>0.036</td>
<td>6.680</td>
<td>1.500</td>
<td>0.920</td>
<td>0.530</td>
<td>0.120</td>
<td>0.115</td>
<td>0.030</td>
<td>3.795</td>
<td>79.040</td>
<td>Garden</td>
<td>6.3</td>
<td>17.9</td>
<td>19.1</td>
<td>7.5</td>
<td>21.1</td>
<td>25.7</td>
</tr>
<tr>
<td>Red</td>
<td>0.037</td>
<td>0.08</td>
<td>0.011</td>
<td>4.19</td>
<td>1.52</td>
<td>0.49</td>
<td>0.21</td>
<td>0.18</td>
<td>0.028</td>
<td>0.011</td>
<td>3.681</td>
<td>96.78</td>
<td>Red</td>
<td>18.3</td>
<td>41.1</td>
<td>15.1</td>
<td>2.1</td>
<td>9.8</td>
<td>12.4</td>
</tr>
<tr>
<td>Black</td>
<td>0.034</td>
<td>0.08</td>
<td>Trace</td>
<td>7.06</td>
<td>3.67</td>
<td>1.49</td>
<td>0.39</td>
<td>0.18</td>
<td>Trace</td>
<td>1.30</td>
<td>4.24</td>
<td>78.58</td>
<td>Black</td>
<td>9.5</td>
<td>25.0</td>
<td>15.1</td>
<td>6.4</td>
<td>28.1</td>
<td>12.0</td>
</tr>
</tbody>
</table>

(ii) Mechanical Analysis  
- Clay Moisture
<table>
<thead>
<tr>
<th>Res. Stn.</th>
<th>Milalallin, Garden land</th>
<th>1935</th>
<th>6.39</th>
<th>3.90</th>
<th>4.42</th>
<th>4.83</th>
<th>4.23</th>
<th>6.95</th>
<th>5.89</th>
<th>6.41</th>
<th>2.41</th>
<th>1.39</th>
<th>1.27</th>
<th>0.69</th>
<th>1.43</th>
<th>3.09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Res. Stn.</td>
<td>Koilpatti, Black Cotton</td>
<td>1901</td>
<td>1.46</td>
<td>1.09</td>
<td>0.73</td>
<td>2.20</td>
<td>7.38</td>
<td>7.50</td>
<td>2.96</td>
<td>0.23</td>
<td>0.52</td>
<td>0.64</td>
<td>2.03</td>
<td>1.45</td>
<td></td>
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</tr>
</tbody>
</table>

**Types**

- Black cotton 5'-7'
- Red 5'-7'

**(B) Soil Analysis**

<table>
<thead>
<tr>
<th>Moisture</th>
<th>Loss on ignition</th>
<th>N Ca O</th>
<th>Total P₂O₅</th>
<th>Avl. P₂O₅</th>
<th>Total K₂O</th>
<th>Avl. K₂O</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.19</td>
<td>3.79</td>
<td>0.022</td>
<td>4.03</td>
<td>0.095</td>
<td>0.018</td>
<td>0.36</td>
</tr>
</tbody>
</table>

**Facilities available**

- 14—Sugarcane
- 14—Cotton
- 9—Mixed cropping with cotton
- Lift irrigation

**Depths**

- Sandy loam:
  - June 3.90
  - July 4.98
  - Aug. 4.83
  - Sept. 4.42
  - Oct. 6.95
  - Nov. 3.89
  - Dec. 2.41
- Well drained:
  - Jan. 1.39
  - Feb. 1.27
  - Mar. 0.69
  - April 1.43
  - May 3.09

**Averages**

- Total 39.25
- Av. for each month for 10 years: 1948-58
- Total 28.21
- Av. of 3 years 1955 to 1957
### Statement Showing Details of Experimental Stations

<table>
<thead>
<tr>
<th>Nagercoil Paddy Farm</th>
<th>N.A.</th>
<th>N.A.</th>
<th>N.A.</th>
<th>Heavy clay alkaline in patches.</th>
<th>N.A.</th>
<th>Tank Irrigation.</th>
<th>2—Paddy.</th>
<th>N.A.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nanjanad, Agri. Res. Stn.</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
<td>Potato</td>
<td>N.A.</td>
<td>Perennial jungle stream. Proper drainage have been opened in the fields.</td>
<td>87—Potato.</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

**Nilgiris. Hilly tract. 1917**

- **Soil Analysis:**
  - **(i) Chemical Analysis (%)**:
    - **Moisture Loss on ignition**: 14.04
    - **Insolubles**: 9.95
    - **Alumina**: 14.62
    - **K₂O (Total)**: 0.10
    - **Soda**: 0.41
    - **P₂O₅ (Total)**: 0.07
    - **N**
      - **(ii) Mechanical Analysis (%)**:
        - **Fine gravel**: 6.5
        - **Coarse sand**: 7.5
        - **Fine sand**: 16.5
        - **Silt**: 16.5
        - **Fine silt**: 29.9
        - **Clay**: 16.9
        - **Moisture**: 6.3
STATEMENT SHOWING DETAILS OF EXPERIMENTAL STATIONS

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
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<th>9</th>
<th>10</th>
<th>11</th>
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</thead>
<tbody>
<tr>
<td>10</td>
<td>Palur,</td>
<td>Palur, Nelli-</td>
<td>East coast.</td>
<td>1905</td>
<td>Sugarcane, Ragi,</td>
<td>1. Broad soil type :- Clay loam</td>
<td>June</td>
<td>2.74</td>
<td>Irrigation facilities available from Gidilam river and wells since 1905.</td>
<td>39—Paddy. The wet lands are of lower level. The garden lands include orchard are of higher level with good facility for drainage.</td>
</tr>
<tr>
<td>(i) Chem. Analysis :</td>
<td>Available (lb./ac.)</td>
<td>N</td>
<td>P₂O₅</td>
<td>K₂O</td>
<td></td>
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<tr>
<td>Depth pH.</td>
<td>0&quot;— 6&quot;</td>
<td>7.6</td>
<td>210</td>
<td>20.0</td>
<td>408</td>
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<tr>
<td>6&quot;—12&quot;</td>
<td>7.7</td>
<td>210</td>
<td>20.0</td>
<td>344</td>
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<tr>
<td>(ii) Mechanical Analysis :- N.A.</td>
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</table>

Av. based on rainfall figures from 1949 to 1958 (10 years).
## STATEMENT SHOWING DETAILS OF EXPERIMENTAL STATIONS

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<th>10.</th>
<th>11.</th>
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</thead>
<tbody>
<tr>
<td>11. Pattukottai, Agri. Res. Station.</td>
<td>Nil.</td>
<td>The station represents the Cauvery Mettur project area of Tanjore district.</td>
<td>1935</td>
<td>Short duration paddy followed by a long duration in the double crop lands and long duration paddy in single crop areas.</td>
<td>1. Broad soil types: Sandy loam.</td>
<td>June</td>
<td>1.34</td>
<td>Cauvery water from the Cauvery Mettur project canal supplemented by wells from 1937. Well drained.</td>
<td>27—Paddy</td>
<td>Plain land without much undulation with sandy loam brought under cultivation within the past 25 years.</td>
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<td>2. Depth:—6′ to 8′.</td>
<td>July</td>
<td>3.34</td>
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<td>3. Colour:—Reddish.</td>
<td>Aug.</td>
<td>4.43</td>
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<td>4. Structure:—Sandy.</td>
<td>Sep.</td>
<td>3.34</td>
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<td>5. Soil Analysis.</td>
<td>Oct.</td>
<td>6.47</td>
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<td>(i) Chem. Analysis.</td>
<td>Nov.</td>
<td>7.35</td>
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<td></td>
<td></td>
<td></td>
<td>N.A.</td>
<td>Dec.</td>
<td>5.96</td>
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<td>(ii) Mech Analysis.</td>
<td>Jan.</td>
<td>1.91</td>
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<td></td>
<td></td>
<td>N.A.</td>
<td>Feb.</td>
<td>0.63</td>
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<td></td>
<td></td>
<td>Mar.</td>
<td>0.72</td>
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<td></td>
<td>Apr.</td>
<td>1.59</td>
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<td></td>
<td>May</td>
<td>1.01</td>
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<td>Total.</td>
<td></td>
<td>38.09</td>
<td>(Av. based on 10 years data).</td>
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<td>1—Ragi</td>
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<td>2—Total.</td>
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<td>Details</td>
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</tr>
<tr>
<td>13.</td>
<td>Tindivanam</td>
<td>South Arcot</td>
<td>1935</td>
<td>A great portion of the land in the tract is avid 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 tilled.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>14.</td>
<td>Tirurkuppum</td>
<td>Chingleput</td>
<td>1942</td>
<td>Dry and semi-dry area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
<th>Column 4</th>
<th>Column 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Broad soil type: Sandy loam.</td>
<td>June 3.39</td>
<td>Tank and well irrigation from inception of the station. Soil is naturally well drained.</td>
<td>50—Paddy</td>
<td>The difference in level between the Western and the Eastern end of the station is about 2'.</td>
</tr>
<tr>
<td>2. Depth: 6&quot; to 9&quot;.</td>
<td>July 4.64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Colour—Light gray.</td>
<td>Aug. 5.28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Soil Analysis.</td>
<td>Oct. 7.18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i) Chem. analysis.</td>
<td>Nov. 7.64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P&lt;sub&gt;2&lt;/sub&gt;O&lt;sub&gt;5&lt;/sub&gt;—0.035 to 0.041</td>
<td>Dec. 3.87</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N—0.073 to —0.074</td>
<td>Jan. 0.43</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH—7.00 to —8.75</td>
<td>Feb. Nil</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii) Mech Analysis.</td>
<td>March Nil</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N.A.</td>
<td>April 1.07</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>May 1.21</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop: Paddy (Samtha).  

Object: To compare the effect of Alphatron 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'×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. Alphatron at 10 lb/ac.
   3. Alphatron 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'×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 lbf/ac.
   (ii) 514.7 lb/ac.
   (iii) Treatment differences are not significant.
   (iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3750</td>
</tr>
<tr>
<td>2.</td>
<td>4120</td>
</tr>
<tr>
<td>3.</td>
<td>4000</td>
</tr>
<tr>
<td>S.E /mean</td>
<td>181.3 lb/ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy (Kuruvai).  

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'×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) plus 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'×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) 183.4 lb/ac.
   (iii) Main effects, interaction and control vs. others are not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>2070</td>
<td>1986</td>
<td>1973</td>
<td>2070</td>
<td>2025</td>
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<tr>
<td>P2</td>
<td>1919</td>
<td>1900</td>
<td>2098</td>
<td>2165</td>
<td>2021</td>
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<tr>
<td>Mean</td>
<td>1994</td>
<td>1943</td>
<td>2037</td>
<td>2117</td>
<td>2023</td>
</tr>
</tbody>
</table>

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).

**Site:** Agri. Res. Stn. Aduthurai.

**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’x6’. (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 P\(_2\)O\(_5\): P\(_1\) = 30 and P\(_2\) = 45 lb./ac.
     - (2) 4 sources of P\(_2\)O\(_5\): S\(_1\) = Hyper phosphate (26-27%), S\(_2\) = Hyper phosphate (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) & (b) 18’x16’. (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.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>3943</td>
<td>4147</td>
<td>4151</td>
<td>3933</td>
<td>4018</td>
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<tr>
<td>P2</td>
<td>3537</td>
<td>3952</td>
<td>3839</td>
<td>4189</td>
<td>3879</td>
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<tr>
<td>Mean</td>
<td>3743</td>
<td>3999</td>
<td>3995</td>
<td>4061</td>
<td>3949</td>
</tr>
</tbody>
</table>

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.

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) 30.3.33.

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<sub>2</sub>O<sub>5</sub> : P<sub>0</sub>=0 and P<sub>1</sub>=60 lb./ac.
   (2) 2 levels of K<sub>2</sub>O : K<sub>0</sub>=0 and K<sub>1</sub>=60 lb./ac.
   (3) 2 levels of Lime : L<sub>0</sub>=0 and L<sub>1</sub>=1500 lb./ac.

   P<sub>2</sub>O<sub>5</sub> as Super and K<sub>2</sub>O 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'×6' 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.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>Mean</th>
</tr>
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<tbody>
<tr>
<td>P&lt;sub&gt;0&lt;/sub&gt;</td>
<td>1885</td>
<td>2359</td>
<td>1915</td>
<td>3782</td>
<td>3477</td>
<td>2684</td>
</tr>
<tr>
<td>P&lt;sub&gt;1&lt;/sub&gt;</td>
<td>2023</td>
<td>2511</td>
<td>2311</td>
<td>3923</td>
<td>3769</td>
<td>2907</td>
</tr>
<tr>
<td>K&lt;sub&gt;0&lt;/sub&gt;</td>
<td>1949</td>
<td>2513</td>
<td>2181</td>
<td>3812</td>
<td>3401</td>
<td>2771</td>
</tr>
<tr>
<td>K&lt;sub&gt;1&lt;/sub&gt;</td>
<td>1959</td>
<td>2356</td>
<td>2045</td>
<td>3893</td>
<td>3845</td>
<td>2820</td>
</tr>
<tr>
<td>L&lt;sub&gt;0&lt;/sub&gt;</td>
<td>1955</td>
<td>2370</td>
<td>2199</td>
<td>3905</td>
<td>3681</td>
<td>2822</td>
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<tr>
<td>L&lt;sub&gt;1&lt;/sub&gt;</td>
<td>1953</td>
<td>2499</td>
<td>2026</td>
<td>3800</td>
<td>3565</td>
<td>2769</td>
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<tr>
<td>Mean</td>
<td>1954</td>
<td>2435</td>
<td>2113</td>
<td>3853</td>
<td>3623</td>
<td>2826</td>
</tr>
</tbody>
</table>
Crop :- Paddy (Thaladi).
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 Superphosphate 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) 21.5'. (x) 7.3.51.

2. TREATMENTS :
1. No Manure.
2. F.Y.M. at 150 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) 21' × 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) Nil. (viii) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2097</td>
</tr>
<tr>
<td>2.</td>
<td>2324</td>
</tr>
<tr>
<td>3.</td>
<td>2196</td>
</tr>
</tbody>
</table>

S.E./mean = 49.5 lb./ac.
Crop: Paddy (Samba).  
Ref.: M. 50(36)/50(35).  
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) 2.8.50/15.9.50. (iv) (a) 2 ploughings. (b) Transplanting. (c) —. (d) 6' x 6'. (e) 2. (v) Nil. (vi) CO. 25 (late). (vii) Irrigated. (viii) Nil. (ix) 22.2°. (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' x 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2734</td>
</tr>
<tr>
<td>2.</td>
<td>3270</td>
</tr>
<tr>
<td>3.</td>
<td>3144</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>±75.6 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy (Samba).  
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' x 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' 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) 4401 lb./ac.
(ii) 449.0 lb./ac.
(iii) Treatment differences are not significant.
### Crop: Paddy (Thaladi).

**Site:** Agri. Res. Stn., Aduthurai.  
**Type:** ‘M’.

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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>4138</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>4520</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>4547</td>
<td></td>
</tr>
<tr>
<td>S.E./mean</td>
<td></td>
<td>183.3 lb./ac.</td>
</tr>
</tbody>
</table>

### Crop: Paddy (Samba).

**Site:** Agri. Res. Stn., Aduthurai.  
**Type:** ‘M’.

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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2031</td>
</tr>
<tr>
<td>2.</td>
<td>2485</td>
</tr>
<tr>
<td>3.</td>
<td>2341</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>91.0 lb./ac.</td>
</tr>
</tbody>
</table>

### Basal Conditions

1. **Basal Conditions**:
   - Paddy-Paddy-Fallow. (b) Paddy (bulk). (c) G.L. at 5000 lb./ac. + 150 lb./ac. of Super + 150 lb./ac. of A/S.
   - Clayey. (b) Refer soil analysis, Aduthurai. (iii) 17.9.51/24.10.51. (iv) (a) 2 ploughings. (b) Transplanting. (c)—. (d) 6’x6’. (e) 2. (v) Nil. (vi) CO. 25 (late). (vii) Irrigated. (viii) Nil. (ix) 22”. (x) 17.3.52.

2. **Treatments**:
   - No manure.
   - F.Y.M. at 60 lb./ac. of N.
   - F.W.C. at 60 lb./ac. of N.

3. **Design**:
   - R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a), (b) 27’x25’. (v) Nil. (vi) Yes.

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

5. **Results**:
   - (i) 2287 lb./ac.
   - 223.0 lb./ac.
   - Treatment differences are significant.
   - Av. yield of grain in lb./ac.
     | Treatment | Av. yield |
     |-----------|-----------|
     | 1.         | 2031      |
     | 2.         | 2485      |
     | 3.         | 2341      |
     | S.E./mean  | 91.0 lb./ac. |

### Basal Conditions

1. **Basal Conditions**:
   - 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’x6’. (e) 2. (v) Nil. (vi) No. 3840 (late). (vii) Irrigated. (viii) Nil. (ix) 21.5’. (x) 9.2.49.

2. **Treatments**:
   - Control
   - *Glycyrrhiza* (Dauncha)
   - *Pungam*
   - *Ealetropis*
   - *Adathoda*
   - *Kolintji*

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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3569</td>
</tr>
<tr>
<td>2.</td>
<td>3608</td>
</tr>
<tr>
<td>3.</td>
<td>3977</td>
</tr>
<tr>
<td>4.</td>
<td>3703</td>
</tr>
<tr>
<td>5.</td>
<td>3724</td>
</tr>
<tr>
<td>6.</td>
<td>3664</td>
</tr>
<tr>
<td>7.</td>
<td>3713</td>
</tr>
<tr>
<td>8.</td>
<td>3637</td>
</tr>
<tr>
<td>9.</td>
<td>3821</td>
</tr>
<tr>
<td>10.</td>
<td>3802</td>
</tr>
</tbody>
</table>

S.E./mean = 107.2 lb./ac.

Crop :- Paddy (Samba).
Object :- To compare different kinds of leaves as G.M.
Ref:- M. 49(52).
Type :- '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'. (c) 2. (v) Nil. (vi) CO. 25 (late). (vii) Irrigated. (viii) Weeding once. (ix) 26.12'. (ix) 7.2.50.

2. TREATMENTS:
1. No leaf
2. Glyricidia
3. Pungam
4. Calotropis
5. Adathoda
6. Pillipesara
7. Daincha
8. Sunnhemp
9. Sesbania
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.
21

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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
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<td>2.</td>
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<td>3.</td>
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<td>4.</td>
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<td>5.</td>
<td>3709</td>
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<td>6.</td>
<td>3398</td>
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<td>7.</td>
<td>3517</td>
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<td>8.</td>
<td>3471</td>
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<td>9.</td>
<td>3316</td>
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<tr>
<td>10.</td>
<td>3691</td>
</tr>
</tbody>
</table>

S.E./mean = 110.9 lb./ac.

Crop :-Paddy (Thaladi)  
Ref :-M. 49(53)  
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'×6'. (e) 2. (v) Nil. (vi) Adt. 2 (late). (vii) Irrigated. (viii) Weeding once. (ix) 15.2.49. (x) 24.2.50.

2. TREATMENTS:
   1. No leaf.  
   2. Calotropis.  
   4. Croton spasi florrus.  
   5. Pungam.  
   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'×13'. (b) 20'×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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2295</td>
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<td>2507</td>
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<td>3.</td>
<td>2529</td>
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<td>4.</td>
<td>2571</td>
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<tr>
<td>5.</td>
<td>2730</td>
</tr>
<tr>
<td>6.</td>
<td>2784</td>
</tr>
<tr>
<td>7.</td>
<td>2847</td>
</tr>
</tbody>
</table>

S.E./mean = 108.4 lb./ac.
Crop :- Paddy (Thaladi).
Object :- To compare N and P_{2}O_{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'x6'. (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_{2}O_{5} : P_{0}=0, P_{1}=30, P_{2}=45 and P_{3}=60 lb./ac.
   N as A/S and P_{2}O_{5} as Super. Super applied just before planting and A/S one month after, by broadcast.

3. DESIGN :
   (i) 4x4 Fact. in R.B.D. (ii) (a) 16. (b) N.A. (iii) 4. (iv) (a) 44'x8'. (b) 44'x8'. (v) Nil. (vi) Yes.

4. GENERAL :
   (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1952 to 1953. In 1952 (Kurval, Thaladi) and 1953 (Thaladi) exp. failed. (b) Yes. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Nil. (vii) Exp. failed in Kurval 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.

   \[
   \begin{array}{cccc|c}
   \text{P} & \text{P}_{0} & \text{P}_{1} & \text{P}_{2} & \text{P}_{3} & \text{Mean} \\
   \hline
   \text{N}_{0} & 1949 & 2157 & 1881 & 1942 & 1982 \\
   \text{N}_{1} & 2628 & 2809 & 3011 & 2909 & 2839 \\
   \text{N}_{2} & 2937 & 2882 & 3240 & 3258 & 3079 \\
   \text{N}_{3} & 3295 & 3152 & 3294 & 2971 & 3178 \\
   \hline
   \text{Mean} & 2702 & 2750 & 2856 & 2770 & 2769 \\
   \hline
   \end{array}
   \]
   S.E. of marginal mean = 99.9 lb./ac.
   S.E. of body of table = 199.5 lb./ac.

---

Crop :- Paddy (Samba).
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'x6'. (e) 2. (v) Nil. (vi) CO.25 (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 2,500 lb./ac.+A/S at 30 lb./ac. of N.
(2) 3 sources of P₂O₅:
\[ P₀ = \text{No P₂O₅} \]
\[ P₁ = \text{Super at 30 lb./ac. of P₂O₅} \]
\[ P₁ = \text{Fused phosphate at 30 lb./ac. of P₂O₅} \]
G.L. applied 15 days before planting and A/S a month after planting. P₂O₅ 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.

<table>
<thead>
<tr>
<th></th>
<th>G.L</th>
<th>A/S</th>
<th>G.L. + A/S</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( P₀ )</td>
<td>3465</td>
<td>3664</td>
<td>3993</td>
<td>3707</td>
</tr>
<tr>
<td>( P₁ )</td>
<td>3465</td>
<td>3828</td>
<td>4059</td>
<td>3784</td>
</tr>
<tr>
<td>( P₁ )</td>
<td>3629</td>
<td>3697</td>
<td>3597</td>
<td>3641</td>
</tr>
<tr>
<td>Mean</td>
<td>3520</td>
<td>3730</td>
<td>3883</td>
<td>3710</td>
</tr>
</tbody>
</table>

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 2,500 lb./ac.
(b) A/S at 30 lb./ac. of N.
(c) G.L. at 2,500 lb./ac.+A/S at 30 lb./ac. of N.
(2) 3 sources of P₂O₅:
\[ P₀ = \text{No P₂O₅} \]
\[ P₁ = \text{Super at 30 lb./ac. of P₂O₅} \]
\[ P₁ = \text{Fused phosphate at 30 lb./ac. of P₂O₅} \]
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.

<table>
<thead>
<tr>
<th></th>
<th>G.L.</th>
<th>A/S.</th>
<th>G.L.+A/S.</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>P_2</td>
<td>3542</td>
<td>3309</td>
<td>3497</td>
<td>3449</td>
</tr>
<tr>
<td>P_1</td>
<td>3542</td>
<td>3511</td>
<td>3637</td>
<td>3563</td>
</tr>
<tr>
<td>P'_1</td>
<td>3511</td>
<td>3614</td>
<td>3598</td>
<td>3574</td>
</tr>
<tr>
<td>Mean</td>
<td>3532</td>
<td>3478</td>
<td>3577</td>
<td>3529</td>
</tr>
</tbody>
</table>

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

Crop :- Paddy *(Thaladi)*.
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 loam. (b) Refer soil analysis, Aduthurai. (iii) 15.9.49/25.10.49. (iv) (a) 3 ploughings. (b) Transplanting. (c) -. (d) 6'x6'. (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'x21'. (b) 20'x20'. (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 | S.E./mean
   1.       | 2168      | = 69.8 lb./ac.
   2.       | 3508      |
   3.       | 2305      |
   4.       | 2333      |
Crop: Paddy (Thaladi).

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) 22.9.50/11.11.50. (iv) (a) 2 ploughings. (b) Transplanting. (c) — (d) 6" x 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' x 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) 2140
   (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).

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" x 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' x 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>2.</td>
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<td>3.</td>
<td>3032</td>
</tr>
<tr>
<td>4.</td>
<td>2981</td>
</tr>
</tbody>
</table>

S.E./mean = 82.2 lb./ac.

Crop: Paddy (*Samba*).

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) 6x6. (e) 2. (f) Nil. (v) CO 25. (vi) Irrigated. (vii) Nil. (viii) Nil. (ix) 31.06. (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) (a) 6. (b) N.A. (ii) (a) 46x10. (b) 46x9. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
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<tr>
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<td>4679</td>
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<td>4.</td>
<td>5379</td>
</tr>
<tr>
<td>5.</td>
<td>4890</td>
</tr>
<tr>
<td>6.</td>
<td>5238</td>
</tr>
</tbody>
</table>

S.E./mean = 120.0 lb./ac.
Crop: Paddy (Samba).

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'x6'. (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.: M0=0 and M1=8 ton/ac.
   (2) 2 levels of P2O5: P0=0 and P1=40 lb/ac.
   P2O5 as Super. C.M. applied 1 week before planting and Super at the time of planting.

3. DESIGN:
   (i) 2x2 Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 26'x23'. (b) 25'x22'. (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.

<table>
<thead>
<tr>
<th></th>
<th>M0</th>
<th>M1</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>P0</td>
<td>3814</td>
<td>4393</td>
<td>4104</td>
</tr>
<tr>
<td>P1</td>
<td>3986</td>
<td>4532</td>
<td>4259</td>
</tr>
<tr>
<td>Mean</td>
<td>3900</td>
<td>4463</td>
<td>4181</td>
</tr>
</tbody>
</table>

S.E. of marginal means =49.2 lb/ac.
S.E. of body of table =56.8 lb/ac.

Ref:- M. 50(30)/49(54).
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'x6'. (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.: M0=0, and M1=8 ton/ac.
   (2) 2 levels of P2O5: P0=0 and P1=40 lb/ac.
   P2O5 as Super. C.M. applied 15 days before planting and Super at the time of planting.

3. DESIGN:
   (i) 2x2 Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a), (b) 21'x25'. (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 × C.M. are highly significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M₂</th>
<th>M₁</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>P₂</td>
<td>2921</td>
<td>4141</td>
<td>3531</td>
</tr>
<tr>
<td>P₁</td>
<td>3428</td>
<td>4166</td>
<td>3797</td>
</tr>
<tr>
<td>Mean</td>
<td>3175</td>
<td>4154</td>
<td>36.64</td>
</tr>
</tbody>
</table>

   S.E. of marginal means = 46.2 lb./ac.
   S.E. of body of table = 65.9 lb./ac.

Crop: Paddy (Samba).

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) 31.7.48/14.9.48. (iv) (a) Ploughed twice with iron plough. (b) Transplanting. (c) . (d) 6' × 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' × 22'. (b) 31' × 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) 302.1 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).


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, ploughs, (b) Transplanting. (c) —. (d) 6'×6'. (e) 2. iv) A/S at 20 lb./ac. of P2O5. (f) 31.10.48. (g) (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. iv) A/S at 20 lb./ac. of P2O5. (f) 31.10.48.

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.

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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2283</td>
</tr>
<tr>
<td>2.</td>
<td>2500</td>
</tr>
<tr>
<td>3.</td>
<td>2607</td>
</tr>
<tr>
<td>4.</td>
<td>2610</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>82.6 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :— Paddy.


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) 21-5/2.5/52. (iv) (a) 2 ploughings. (b) Transplanting. (c) —. (d) 6'×6'. (e) 2. (f) 45 lb./ac. of N as A/S and 60 lb./ac. of P2O5 as Super. (g) C0.25 late. (h) Irrigated. (i) Nil. (ii) 22.2'. (iii) 27.3.53.

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 manure : (a)=C.M., (b)=F.W.C. and (c)=G.M.

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) 3035 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.

<table>
<thead>
<tr>
<th>Control = 3477</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.M.</td>
<td>3293</td>
<td>3575</td>
<td>3606</td>
<td>3491</td>
</tr>
<tr>
<td>F.W.C.</td>
<td>3327</td>
<td>3350</td>
<td>3464</td>
<td>3380</td>
</tr>
<tr>
<td>G.M.</td>
<td>3499</td>
<td>3707</td>
<td>3752</td>
<td>3653</td>
</tr>
</tbody>
</table>

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).
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) 6'x6'. (d) 45 lb./ac. of N as A/S+60 lb./ac. of P2O5 as Super.
(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'x14'. (v) Nil. (vi) Yes.

4. GENERAL:
(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 x sources’ is highly significant. Others are not significant.

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

<table>
<thead>
<tr>
<th>Control = 2815 lb/ac.</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>F.Y.M.</td>
<td>3116</td>
<td>3059</td>
<td>2846</td>
<td>3007</td>
</tr>
<tr>
<td>F.W.C.</td>
<td>2750</td>
<td>2479</td>
<td>3108</td>
<td>2779</td>
</tr>
<tr>
<td>G.M.</td>
<td>3120</td>
<td>2546</td>
<td>2250</td>
<td>2639</td>
</tr>
</tbody>
</table>

Mean: 2959 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).

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' x 6'. (e) 2. (f) 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' x 8'. (b) 72' x 6'. (v) 5' x 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).

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' x 6'. (e) 2. (f) 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' x 8'. (b) 72' x 6'. (v) 5' x 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2254</td>
</tr>
<tr>
<td>2.</td>
<td>2200</td>
</tr>
<tr>
<td>3.</td>
<td>2300</td>
</tr>
<tr>
<td>4.</td>
<td>2142</td>
</tr>
<tr>
<td>5.</td>
<td>2250</td>
</tr>
<tr>
<td>6.</td>
<td>2292</td>
</tr>
</tbody>
</table>
S.E./mean = 89.0 lb./ac.

---

Crop: Paddy (Kuruvai).
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:
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’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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3480</td>
</tr>
<tr>
<td>2.</td>
<td>3730</td>
</tr>
<tr>
<td>3.</td>
<td>3800</td>
</tr>
<tr>
<td>4.</td>
<td>3670</td>
</tr>
<tr>
<td>5.</td>
<td>3770</td>
</tr>
<tr>
<td>6.</td>
<td>3720</td>
</tr>
</tbody>
</table>
S.E./mean = 192.0 lb./ac.
Crop: Paddy (Thaladi).


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 soil. (b) Refer soil analysis, Aduthurai. (iii) Transplanting. (iv) (a) 3 ploughings. (b) Transplanting. (v) 6'x6'. (c) 2. (v) Nil. (vi) Adt—2. (vii) Irrigated. (viii) Weeding once. (ix) Nil. (x) 17.3.50.

2. TREATMENTS:

   All combinations of (1) and (2).

   (1) 3 levels of N: N<sub>0</sub>=0, N<sub>1</sub>=G.L. at 2000 lb./ac. and N<sub>2</sub>=N<sub>1</sub>+A/S at 20 lb./ac. of N.
   (2) 2 levels of P<sub>2</sub>O<sub>5</sub> as Super: P<sub>0</sub>=0 and P<sub>1</sub>=40 lb./ac.

3. DESIGN:
   (i) 3x2 Fact. in R.B.D. (ii) 6. (b) N.A. (iii) 4. (iv) (a) 15'x10'. (b) 14'x9'. (v) Nil. (vi) Adt—3 (early). (vii) Irrigated. (viii) Weeding once. (ix) Nil. (x) 18.7.48.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain yield: (iv) No. (b) N.A. (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.

<table>
<thead>
<tr>
<th></th>
<th>N&lt;sub&gt;0&lt;/sub&gt;</th>
<th>N&lt;sub&gt;1&lt;/sub&gt;</th>
<th>N&lt;sub&gt;2&lt;/sub&gt;</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>P&lt;sub&gt;0&lt;/sub&gt;</td>
<td>1919</td>
<td>2018</td>
<td>2474</td>
<td>2177</td>
</tr>
<tr>
<td>P&lt;sub&gt;1&lt;/sub&gt;</td>
<td>1924</td>
<td>2264</td>
<td>2599</td>
<td>2262</td>
</tr>
<tr>
<td>Mean</td>
<td>1922</td>
<td>2141</td>
<td>2537</td>
<td>2200</td>
</tr>
</tbody>
</table>

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 (Kuruvai).


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) Nil. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) Transplanting. (iv) (a) 2 ploughings. (b) Transplanting. (c) 6'x6'. (d) 6'x6'. (e) 2. (f) Nil. (g) Nil. (h) Nil. (i) 4.7'. (j) 4.10.48.

2. TREATMENTS:

   All combinations of (1) and (2).

   (1) 3 levels of N: N<sub>0</sub>=0, N<sub>1</sub>=G.N.C. at 20 lb./ac. of N one month after planting.
   (2) 2 levels of Super: P<sub>0</sub>=0 and P<sub>1</sub>=40 lb./ac. of P<sub>2</sub>O<sub>5</sub> at planting.

   (a) As in 3+G.N.C. at 20 lb./ac. of N at planting.
   (b) As in 4+G.N.C. at 20 lb./ac. of N at planting.
   (c) As in 5+Super at 24 lb./ac. of P<sub>2</sub>O<sub>5</sub> at planting.
   (d) As in 6+G.N.C. at 20 lb./ac. of N at planting.
   (e) As in 7+G.N.C. at 20 lb./ac. of N one month after planting.
   (f) As in 8+Super at 24 lb./ac. of P<sub>2</sub>O<sub>5</sub> at planting.
   (g) As in 9+G.N.C. at 20 lb./ac. of N at planting.
   (h) As in 10+G.N.C. at 20 lb./ac. of N one month after planting.
   (i) As in 11+Super at 24 lb./ac. of P<sub>2</sub>O<sub>5</sub> at planting.
   (j) As in 12+G.N.C. 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°×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.

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

Crop :- Paddy (Samba).
Object :- To study the direct and indirect application of P<sub>2</sub>O<sub>5</sub> to Paddy.

Ref :- M. 51(21).
Type :- ‘M’.

1. BASAL CONDITIONS :-
   (i) (a) Paddy-Fallow. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii)
   3.8.51/9.10.51. (iv) (a) 2 ploughings. (b) Transplanting. (c) —. (d) 6°×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
   G<sub>1</sub> Sunnhemy.
   G<sub>2</sub> Sesbania.
   G<sub>3</sub> Daincha.

8 Sub-plot treatments :-
   1. No manure.
   2. G.M. alone.
   3. 30 lb/ac. of P<sub>2</sub>O<sub>5</sub> as Super to G.M.
   4. 30 lb/ac. of P<sub>2</sub>O<sub>5</sub> to Paddy
   5. 45 lb/ac. of P<sub>2</sub>O<sub>5</sub> to G.M.
   6. 45 lb/ac. of P<sub>2</sub>O<sub>5</sub> to Paddy
   7. 60 lb/ac. of P<sub>2</sub>O<sub>5</sub> to G.M.
   8. 60 lb/ac. of P<sub>2</sub>O<sub>5</sub> 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. 44′×54′ main-plot. 44′×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.
Crop :- Paddy (Pishanam).
Site :- Rice Res. Stn., Ambasamudram.
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 80’. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2265</td>
<td>59.0</td>
</tr>
<tr>
<td>2.</td>
<td>2364</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>2406</td>
<td></td>
</tr>
</tbody>
</table>

Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>G1</th>
<th>G2</th>
<th>G3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3402</td>
<td>3292</td>
<td>3114</td>
</tr>
<tr>
<td>2</td>
<td>4505</td>
<td>3970</td>
<td>3491</td>
</tr>
<tr>
<td>3</td>
<td>4270</td>
<td>4537</td>
<td>4003</td>
</tr>
<tr>
<td>4</td>
<td>4335</td>
<td>4370</td>
<td>3859</td>
</tr>
<tr>
<td>5</td>
<td>4771</td>
<td>4348</td>
<td>4015</td>
</tr>
<tr>
<td>6</td>
<td>4392</td>
<td>4165</td>
<td>3848</td>
</tr>
<tr>
<td>7</td>
<td>4636</td>
<td>4537</td>
<td>4233</td>
</tr>
<tr>
<td>8</td>
<td>4604</td>
<td>4144</td>
<td>3917</td>
</tr>
</tbody>
</table>

Mean | 4364 | 4170 | 3816 | 4117 |
Crop: Paddy.  
Site: Rice Res. Stn., Ambasamudram.  
Ref: M. 50(11).  
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) 20.6.50/17.50. (j) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6'x6'. (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) 20'x9'. (b) 20'x8.5'. (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) 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 | S.E./mean
   1. | 3375 | 39.9 lb./ac.
   2. | 3322 |
   3. | 3607 |

Crop: Paddy.  
Site: Rice Res. Stn., Ambasamudram.  
Ref: M. 50(12).  
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) 21.11.50/24.11.50. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 6'x6'. (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) 20'x9'. (b) 20'x8.5'. (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) 87.2 lb./ac.
   (iii) Treatment differences are highly significant.
Crop: Paddy (Kar.)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3035</td>
</tr>
<tr>
<td>2.</td>
<td>3173</td>
</tr>
<tr>
<td>3.</td>
<td>33.37</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>31.2 lb./ac.</td>
</tr>
</tbody>
</table>

Site: Rice Res. Stn., Ambasamudram

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) 6'x6'.

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 $P_2O_5$ and $S_4$ = B.M. + 5000 lb./ac.

(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'x14'. (b) 20'x13'. (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:

<table>
<thead>
<tr>
<th></th>
<th>Control = 1009 lb./ac.</th>
<th>$S_1$</th>
<th>$S_2$</th>
<th>$S_3$</th>
<th>$S_4$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$P_1$</td>
<td></td>
<td>1056</td>
<td>996</td>
<td>1134</td>
<td>1053</td>
<td>1060</td>
</tr>
<tr>
<td>$P_2$</td>
<td></td>
<td>1074</td>
<td>1035</td>
<td>995</td>
<td>1069</td>
<td>1035</td>
</tr>
</tbody>
</table>

| 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.)

Site: Rice Res. Stn., Ambasamudram.

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) 6'x6'.

(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 P2O5: S1 = Hyper phos. (26–27%), S2 = Hyper Phos. (28–29%), S3 = Super and
S4 = B.M.
(2) 2 levels of P2O5: \( P_1 = 30 \) 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’×11’. (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.

\[
\begin{array}{lcccc}
\text{Crop :- Paddy (Pishanam).} \\
\text{Site :- Rice Res. Stn. Ambasamudram.} \\
\text{Type :- ‘M’.} \\
\text{Object :- To see the effect of A/S and Super alone and in combination with and without G.L.} \\
\text{Ref :- M. 49(72).} \\
\end{array}
\]

<table>
<thead>
<tr>
<th>Control = 3024 lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>( S_1 )</td>
</tr>
<tr>
<td>-------------------------</td>
</tr>
<tr>
<td>( P_1 )</td>
</tr>
<tr>
<td>( P_2 )</td>
</tr>
<tr>
<td>Mean</td>
</tr>
</tbody>
</table>

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.

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. (f) Nil.

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 P2O5: \( P_0 = 0 \) & \( P_1 = 30 \) lb./ac.
(3) 2 levels of N: \( N_0 = 0 \) & \( N_1 = 50 \) lb./ac.
N as G.N.C. and P2O5 as Super.
G.L. applied 15 days after planting; A/S one month after planting and Super at planting.

3. DESIGN:
(i) 2’ 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.

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) 21.11.50/25.11.50. (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 — (medium). (vii) I I rigated. (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) 2^3 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.

<table>
<thead>
<tr>
<th></th>
<th>G0</th>
<th>G1</th>
<th>Mean</th>
<th>N0</th>
<th>N1</th>
</tr>
</thead>
<tbody>
<tr>
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<td>2983</td>
<td>2543</td>
<td>2763</td>
<td>2663</td>
<td>2862</td>
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<td>2798</td>
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<tr>
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<td>2538</td>
<td>2781</td>
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<td>2851</td>
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<td></td>
</tr>
<tr>
<td>N1</td>
<td>3078</td>
<td>2624</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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. 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) 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. : G0 = 0 and G1 = 5000 lb./ac.
(2) 2 levels of P2O5 : P0 = 0 and P1 = 50 lb./ac.
(3) 2 levels of N : N0 = 0 and N1 = 50 lb./ac.
P2O5 as Super, N as G.N.C. —. G.L. and P2O5 applied one month before planting and N applied one month after planting as top dressing.

3. DESIGN:
   (i) 2^2 Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 15' x 13'. (b) 14' x 12'. (v) 6' 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.

<table>
<thead>
<tr>
<th></th>
<th>G0</th>
<th>G1</th>
<th>Mean</th>
<th>N0</th>
<th>N1</th>
</tr>
</thead>
<tbody>
<tr>
<td>P0</td>
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<td>3219</td>
<td>3144</td>
<td>3040</td>
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<td>3032</td>
<td>3191</td>
<td>3112</td>
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<tr>
<td>Mean</td>
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<td>3205</td>
<td>3128</td>
<td>3068</td>
<td>3187</td>
</tr>
<tr>
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<td>2967</td>
<td>3169</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>N1</td>
<td>3134</td>
<td>3240</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

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. Stn., 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.: 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.

P₂O₅ 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'-6" × 15'. (v) About 3" left as border.

4. GENERAL:


5. RESULTS:

(i) 3071 lb/ac.
(ii) 132.5 lb/ac.

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

Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th>G₀</th>
<th>G₁</th>
<th>Mean</th>
<th>N₀</th>
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<td>2929</td>
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<td>P₁</td>
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<tr>
<td>Mean</td>
<td>3189</td>
<td>2953</td>
<td>3071</td>
<td>3148</td>
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<tr>
<td>N₀</td>
<td>3126</td>
<td>2800</td>
<td>3171</td>
<td>3162</td>
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</table>
| N₁  | 3252| 3044 | Ref: M. 50(24).

Crop: Paddy. Site: Rice Res. Stn., Ambasamudram. 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) 29.6.50/21.7.50. (iv) (a) 5 ploughings, leveling once. (b) Transplanting. (c) —. (d) 6" × 6". (e) N.A. (f) Nil. (g) A/S—1 (early). (h) Irrigated. (i) 2 weedings. (x) 9.5". (x) 23.10.50.

2. TREATMENTS:

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

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

(ii) 2 doses of N: N₁ = G.L. at 5000 lb/ac, N₂ = A/S at 30 lb/ac. of N and N₁ = 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) 25" × 13", (b) 25" × 15". (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 x P are not significant.
(iv) Av. yield of grain in lb./ac.

Control = 3304 lb./ac.

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<td>Mean</td>
<td>3389</td>
<td>3722</td>
<td>3759</td>
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</table>

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' x 6'. (e) N.A. (v) Nil. (vi) A and -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) 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) 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.

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<td>P2</td>
<td>2521</td>
<td>2767</td>
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<td>2740</td>
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</table>

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.
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 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) 25' x 13'. (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.

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<td>2548</td>
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</table>

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. 
Site: Rice Res. Sta., 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 P2O5: P0 = 0, P1 = 30 lb. P2O5/ac, as Super. and P2 = 30 lb./ac P2O5 of 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 x 13½'. (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.

<table>
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<tr>
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<tr>
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<td>2406</td>
<td>2344</td>
<td>2221</td>
</tr>
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</table>

S.E. of any marginal mean = 69.5 lb./ac.
S.E. of body of table = 120.4 lb./ac.

Crop: Paddy (Pithanam).
Site: Rice Res. Sta., 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) Aso-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' x 14', (b) 20' x 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.

<table>
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<th>( L_0 )</th>
<th>( L_1 )</th>
<th>( L_2 )</th>
<th>( L_3 )</th>
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<td>665</td>
<td>634</td>
<td>686</td>
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<tr>
<td>( G_1 )</td>
<td>689</td>
<td>692</td>
<td>812</td>
<td>752</td>
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</table>

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).
Site: Rice Res. Stn., Ambasamudram.
Type: M. 49 (74/48 (81).
Ref.: M. 49

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) Nil. (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" x 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" x 56". (iii) 4. (iv) (a) 21' x 14'. (b) 20' x 13'. (main) 21' x 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. (d) (g) and (b) N.A. (v) and (vii) Nil.
5. RESULTS:

(i) 2437 lb./ac.
(ii) (a) 296.4 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.

<table>
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<tr>
<th></th>
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<th>L₂</th>
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<td>2497</td>
<td>2493</td>
<td>2437</td>
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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 (K’ar).
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° x 6°. (e) 2. (v) Nil. (vi) Asd-I (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’ x 56’. (iii) 4. (iv) (a) 21’ x 14’. (b) 20’ x 13’ (21’ x 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.

<table>
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<th>L₂</th>
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<td>3266</td>
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S.E. of difference of two
1. G means = 87.0 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" x 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=4030 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' x 13'. main-plot size = 19' x 48'. (b) 19' x 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) 3123 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.

<table>
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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(18)/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) 6×6'. (e) N.A. (v) Nil. (vi) Asd—5 (medium). (vii) Irrigated. (viii) 2 weedicings. (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.
   Sab-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) 20×13'.
   (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) 219.3 lb./ac.
   (iii) Main effect of G alone is highly significant. Others are not significant.
   (iv) Av. yield of grain in lb./ac.

   \[
   \begin{array}{|c|c|c|c|}
   \hline
   & L_0 & L_1 & L_2 & L_3 & Mean \\
   \hline
   G_0 & 2683 & 2963 & 2803 & 2842 & 2823 \\
   G_1 & 3178 & 3159 & 3345 & 3082 & 3164 \\
   \hline
   \text{Mean} & 2927 & 3061 & 3024 & 2962 & 2993 \\
   \end{array}
   \]

   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 6×6'. (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.
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2714</td>
</tr>
<tr>
<td>2.</td>
<td>2604</td>
</tr>
<tr>
<td>3.</td>
<td>2609</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>69.7 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Paddy.
Site :- Paddy Breeding Stn. Coimbatore.
Ref :- M. 48(111).
Type :- M'.

Object :- To study the effect of N\textsubscript{2}P\textsubscript{2}O\textsubscript{5} and K\textsubscript{2}O 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. (f) Nil. (v) CO. 26 (late). (vi) Irrigated. (vii) Weeding twice. (ix) 8.75°. (x) 30.1.49.

2. TREATMENTS:
All combinations of (1), (2) and (3)
(1) 6 levels of N : N\textsubscript{0}=No manure, N\textsubscript{1}=G.L. at 2000 lb./ac., N\textsubscript{2}=N\textsubscript{1}+30 lb./ac. of N as A/S, N\textsubscript{3}=N\textsubscript{1}+60 lb./ac. of N as A/S, N\textsubscript{4}=N\textsubscript{1}+90 lb./ac. of N as A/S and N\textsubscript{5}=N\textsubscript{1}+120 lb./ac. of N as A/S.
(2) 3 levels of P\textsubscript{2}O\textsubscript{5} : P\textsubscript{0}=0, P\textsubscript{1}=30 and P\textsubscript{2}=60 lb./ac.
(3) 2 levels of K\textsubscript{2}O : K\textsubscript{0}=0 and K\textsubscript{1}=60 lb./ac.
P\textsubscript{2}O\textsubscript{5} as Super and K\textsubscript{2}O 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:

5. RESULTS:
(i) 2415 lb./ac.
(ii) 328.4 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.

<table>
<thead>
<tr>
<th></th>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
<th>N₄</th>
<th>N₅</th>
<th>Mean</th>
<th>K₀</th>
<th>K₁</th>
</tr>
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<tbody>
<tr>
<td>P₀</td>
<td>1951</td>
<td>2125</td>
<td>2262</td>
<td>2732</td>
<td>2575</td>
<td>2785</td>
<td></td>
<td>2405</td>
<td>2433</td>
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<td>P₁</td>
<td>1999</td>
<td>2346</td>
<td>2410</td>
<td>2363</td>
<td>2380</td>
<td>2773</td>
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<td>2379</td>
<td>2450</td>
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<tr>
<td>P₂</td>
<td>2177</td>
<td>2327</td>
<td>2633</td>
<td>2509</td>
<td>2555</td>
<td>2562</td>
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<td>2461</td>
<td>2407</td>
</tr>
<tr>
<td>Mean</td>
<td>2042</td>
<td>2266</td>
<td>2435</td>
<td>2503</td>
<td>2707</td>
<td></td>
<td></td>
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<td>2430</td>
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<tr>
<td>K₀</td>
<td>2068</td>
<td>2218</td>
<td>2378</td>
<td>2615</td>
<td>2564</td>
<td>2737</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K₁</td>
<td>2016</td>
<td>2313</td>
<td>2491</td>
<td>2454</td>
<td>2441</td>
<td>2677</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.
Site :- Paddy Breeding Stn., Coimbatore.

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) 11.84/10.48. (iv) (a) 5 ploughings. (b) Transplanting. (c) 20'. (d) 6' x 6'. (e) 2. (f) 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' x 11'. (v) N.A. (vi) Yes.

4. GENERAL :
   (i) Satisfactory. (ii) Nil. (iii) Nil. (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.

<table>
<thead>
<tr>
<th></th>
<th>S₁</th>
<th>S₂</th>
<th>S₃</th>
<th>S₄</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>P₁</td>
<td>3527</td>
<td>3453</td>
<td>3428</td>
<td>3502</td>
<td>3477</td>
</tr>
<tr>
<td>P₂</td>
<td>3205</td>
<td>3787</td>
<td>3812</td>
<td>3478</td>
<td>3571</td>
</tr>
<tr>
<td>Mean</td>
<td>3366</td>
<td>3620</td>
<td>3620</td>
<td>3490</td>
<td>3524</td>
</tr>
</tbody>
</table>

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.  
Site: Paddy Breeding Stn., Coimbatore.  
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) 5644 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.

   
<table>
<thead>
<tr>
<th>Control=3590 lb./ac.</th>
<th>$S_1$</th>
<th>$S_2$</th>
<th>$S_3$</th>
<th>$S_4$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$P_1$</td>
<td>3657</td>
<td>3759</td>
<td>3710</td>
<td>3583</td>
<td>3677</td>
</tr>
<tr>
<td>$P_2$</td>
<td>3777</td>
<td>3583</td>
<td>3564</td>
<td>3577</td>
<td>3625</td>
</tr>
<tr>
<td>Mean</td>
<td>3717</td>
<td>3671</td>
<td>3637</td>
<td>3580</td>
<td>3551</td>
</tr>
</tbody>
</table>

   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.  
Site: Paddy Breeding Stn., Coimbatore.  
Object: To compare Ultra Phos. with Super in its effect on the yield of Paddy.
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) 290.6 lb./ac.
(iii) Main effect of levels of P and control vs others are significant. Effect of source of P and interaction of source x level of P are not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>Mean.</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>3027</td>
<td>3150</td>
<td>3086</td>
</tr>
<tr>
<td>P2</td>
<td>3227</td>
<td>3158</td>
<td>3215</td>
</tr>
</tbody>
</table>

S.E. of the marginal mean = 102.7 lb./ac.
S.E. of body of table = 145.3 lb./ac.

Crop: Paddy.
Site: Paddy Breeding Stn., Coimbatore.
Ref: M. 49(138).
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) 6' 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.

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>563</td>
</tr>
<tr>
<td>2.</td>
<td>714</td>
</tr>
<tr>
<td>3.</td>
<td>536</td>
</tr>
</tbody>
</table>

S.E.(mean) = 25.0 lb/ac.
Crop: Paddy.
Site: Paddy Breeding Stn., Coimbatore.

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) 23.8.49/10.16.49. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) $6'x6'$. (e) 2. (f) Sunnhemp crop was raised and ploughed in (amount N.A.). (vi) CO.-19 (late). (vii) Irrigated. (viii) Weeding twice. (ix) 6.05'. (x) 12.2.30.

2. TREATMENTS:
1. 30 lb./ac. of $P_2O_5$ as Super applied to Sunnhemp and puddled in.
2. 30 lb./ac. of $P_2O_5$ at B.M. applied to Sunnhemp and puddled in.
3. 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) $19'x30'$. (b) $18'x29'$. (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) $1856$ lb./ac.
(ii) $183.8$ lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1921</td>
</tr>
<tr>
<td>2.</td>
<td>1625</td>
</tr>
<tr>
<td>3.</td>
<td>2023</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>=75.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy.
Site: Paddy Breeding Stn., Coimbatore.

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) $6'x6'$. (e) 2. (f) Nil. (vi) CO.-25 (late). (vii) Irrigated. (viii) Weeding twice. (ix) 3.86'. (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) 2x5 Fact. in R.B.D. (ii) (a) 10. (b) N.A. (iii) 6. (iv) (a) $19'x101'$. (b) $18'x91'$. (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.

<table>
<thead>
<tr>
<th></th>
<th>B₀</th>
<th>B₁</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>C₁</td>
<td>2075</td>
<td>2667</td>
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</tr>
<tr>
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<td>2109</td>
<td>2609</td>
<td>2359</td>
</tr>
<tr>
<td>C₃</td>
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<td>2362</td>
</tr>
<tr>
<td>C₄</td>
<td>2040</td>
<td>2656</td>
<td>2348</td>
</tr>
</tbody>
</table>

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).
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’x6’.
(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.
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 leaf
L₁ = Leaf at 8000 lb./ac.

3. DESIGN:
(i) 2x9 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.

<table>
<thead>
<tr>
<th></th>
<th>L_0</th>
<th>L_1</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2813</td>
<td>2765</td>
<td>2789</td>
</tr>
<tr>
<td>2</td>
<td>2649</td>
<td>2444</td>
<td>2547</td>
</tr>
<tr>
<td>3</td>
<td>2743</td>
<td>2634</td>
<td>2688</td>
</tr>
<tr>
<td>4</td>
<td>2875</td>
<td>2414</td>
<td>2644</td>
</tr>
<tr>
<td>5</td>
<td>2561</td>
<td>2922</td>
<td>2741</td>
</tr>
<tr>
<td>6</td>
<td>2681</td>
<td>2562</td>
<td>2622</td>
</tr>
<tr>
<td>7</td>
<td>3276</td>
<td>2929</td>
<td>3103</td>
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<td>8</td>
<td>2999</td>
<td>2765</td>
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</tr>
<tr>
<td>9</td>
<td>3115</td>
<td>3350</td>
<td>3248</td>
</tr>
</tbody>
</table>

Mean  2837  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) 7.  (d) 6'x6'.  (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 :- L_1 = 100 and L_2 = 150 lb./ac.
   (2) 2 times of application of A/S :- T_1 = 30 days after planting an T_2 = 45 days after planting.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 6.  (b) N.A.  (iii) 4.  (iv) (a) 26'x17'.  (b) 25'x16'.  (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.

<table>
<thead>
<tr>
<th></th>
<th>L_1</th>
<th>L_2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>T_1</td>
<td>2529</td>
<td>2573</td>
<td>2551</td>
</tr>
<tr>
<td>T_2</td>
<td>2562</td>
<td>2580</td>
<td>2571</td>
</tr>
</tbody>
</table>

Mean  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.

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) 30.9.53/8.11.53. (iv) (a) 3 ploughings with country plough, once with iron plough. (b) Transplanting. (c)--- (d) 6'x6'. (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 P2O5 as Super.

3. DESIGN :
   (i) R.B.D. (ii) 3. (b) N.A. (iii) 8. (iv) (a) 11'x25', (b) 10'x24'. (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) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :
   (i) 3035 lb./ac.
   (ii) 240.0 lb./ac.
   (iii) Treatment differences are not significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2992</td>
<td>84.9 lb./ac.</td>
</tr>
<tr>
<td>2.</td>
<td>3104</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>3008</td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Paddy.
Site :- Paddy Breeding Stn., Coimbatore.

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 31.11.53. (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 : S1=6'x6' and S2=10'x10'.
   Sub-plot treatments :
   6 doses of manures : M0—No manure.

<table>
<thead>
<tr>
<th>Dose</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1 = 5000 lb</td>
<td>G.L.+45 lb./ac. of P2O5 as Super puddled in.</td>
</tr>
<tr>
<td>M2 = 5000 lb</td>
<td>G.L.+30 lb./ac. of A/S before planting+10 lb./ac.</td>
</tr>
<tr>
<td>M3 = 5000 lb</td>
<td>G.L.+30 lb./ac. of N as A/S a month after planting+10 lb./ac.</td>
</tr>
<tr>
<td>M4 = 5000 lb</td>
<td>M2+20 lb./ac. of N as A/S before planting+10 lb./ac.</td>
</tr>
<tr>
<td>M5 = 5000 lb</td>
<td>M3+20 lb./ac. of N as A/S before planting+15 lb./ac.</td>
</tr>
<tr>
<td>M6 = 5000 lb</td>
<td>M4+20 lb./ac. of N as A/S a month after planting+15 lb./ac.</td>
</tr>
</tbody>
</table>

Ref :- M. 51 (37).
Type :- 'M'.

Ref :- M. 53 (73).
Type :- 'M'.
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) 9’×9’. (v) Border row left but detailed N.A. (vi) Yes.

4. GENERAL:
(i) Good. (ii) N.A. (iii) Heilutt and tiller counts and yield. (iv) (a) 1953—cond. (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.

<table>
<thead>
<tr>
<th></th>
<th>M₀</th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
<th>M₄</th>
<th>M₅</th>
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<tbody>
<tr>
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<td>2600</td>
<td>2837</td>
<td>2726</td>
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<td>1861</td>
<td>2620</td>
<td>2248</td>
<td>2152</td>
<td>2159</td>
</tr>
<tr>
<td>Mean</td>
<td>1640</td>
<td>1924</td>
<td>2610</td>
<td>2543</td>
<td>2439</td>
<td>2234</td>
</tr>
</tbody>
</table>

S.E. of main treatments (spacing) = 166.9 lb/ac.
S.E. of sub treatments (manuring) = 121.4 lb/ac.

Crop :- Paddy.  
Site :- Paddy Breeding Stn., Coimbatore.  
Ref:- M. 50(56).  
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=4,000 and L₃=6,000 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 F act. in R.B.D. (ii) (a) 16. (b) N.A. (iii) 4. (iv) (a) 23’ × 19’. (b) 22’ × 18’. (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.

<table>
<thead>
<tr>
<th></th>
<th>L₀</th>
<th>L₁</th>
<th>L₂</th>
<th>L₃</th>
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<td>2852</td>
<td>3030</td>
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<td>2922</td>
<td>2960</td>
<td>3290</td>
<td>2964</td>
</tr>
<tr>
<td>P₂</td>
<td>2585</td>
<td>2910</td>
<td>3080</td>
<td>3052</td>
<td>2907</td>
</tr>
<tr>
<td>P₃</td>
<td>2627</td>
<td>3045</td>
<td>3062</td>
<td>3075</td>
<td>2952</td>
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<tr>
<td>Mean</td>
<td>2577</td>
<td>2899</td>
<td>2989</td>
<td>3112</td>
<td>2894</td>
</tr>
</tbody>
</table>

S.E. of marginal mean = 41.8 lb/ac.
S.E. of body of table = 83.7 lb/ac.

Crop: - Paddy.
Site: - Paddy Breeding Stn., Coimbatore.
Ref: - M. 51(43).
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' x 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 x 4 Fact. in R.B.D. (ii) (a) 16. (b) N.A. (iii) 4. (iv) (a) 15' x 24' (b) 14' x 23' (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 x P' are highly significant. Main effect of P is not significant.
   (iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th></th>
<th>L₀</th>
<th>L₁</th>
<th>L₂</th>
<th>L₃</th>
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<td>P₃</td>
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<td>2073</td>
<td>2225</td>
<td>2198</td>
<td>2520</td>
<td>2254</td>
</tr>
</tbody>
</table>

S.E. of marginal mean = 62.6 lb/ac.
S.E. of body of table = 123.2 lb/ac.
Crop: Paddy.  

Site: Paddy Breeding Stn., Coimbatore.  

Ref: M. 53(74).  

Object: To study the effect of N & \( \text{P}_2\text{O}_5 \) singly and in combination.

### 1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) As under treatments.  
(ii) (a) Clayey soil. (b) Refer soil analysis, Coimbatore.  
(iii) 4.953/28, 29.10.53.  (iv) (a) The first ploughing done by iron plough & cross ploughing with country plough (4 ploughings). (b) Transplanting. (c)–(d) 6′×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: 
  - \( L_0 = 0 \)
  - \( L_1 = 2000 \)
  - \( L_2 = 4000 \)
  - \( L_3 = 6000 \) Ib./ac.

**Sub-plot treatments:**

- 4 levels of \( \text{P}_2\text{O}_5 \):
  - \( P_0 = 0 \)
  - \( P_1 = 30 \)
  - \( P_2 = 45 \)
  - \( P_3 = 60 \) 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′×20′. (b) 11′×19′. (v) l′ 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.

<table>
<thead>
<tr>
<th></th>
<th>( L_0 )</th>
<th>( L_1 )</th>
<th>( L_2 )</th>
<th>( L_3 )</th>
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<td>4248</td>
<td>4409</td>
<td>4243</td>
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</table>

Mean: 3874
3. DESIGN:
(i) Split-plot. (ii) (a) 4 main-plots/block; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 12’×11’. (b) 11’×10’. (v) 1’ 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—cond. (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.

<table>
<thead>
<tr>
<th></th>
<th>P0</th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
<th>Mean</th>
</tr>
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<td>4572</td>
<td>4598</td>
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<tr>
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<td>3910</td>
<td>4208</td>
<td>4074</td>
<td>4258</td>
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</tbody>
</table>

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

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:
1. No manure.
2. G.M. 5000 lb./ac.
3. A/S equal to (2) on N basis.
4. G.M. 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 about one month after planting.

3. DESIGN:
(i) R.B.D. (ii) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1989.4</td>
</tr>
<tr>
<td>2.</td>
<td>2199</td>
</tr>
<tr>
<td>3.</td>
<td>2270</td>
</tr>
<tr>
<td>4.</td>
<td>2301</td>
</tr>
<tr>
<td>5.</td>
<td>2541</td>
</tr>
<tr>
<td>6.</td>
<td>2322</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

Crop: Paddy.
Site: Govt. Agri. Chemist, Coimbatore.
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).

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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2830</td>
</tr>
<tr>
<td>2.</td>
<td>2570</td>
</tr>
<tr>
<td>3.</td>
<td>2905</td>
</tr>
<tr>
<td>4.</td>
<td>3145</td>
</tr>
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<td>5.</td>
<td>3060</td>
</tr>
<tr>
<td>6.</td>
<td>3155</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>N.A.</td>
</tr>
</tbody>
</table>
Crop :- Paddy.  
Ref :- M. 51(31)/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 x 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.  

<table>
<thead>
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<th>Treatment</th>
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<tbody>
<tr>
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<td>1000</td>
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<tr>
<td>2.</td>
<td>1040</td>
</tr>
<tr>
<td>3.</td>
<td>1080</td>
</tr>
<tr>
<td>4.</td>
<td>1280</td>
</tr>
<tr>
<td>5.</td>
<td>1180</td>
</tr>
<tr>
<td>6.</td>
<td>1160</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

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 x 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), (vi) Nil.  (vi) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2280</td>
</tr>
<tr>
<td>2</td>
<td>2600</td>
</tr>
<tr>
<td>3</td>
<td>2840</td>
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<td>4</td>
<td>3380</td>
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<tr>
<td>5</td>
<td>3400</td>
</tr>
<tr>
<td>6</td>
<td>3600</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>52.6 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy  Ref.:- M 52(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) 5'x6'. (e) 2. (v) Nil.  (vi) Co. 26 (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 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) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2733</td>
</tr>
<tr>
<td>2</td>
<td>3043</td>
</tr>
<tr>
<td>3</td>
<td>2966</td>
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<td>4</td>
<td>3297</td>
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<td>5</td>
<td>3092</td>
</tr>
<tr>
<td>6</td>
<td>3356</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>177.5 lb./ac.</td>
</tr>
</tbody>
</table>
Crop: Paddy.  
Site: Govt. Agri. Chemist, Coimbatore

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'×6'.

2. TREATMENTS:
   1. Daincha.
   2. Pippesara.
   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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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</tr>
<tr>
<td>2</td>
<td>3492</td>
</tr>
<tr>
<td>3</td>
<td>3455</td>
</tr>
<tr>
<td>4</td>
<td>3164</td>
</tr>
<tr>
<td>5</td>
<td>2729</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>199.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy.  
Site: Govt. Agri. Chemist, Coimbatore.  
Ref: M. 49(127)/48(107).

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'×6'.

2. TREATMENTS:
   1. Daincha.
   2. Pippesara.
   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) (a) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3703</td>
</tr>
<tr>
<td>2.</td>
<td>3577</td>
</tr>
<tr>
<td>3.</td>
<td>3480</td>
</tr>
<tr>
<td>4.</td>
<td>3538</td>
</tr>
<tr>
<td>5.</td>
<td>2519</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>181.1 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy.

Ref: M. 50(112)/49(127)/48(187).

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) GEB. 24 (Medium). (vii) Irrigated. (viii) N.A. (ix) N.A. (x) N.A.

2. TREATMENTS:
   1. Daincha.
   2. Pillipesara.
   5. 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) 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) 3004 lb./ac.
   (ii) 412.3 lb./ac.
   (iii) Treatment differences are significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3019</td>
</tr>
<tr>
<td>2.</td>
<td>2846</td>
</tr>
<tr>
<td>3.</td>
<td>2730</td>
</tr>
<tr>
<td>4.</td>
<td>3019</td>
</tr>
<tr>
<td>5.</td>
<td>2384</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>184.4 lb./ac.</td>
</tr>
</tbody>
</table>
Crop : Paddy. 
Site : Govt. Agri. Chemist, Coimbatore.
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. 
   (d) 6'×6'. (e) 1/20 ac. (f) Nil. (v) GER-24. (Medium). (vii) Irrigated. (viii) N.A. 
   (ix) N.A. (x) N.A.

2. TREATMENTS:
   1. Daincha.
   2. Phillipesara.
   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) N.A. (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. 
Site : Govt. Agri. Chemist, Coimbatore.
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) 6'×6'. (d) 1/20 ac. (e) 2. (v) Nil. (vi) CO.25 (late). 
   (vii) Irrigated. (viii) N.A. (ix) N.A. (x) N.A.

2. TREATMENTS:
   1. Daincha.
   2. Phillipesara.
   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) N.A. (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'x6'. (e) 2. (f) N.A. (g) Nil. (h) CO. 25 (late). (i) Irrigated. (j) N.A. (k) N.A. (l) N.A.

2. TREATMENTS:
   1.  Daincha.
   2.  Sunnhemp.
   3.  Pillipesara.
   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) N.A. (vi) (a), (b) Nil. (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.
Site :- Govt. Agri. Chemist, Coimbatore.

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) 12.8.49. (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) 7.12.49.

2. TREATMENTS:
1. Daincha.
2. Pillipesara.
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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3626</td>
</tr>
<tr>
<td>2.</td>
<td>3626</td>
</tr>
<tr>
<td>3.</td>
<td>3467</td>
</tr>
<tr>
<td>4.</td>
<td>3327</td>
</tr>
<tr>
<td>5.</td>
<td>1753</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>146.0 lb./ac.</td>
</tr>
</tbody>
</table>

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

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'x6'. (e) 2. (v) Nil. (vi) GEB.—24 (Medium). (vii) Irrigated. (viii) N.A. (ix) N.A. (x) 7.12.49.

2. TREATMENTS:
1. Daincha.
2. Pillipesara.
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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2975</td>
</tr>
<tr>
<td>2</td>
<td>3495</td>
</tr>
<tr>
<td>3</td>
<td>2975</td>
</tr>
<tr>
<td>4</td>
<td>3105</td>
</tr>
<tr>
<td>5</td>
<td>1770</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>176.7 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy
Site: Govt. Agri. Chemist, Coimbatore.

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. (f) Nil. (vi) GEB. 24 (Medium). (vii) Irrigated. (viii) Nil. (ix) N.A. (x) N.A.

2. TREATMENTS:
1. Daincha.
2. Pillipesara.
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.

<table>
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<tr>
<th>Treatment</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3643</td>
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<tr>
<td>2</td>
<td>3443</td>
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<td>3</td>
<td>3530</td>
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<td>4</td>
<td>3810</td>
</tr>
<tr>
<td>5</td>
<td>2426</td>
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<tr>
<td>S.E./mean</td>
<td>188.6 lb./ac.</td>
</tr>
</tbody>
</table>
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’x6’.  (v) Nil.  (vi) GEB.—24 (late).  
   (vii) Irrigated.  (viii) N.A.  (ix) N.A.  (x) N.A.

2. TREATMENTS:
   1.  
   2.  
   3.  
   4.  
   5.  
   7. Pillipesara.  
   8. Sunnhemp.  
   10. 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) 2610 lb/ac.  
   (ii) 105.0 lb/ac.  
   (iii) Treatment differences are significant.  
   (iv) Av. yield of grain in lb/ac.  
   Treatment  
   Av. yield
   1.  
   2.  
   3.  
   4.  
   5.  
   6.  
   (i) 2610  
   (ii) 2935  
   (iii) 2290  
   (iv) 2905  
   (v) 1610  
   (vi) 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) (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’x6’.  (e) 2.  (v) Nil.  (vi) GEB. 24 (Medium).  (vii) Irrigated.  (viii) N.A.  (ix) N.A.  (x) N.A.

2. TREATMENTS:
   1.  
   2.  
   3.  
   4.  
   5.  
   7. Pillipesara.  
   8. Sunnhemp.  
   10. 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.
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: \(-M_0=\text{No manure}\), \(M_1=\text{Gypsum} 2\frac{1}{2}\) ton/ac., \(M_2=\text{Gypsum} 5\) ton/ac. and \(M_3=\text{Lime} 1\) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
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<tbody>
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<tr>
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<td>M₄L₂</td>
<td>246.5</td>
<td>B</td>
<td>711.2</td>
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<td>AC₁</td>
<td>367.5</td>
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<tr>
<td>L₁</td>
<td>203.1</td>
<td>BC₁</td>
<td>555.5</td>
</tr>
</tbody>
</table>

S.E./mean = 113.1 lb./ac.

Crop :- Paddy.

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.

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.
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'×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 P₂O₅ as Super broadcast.
   4. 40 lb./ac. of N as G.N.C.+80 lb./ac. of P₂O₅ as Dicalcium Phosphate broadcast.
   5. 40 lb./ac. of N as G.N.C.+80 lb./ac. of P₂O₅ as Super by placement.
   6. 40 lb./ac. of N as G.N.C.+80 lb./ac. of P₂O₅ 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.


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'×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 P₂O₅ as Super by broadcast.
   4. 40 lb./ac. of N as G.N.C.+80 lb./ac. of P₂O₅ as Dicalcium Phos. by broadcast.
   5. 40 lb./ac. of N as G.N.C.+80 lb./ac. of P₂O₅ as Super by placement.
   6. 40 lb./ac. of N as G.N.C.+80 lb./ac. of P₂O₅ as Dicalcium Phos. by placement.
3. DESIGN:
(i) R.B.D. (ii) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
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<td>2.</td>
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<td>3.</td>
<td>2890</td>
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<td>4.</td>
<td>2674</td>
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<td>5.</td>
<td>2868</td>
</tr>
<tr>
<td>6.</td>
<td>2716</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

Crop:-Paddy.  
Site:-Govt. Agri. Chemist, Coimbatore.  
Ref:-M. 48(108).  
Type:-‘M’.

Object:-To see if Copper Sulphate sprays could help in improving Paddy yield using 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:
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).

Single spraying of these one month after planting.

3. DESIGN:
(i) R.B.D. (ii) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
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<td>3.</td>
<td>1753</td>
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<tr>
<td>4.</td>
<td>1688</td>
</tr>
<tr>
<td>5.</td>
<td>1438</td>
</tr>
<tr>
<td>6.</td>
<td>1645</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>88.4 lb./ac.</td>
</tr>
</tbody>
</table>
Crop : Paddy.  
Site : Govt. Agri. Chemist, Coimbatore.

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" x 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. Zn. Sui. at 5 lb./ac. (in 100 gallons of water).
   3. Mn. Sui. at 5 lb./ac. (in 100 gallons of water).
   4. C/S at 10 lb./ac.+Mn.Sul. 5 lb./ac. (in 100 gallons of water).
   5. C/S at 10 lb./ac.+Zn. Sul. 5 lb./ac.+Mn.Sul. 5 lb./ac. (in 100 gallons of water).

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.

<table>
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<th>Treatment</th>
<th>Av. Yield</th>
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<td>3.</td>
<td>111.3</td>
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<td>4.</td>
<td>107.8</td>
</tr>
<tr>
<td>5.</td>
<td>113.9</td>
</tr>
<tr>
<td>6.</td>
<td>98.4</td>
</tr>
</tbody>
</table>

Crop : Paddy.  
Site : Central Farm, Coimbatore.

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" x 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° 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) 1842 lb./ac.
(ii) 293.9 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
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<tr>
<td>2.</td>
<td>1787</td>
</tr>
<tr>
<td>3.</td>
<td>1900</td>
</tr>
</tbody>
</table>

S.E./mean = 120.0 lb./ac.

Crop :- Paddy.
Site :- Central Farm, Coimbatore.
Object :- To determine the relative merits and manurial value of Night soil compost and F.Y.M. (3rd series).

1. BASAL CONDITIONS:
(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'×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.
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'×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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1693</td>
</tr>
<tr>
<td>2.</td>
<td>1727</td>
</tr>
<tr>
<td>3.</td>
<td>1613</td>
</tr>
</tbody>
</table>

S.E./mean = 103.8 lb./ac.
Crop: Paddy.
Site: Central Farm, Coimbatore.
Object: To find out the relative merits and manurai value of Night soil compost and F.Y.M. (3rd 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°×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) 16.5×66°. (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.           2512
   3.           2512
   S.E./mean   206.0 lb./ac.

Crop: Paddy.
Site: Central Farm, Coimbatore.
Object: To find out the relative merits and manurai 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) 10.8.53./24,25.9.50. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) — (d) 6°×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) 16.5×66°. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2373</td>
</tr>
<tr>
<td>2.</td>
<td>2380</td>
</tr>
<tr>
<td>3.</td>
<td>2380</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 142 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy.
Site: Central Farm, Coimbatore.
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 soil. (b) Refer soil analysis, Coimbatore. (iii) 1.9.52./30.11.52. (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'×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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1810</td>
</tr>
<tr>
<td>2.</td>
<td>1873</td>
</tr>
<tr>
<td>3.</td>
<td>2220</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 93.6 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy.
Site: Central Farm, Coimbatore.
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) N.A. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1450</td>
</tr>
<tr>
<td>2</td>
<td>1860</td>
</tr>
<tr>
<td>3</td>
<td>1683</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>156.8 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Paddy.
Site :- Central Farm, Coimbatore.
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.

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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1933</td>
</tr>
<tr>
<td>2</td>
<td>2093</td>
</tr>
<tr>
<td>3</td>
<td>2166</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>108.0 lb./ac.</td>
</tr>
</tbody>
</table>
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) Ref. 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:
   1. Control : 600 lb./ac. of cowdung applied before last ploughing.
   2. Treatment (1) + Super broadcast at 150 lb./ac.
   3. 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) Ref. 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:
   1. No manure.
   2. A/S 150 lb./ac. broadcast at the time of planting and 75 lb./ac. broadcast 4 weeks after planting.
   3. 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>3735</td>
</tr>
<tr>
<td>2</td>
<td>3638</td>
</tr>
<tr>
<td>3</td>
<td>3779</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>448.4 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: - Paddy (1st crop).
Site: - Paddy Farm, Nager Coil.

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-I (Samba). (vii) Irrigated. (viii) 2 weedings. No interculture. (ix) 15.45". (x) 20.9.1951.

2. TREATMENTS:
All combinations of (1) and (2)

<table>
<thead>
<tr>
<th>(1) 2 levels of N :</th>
<th>N₀ = 0, and N₁ = 25 lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2) 3 doses of PᵡO₅ :</td>
<td>P₀ = 0, P₁ = 20 lb./ac. of P₂O₅ as Super and P₂ = 20 lb./ac. of P₂O₅ as B.M.</td>
</tr>
</tbody>
</table>

N as A/S top dressed one and a half months after planting; P₂O₅ 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 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.

<table>
<thead>
<tr>
<th></th>
<th>P₀</th>
<th>P₁</th>
<th>P₂</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₀</td>
<td>1609</td>
<td>1550</td>
<td>1609</td>
<td>1589</td>
</tr>
<tr>
<td>N₁</td>
<td>1867</td>
<td>1917</td>
<td>1859</td>
<td>1881</td>
</tr>
<tr>
<td>Mean</td>
<td>1738</td>
<td>1734</td>
<td>1734</td>
<td></td>
</tr>
</tbody>
</table>

S.E. of the marginal mean of N = 66.6 lb./ac.
S.E. of the marginal mean of P = 66.3 lb./ac.
S.E. of body of table = 98.0 lb./ac.
Crop :- Paddy.
Site :- Paddy Farm, Nagercoil.

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) 10'. (d) 1. (e) 80 lb./ac. of G.L. chopped and applied after puddling a week before. (f) (i) 1951 (1st crop) to 1951 (2nd crop). (g) Yes. (h) Nil. (i) Nil. (j) Nil. (k) Nil. (l) Nil. (m) Nil. (n) Nil. (o) 8.5.51.

2. TREATMENTS :
   All combinations of (1) and (2)
   (1) 2 levels of N as A/S: N0=0 and N1=25 lb./ac. of N.
   (2) 3 doses of P2O5: P0=No P2O5, P1=20 lb./ac. of P2O5 as B.M. and P2=20 lb./ac. of P2O5 as Super.

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 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.

<table>
<thead>
<tr>
<th></th>
<th>P0</th>
<th>P1</th>
<th>P2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N0</td>
<td>2759</td>
<td>3075</td>
<td>2775</td>
<td>2870</td>
</tr>
<tr>
<td>N1</td>
<td>3400</td>
<td>3434</td>
<td>3467</td>
<td>3434</td>
</tr>
<tr>
<td>Mean.</td>
<td>3079</td>
<td>3255</td>
<td>3121</td>
<td>3152</td>
</tr>
</tbody>
</table>

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).
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) 17.8.50/13.10.50. (iv) (a) 4 ploughings. (b) Transplanting. (c) 6'x6'. (e) N.A. (v) Daincha raised in different plots was harvested and applied to Paddy. (vi) CO. 26. (vi) Irrigated. (viii) Weeding twice. (ix) 29.83'. (x) 11.2.51.

2. TREATMENTS :
   1. G.M. alone.
   2. G.M. grown with Super at 30 lb./ac. of P2O5.
   3. G.M. grown with B.M. at 30 lb./ac. of P2O5.
   4. G.M. alone and B.M. at 30 lb./ac. of P2O5 applied direct to Paddy. G.M. was harvested and ploughed in.

3. DESIGN :
   (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 56'x17'. (b) 55'x16'. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3777</td>
</tr>
<tr>
<td>2.</td>
<td>3594</td>
</tr>
<tr>
<td>3.</td>
<td>3501</td>
</tr>
<tr>
<td>4.</td>
<td>3856</td>
</tr>
</tbody>
</table>

S.E./mean = 102.4 lb./ac.

Crop: Paddy.  
Ref: M. 51 (85).  
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.  
(ii) 6.85/12.10.51. (iv) (a) 5 ploughings. (b) Transplanting. (c) 6” x 6”. (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:

1. Green manure alone.
2. Green manure crop raised and to which super at 30 lb./ac. of P₂O₅ applied.
3. Green manure crop raised with B.M. at 30 lb./ac. of P₂O₅.
4. Green manure crop raised and B.M. at 30 lb./ac. of P₂O₅ was applied to Paddy crop direct.
   G.M. was harvested and ploughed in.

3. DESIGN:

(i) R.B.D. (ii) 4. (b) N.A. (iii) 8. (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. (v) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3450</td>
</tr>
<tr>
<td>2.</td>
<td>3280</td>
</tr>
<tr>
<td>3.</td>
<td>2925</td>
</tr>
<tr>
<td>4.</td>
<td>3450</td>
</tr>
</tbody>
</table>

S.E./mean = 80.0 lb./ac.
Crop: Paddy.  
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) 10.10.52/11.11.52.  (iv) (a) 5 ploughings.  (b) Transplanting.  (c) .  (d) 6' x 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' x 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) 281.4 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).  
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' x 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: M₁ = 2500, M₂ = 5000 and M₃ = 7500 lb./ac.
   (2) 2 sources of organic matter: O₁ = C.M, O₂ = G.L. and O₃ = 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' x 25.  (b) 18' x 24'.  (v) 6° all round left as border.  (vi) Yes.
4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain yield: (iv) 1952-1953. (b) No. (c) Nil. (d) (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.

<table>
<thead>
<tr>
<th>Control=4225 lb./ac.</th>
<th>O₁</th>
<th>O₂</th>
<th>O₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>M₁</td>
<td>4525</td>
<td>4153</td>
<td>4112</td>
<td>4196</td>
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<td>M₂</td>
<td>4331</td>
<td>4400</td>
<td>4168</td>
<td>4300</td>
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<tr>
<td>M₃</td>
<td>4212</td>
<td>4331</td>
<td>4300</td>
<td>4281</td>
</tr>
</tbody>
</table>

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.
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) 5 ploughings. (b) Transplanting. (c) 6×6. (e) 7. (v) Nil. (vi) CO₂ (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) 64×50' main-plot; 16×25' sub-plot. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Not satisfactory due to unfavourable season 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) 536 lb./ac.
(ii) 362.6 lb./ac.

(iii) Main effects of N and P are highly significant. Others are not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>( N_0 )</th>
<th>( N_1 )</th>
<th>( N_2 )</th>
<th>( N_3 )</th>
<th>Mean</th>
<th>( K_0 )</th>
<th>( K_1 )</th>
<th>( L_0 )</th>
<th>( L_1 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>( P_0 )</td>
<td>645</td>
<td>1070</td>
<td>742</td>
<td>1232</td>
<td>811</td>
<td>900</td>
<td>911</td>
<td>890</td>
<td>897</td>
</tr>
<tr>
<td>( P_1 )</td>
<td>730</td>
<td>1088</td>
<td>874</td>
<td>1262</td>
<td>981</td>
<td>971</td>
<td>987</td>
<td>955</td>
<td>940</td>
</tr>
<tr>
<td>( L_0 )</td>
<td>659</td>
<td>1057</td>
<td>791</td>
<td>1231</td>
<td>853</td>
<td>918</td>
<td>942</td>
<td>895</td>
<td></td>
</tr>
<tr>
<td>( L_1 )</td>
<td>718</td>
<td>1022</td>
<td>824</td>
<td>1263</td>
<td>939</td>
<td>953</td>
<td>956</td>
<td>950</td>
<td></td>
</tr>
<tr>
<td>( K_0 )</td>
<td>716</td>
<td>1034</td>
<td>826</td>
<td>1274</td>
<td>894</td>
<td>949</td>
<td></td>
<td></td>
<td></td>
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<td>( K_1 )</td>
<td>660</td>
<td>1045</td>
<td>790</td>
<td>1220</td>
<td>898</td>
<td>923</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 \( P \times K, P \times L \) or \( L \times K \) =37.5 lb./ac.

Crop: Paddy.
Ref: M. 52(56).
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) 5 ploughings. (b) Transplanting. (c) 2/9.9.52. (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 \( N \): \( N_0 =0, N_1 =30, N_2 =45 \) and \( N_3 =60 \) lb./ac.
   (2) 4 levels of \( P_2 O_5 \): \( P_0 =0, P_1 =30, P_3 =45 \) and \( P_3 =60 \) lb./ac.
   \( N \) as A/S and \( P_2 O_5 \) as Super.
   Manures applied by broadcasting at the time of planting.

3. DESIGN:
   (i) 4x4 Fact. in R.B.D. (ii) (a) 16. (b) N/A. (iii) 4. (iv) (a) 33'x11'. (b) 32'x10'. (c) 6' left all round. (v) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) 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.

<table>
<thead>
<tr>
<th></th>
<th>( P_0 )</th>
<th>( P_1 )</th>
<th>( P_2 )</th>
<th>( P_3 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( N_0 )</td>
<td>2373</td>
<td>2047</td>
<td>2369</td>
<td>2299</td>
<td>2272</td>
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<td>( N_1 )</td>
<td>2601</td>
<td>2771</td>
<td>2658</td>
<td>2432</td>
<td>2616</td>
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<tr>
<td>( N_2 )</td>
<td>3265</td>
<td>2995</td>
<td>2743</td>
<td>2541</td>
<td>2886</td>
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<td>( N_3 )</td>
<td>2871</td>
<td>2901</td>
<td>2622</td>
<td>2847</td>
<td>2810</td>
</tr>
</tbody>
</table>

Mean: 2778 2679 2598 2530 2546

S.E. of marginal means = 131.0 lb./ac.
S.E. of body of table = 262.0 lb./ac.
Crop: Paddy.  
Object: To compare the manural 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) 2.5/48/6/9.48.  
(iv) (a) 4 to 5 ploughings.  
   (b) Transplanting.  
   (c) 6' x 6'.  
   (d) 6000 lb./ac. of G.L. applied as basal dressing 10 days before planting.  
   (v) CO. 19 (late).  
   (vi) Irrigated.  
   (vii) Weeding twice.  
   (viii) One row left as border around.  

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) 6.  
   (iv) (a) 65' x 10'.  
   (b) 64' x 9'.  
   (v) One row left as border around.  

4. **GENERAL**:

(i) Satisfactory.  
(ii) Nil.  
(iii) Grain yield.  
   (iv) (a) 1946—1948 (In 1949—residual effect).  
   (b) Yes.  
   (c) Nil.  

5. **RESULTS**:

(ii) 2741 lb./ac.  
(iii) 333.2 lb./ac.  
(iii) Treatment differences are not significant.  
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2640</td>
</tr>
<tr>
<td>2.</td>
<td>2873</td>
</tr>
<tr>
<td>3.</td>
<td>2753</td>
</tr>
<tr>
<td>4.</td>
<td>2723</td>
</tr>
<tr>
<td>5.</td>
<td>2715</td>
</tr>
</tbody>
</table>

S.E./mean = 136.0 lb./ac.

Cr: Paddy.  
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) 3.5/49/7.7/49.  
(iv) (a) 4 ploughings.  
   (b) Transplanting.  
   (c) 6' x 6'.  
   (d) 6' x 6'.  
   (e) 2.  
   (f) 6000 lb./ac. of G.L.  
   (g) CO. 19 (late).  
   (h) Irrigated.  
   (i) Weeding twice.  
   (j) 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' x 10'.  
   (b) 64' x 9'.  
   (c) 6' left as border.  

4. **GENERAL**:

(i) Satisfactory.  
(ii) Nil.  
(iii) Grain and straw yield.  
   (iv) (a) 1946, 1948 (1949—residual effect).  
   (b) Yes.  
   (c) Nil.  
   (d) Nil.  
   (e) Nil.  
   (f) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3265</td>
</tr>
<tr>
<td>2.</td>
<td>3011</td>
</tr>
<tr>
<td>3.</td>
<td>2885</td>
</tr>
<tr>
<td>4.</td>
<td>3107</td>
</tr>
<tr>
<td>5.</td>
<td>3039</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>201.8 lb/ac.</td>
</tr>
</tbody>
</table>


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) 6'x6'. (e) 2. (v) Nil. (vi) Actt-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'x15'. (b) 72'x141'. (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) 3189 lb/ac.
(ii) 227.6 lb/ac.
(iii) Treatment differences are not significant.
(iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3051</td>
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<tr>
<td>2.</td>
<td>3186</td>
</tr>
<tr>
<td>3.</td>
<td>3374</td>
</tr>
<tr>
<td>4.</td>
<td>3232</td>
</tr>
<tr>
<td>5.</td>
<td>3087</td>
</tr>
<tr>
<td>6.</td>
<td>3152</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>113.8 lb/ac.</td>
</tr>
</tbody>
</table>
Crop: Paddy (1st crop).

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'x4'. (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. Treatment 5 + 100 lb./ac. of A/S.

3. DESIGN:
   (i) R.B.D. (ii) 6. (b) N.A. (iii) 4. (iv) (a) 19'x46', (b) 18'x45'.
   (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) Nil. (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).

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"x6". (e) 2. (v) 6000 lb./ac.
   (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) 4. (b) N.A. (iii) 6. (iv) (a) 55'x9', (b) 54'x8'. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
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<td>2.</td>
<td>3740</td>
</tr>
<tr>
<td>3.</td>
<td>3730</td>
</tr>
<tr>
<td>4.</td>
<td>3840</td>
</tr>
</tbody>
</table>
S.E./mean = 78.0 lb./ac.

Crop: Paddy (Samba).
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) 6x6. (e) 2. (v) 6000 lb./ac. of G.L. applied 10 days before planting. (vi) CO. 2 (late). (vii) Irrigated. (viii) Weeding once. (ix) 9.3.49.

2. TREATMENTS:
1. A/S at 40 lb./ac. of N + Super at 10 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
2. A/S at 60 lb./ac. of N + Super at 15 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
3. A/S at 80 lb./ac. of N + Super at 20 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
4. A/S at 100 lb./ac. of N + Super at 25 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
Super applied before levelling. A/S : ½ the quantity applied at planting and the other ½ applied one month after planting.

3. DESIGN:
(i) R.B.D. (ii) 4. (b) N.A. (iii) 6. (iv) (a) 55′×9′. (b) 54′×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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2950</td>
</tr>
<tr>
<td>2.</td>
<td>2900</td>
</tr>
<tr>
<td>3.</td>
<td>3050</td>
</tr>
<tr>
<td>4.</td>
<td>3120</td>
</tr>
</tbody>
</table>
S.E./mean = 60.0 lb./ac.
Crop := Paddy (Kar).

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' x 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_{2}O_{5}.
   2. A/S at 60 lb./ac. of N + Super at 15 lb./ac. of P_{2}O_{5}.
   3. A/S at 80 lb./ac. of N + Super at 20 lb./ac. of P_{2}O_{5}.
   4. A/S at 100 lb./ac. of N + Super at 25 lb./ac. of P_{2}O_{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' x 9'. (b) 54' x 8'. (v) 6' left as border around the
   plot. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947-19/0. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3620</td>
</tr>
<tr>
<td>2.</td>
<td>3484</td>
</tr>
<tr>
<td>3.</td>
<td>3361</td>
</tr>
<tr>
<td>4.</td>
<td>3319</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>94.7 lb./ac.</td>
</tr>
</tbody>
</table>

Crop := Paddy (Samba).

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' x 6'. (e) 2. (v) 6,000
   lb./ac. of G.L. (vi) CO. 2 (Medium). (vii) Irrigated. (viii) 2 weedicings. (ix) 7.69'. (x) 9.250.

2. TREATMENTS:
   1. A/S at 40 lb./ac. of N + Super at 10 lb./ac. of P_{2}O_{5}.
   2. A/S at 60 lb./ac. of N + Super at 15 lb./ac. of P_{2}O_{5}.
   3. A/S at 80 lb./ac. of N + Super at 20 lb./ac. of P_{2}O_{5}.
   4. A/S at 100 lb./ac. of N + Super at 25 lb./ac. of P_{2}O_{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' 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) 3192 lb./ac.
   (ii) 198.9 lb./ac.
   (iii) Treatment differences are significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2931</td>
</tr>
<tr>
<td>2.</td>
<td>3155</td>
</tr>
<tr>
<td>3.</td>
<td>3426</td>
</tr>
<tr>
<td>4.</td>
<td>3156</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 81.2 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Paddy (Kar).
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'×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:
   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) 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) 2867 lb./ac.
   (ii) 413.6 lb./ac.
   (iii) Treatment differences are not significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2800</td>
</tr>
<tr>
<td>2.</td>
<td>3096</td>
</tr>
<tr>
<td>3.</td>
<td>2892</td>
</tr>
<tr>
<td>4.</td>
<td>2679</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 168.8 lb./ac.</td>
</tr>
</tbody>
</table>
Crop :-Paddy (Samba).  
Ref :-M. 50(64)/50(62)/49(9,8)/48(64,65).

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 15 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 8'7. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1912</td>
</tr>
<tr>
<td>2.</td>
<td>1981</td>
</tr>
<tr>
<td>3.</td>
<td>2262</td>
</tr>
<tr>
<td>4.</td>
<td>2311</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>107.8 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :-Paddy.  
Ref :-M. 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) 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 (B2 alone).
1. 2 levels of basal dressing : B2=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.

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.

\[ B_1 = 1632 \text{ lb./ac.} \]

<table>
<thead>
<tr>
<th></th>
<th>( S_1 )</th>
<th>( S_2 )</th>
<th>Mean</th>
<th>( N_1 )</th>
<th>( N_2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>( B_0 )</td>
<td>2113</td>
<td>2027</td>
<td>2070</td>
<td>2016</td>
<td>2124</td>
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<tr>
<td>( B_1 )</td>
<td>2611</td>
<td>2528</td>
<td>2569</td>
<td>2536</td>
<td>2603</td>
</tr>
<tr>
<td>Mean</td>
<td>2362</td>
<td>2278</td>
<td>2320</td>
<td>2276</td>
<td>2364</td>
</tr>
</tbody>
</table>

S.E. of marginal means = 53.3 lb./ac.
S.E. of body of table = 75.3 lb./ac.

---

Crop: Paddy.

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) 31.12.52/36.1.53. (iv) (a) 5 ploughings. (b) Transplanting. (c) 2. (d) 6' x 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 (\( B_1 \) alone).

(1) 2 levels of basal dressing: \( B_0 = 0 \) and \( B_1 = 450 \) lb./ac. of lime+C.M. at 3 ton/ac.+Super at 30 lb./ac. of \( \text{P}_2\text{O}_5 \).

(2) 2 levels of N: \( N_1 = 40 \) and \( N_2 = 60 \) lb./ac. of N.

(3) 2 sources of N: \( S_1 = A/S \) and \( S_2 = C/N \).

and one plot receiving basal dressing of \( B_1 = 450 \) lb./ac. lime+C.M. at 3 ton/ac.+Super 30 lb./ac. of \( \text{P}_2\text{O}_5 \). Basal dressing given before planting; A/S and C/N given one month after planting.

3. DESIGN:

(i) R.B.D. (ii) 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) & (vii) Nil.

5. RESULTS:

(i) 2118 lb./ac.
(ii) 295.5 lb./ac.

(iii) '\( B_1 \) vs others' is highly significant. Main effects and interactions are not significant.
(iv) Av. yield of grain in lb./ac.

\[
\begin{array}{c|cc|c|cc}
& S_1 & S_2 & \text{Mean} & N_1 & N_2 \\
B_1 & 2282 & 2003 & 2143 & 2126 & 2159 \\
B_2 & 2231 & 2427 & 2329 & 2377 & 2284 \\
\hline
\text{Mean} & 2217 & 2215 & 2236 \\
N_1 & 2155 & 2348 & 2252 \\
N_2 & 2358 & 2082 & 2220 \\
\end{array}
\]

S.E. of marginal means = 66.0 lb./ac.
S.E. of body of table = 93.3 lb./ac.

Crop :- Paddy.
Site :- Central Sugarcane Res. Stn. Palur.
Ref :- M. 53(68).
Type :- 'M'.
Object :- To study the application of P\textsubscript{2}O\textsubscript{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\textsubscript{1} = Sesbania, G\textsubscript{2} = P. jillosa, G\textsubscript{3} = Wildindigo, G\textsubscript{4} = Daincha and G\textsubscript{5} = Sunnhemp.
(2) 3 methods of application of P\textsubscript{2}O\textsubscript{5} : M\textsubscript{0} = no P\textsubscript{2}O\textsubscript{5}, M\textsubscript{1} = 45 lb./ac. of P\textsubscript{2}O\textsubscript{5} applied through G.M. crop, M\textsubscript{2} = 45 lb./ac. of P\textsubscript{2}O\textsubscript{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.

<table>
<thead>
<tr>
<th>G\textsubscript{1}</th>
<th>G\textsubscript{2}</th>
<th>G\textsubscript{3}</th>
<th>G\textsubscript{4}</th>
<th>G\textsubscript{5}</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
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<td>2498</td>
<td>2735</td>
<td>2553</td>
<td>2654</td>
<td>2702</td>
</tr>
<tr>
<td>M\textsubscript{1}</td>
<td>2400</td>
<td>2861</td>
<td>2280</td>
<td>2736</td>
<td>2466</td>
</tr>
<tr>
<td>M\textsubscript{2}</td>
<td>2529</td>
<td>2470</td>
<td>2729</td>
<td>2595</td>
<td>2545</td>
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<tr>
<td>Mean</td>
<td>2476</td>
<td>2672</td>
<td>2518</td>
<td>2662</td>
<td>2571</td>
</tr>
</tbody>
</table>

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.  
Site: Central Sugarcane Res. Stn. Palur.  
Ref: M. 53(87).  
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"x6". (e) 2. (v) Nil. (vi) CO. 25. (Late) (vii) Irrigated. (viii) 2 weedings. (ix) 34.85.  
   
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: O1=G.M, O2=G.L and O3=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"x24". (b) 17.5"x23.5". (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.

<table>
<thead>
<tr>
<th></th>
<th>O1</th>
<th>O2</th>
<th>O3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td>3106</td>
<td>3393</td>
<td>3235</td>
<td>3311</td>
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<td>3014</td>
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<td>M3</td>
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</tr>
<tr>
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<td>3218</td>
<td>3030</td>
<td>3180</td>
<td>3142</td>
</tr>
</tbody>
</table>

S.E. of marginal means = 122.8 lb./ac.  
S.E. of body of table = 212.7 lb./ac.

Crop: Paddy.  
Site: Central Sugarcane Res. Stn. Palur.  
Ref: M. 53(89).  
Type: 'M'.

Object: To find out the economic dose of N and P2O5 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"x6". (e) 2. (v) Nil. (vi) CO. 25 (Late). (vii) Irrigated. (viii) 2 weedings. (ix) 35.85.  

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, P2O5 as Super. N applied one month after planting and P at the time of planting.
3. DESIGN:
(i) 4 × 4 Fert. in R.B.D. (ii) (a) 16. (b) N.A. (iii) A. (iv) A, B, C. (v) 32 × 10'. (vi) 31.5' × 9.5'. (vii) 1 row left as border row. (viii) 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) 3195 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.

<table>
<thead>
<tr>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
<th>Mean</th>
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<tr>
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<td>3508</td>
<td>3880</td>
<td>3468</td>
<td>3606</td>
<td>3616</td>
</tr>
</tbody>
</table>

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.
Site: Central Sugarcane Res., Stn, Palur.
Ref: M. 53 (92).
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. (f) Nil. (g) Cotton P 216 F; Paddy CO-
(h) 5.

2. TREATMENTS:
1. Cotton stalks ploughed in + G.L. at 6000 lb./ac. + Super at 100 lb./ac. + A/S at 100 lb./ac.
2. Cotton stalks ploughed in + Super at 100 lb./ac. + A/S at 100 lb./ac.
3. 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) 230.3 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
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<tr>
<td>2.</td>
<td>2218</td>
</tr>
<tr>
<td>3.</td>
<td>2291</td>
</tr>
</tbody>
</table>

S.E./mean = 80.9 lb./ac.
Crop :- Paddy (Kurrai).
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) 3 to 5 ploughings. (b) Transplanting. (c) nil. (d) 6" x 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$_2$O$_5$ : Po=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 x 4 Fact. in R.B.D. (ii) 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 x P is not significant.
   (iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th></th>
<th>N$_0$</th>
<th>N$_1$</th>
<th>N$_2$</th>
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<td>1283</td>
<td>1475</td>
<td>1359</td>
<td>1318</td>
</tr>
</tbody>
</table>

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.
3. DESIGN:
(i) 3 x 4 Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/20th acrn. (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.

<table>
<thead>
<tr>
<th>N_0</th>
<th>N_1</th>
<th>N_2</th>
<th>N_3</th>
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<td>2250</td>
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<td>2100</td>
<td>2338</td>
<td>2263</td>
</tr>
</tbody>
</table>

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).
Object :- To compare different types of G.L. as manures to Paddy.

Ref :- M. 48(52).
Type :- 'M'.

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'x6'. (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) 2380 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
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<tr>
<td>2.</td>
<td>3003</td>
</tr>
<tr>
<td>3.</td>
<td>2910</td>
</tr>
</tbody>
</table>

S.E./mean = 119.0 lb./ac.
Crop :- Paddy (Samba).

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) 28.7.49/2.9.49.
   (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) —. (d) 6'x6'. (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. Glycridia 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. | 3400 |
   3. | 163.3 lb./ac.


Crop :- Paddy (Kuruvai and Thaladi).

Object :- To find the effect of application of P2O5, 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, 10.48 (thaladi). (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) —. (d) 6'x6'. (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 P2O5 : P0=0, P1=30 and P2=60 lb./ac.
   (2) 2 levels of K2O : K0=0 and K1=60 lb./ac.
   (3) 6 doses of N : N0=0, N1=G.L. at 6003 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) 3×2×6 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) Nil. (vi) and (vii) Nil.
   (vii) Raw data N.A.
5. RESULTS:

1948 (55) Adi. 3 (Kuravai).

(i) 2345 lb./ac.
(ii) and (iii) N.A.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
<th>N₄</th>
<th>N₅</th>
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<th>K₂</th>
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<td>2669</td>
<td>2345</td>
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</table>

1948 (56) CO. 26 (Thaludii).

(i) 1506 lb./ac.
(ii) and (iii) N.A.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
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<th>N₃</th>
<th>N₄</th>
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Crop = Paddy (Kuravai).
Ref = M. 49(50).
Type = 'M'.

Object: — To find the effect of application of P₂O₅ Potash & G.L. with & without N.

1. BASAL CONDITIONS:

(i) Nil. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) Ref. soil analysis, Pattukottai (iii) 12,15.8.49.
(iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) — (d) 6'×6'. (e) 2. (v) Nil. (vi) Adi.3. (vii) Irrigated.
(viii) Weeding once. (ix) 14.67°. (x) 18,15.11.49.

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 K₂O: 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) 6×3×2 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.

<table>
<thead>
<tr>
<th></th>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
<th>N₄</th>
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</tbody>
</table>

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.  
Site:— Rice Res. Stn., Tirurkuppam.  
Ref:— M. 52(46).  
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) CO₂-13. (vii) Irrigated. (viii) Weeding about one month after planting. (ix) 1.04'. (x) 23,4,53.

2. TREATMENTS:
1. Control.
2. G.N.C. at 40 lb./ac. of N.
3. G.N.C. at 40 lb./ac. of N+Super at 80 lb./ac. of Pₒ₂₅ (broadcast).
4. G.N.C. at 40 lb./ac. of N+Dicalcium Phosphate at 80 lb./ac. of Pₒ₂₅ (broadcast).
5. G.N.C. at 40 lb./ac. of N+Super at 80 lb./ac. of Pₒ₂₅ (placed).
6. Treatment (2)+Dicalcium Phosphate at 80 lb./ac. of Pₒ₂₅ (placed).

3. DESIGN:
(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) 110'×20'. (b) 109'×19'. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
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<tr>
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<td>4.</td>
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<td>5.</td>
<td>1891</td>
</tr>
<tr>
<td>6.</td>
<td>1783</td>
</tr>
</tbody>
</table>

S.E./mean = 64.0 lb./ac.

Crop: Paddy.

Site: Rice Res. Stn., Tirurkuppam.

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, 191.1954. (iv) (a) 4 ploughings. (b) Planting in lines. (c) —. (d) 4' × 4'. (e) 2. (v) Nil. (vi) CO. 13. (vii) Irrigated. (viii) Weeding about 1 month after planting. (ix) Nil. (x) 14.4.1954.

2. TREATMENTS:
   1. Control (no manure)
   2. G.N.C. at 40 lb./ac. of N.
   3. G.N.C. at 40 lb./ac. of N+Super at 80 lb./ac. of P₂O₅ (broadcast).
   4. G.N.C. at 40 lb./ac. of N+Dicalcium Phos. at 80 lb./ac. of P₂O₅ (broadcast).
   5. G.N.C. at 40 lb./ac. of N+Super at 80 lb./ac. of P₂O₅ (placed).
   6. G.N.C. at 40 lb./ac. of N+Dicalcium Phos. at 80 lb./ac. of P₂O₅ (placed).

3. DESIGN:
   (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) 40' × 20'. (b) 39½' × 19½'. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1390</td>
</tr>
<tr>
<td>2.</td>
<td>2276</td>
</tr>
<tr>
<td>3.</td>
<td>2683</td>
</tr>
<tr>
<td>4.</td>
<td>2619</td>
</tr>
<tr>
<td>5.</td>
<td>2440</td>
</tr>
<tr>
<td>6.</td>
<td>2292</td>
</tr>
</tbody>
</table>

S.E./mean = 241.0 lb./ac.
Crop: Paddy (Samba).
Site: Rice Res. Stn., Tirurkuppam.
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) 23.8.49/10.10.49. (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) 133'×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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td>2028</td>
</tr>
<tr>
<td>2.</td>
<td>2880</td>
</tr>
<tr>
<td>3.</td>
<td>2542</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>148.9 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy (Samba).
Site: Rice Res. Stn., Tirurkuppam.
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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1284</td>
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<td>2.</td>
<td>1407</td>
</tr>
<tr>
<td>3.</td>
<td>1588</td>
</tr>
</tbody>
</table>

S.E./mean = 41.4 lb./ac.

Crop :- Paddy (Samba).

Site :- Rice Res. Stn., Tirurkuppam.

Ref :- M. 50(6).

Object :- To study 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) Same experiment was on these plots. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 30.5.50/3.11.50. (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) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>964</td>
</tr>
<tr>
<td>2.</td>
<td>1037</td>
</tr>
<tr>
<td>3.</td>
<td>1134</td>
</tr>
</tbody>
</table>

S.E./mean = 18.1 lb./ac.

Crop :- Paddy (Samba).

Site :- Rice Res. Stn., Tirurkuppam.

Ref :- M. 51(8).

Object :- To study the relative merits of night soil compost and F.Y.M. when applied on equal N basis.

(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' x 13'.  (b) 66' x 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) Yes 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.
   
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>916</td>
</tr>
<tr>
<td>2.</td>
<td>1372</td>
</tr>
<tr>
<td>3.</td>
<td>1081</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>49.9 lb/ac.</td>
</tr>
</tbody>
</table>

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Crop :- Paddy (*Sornavari*).
Site :- *Rice Res. Stn., Tirurkuppam*.

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' x 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' x 13'.  (b) 66' x 12'.  (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) Yes 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.
   
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1631</td>
</tr>
<tr>
<td>2.</td>
<td>1958</td>
</tr>
<tr>
<td>3.</td>
<td>1939</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>66.8 lb/ac.</td>
</tr>
</tbody>
</table>
Crop: Paddy.  
Site: Rice Res. Stn., Tirurkuppam.  

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' x 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' x 13'. (b) 66' x 12'. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2701</td>
</tr>
<tr>
<td>2</td>
<td>2993</td>
</tr>
<tr>
<td>3</td>
<td>3091</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>31.9 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy.  
Site: Rice Res. Stn., Tirurkuppam.  

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' x 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' x 7'. (b) 133' x 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) 1889 lb./ac.
(ii) 110.9 lb./ac.
(iii) Treatment differences are significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1865</td>
</tr>
<tr>
<td>2.</td>
<td>1778</td>
</tr>
<tr>
<td>3.</td>
<td>2024</td>
</tr>
</tbody>
</table>

S.E./mean = 45.3 lb./ac.

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Crop :- Paddy.
Site :- Rice Res. Stn., Tirurkuppam.

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) 66′ x 12′. 
(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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2880</td>
</tr>
<tr>
<td>2.</td>
<td>3138</td>
</tr>
<tr>
<td>3.</td>
<td>3077</td>
</tr>
</tbody>
</table>

S.E./mean = 143.6 lb./ac.

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Crop :- Paddy.
Site :- Rice Res. Stn., Tirurkuppam.

Object :- To find out the effect of the application of phosphatic manure directly 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.
1. No G.M. crop.
2. G.M. crop alone.
3. 30 lb./ac. of P₂O₅ as Super to G.M. crop.
4. 45 lb./ac. of P₂O₅ to G.M. crop.
5. G.M.+30 lb./ac. of P₂O₅ as Super to G.M. crop.
6. G.M.+45 lb./ac. of P₂O₅ to paddy at planting.
7. 60 lb./ac. of P₂O₅ to paddy.
8. G.M.+60 lb./ac. of P₂O₅ as Super to paddy at planting.

3. DESIGN:
(i) R.E.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 76' x 16'. (b) 73' x 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
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<td>1.</td>
<td>834</td>
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<td>2.</td>
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<td>3.</td>
<td>1706</td>
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<td>4.</td>
<td>1255</td>
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<tr>
<td>5.</td>
<td>1557</td>
</tr>
<tr>
<td>6.</td>
<td>1425</td>
</tr>
<tr>
<td>7.</td>
<td>1557</td>
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<tr>
<td>8.</td>
<td>1522</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>71.6 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy.  
Site: Rice Res. Stn., Tirurkuppam.  
Type: 'M'.  
Ref: M. 52(47).

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' x 15'. (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 P₂O₅ alone as Super to be applied at the time of planting.
3. Sunnhemp grown without P₂O₅ but 45 lb./ac. of P₂O₅ as Super applied at the time of planting paddy.
4. Sunnhemp grown with 45 lb./ac. of P₂O₅ as Super.
5. Daincha grown without P₂O₅ but 45 lb./ac. of P₂O₅ as Super applied at the time of planting paddy.
6. Daincha grown with 45 lb./ac. of P₂O₅ as Super.
7. Sesbania grown without P₂O₅ but 45 lb./ac. of P₂O₅ as Super applied at the time of planting paddy.
8. Sesbania grown with 45 lb./ac. of P₂O₅ as Super.

3. DESIGN:
(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 72' x 16'. (b) 71' x 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
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<td>1</td>
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<td>1450</td>
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<td>3</td>
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</tr>
<tr>
<td>7</td>
<td>1670</td>
</tr>
<tr>
<td>8</td>
<td>1690</td>
</tr>
</tbody>
</table>

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

Crop: Paddy.  
Site: Rice Res. Stn., Tirurkuppam.  
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.  
(iv) (a) 4—6 ploughings. (b) Planting in lines. (c)—. (d) 6"x6".  
(v) Nil. (vi) CO.-2. (vii) Irrigated. (viii) Weeding one month after planting. (ix) 27.91".  
(x) 8.4.51.

2. TREATMENTS:
Main-plot treatments:
3 G.M. crops: G1=Sunnhemp, G2=Daincha and G3=Sesbania.
Sub-plot treatments:
Application of P2O5: P0=O, P1=45 lb./ac. of P2O5 through G.M. crop and P2=45 lb./ac. of P2O5 direct to paddy crop.

3. DESIGN:
(i) Spilt-plot. (ii) (a) 4 main-plots/block and 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 75'x14';  
(b) 7"x13'. (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.

<table>
<thead>
<tr>
<th></th>
<th>G1</th>
<th>G2</th>
<th>G3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>P0</td>
<td>820</td>
<td>872</td>
<td>810</td>
<td>833</td>
</tr>
<tr>
<td>P1</td>
<td>818</td>
<td>899</td>
<td>820</td>
<td>845</td>
</tr>
<tr>
<td>P2</td>
<td>780</td>
<td>942</td>
<td>1120</td>
<td>947</td>
</tr>
<tr>
<td>Mean</td>
<td>805</td>
<td>903</td>
<td>916</td>
<td>875</td>
</tr>
</tbody>
</table>

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.  
Site : Rice Res. Stn., Tirurkuppam.  
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" x 6". (e) 2 or 3. (v) Nil.  

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' x 7'. (b) 46' x 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.  

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 | S.E./mean
   --- | --- | ---
   1 | 736 | =54.4 lb./ac.
   2 | 941 | 

---

Crop : Paddy.  
Site : Rice Res. Stn., Tirurkuppam.  
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" x 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' x 12'. (b) 29' x 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 utilized 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1327</td>
</tr>
<tr>
<td>2.</td>
<td>816</td>
</tr>
</tbody>
</table>

S E./mean = 81.0 lb./ac.

Crop :- Paddy.

Site :- Rice Res. Stn., Tirurkuppam.

Ref :- M. 52 (48).

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:

1. Paddy sown alone.

2. Paddy sown with sunnhemp in lines 2' apart, pulling out and trampling 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1022</td>
</tr>
<tr>
<td>2.</td>
<td>1493</td>
</tr>
</tbody>
</table>

S.E./mean = 36.5 lb./ac.

Crop :- Paddy.

Site :- Rice Res. Stn., Tirurkuppam.

Ref :- M. 53 (28).

Type :- 'M'.

Object :- To find out a suitable method of green manuring semi-dry Paddy.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Navarai 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 sow 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'x12'. (b) 41'x11'. (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) Nil. (vi) Nil. (vii) and (viii) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>293</td>
</tr>
<tr>
<td>2.</td>
<td>297</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>2.22 lb./ac.</td>
</tr>
</tbody>
</table>

Crop := Paddy.
Site := Rice. Res. Stn., Tiruruppam.
Object := To find out the residual effect of P2O5 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, Tiruruppam. (iii) 23.8.49/13.10.49. (iv) (a) 5 ploughings. (b) Transplanting. (c)… (d) 6'x6'. (e) 2. (f) Nil. (vii) CO. 19 (late). (viii) Irrigated. (ix) Weeding once. (ix) 27.96°. (x) 13.2.49.

2. TREATMENTS:
1. 30 lb./ac. of P2O5 (Super) to G.M. crop preceding paddy.
2. 30 lb./ac. of P2O5 (B.M.) to G.M. crop preceding paddy.
3. No P2O5 to G.M. crop but 30 lb./ac. of P2O5 (Super) to paddy direct.

3. DESIGN:
(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 65'x21'. (b) 65'x20'. (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) 2847 lb./ac.
(ii) 274.6 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2184</td>
</tr>
<tr>
<td>2.</td>
<td>1854</td>
</tr>
<tr>
<td>3.</td>
<td>2224</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>112.1 lb./ac.</td>
</tr>
</tbody>
</table>
Crop :- Paddy.  
Site :- Rice Res. Stn., Tirurkuppam.  
Object :- To study the effect of P₂O₅ 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) Nil.  
(d) 6" x 6".  
(e) 2.  
(v) Nil.  
(vi) CO-19 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 20.06. (x) 14.2.51.

2. TREATMENTS:

1. 30 lb./ac. of P₂O₅ as Super to G.M. crop preceding Paddy.  
2. 30 lb./ac. of P₂O₅ as B.M. to G.M. crop preceding Paddy.  
3. No P₂O₅ to G.M. crop but 30 lb./ac. of P₂O₅ 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' x 21'. (b) 65' x 20'. (v) One row all round the net plot.

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.

Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3014</td>
</tr>
<tr>
<td>2.</td>
<td>2738</td>
</tr>
<tr>
<td>3.</td>
<td>3189</td>
</tr>
</tbody>
</table>

S.E./mean = 132.6 lb./ac.

Crop :- Paddy.  
Site :- Rice Res. Stn., Tirurkuppam.  
Object :- To find the effect of P₂O₅ 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) 6" x 6".  
(e) 2.  
(v) Nil.  

2. TREATMENTS:

1. Super at 30 lb./ac. of P₂O₅.  
2. B.M. at 30 lb./ac. of P₂O₅.  
3. No P₂O₅.

3. DESIGN:

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 66' x 21'. (b) 65' x 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.
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, Tirurkupparn. (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 P₂O₅ as Super.
2. 30 lb./ac. of P₂O₅ as B.M.
3. No P₂O₅ 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1129</td>
</tr>
<tr>
<td>2.</td>
<td>961</td>
</tr>
<tr>
<td>3.</td>
<td>976</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>58.7 lb./ac.</td>
</tr>
</tbody>
</table>

Object: To find the effect of application of P₂O₅ in the form of Super and B.M. without a basal dressing of greenleaf.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Fallow. (c) Nil. (d) (a) Sandy loam. (b) Refer soil analysis, Tirurkupparn. (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\(_2\)O\(_5\) as Super.
   2. 30 lb./ac. of P\(_2\)O\(_5\) as B.M.
   3. No. P\(_2\)O\(_5\).

P\(_2\)O\(_5\) applied at the time of planting.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 66'×21.5'. (b) 65'×20.5'. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1259</td>
</tr>
<tr>
<td>2.</td>
<td>1105</td>
</tr>
<tr>
<td>3.</td>
<td>1144</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>42.3 lb./ac.</td>
</tr>
</tbody>
</table>

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'×4'. (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\(_2\)O\(_5\) as Super.
   2. 30 lb./ac. of P\(_2\)O\(_5\) as B.M.
   3. No. P\(_2\)O\(_5\).

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 64'×12'. (b) 63.3'×11.3'. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1324</td>
</tr>
<tr>
<td>2.</td>
<td>1125</td>
</tr>
<tr>
<td>3.</td>
<td>1231</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>90.3 lb./ac.</td>
</tr>
</tbody>
</table>
Crop: Paddy. (Sambar).

Site: Rice Res. Stn., Tirukkuppam.

Object: To compare ultra Phos. with Super.

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, Tirukkuppam. (iii) 8.10.49/21.11.49. (iv) (a) 5 ploughings. (b) Transplanting. (c) 6' x 6'. (d) 2. (e) 5000 lb./ac. of G.L. (vi) CO. 5 (Medium). (vii) Irrigated. (viii) Weeding once. (ix) 16.5'. (x) 23.3'.

2. TREATMENTS:
   All combinations of (1) and (2) + one control (no manure)
   (1) 2 levels of P<sub>2</sub>O<sub>5</sub>: P<sub>1</sub>=30 and P<sub>2</sub>=45 lb./ac.
   (2) 2 sources of P<sub>2</sub>O<sub>5</sub>: S<sub>1</sub>=Super and S<sub>2</sub>=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.

<table>
<thead>
<tr>
<th></th>
<th>S&lt;sub&gt;1&lt;/sub&gt;</th>
<th>S&lt;sub&gt;2&lt;/sub&gt;</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
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<td>1459</td>
<td>1436</td>
<td>1447</td>
</tr>
<tr>
<td>P&lt;sub&gt;2&lt;/sub&gt;</td>
<td>1480</td>
<td>1418</td>
<td>1449</td>
</tr>
</tbody>
</table>

   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).

Object: I (a) To study the effect of types and levels of N and P on non-acidic soils.

1. BASAL CONDITIONS:

2. TREATMENTS:
   All combinations of (1), (2) and (3) + 3 extra treatments.
   (1) 3 levels of N: N<sub>0</sub>=0, N<sub>1</sub>=20 and N<sub>2</sub>=40 lb./ac.
   (2) 3 sources of N: A/S, A/N and Urea.
   (3) 3 levels of P<sub>2</sub>O<sub>5</sub>: P<sub>0</sub>=0, P<sub>1</sub>=20 and P<sub>2</sub>=40 lb./ac.
   and 3 extra treatments:
   S<sub>1</sub>=60 lb./ac. of N+40 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
   S<sub>2</sub>=40 lb./ac. of N+60 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
   S<sub>3</sub>=60 lb./ac. of N+80 lb./ac. of P<sub>2</sub>O<sub>5</sub>.

N as A/S and P<sub>2</sub>O<sub>5</sub> as triple Super. Manuring done on 18.11.53.
3. DESIGN:
(i) 3\textsuperscript{rd} 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.

<table>
<thead>
<tr>
<th>N\textsubscript{0}</th>
<th>N\textsubscript{1}</th>
<th>N\textsubscript{2}</th>
<th>Mean</th>
<th>A/S</th>
<th>A/N</th>
<th>Urea</th>
</tr>
</thead>
<tbody>
<tr>
<td>306</td>
<td>434</td>
<td>644</td>
<td>461</td>
<td>402</td>
<td>531</td>
<td>451</td>
</tr>
<tr>
<td>571</td>
<td>547</td>
<td>756</td>
<td>625</td>
<td>628</td>
<td>660</td>
<td>587</td>
</tr>
<tr>
<td>354</td>
<td>789</td>
<td>724</td>
<td>622</td>
<td>636</td>
<td>652</td>
<td>579</td>
</tr>
</tbody>
</table>

Mean of 3 extra treatments

\[ S_1 = 998 \text{ lb./ac.} \]
\[ S_2 = 692 \text{ lb./ac.} \]
\[ S_3 = 933 \text{ lb./ac.} \]

S.E. of mean is the body of P x (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 x 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 N\textsubscript{1} or N\textsubscript{2} = 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:
2. TREATMENTS:
5 treatments replicated in each block as follows:
(1) O = Untreated, 1 plot/block.
(2) C = Control, 6 plots/block.
(3) P1 = 1 unit dressing, 1 plot/block.
(4) P2 = 1 unit dressing, 2 plots/block.
(5) P3 = 2 unit dressing, 2 plots/block.
Unit dressing of Phosphate = 20 lb./ac. of P2O5.
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. (y) (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>2112</td>
<td>101.7</td>
</tr>
<tr>
<td>C</td>
<td>2506</td>
<td>41.5</td>
</tr>
<tr>
<td>P1</td>
<td>2552</td>
<td>101.7</td>
</tr>
<tr>
<td>P2</td>
<td>2532</td>
<td>71.9</td>
</tr>
<tr>
<td>P3</td>
<td>2368</td>
<td>71.9</td>
</tr>
</tbody>
</table>

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. (d) N.A. (e) Clayey loam. (f) N.A. (g) 11.9.53/2.11.53. (h) N.A. (i) N.A. (j) CO-23. (k) Irrigated. (l) N.A. (m) N.A. (n) 8.4.54.

2. TREATMENTS:
All combinations of (1), (2) and (3)
(1) 3 levels of N as A/S : N0 = 0, N1 = 20 and N2 = 40 lb./ac.
(2) 3 levels of P2O5 as Super : P0 = 0, P1 = 20 and P2 = 40 lb./ac.
(3) 3 levels of bulky manures : F0 = 0, F1 = 10 C.L./ac. and F2 = 20 C.L./ac.
Manures applied before last puddling.

3. DESIGN:
(i) 3 factorial in R.B.D. (confounded). (ii) (a) 9 plots/block and 3 blocks/repetition. (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. (y) (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.
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.
   (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' x 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1625</td>
</tr>
<tr>
<td>2</td>
<td>1977</td>
</tr>
<tr>
<td>3</td>
<td>2259</td>
</tr>
</tbody>
</table>

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:

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 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 fields. (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) 2290 lb./ac.
   (ii) 724 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:

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) 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 1952.) (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2124</td>
</tr>
<tr>
<td>2.</td>
<td>2552</td>
</tr>
<tr>
<td>3.</td>
<td>2634</td>
</tr>
</tbody>
</table>

S.E./mean = 153.4 lb./ac.

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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 ‘padi’ fields in Tanjaver District.

1. BASAL CONDITIONS:

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’ 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
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<tr>
<td>2.</td>
<td>2576</td>
</tr>
<tr>
<td>3.</td>
<td>2709</td>
</tr>
</tbody>
</table>

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

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<sub>2</sub>O<sub>5</sub> 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) 106.9' 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) &
   (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 :

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<sub>2</sub>O<sub>5</sub> 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) 1951-54. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2656</td>
</tr>
<tr>
<td>2.</td>
<td>2580</td>
</tr>
<tr>
<td>3.</td>
<td>2744</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 170.2 lb./ac.</td>
</tr>
</tbody>
</table>

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:


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’ 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) & (c) N.A. (v) N.A. (vi) & (vii) Nil.

5. RESULTS:

(i) 3104 lb./ac.
(ii) 282.4 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2920</td>
</tr>
<tr>
<td>2.</td>
<td>3083</td>
</tr>
<tr>
<td>3.</td>
<td>3310</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 141.2 lb./ac.</td>
</tr>
</tbody>
</table>

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:

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'x29'. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2826</td>
</tr>
<tr>
<td>2</td>
<td>3326</td>
</tr>
<tr>
<td>3</td>
<td>2810</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>319.4 lb./ac.</td>
</tr>
</tbody>
</table>

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:

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'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) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2222</td>
</tr>
<tr>
<td>2</td>
<td>2230</td>
</tr>
<tr>
<td>3</td>
<td>2707</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>269.7 lb./ac.</td>
</tr>
</tbody>
</table>
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:

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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1302</td>
</tr>
<tr>
<td>2.</td>
<td>1426</td>
</tr>
<tr>
<td>3.</td>
<td>1777</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>223.0 lb./ac.</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1939</td>
<td>3744 lb./ac.</td>
</tr>
<tr>
<td>2.</td>
<td>2346</td>
<td>3744 lb./ac.</td>
</tr>
<tr>
<td>3.</td>
<td>2368</td>
<td>3744 lb./ac.</td>
</tr>
</tbody>
</table>

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 Tanjaur 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.

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'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) 1968 lb./ac.
(ii) 118.4 lb./ac.
(iii) Treatment differences are highly significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1846</td>
<td>59.2 lb./ac.</td>
</tr>
<tr>
<td>2.</td>
<td>1748</td>
<td>59.2 lb./ac.</td>
</tr>
<tr>
<td>3.</td>
<td>2034</td>
<td>59.2 lb./ac.</td>
</tr>
<tr>
<td>4.</td>
<td>2246</td>
<td>59.2 lb./ac.</td>
</tr>
</tbody>
</table>
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:

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 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) 2 fields. (iii) (a) 25 cents. (b) 108.9'x29'.

4. GENERAL:
   (j) 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.
   (iv) Av. yield of grain in lb./ac.
   \[
   \begin{array}{|c|c|}
   \hline
   \text{Treatment} & \text{Av. yield} \\
   \hline
   1. & 1650 \\
   2. & 1567 \\
   3. & 1758 \\
   4. & 1900 \\
   \hline
   \text{S.E./mean} & = 29.6 lb./ac. \\
   \hline
   \end{array}
   \]

---

Crop: Paddy (Samba). 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:

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 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) 2 fields. (iii) (a) 25 cents. (b) 108.9'x29'. (iv) N.A.
GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Plant height and tiller counts and grain yield. (iv) (a) 1951-54 (modified in 1952). (b) N.A. (c) No A. (v) N.A. (vi) and (vii) Nil.

RESULTS:

(i) 2345 lb./ac.
(ii) 141.9 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2107</td>
</tr>
<tr>
<td>2.</td>
<td>2189</td>
</tr>
<tr>
<td>3.</td>
<td>2461</td>
</tr>
<tr>
<td>4.</td>
<td>2622</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>103.4 lb./ac.</td>
</tr>
</tbody>
</table>

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:


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 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) 5 fields. (iii) (a) 25 cents. (b) 108.9'x29'. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1466</td>
</tr>
<tr>
<td>2.</td>
<td>1700</td>
</tr>
<tr>
<td>3.</td>
<td>1937</td>
</tr>
<tr>
<td>4.</td>
<td>2067</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>51.0 lb./ac.</td>
</tr>
</tbody>
</table>
Crop: Paddy (Samba). Ref: Scheme for manural trials (Stewart's Scheme). 1952.
Centre: Tirurarur (Madras) Type: 'M'.

Object: To find out the response to a particular manural recommendation for Paddy under local variations in ryots' fields in Tanjavur District.

1. BASAL CONDITIONS:

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 P₂O₅ 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'x29'.

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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1300</td>
</tr>
<tr>
<td>2.</td>
<td>1511</td>
</tr>
<tr>
<td>3.</td>
<td>1922</td>
</tr>
<tr>
<td>4.</td>
<td>2083</td>
</tr>
</tbody>
</table>
S.E./mean = 118.5 lb./ac.
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) 309.0 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1832</td>
</tr>
<tr>
<td>2.</td>
<td>1955</td>
</tr>
<tr>
<td>3.</td>
<td>2062</td>
</tr>
<tr>
<td>4.</td>
<td>2329</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>138.2 lb./ac.</td>
</tr>
</tbody>
</table>

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 fields in Tanjavur District.

1. BASAL CONDITIONS:


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'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) 1963 lb./ac.
(ii) 183.4 lb./ac.
(iii) Treatment differences are significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1846</td>
</tr>
<tr>
<td>2.</td>
<td>1823</td>
</tr>
<tr>
<td>3.</td>
<td>2005</td>
</tr>
<tr>
<td>4.</td>
<td>2177</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>74.9 lb./ac.</td>
</tr>
</tbody>
</table>
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 :

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 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 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1641</td>
</tr>
<tr>
<td>2.</td>
<td>1833</td>
</tr>
<tr>
<td>3.</td>
<td>1792</td>
</tr>
<tr>
<td>4.</td>
<td>2515</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>133.3 lb./ac.</td>
</tr>
</tbody>
</table>

---

Crop : Paddy (Samba). Ref : Scheme for manurial trials (Stewarts' Scheme), 1952. Centre : Tirurapipundi (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 :

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 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) 7 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:

(i) 1188 lb./ac.
(ii) 304.1 lb./ac.
(iii) Treatment differences are highly significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>952</td>
</tr>
<tr>
<td>2.</td>
<td>897</td>
</tr>
<tr>
<td>3.</td>
<td>1147</td>
</tr>
<tr>
<td>4.</td>
<td>1754</td>
</tr>
</tbody>
</table>

S.E./mean = 115.2 lb./ac.

Crop: Paddy (Samba). Ref: Scheme for manurial trials (Stewart's Scheme), 1952.
Centre: Papanasam.

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:


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<sub>2</sub>O<sub>5</sub> 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'×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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2134</td>
</tr>
<tr>
<td>2.</td>
<td>2046</td>
</tr>
<tr>
<td>3.</td>
<td>2073</td>
</tr>
<tr>
<td>4.</td>
<td>2909</td>
</tr>
</tbody>
</table>

S.E./mean = 172.8 lb./ac.

Crop: Paddy (Thaladi). Ref: Scheme for manurial trials (Stewart's Scheme), 1952.
Centre: Mayuram (Madras).

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:

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'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) 1407 lb./ac.
(ii) 47.7 lb./ac.
(iii) Treatment differences are highly significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1057</td>
</tr>
<tr>
<td>2.</td>
<td>1513</td>
</tr>
<tr>
<td>3.</td>
<td>1410</td>
</tr>
<tr>
<td>4.</td>
<td>1647</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>33.7 lb./ac.</td>
</tr>
</tbody>
</table>

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:

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'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) 1448 lb./ac.
(ii) 295.5 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1206</td>
</tr>
<tr>
<td>2.</td>
<td>1537</td>
</tr>
<tr>
<td>3.</td>
<td>1605</td>
</tr>
<tr>
<td>4.</td>
<td>1446</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>209.0 lb./ac.</td>
</tr>
</tbody>
</table>
Crop :- Paddy (Kuruvai). Ref :- Scheme for manurai 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:

2. TREATMENTS:
   1. Ryots' method - C.M. at 8-10 C.L.fac.
   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 P₂O₅ 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) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1947</td>
</tr>
<tr>
<td>2.</td>
<td>2006</td>
</tr>
<tr>
<td>3.</td>
<td>2399</td>
</tr>
<tr>
<td>4.</td>
<td>2498</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>190.1 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Paddy (Kuruvai). Ref :- Scheme for manurai 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:

2. TREATMENTS:
   1. Ryots' method - C.M. 8-10 C.L.fac.
   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 P₂O₅ 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 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1893</td>
</tr>
<tr>
<td>2</td>
<td>1963</td>
</tr>
<tr>
<td>3</td>
<td>2060</td>
</tr>
<tr>
<td>4</td>
<td>2220</td>
</tr>
</tbody>
</table>

S.E./mean = 71.6 lb./ac.

Crop :- Paddy (Samba). Ref :- Scheme for manurial trials (Stewart’s Scheme), 1953.
Centre :- Pattukkottai (Madras).
Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in ryots’ fields in Tanjavar District.

1. BASAL CONDITIONS:


2. TREATMENTS:

1. Ryots’ method CM. 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 P₂O₅ 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’.

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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1479</td>
</tr>
<tr>
<td>2</td>
<td>1415</td>
</tr>
<tr>
<td>3</td>
<td>1560</td>
</tr>
<tr>
<td>4</td>
<td>1850</td>
</tr>
</tbody>
</table>

S.E./mean = 59.3 lb./ac.

Crop :- Paddy. (Samba). Ref :- Scheme for manurial trials (Stewart’s Scheme), 1953.
Centre :- Tanjavar. Type :- ‘M’.
Object :- To find out the average response to a particular manurial recommendation for Paddy under local variations in ryots’ fields in Tanjavar District.

1. BASAL CONDITIONS:

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 P₂O₅ 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' 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) & (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2165</td>
</tr>
<tr>
<td>2.</td>
<td>2216</td>
</tr>
<tr>
<td>3.</td>
<td>2333</td>
</tr>
<tr>
<td>4.</td>
<td>2508</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>67.2 lb./ac.</td>
</tr>
</tbody>
</table>

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:


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 P₂O₅ 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' 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) & (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.
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 :

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 $P_{2}O_{5}$ as Super.
      A/S applied as top-dressing 5—6 weeks after transplantion.
      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'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) and (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :
   (i) 2624 lb./ac.
   (ii) 204.2 lb./ac.
   (iii) Treatment differences are significant.
   (iv) 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 :
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 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) 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:
(i) 2307 lb./ac.
(ii) 423.0 lb./ac.
(iii) Treatment differences are significant.
(iv) Av. yield of grain in lb./ac. of

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2048</td>
<td>171.5 lb./ac.</td>
</tr>
<tr>
<td>2.</td>
<td>2009</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>2395</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>2774</td>
<td></td>
</tr>
</tbody>
</table>

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:

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 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) 6 fields. (iii) (a) 25 cents. (b) 108.9' x 29'.

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.
Crop :- Paddy (Samba). Ref :- Scheme for manurial trials (Stewart's Scheme), 1953.
Centre :- Nagapattinam (Madras).

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 :

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 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'x29'. (iv) N.A.

4. GENERAL :
   (i) Satisfactory. (ii) N.A. (ii) 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 :
   (i) 3567 lb./ac.
   (ii) 94.2 lb./ac.
   (iii) Treatment differences are significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3324</td>
</tr>
<tr>
<td>2.</td>
<td>3405</td>
</tr>
<tr>
<td>3.</td>
<td>3722</td>
</tr>
<tr>
<td>4.</td>
<td>3816</td>
</tr>
</tbody>
</table>

S.E./mean = 47.1 lb./ac.

Crop :- Paddy (Samba). Ref :- Scheme for manurial trials (Stewart's Scheme), 1953.
Centre :- Kumbakonam (Madras).

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 :
2. "TREATMENTS:
1. Ryot's 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 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) 1895 lb./ac.
(ii) 171.2 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2183</td>
</tr>
<tr>
<td>2.</td>
<td>2380</td>
</tr>
<tr>
<td>3.</td>
<td>2814</td>
</tr>
<tr>
<td>4.</td>
<td>2792</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>58.9 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Paddy (Samba). Ref :- Scheme for manural trials (Stewart's Scheme), 1953.
Centre :- Mayuram (Madras). Type :- 'M'.
Object :- To find out the average response to a particular manural recommendation for Paddy under local variations in ryots' fields in Tanjavur district.

1. BASAL CONDITIONS:

2. TREATMENTS:
1. "Ryot's" 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 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1846</td>
</tr>
<tr>
<td>2.</td>
<td>1733</td>
</tr>
<tr>
<td>3.</td>
<td>1962</td>
</tr>
<tr>
<td>4.</td>
<td>2040</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>85.6 lb./ac.</td>
</tr>
</tbody>
</table>
Crop: => Paddy (Samba). Ref: => Scheme for manurial trials (Stewart’s Scheme), 1953.
Centre: => Sirkali (Madras).
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:

2. TREATMENTS:
1. Ryots’ method: => C.M. at 8 to 10 C.L./ac.
2. G.M. 5.0:30 lb./ac. (control).
3. (2)+30 lb./ac. of N as A/S.
4. (3)+30 lb./ac. of PbO₅ as Super.
Super 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’X29’. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2880</td>
</tr>
<tr>
<td>2.</td>
<td>2230</td>
</tr>
<tr>
<td>3.</td>
<td>2392</td>
</tr>
<tr>
<td>4.</td>
<td>2692</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>165.1 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: => Paddy (Thaladi). Ref: => Scheme for manurial trials (Stewart’s Scheme), 1953.
Centre: => Tanjavur (Madras).
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:

2. TREATMENTS:
1. Ryots’ method: => C.M. at 8 to 10 C.L./ac.
2. G.M. 5.0:30 lb./ac. (control).
3. (2)+30 lb./ac. of N as A/S.
4. (3)+30 lb./ac. of PbO₅ 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’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) 1954 lb./ac.
   (ii) 215.5 lb./ac.
   (iii) Treatment differences are significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1730</td>
</tr>
<tr>
<td>2.</td>
<td>1800</td>
</tr>
<tr>
<td>3.</td>
<td>2103</td>
</tr>
<tr>
<td>4.</td>
<td>2185</td>
</tr>
</tbody>
</table>
S.E./mean = 88.0 lb./ac.

Crop: Paddy.  Ref: Scheme for manural trials (Stewart’s Scheme), 1953.
Centre: Papanasam (Madras).  Type: ‘M’.

Object: To find out the average response to a particular manural recommendation for Paddy under local variations in ryots’ fields in Tanjavour district.

1. BASAL CONDITIONS:

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’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) 999 lb./ac.
   (ii) 103.9 lb./ac.
   (iii) Treatment differences are not significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>923</td>
</tr>
<tr>
<td>2.</td>
<td>982</td>
</tr>
<tr>
<td>3.</td>
<td>965</td>
</tr>
<tr>
<td>4.</td>
<td>1125</td>
</tr>
</tbody>
</table>
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:

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 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: Tiruturapudi (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:

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 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' 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.
Crop: Paddy (*Thaladi*). Ref: Scheme for manurial trials (Stewart’s Scheme), 1953.

Centre: Pattukkottai (Madras).

**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:


### 2. TREATMENTS:

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 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’.

### 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) N.A. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>826</td>
</tr>
<tr>
<td>2.</td>
<td>868</td>
</tr>
<tr>
<td>3.</td>
<td>971</td>
</tr>
<tr>
<td>4.</td>
<td>1128</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>42.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy (*Thaladi*). Ref: Scheme for manurial trials (Stewart’s Scheme), 1953.

Centre: Nānniḻām (Madras).

**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:

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) 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)

5. RESULTS:
(i) 2702 lb./ac.
(ii) 299.6 lb./ac.
(iii) Treatment differences are significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2021</td>
</tr>
<tr>
<td>2.</td>
<td>2270</td>
</tr>
<tr>
<td>3.</td>
<td>2416</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>80.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop:—Paddy (Thaladi). Ref.—Scheme for manurial trials (Stewart's Scheme), 1953.
Centre:—Negapattanam (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) Obt ober, 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.
   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, 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.
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:

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 AJS.
   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’.

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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2175</td>
</tr>
<tr>
<td>2.</td>
<td>2184</td>
</tr>
<tr>
<td>3.</td>
<td>2401</td>
</tr>
<tr>
<td>4.</td>
<td>2372</td>
</tr>
</tbody>
</table>

   S.E./mean = 90.0 lb./ac.

Crop :—Paddy (Thaladi). Ref :—Scheme for manurial trials (Stewart's Scheme), 1953.
Centre :—Kumbakonam (Madras). Type :—'M'.
2. **TREATMENTS:**

2. G.M. 5,000 lb./ac. (Control).
3. (3)+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) 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) 1131 lb./ac.
(ii) 88.2 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1244</td>
</tr>
<tr>
<td>2.</td>
<td>1275</td>
</tr>
<tr>
<td>3.</td>
<td>1337</td>
</tr>
<tr>
<td>4.</td>
<td>1386</td>
</tr>
</tbody>
</table>
| S.E./mean | 36.0 lb./ac.

_Crop:_ Paddy (*Thaladi*). _Ref:_ Scheme for manural trials (Stewart’s Scheme), 1953. _Centre:_ Sirkali (Madras). _Type:_ 'M'.

Object: — To find out the average response to a particular manural recommendation for Paddy under local variations in *ryots'* fields in Tanjavour district.

1. **BASAL CONDITIONS:**


2. **TREATMENTS:**

2. G.M. 5,000 lb./ac. (control).
3. (3)+30 lb./ac. of N as A/S.
4. (3)+30 lb./ac. of P₂O₅ 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' 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) 2379 lb./ac.
(ii) 368.0 lb./ac.
(iii) Treatment differences are not significant.
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:

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) Nil.

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  | S.E./mean     | Av. yield |
   1.         | 2418       | 58.3 lb./ac.  |
   2.         | 2567       |               |
   3.         | 2770       |               |
   4.         | 2854       |               |

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:
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 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) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2350</td>
</tr>
<tr>
<td>2.</td>
<td>2564</td>
</tr>
<tr>
<td>3.</td>
<td>2428</td>
</tr>
<tr>
<td>4.</td>
<td>2593</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>53.8 lb./ac.</td>
</tr>
</tbody>
</table>

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:

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) 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) 2734 lb./ac.
(ii) 244.9 lb./ac.
(iii) Treatment differences are significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2438</td>
</tr>
<tr>
<td>2.</td>
<td>2625</td>
</tr>
<tr>
<td>3.</td>
<td>2928</td>
</tr>
<tr>
<td>4.</td>
<td>2944</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>100.0 lb./ac.</td>
</tr>
</tbody>
</table>
Crop :- Paddy (Kuruvai). Ref :-Scheme for manurial trials (Stewart’s Scheme), 1953.
Centre :- Tirururaipondi (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 :

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) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1963</td>
</tr>
<tr>
<td>2.</td>
<td>2704</td>
</tr>
<tr>
<td>3.</td>
<td>3154</td>
</tr>
<tr>
<td>4.</td>
<td>3050</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>166.2 lb./ac.</td>
</tr>
</tbody>
</table>

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 in Tanjavur district.

1. BASAL CONDITIONS :

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) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1706</td>
</tr>
<tr>
<td>2.</td>
<td>1917</td>
</tr>
<tr>
<td>3.</td>
<td>2191</td>
</tr>
<tr>
<td>4.</td>
<td>2313</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>145.6 lb./ac.</td>
</tr>
</tbody>
</table>

Crop:— Paddy (Kuruvai). Ref:— Scheme for manural trials (Stewart’s Scheme), 1953. Centre:— Sirkali (Madras). Type:— ‘M’.

Object:—To find out the average response to a particular manural recommendation for Paddy under local variations in ryots’ fields in Tanjavur district.

1. BASAL CONDITIONS:

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’×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) & (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3079</td>
</tr>
<tr>
<td>2.</td>
<td>3079</td>
</tr>
<tr>
<td>3.</td>
<td>3113</td>
</tr>
<tr>
<td>4.</td>
<td>2775</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>218.9 lb./ac.</td>
</tr>
</tbody>
</table>
Crop: Paddy (Kuruvai). Ref: Scheme for manurai 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 Tanjavour 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 in the 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) and (c) N.A. (v) N.A. (vi) and (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2125'</td>
</tr>
<tr>
<td>2</td>
<td>2458'</td>
</tr>
<tr>
<td>3</td>
<td>2256'</td>
</tr>
<tr>
<td>4</td>
<td>2297'</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>158.8 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy (Kuruvai). Ref: Scheme for manurai 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 Tanjavour district.

1. BASAL CONDITIONS:

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) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2862</td>
</tr>
<tr>
<td>2.</td>
<td>2453</td>
</tr>
<tr>
<td>3.</td>
<td>2547</td>
</tr>
<tr>
<td>4.</td>
<td>2208</td>
</tr>
</tbody>
</table>

S.E./mean = 362.7 lb./ac.

Crop :- Paddy (Kuruvai). Ref :- Scheme for manurai 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:

2. TREATMENTS:
1. Ryots' method :- C.M. at 8-10 C.L./ac.
2. G.M. 5.00 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
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</thead>
<tbody>
<tr>
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<tr>
<td>2.</td>
<td>2995</td>
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<tr>
<td>3.</td>
<td>3608</td>
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<tr>
<td>4.</td>
<td>3544</td>
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</table>

S.E./mean = 155.0 lb./ac.

Crop :- Paddy (Kuruvai). Ref :- Scheme for manurai 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 Tanjavur district.

BASAL CONDITIONS:
2. TREATMENTS:

1. Ryots' method: C.M. at 8-10 C.L./ac. (control).
2. G.M. 5,000 lb./ac. (control).
3. (2)+30 lb./ac. of N as A/S.
4. (2)+30 lb./ac. of P₂O₅ as Super.

A/S applied as top dressing 3-4 weeks after transplanting. 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) Treatment differences are not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
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<tr>
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<tr>
<td>3.</td>
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<tr>
<td>4.</td>
<td>2849</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>134.9</td>
</tr>
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Crop: Paddy (Kuruvai).
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) 9.7.48/2.8.48.
(iv) (a) 2 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6" x 6". (e) 2. (v) Nil.
(vi) As under treatments (early). (vii) Irrigated. (viii) Nil. (ix) 12.5". (x) 5.41.48.

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 = Adt. 19; V₂ = CO. 13 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), (b) 22' x 35'
(main-plot); 7' x 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.

<table>
<thead>
<tr>
<th></th>
<th>M₀</th>
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<th>Mean</th>
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<td>1182</td>
</tr>
<tr>
<td>Mean</td>
<td>1002</td>
<td>1216</td>
<td>1109</td>
</tr>
</tbody>
</table>

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.)
Site :- Rice Res. Stn., Ambasamudram.
Ref: - M. 48(86).
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) 14.6.48/13.7.48. (iv) (a) 3 ploughings. (b) Transplanting. (c) —. (d) 4"×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=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) 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) 1917—1930, (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.

<table>
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<tr>
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<tr>
<td>V₁</td>
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<td>3311</td>
<td>3020</td>
</tr>
<tr>
<td>V₂</td>
<td>2608</td>
<td>3273</td>
<td>2941</td>
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<tr>
<td>V₃</td>
<td>2480</td>
<td>3006</td>
<td>2743</td>
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<tr>
<td>Mean</td>
<td>2606</td>
<td>3197</td>
<td>2901</td>
</tr>
</tbody>
</table>

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.
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 per 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) 6' x 6'. (e) 2'. (f) Nil. (vi) As per treatments. (vii) Irrigated. (viii) Weeding once. (ix) 7.76". (x) 3.10.48 for CO.; 7.10.48 for Adt. 9 and 19.10.48 for Asd. 1.

2. 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.

<table>
<thead>
<tr>
<th></th>
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<tr>
<td>Mean</td>
<td>2107</td>
<td>2855</td>
<td>2481</td>
</tr>
</tbody>
</table>

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.
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: $V_1 = CO$, $V_2 = Adt$ and $V_3 = Asd$.

3. DESIGN:

(i) Split-plot. (ii) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) $42' \times 13'$ (main-plot). $42' \times 11'$ (sub-plot). (b) $41' \times 104'$ (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.

<table>
<thead>
<tr>
<th></th>
<th>$M_0$</th>
<th>$M_1$</th>
<th>Mean</th>
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<td>2993</td>
<td>2772</td>
</tr>
<tr>
<td>$V_2$</td>
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<td>2983</td>
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<tr>
<td>$V_3$</td>
<td>3265</td>
<td>3257</td>
<td>3261</td>
</tr>
<tr>
<td>Mean</td>
<td>2852</td>
<td>3158</td>
<td>3005</td>
</tr>
</tbody>
</table>

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).

Site: Rice Res. Stn., Ambasamudram.

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"x6", (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: $V_1 = CO$, $V_2 = Adt$ and $V_3 = Asd$.

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) $42' \times 33'$ (main-plot); $42' \times 11'$ (sub-plot). (b) $41' \times 104'$ (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.

<table>
<thead>
<tr>
<th></th>
<th>M₀</th>
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</tr>
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<tbody>
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<td>1429</td>
<td>2324</td>
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</tr>
<tr>
<td>V₃</td>
<td>1425</td>
<td>2444</td>
<td>1934</td>
</tr>
<tr>
<td>Mean</td>
<td>1342</td>
<td>2226</td>
<td>1794</td>
</tr>
</tbody>
</table>

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).
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) J. (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'x54'. (iii) 6. (iv) (a) 42'x27' (main-plot). 42'x9'. (sub-plot). (b) 41'x8'.4" (sub-plot). (c) About 6"x4" 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.

(iii) Main-plot and sub-plot treatments differ significantly. Interaction is not significant.
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 at 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) 6"x6". (e) 2. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) Weeding once. (ix) 15.89". (x) 12.50.

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 AJS+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) 2 main-plots/block ; 3 sub-plots/main-plot. (b) 43'x54'. (iii) 6. (iv) (a) 43'x27' (main-plot). 43'x9' (sub-plot). (b) 42'x8'. (c) 6" all round. (v) 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.

<table>
<thead>
<tr>
<th></th>
<th>M₀</th>
<th>M₁</th>
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</tr>
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<tr>
<td>V₃</td>
<td>1924</td>
<td>2703</td>
<td>2314</td>
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</tbody>
</table>

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 =54.0 lb./ac.
4. M means at the same level of V =94.1 lb./ac.

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Av. Yield of Grain in lb./ac.

<table>
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<th></th>
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</tr>
</thead>
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<tr>
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<td>2835</td>
</tr>
<tr>
<td>V₃</td>
<td>2743</td>
<td>3741</td>
<td>3242</td>
</tr>
</tbody>
</table>

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 (Kar).
Site: Rice Res. Stn., Ambasamudram.  
Ref: M. 49(82)/49(88,89).
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. (f) Nil. (g) As under treatments: (vii) Irrigated. (viii) Weeding once. (ix) 2.75’. (x) 27.49.13.10.49.

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.:J3;N;r=l<

DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) 4’ x 54’. (iii) 6. (iv) (a) 47’ x 27’. (main-plot). 47’ x 9’ (sub-plot). (b) 46’ x 8’ 4”. (sub-plot). (c) 6’ x 4’ left as border. (vi) Yes.

GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947-contd. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) & (vii) Nil.

RESULTS:

<table>
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<tr>
<th></th>
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<th>M₁</th>
<th>Mean</th>
</tr>
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<tr>
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<td>2623</td>
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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).
Site: Rice Res. Stn., Ambasamudram.  
Ref: M. 49(75)/49(82)/49(88,89).
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) 13.6.49/26.10.49. (iv) (a) 3 ploughings. (b) Transplanting. (c) —. (d) 6’ x 6’. (e) 2. (f) Nil. (v) As per treatments. (vii) Irrigated. (viii) Weeding once. (ix) 15.19’. (x) 12 to 15.2.50.

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. 13, V₂=Adt. 9 and V₃=Asd. 1.
All are late varieties.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) 47'×54'. (iii) 6. (iv) (a) 27'×47' (main-plot). 47'×9' (sub-plot). (b) 46'×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.

<table>
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<th></th>
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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'×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: 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 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) 42½'×25½' (main-plot). 42½'×9½' (sub-plot). (b) 42'×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) 3212 lb/ac.
(ii) (a) 3275 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.

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<tr>
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</table>

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., Ambassamudram.  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, Ambassamudram. (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'×84'; (b) 4'×74' (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.

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</table>

S.E. of difference of two

1. M marginal means
2. V marginal means
3. V means at the same level of M
4. M means at the same level of V

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) $4\times4'$. (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) $45'-8''\times8'-8''$. sub-plot ; $46'-8''\times26'$ main-plot. (b) $46'\times8'$. (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.

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<tr>
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<td>3339</td>
<td>3924</td>
<td>3632</td>
</tr>
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</table>

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.
4. $M$ 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" × 6".
   (e) N.A. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) 2 weedicings. (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: $V_1=CO$, $V_2=Adr.$ and $V_3=Asd$. 5.

   All are of medium duration.

3. DESIGN:
   (i) Split-plot. (ii) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 2 main-plots. (iv) (a) N.A. (b) 47" × 27" (main-plot). 47" × 81" (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.

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<td>2608</td>
</tr>
<tr>
<td>$V_3$</td>
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<td>2668</td>
</tr>
<tr>
<td>Mean</td>
<td>2213</td>
<td>2871</td>
<td>2542</td>
</tr>
</tbody>
</table>

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.  
Site :- Paddy Breeding Stn., Coimbatore.  
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.

<table>
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<td>2707</td>
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Crop :- Paddy.  
Site :- Paddy Breeding Stn., Coimbatore.  
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) $500$ 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.

<table>
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Crop - Paddy.  
Site - Paddy Breeding Stn., Coimbatore.  
Type - 'MV'.  
Ref: M. 48 (101).

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: 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. (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 × V is not significant. (iv) Av. yield of grain in lb./ac.

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<td>2355</td>
<td>1851</td>
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Crop :- Paddy.
Site :- Paddy Breeding Stn., Coimbatore.

Ref :- M. 49 (123).
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 (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: 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) 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×V is not significant.
   (iv) Av. yield of grain in lb./ac.

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Crop :- Paddy.
Site :- Paddy Breeding Stn., Coimbatore.

Ref :- M. 48(102).
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) 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: 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) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 44 x 10'. (v) N.A. (vi) Yes.

4. GENERAL:

5. RESULTS:
(i) 274 lb./ac. (ii) N.A. (iii) Main effects of M, V are significant. Interaction M x V is not significant.
(iv) Av. yield of grain in lb./ac.

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Crop :- Paddy. Site :- Paddy Breeding Stn., Coimbatore.

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' x 6'. (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Weeding once. (x) 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' x 20'. (b) 22' x 18'. (v) 2 rows left as border. (vi) Yes.

4. GENERAL:

5. RESULTS:
(i) 274 lb./ac. (ii) N.A. (iii) Main effects of M, V are significant. Interaction M x V is not significant.
(iv) Av. yield of grain in lb./ac.

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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) 12.8.30/23.9.30.  (iv) (a) 3 ploughings with country plough; once with iron plough.  (b) Transplanting.  (c) —.  (d) 6"x6".  (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: 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'x20'.  (b) 22'x18'.  (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) (a) and (vi) 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.

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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.
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: \( V_1 = \text{CO. 12}, V_2 = \text{CO. 19} \) and \( V_3 = \text{CO. 26} \) (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' X 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) Nil.

5. RESULTS:
   (i) 242 lb./ac. (ii) N.A. (iii) Main effect of M alone is significant. (iv) Av. yield of grain in lb./ac.

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Crop: Paddy. Site: Paddy Breeding Stn., Coimbatore. Ref: M. 49 (122). 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) \( 9^\circ \times 6^\circ \). (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: \( V_1 = \text{CO. 12}, V_2 = \text{CO. 19} \) and \( V_3 = \text{CO. 26} \) (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.

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Crop: Paddy.
Site: Paddy Breeding Stn., Coimbatore.
Ref: M. 50(55).
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) —. (d) 6' x 6'. (e) 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: M₀ = 0 and M₁ = 2000 lb./ac. of G.L.+403 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) 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 x V is significant.
(iv) Av. yield of grain in lb./ac.

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<tr>
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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).  

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) 9.8.46/29.9.48. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) No. (d) 6" × 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 Super.
   Sub-plot treatments:
   3 varieties: $V_1 = C0.12$, $V_2 = C0.19$ and $V_3 = C0.26$.

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 45 × 9'. (b) 54' × 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./g. (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.

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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.
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: \( V_1 = \text{CO.12} \), \( V_2 = \text{CO.19} \) and \( V_3 = \text{CO.26} \). (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'x9'. (b) 54'x8'. (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.

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Crop:—Paddy (Sambo).

Ref:—M. 50 (93).
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"x6". (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: \( V_1 = \text{CO.12} \), \( V_2 = \text{CO.19} \) and \( V_3 = \text{CO.26} \).

3. DESIGN:

(i) Split-plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 55'x9'. (b) 54'x8'. (sub-plot) 55'x30' (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.

<table>
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Crop: Paddy (Samba).  
Ref: M. 48 (72).
Type: MV.

Objec.:-To study the response of three varieties of Paddy under manured and unmanured conditions (low level area).

3. DESIGN:
(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947-1950. (b) Yes. (c) Nil. (v) (a), (b) N.A. (vi) and (vii) Nil.

4. 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.

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</tr>
<tr>
<td>Mean</td>
<td>3242</td>
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</table>

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.
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' × 6'. (e) 2. (v) Nil. (vi) As under treatments (long duration). (vii) Irrigated. (viii) Weeding once. (ix) 18.3.50. (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' × 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), (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.

<table>
<thead>
<tr>
<th>$V_1$</th>
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<th>$V_3$</th>
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</tr>
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Crop :- Paddy (Samba).
Ref :- M. 50(94).
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) 30.7/30.50. (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 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:

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<td>2000</td>
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<tr>
<td>V₂</td>
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</tr>
<tr>
<td>V₃</td>
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<td>Mean</td>
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Crop:— Paddy (Samba).
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°×6°. (e) 2. (f) 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=And. 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), (b) N.A. (vi) & (vii) Nil.

5. RESULTS:
(i) 1931. 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:

<table>
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</tr>
<tr>
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<td>1641</td>
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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.
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" x 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: $V_1=CO$, $V_2=Adt$ and $V_3=Asd$.

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) 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.

<table>
<thead>
<tr>
<th></th>
<th>$M_0$</th>
<th>$M_1$</th>
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<tr>
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<td>2956</td>
<td>2411</td>
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</table>

Crop :-Paddy (Samba).

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" x 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: $V_1=CO$, $V_2=Adt$ and $V_3=Asd$.
3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 55'x9'. (b) 54'x8'. (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 is highly significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
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<th>M₁</th>
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<td>1534</td>
</tr>
<tr>
<td>Mean</td>
<td>1041</td>
<td>2089</td>
<td>1565</td>
</tr>
</tbody>
</table>

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).

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"x6". (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: 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. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 55'x9'. (b) 54'x8'. (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) 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×M is not significant.

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

<table>
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<tr>
<td>V₃</td>
<td>2184</td>
<td>2957</td>
<td>2571</td>
</tr>
</tbody>
</table>

Mean: 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).
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) 12.10.49. (iv) (a) 6'×6'. (b) Transplanting. (c) 12.10.49. (d) 6'×6'. (e) 2. (v) Nil. (vi) As under treatments.

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.+150 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'. (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×V is not significant.
Crop : Paddy (Samba).


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 : $M_0=0$ 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) $55'×30'$. (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.

<table>
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<tr>
<td>Mean</td>
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<td>3422</td>
<td>2661</td>
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</table>

6. $t$ of difference of two

1. $M$ marginal means $= 41.8$ lb./ac.
2. $V$ marginal means $= 81.9$ lb./ac.
3. $V$ means at the same level of $M$ $= 115.9$ lb./ac.
4. $M$ means at the same level of $V$ $= 104.3$ lb./ac.
Crop: Paddy (Kar).
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: 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) 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.

<table>
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Crop: Paddy (Kar).
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: 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', (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) 3266 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.

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<td>2840</td>
<td>2916</td>
</tr>
<tr>
<td>Mean</td>
<td>3423</td>
<td>3148</td>
<td>3266</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. M marginal means
2. V marginal means
3. V means at the same level of M
4. M means at the same level of V
= 143.0 lb./ac.
= 137.0 lb./ac.
= 193.9 lb./ac.
= 213.4 lb./ac.

Crop :: Paddy (Kar).
Site :: Agri. Res. Stn., Palur.
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.
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) 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" x 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: 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) 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) N.A. (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.

<table>
<thead>
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<th>Treatment</th>
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</tr>
</thead>
<tbody>
<tr>
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<tr>
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</tr>
<tr>
<td>V₂</td>
<td>2081</td>
</tr>
<tr>
<td>V₃</td>
<td>1888</td>
</tr>
</tbody>
</table>

Crop :— Paddy (Kuruvai). Ref:—M. 48(45). 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" x 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:

<table>
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<tr>
<th>Treatment</th>
<th>Mean</th>
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<tbody>
<tr>
<td>$M_0$</td>
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</tr>
<tr>
<td>$M_1$</td>
<td>1063</td>
</tr>
<tr>
<td>$V_1$</td>
<td>1019</td>
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<tr>
<td>$V_2$</td>
<td>1056</td>
</tr>
<tr>
<td>$V_3$</td>
<td>850</td>
</tr>
</tbody>
</table>

Crop:— Paddy (*Kuruvai*).


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) 2.7.48/31.7.48. (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) . (e) 4'x4'. (e) 2. (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: $V_1=CO.3$, $V_2=Adt.9$ 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) N.A. (ii) Grain yield. (iv) (a) 1947—1950. (b) Yes. (c) N.A. (v) (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.
Crop :- Paddy (Kurva).
Ref :- M. 49(46).

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) 8.7.49/6.8.49. (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) —. (d) 4”x4”. (e) 2. (v) Nil. (vi) As under treatments (late). (vii) Irrigated. (viii) Weeding once. (ix) 16.73". (x) 24 to 28.10.49.

2. TREATMENTS :
   Main-plot treatments :-
   2 levels of manure: M₀=0 and M₁=200 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.
   Treatment Mean
   M₀ 1595
   M₁ 2013
   V₁ 1756
   V₂ 2044
   V₃ 1613

   (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
   M₀ 1613
   M₁ 1669
   V₁ 1725
   V₂ 1888
   V₃ 1618

Crop :- Paddy (Samba).
Ref :- M. 48(47,48).

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”x4”. (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: \( V_1 = \text{CO. 13} \), \( V_2 = \text{Adt. 9} \) and \( V_3 = \text{Asd. 1} \).

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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( M_0 )</td>
<td>1461</td>
</tr>
<tr>
<td>( M_1 )</td>
<td>2138</td>
</tr>
<tr>
<td>( V_1 )</td>
<td>1400</td>
</tr>
<tr>
<td>( V_2 )</td>
<td>2138</td>
</tr>
<tr>
<td>( V_3 )</td>
<td>1894</td>
</tr>
</tbody>
</table>


Ref : M. 49(47). Type : "MV".

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: \( V_1 = \text{CO. 13} \), \( V_2 = \text{Adt. 8} \) and \( V_3 = \text{Asd. 5} \).

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) Nil. (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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( M_0 )</td>
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</tr>
<tr>
<td>( M_1 )</td>
<td>1100</td>
</tr>
<tr>
<td>( V_1 )</td>
<td>831</td>
</tr>
<tr>
<td>( V_2 )</td>
<td>950</td>
</tr>
<tr>
<td>( V_3 )</td>
<td>906</td>
</tr>
</tbody>
</table>
Crop: Paddy (Samba).  
Ref: M. 49(48).  
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.

   \[ \begin{array}{|c|c|}
   \hline
   Treatment & Mean \\
   \hline
   M_0 & 1831 \\
   M_1 & 2194 \\
   V_1 & 1875 \\
   V_2 & 2063 \\
   V_3 & 2094 \\
   \hline
   \end{array} \]

---

Crop: Paddy (Kuruvai).  
Ref: M. 50 (81).  
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.

<table>
<thead>
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<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
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<td>M_1</td>
<td>1755</td>
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<tr>
<td>V_1</td>
<td>1353</td>
</tr>
<tr>
<td>V_2</td>
<td>2053</td>
</tr>
<tr>
<td>V_3</td>
<td>1568</td>
</tr>
</tbody>
</table>

Crop : Paddy (Thaladi).  
Ref. : M. 50-(82).  
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. (f) Nil.
(v) As under treatments. (vi) Irrigated. (vii) 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.

<table>
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<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>M_0</td>
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<td>860</td>
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<td>V_1</td>
<td>759</td>
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<td>817</td>
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<tr>
<td>V_3</td>
<td>782</td>
</tr>
</tbody>
</table>
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, Pottukottai. (iii) 18.8.50/24.9.53. (iv) (a) 3 to 5 ploughings. (b) Transplanting. (c) —. (d) 6'x6'. (e) 2. (vi) Nil. (vi) As under treatments. (vii) Irrigated. (viii) 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.

<table>
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<th>Mean</th>
</tr>
</thead>
<tbody>
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</tr>
<tr>
<td>( V_1 )</td>
<td>2021</td>
</tr>
<tr>
<td>( V_2 )</td>
<td>2194</td>
</tr>
<tr>
<td>( V_3 )</td>
<td>1930</td>
</tr>
</tbody>
</table>

'Crop :- Paddy. Ref :- M. 50 (83).
'Site :- Agri. Res. Stn., Pattukottai. Type :- 'MV'.

'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'x6'. (e) 2. (v) Nil. (vi) As under treatments (medium duration). (vii) Irrigated. (viii) Nil. (ix) 18.89". (x) 29.94°.

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'x8' (sub-plot); 54'x24' (main-plot). (b) 53'x7' (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.

\[
\begin{array}{ccc}
 & M_0 & M_1 & \text{Mean} \\
V_1 & 2869 & 3543 & 3266 \\
V_2 & 2874 & 4302 & 3588 \\
V_3 & 3410 & 4514 & 3963 \\
\hline
\text{Mean} & 3051 & 4120 & 3586 \\
\end{array}
\]

S.E. of difference of two
1. M marginal means
2. V marginal means
3. V means at the same level of M
4. M means at the same level of V

\[
\begin{align*}
\text{S.E.} & = 44.99 \text{ lb./ac.} \\
\text{S.E.} & = 49.36 \text{ lb./ac.} \\
\text{S.E.} & = 69.83 \text{ lb./ac.} \\
\text{S.E.} & = 72.63 \text{ lb./ac.}
\end{align*}
\]

Crop: Paddy.
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" × 6". (e) 2. (f) Nil. (vi) As under treatments. (vii) Irrigated. (viii) Nil. (ix) 21.32". (x) 28.749.

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) 75' × 7'. (sub-plot); 75' × 21 (main-plot.) (b) 72' × 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) 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.

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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).
Site :- Rice Res. Stn., Tirurkuppam.

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'x4'. (e) 2. (f) 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 : 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) 53''—8''x8'' (su-plot) ; 53''—8''x24' (main-plot). (b) 53''x7''—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) 321.0 lb./ac. (b) 312.0 lb./ac.
   (iii) Only main effect of V is highly significant.
   (iv) Av. yield of grain in lb./ac.

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<tr>
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</table>

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).  
Site: Rice Res. Stn., Tirurkuppam.  
Ref: M. 49(26).  
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’x6’. (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 \( M_1 = 1000 \) 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, \( V_2 = \) Adr. 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’x8’. (sub-plot). 54’x24’ (main-plot). (b) 53’x7’ (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.

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<tr>
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<td>1450</td>
<td>2584</td>
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</table>

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).  
Site: Rice Res. Stn., Tirurkuppam.  
Ref: M. 50(28).  
Type: ‘MV’.

Object: To study the response of three varieties of Paddy under manured and unmanured conditions. (Double crop land 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) 4.5.49.1.6.50. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 4’x4’. (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 9.5’. (x) 14.9.50.
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.

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' x 22' main-plot; 53' x 7½' sub-plot. (b) 52½' x 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.

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<tr>
<td>V₃</td>
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S.E. of difference of two

1. M marginal means = 92.7 lb./ac.
2. V marginal means = 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).
Site:-Rice Res. Stn., Tirurkuppam.

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' x 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:  
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.

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. (ii) 6. (iv) (a) 53' x 25' (main-plot) 53' x 7½' (sub-plot). (b) 52½' x 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) 112.2 lb./ac. (b) 115.6 lb./ac. (iii) All effects are highly significant.
(iv) Av. yield of grain in lb./ac.

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<td>2321</td>
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Mean: 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.
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) 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: 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) 54"×8". sub-plot (54"×24" main-plot) (b) 53"×7". (sub-plot) (v) One row all 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) 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.

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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" x 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: $M_0$=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) 59’x8’. (Sub-plot.) 59’x24’ (main-plot). (b) 58’X7’ (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 higly significant. Interaction M x V is significant.
(iv) Av. yield of grain in lb./ac.
Crop :- Paddy (Samba).
Site :- Rice Res. Stn., Tirurkuppam.

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: M₀ =0 and M₁ =200 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) 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. (v) 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.

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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.
Site :- Rice Res. Stn., Tirurkuppam.
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: \( V_1 = CO. \), \( V_2 = A dt. \) and \( V_3 = A sd. \).

DESIGN:
(i) Split plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 54' x 3'. 54' x 24' (main-plot). (b) 53' x 7'. (v) One row all round the net sub-plot. (vi) Yes.

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.

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.

<table>
<thead>
<tr>
<th></th>
<th>( M_0 )</th>
<th>( M_1 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( V_1 )</td>
<td>1308</td>
<td>1681</td>
<td>1495</td>
</tr>
<tr>
<td>( V_2 )</td>
<td>1499</td>
<td>1687</td>
<td>1593</td>
</tr>
<tr>
<td>( V_3 )</td>
<td>1267</td>
<td>1625</td>
<td>1446</td>
</tr>
</tbody>
</table>

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 (highland—double crop).

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" x 6". (e) 2. (v) Nil. (vi) As under treatments (medium duration). (vii) Irrigated. (viii) Nil. (ix) 21.32". (x) 5.3.49.

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: \( V_1 = CO. \), \( V_2 = A dt. \) and \( V_3 = A sd. \).

DESIGN:
(i) Split plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 54' x 3'. (sub-plot) ; 54' x 25' (main-plot). (b) 53' x 71'. (vi) One row all round the net plot. (vi) Yes.

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.

<table>
<thead>
<tr>
<th></th>
<th>$M_0$</th>
<th>$M_1$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_1$</td>
<td>834</td>
<td>1634</td>
<td>1259</td>
</tr>
<tr>
<td>$V_2$</td>
<td>857</td>
<td>1426</td>
<td>1142</td>
</tr>
<tr>
<td>$V_3$</td>
<td>779</td>
<td>1417</td>
<td>1098</td>
</tr>
<tr>
<td>Mean</td>
<td>840</td>
<td>1492</td>
<td>1166</td>
</tr>
</tbody>
</table>

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.
Site :- Rice Res. Stn., Tirurkuppam.
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' x 6'. (e) 2. (v) Nil.
(vi) As under treatments (late). (vii) Irrigated. (viii) Nil. (ix) 245'. (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' 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), (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.

Ref :- M. 48 (23). Type :- 'MV'.
(iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th></th>
<th>$M_0$</th>
<th>$M_1$</th>
<th>Mean</th>
</tr>
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<tr>
<td>$V_1$</td>
<td>1983</td>
<td>2453</td>
<td>2218</td>
</tr>
<tr>
<td>$V_2$</td>
<td>1980</td>
<td>3356</td>
<td>2668</td>
</tr>
<tr>
<td>$V_3$</td>
<td>1998</td>
<td>2753</td>
<td>2376</td>
</tr>
<tr>
<td>Mean</td>
<td>1987</td>
<td>2854</td>
<td>2421</td>
</tr>
</tbody>
</table>

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).
Site: Agri Res. Stn., Aduthurai.
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.I. + 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" x 6". (e) 2. (v) 500 lb/ac. of Indigo meal + 100 lb/ac. of Super + 20 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, 5, 2.

2. TREATMENTS:
<table>
<thead>
<tr>
<th>Age of seedlings</th>
<th>Date of sowing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 30 days</td>
<td>30.9.51</td>
</tr>
<tr>
<td>2. 40 days</td>
<td>21.9.51</td>
</tr>
<tr>
<td>3. 50 days</td>
<td>12.9.51</td>
</tr>
<tr>
<td>4. 60 days</td>
<td>3.9.51</td>
</tr>
</tbody>
</table>

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

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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2897</td>
</tr>
<tr>
<td>2.</td>
<td>3092</td>
</tr>
<tr>
<td>3.</td>
<td>2978</td>
</tr>
<tr>
<td>4.</td>
<td>3000</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 194.8 lb/ac.</td>
</tr>
</tbody>
</table>
Crop: Paddy (Samba).


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)Nil. (d) 6' x 6'. (e) 2. (v) 500 lb./ac. of KCl 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:
   
<table>
<thead>
<tr>
<th>Age of seedlings</th>
<th>Date of sowing</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 days</td>
<td>19.8.51</td>
</tr>
<tr>
<td>40 days</td>
<td>9.8.51</td>
</tr>
<tr>
<td>50 days</td>
<td>30.7.51</td>
</tr>
<tr>
<td>60 days</td>
<td>21.7.51</td>
</tr>
</tbody>
</table>

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) 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 | S.E./mean
   1.         | 2877      | 199.5 lb./ac.
   2.         | 2604      |               
   3.         | 2564      |               
   4.         | 2543      |               

---

Crop: Paddy (Samba).


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) Nil. (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. (vii) 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.
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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>4679</td>
</tr>
<tr>
<td>2.</td>
<td>4594</td>
</tr>
<tr>
<td>3.</td>
<td>3841</td>
</tr>
<tr>
<td>4.</td>
<td>4121</td>
</tr>
</tbody>
</table>

S.E./mean = 231.0 lb./ac.

Crop: Paddy (Samba).

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 treatment 9.11.52. (iv) (a) Ploughed two times with iron plough. (b) Transplanting. (c) —, (d) 6' x 6'. (e) N.A. (v) 2500 lb/ac. of G.L.+100 lb/ac. of A/S. (vi) CO. 25 (late). (vii) Irrigated. (viii) Nil. (ix) 24.5' .

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

3. 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>4706</td>
</tr>
<tr>
<td>2.</td>
<td>4599</td>
</tr>
<tr>
<td>3.</td>
<td>4766</td>
</tr>
<tr>
<td>4.</td>
<td>4201</td>
</tr>
</tbody>
</table>

S.E./mean = 166.7 lb./ac.

Crop: Paddy (Kuruvai).

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) 29.6.50/22.7.50. (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 F. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) and (b) 21'×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 x seedlings is significant. Main effect of seedlings is not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( R_1 )</td>
<td>5610</td>
<td>5043</td>
<td>5317</td>
</tr>
<tr>
<td>( R_2 )</td>
<td>5337</td>
<td>5464</td>
<td>5401</td>
</tr>
<tr>
<td>Mean</td>
<td>5474</td>
<td>5254</td>
<td>5364</td>
</tr>
</tbody>
</table>

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). 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. (iii) (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) 6/00 lb./ac. of G.L. (vi) 185 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 F. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) and (b) 21'×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 x seedling is significant.
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) 29.5.50./22.7.50. (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: \( S_1 = 6" \) and \( S_2 = 9" \).
   (2) No. of seedlings/bunch: \( R_1 = 4 \) anu \( R_2 = 8 \).

3. DESIGN:
   (i) 2x2 Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) & (b) 21' × 9'; (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1930–1952. (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.

<table>
<thead>
<tr>
<th>( S_1 )</th>
<th>( S_2 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( R_1 )</td>
<td>5835</td>
<td>5687</td>
</tr>
<tr>
<td>( R_2 )</td>
<td>5912</td>
<td>5693</td>
</tr>
<tr>
<td>Mean</td>
<td>5874</td>
<td>5690</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 22.63 lb./ac.
S.E. of body of table = 32.00 lb./ac.
Crop: Paddy.

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) 23.6/50/22.23/7.50. (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) 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) 1517 lb./ac.
   (ii) 115.7 lb./ac.
   (iii) None of the effects is significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>( S_1 )</th>
<th>( S_2 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( R_1 )</td>
<td>1512</td>
<td>1526</td>
<td>1519</td>
</tr>
<tr>
<td>( R_2 )</td>
<td>1509</td>
<td>1519</td>
<td>1514</td>
</tr>
<tr>
<td>Mean</td>
<td>1511</td>
<td>1523</td>
<td>1517</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 40.88 lb./ac.
S.E. of body of table = 57.80 lb./ac.

Crop: Paddy (Kar).
Site: Rice Res. Stn., Ambasamudram.

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. Ambasamudram. (iii) 30.6/48/20.7/48. (iv) (a) 4 ploughings. (b) As per (d) 6"x6" (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.
   4. Transplanting.
3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 21' x 6'. (b) 20' x 5'. (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) 308 lb./ac.
(ii) 217.8 lb./ac.
(iii) Treatment differences are significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3315</td>
</tr>
<tr>
<td>2.</td>
<td>3416</td>
</tr>
<tr>
<td>3.</td>
<td>2929</td>
</tr>
<tr>
<td>4.</td>
<td>3569</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>88.9 lb./ac.</td>
</tr>
</tbody>
</table>

Crop : Paddy (Pishanam).
Site : Rice Res. Stn., Ambasamudram.
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). (f) 5000 lb./ac. of G.L. (g) Ad. 5 (late). (h) Irrigated. (i) Weed- ing once. (j) 20°. (k) 14.3.49.

2. TREATMENTS:
1. Dibbling.
2. Dibbling with cowdung.
4. Transplanting.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 21' x 6'. (b) 20' x 5'. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1109</td>
</tr>
<tr>
<td>2.</td>
<td>926</td>
</tr>
<tr>
<td>3.</td>
<td>1205</td>
</tr>
<tr>
<td>4.</td>
<td>952</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>43.7 lb./ac.</td>
</tr>
</tbody>
</table>
Crop: Paddy (Kar).
Site: Rice Res. Stn., Ambasamudram.

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′ × 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) 2.75′. (x) 4.10.49.

2. TREATMENTS:
   1. Dibbling sprouted seed.
   2. Dibbling sprouted seed smeared with cowdung.
   4. Transplanting.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) 21′ × 24′. (iii) 6. (iv) (a) 21′ × 6′. (b) 20′ × 5′. (v) About 6′ left all round.

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 | S.E./mean
   --- | --- | ---
   1. | 2523 | 113.0 lb./ac.
   2. | 2653 |
   3. | 2322 |
   4. | 2198 |

Crop: Paddy (Pishanam).
Site: Rice Res. Stn., Ambasamudram.

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′ × 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) 21.35′. (x) 20.3.50.

2. TREATMENTS:
   1. Dibbling sprouted seed.
   2. Dibbling sprouted seed smeared with cowdung.
   4. Transplanting.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) 21′ × 24′. (iii) 6. (iv) (a) 21′ × 6′. (b) 20′ × 5′. (v) About 6′ left all round.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1947—1949. (b) No. (c) Nil. (v) (a) and (b) N.A.
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.
Site: Paddy Breeding Stn., Coimbatore.
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'. (c) —. (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) 201.4 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.  
Site: Paddy Breeding Stn., Coimbatore.  
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 loam. (b) Refer soil analysis, Coimbatore. (iii) 19.7/5.1/20.11.51.  (iv) (a) 4 ploughings. (b) Nil.  (c) As under treatments. (d) 6"x6".  (e) – –.  (v) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S.  (vi) CO. 25 (late).  (vii) Irrigated.  (viii) Weeding once. (ix) 16.94".  (x) 5.3.54.

2. TREATMENTS:  
Main-plot treatments:  
No. of seedlings/hole: R₁=2 and R₂=4.  
Sub-plot treatments:  
6 spacings: S₁=6"x6", S₂=9"x9", S₃=9"x4", S₄=12"x3", S₅=18"x4" and S₆=12"x6".
3. DESIGN:
   (i) Split-plot. (ii) 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) 1' 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) 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.

<table>
<thead>
<tr>
<th></th>
<th>S₁</th>
<th>S₂</th>
<th>S₃</th>
<th>S₄</th>
<th>S₅</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>R₁</td>
<td>3726</td>
<td>3742</td>
<td>3701</td>
<td>3678</td>
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<td>3703</td>
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<tr>
<td>R₂</td>
<td>3598</td>
<td>3669</td>
<td>3491</td>
<td>3563</td>
<td>3944</td>
<td>3627</td>
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<tr>
<td>Mean</td>
<td>3662</td>
<td>3706</td>
<td>3596</td>
<td>3620</td>
<td>3805</td>
<td>3655</td>
</tr>
</tbody>
</table>

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Crop :- Paddy (Samba).
Ref :- M. 48(68).
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; 1'0 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) 48.5'. (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) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3240</td>
</tr>
<tr>
<td>2.</td>
<td>3260</td>
</tr>
<tr>
<td>3.</td>
<td>3140</td>
</tr>
<tr>
<td>4.</td>
<td>3940</td>
</tr>
</tbody>
</table>

S.E./mean = 156.0 lb./ac.
Crop: Paddy (Samba).

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) Nil. (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 and dibbled in lines 6" apart.
   4. Seedlings transplanted.

3. DESIGN:
   (i) R.B.D. (ii) 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) 1948-1949. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2079</td>
</tr>
<tr>
<td>2.</td>
<td>2756</td>
</tr>
<tr>
<td>3.</td>
<td>2806</td>
</tr>
<tr>
<td>4.</td>
<td>2591</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>264.3 lb./ac.</td>
</tr>
</tbody>
</table>

Ref: M. 48(11).
Type: 'C'.

Crop: Paddy (Samba).

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) 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.

Ref: M. 48(69).
Type: 'C'.

Ref: M. 48(11).
Type: 'C'.

Ref: M. 48(69).
Type: 'C'.

Ref: M. 48(11).
Type: 'C'.

Ref: M. 48(11).
Type: 'C'.

Ref: M. 48(11).
Type: 'C'.

Ref: M. 48(11).
Type: 'C'.
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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2240</td>
</tr>
<tr>
<td>2.</td>
<td>2400</td>
</tr>
<tr>
<td>3.</td>
<td>2380</td>
</tr>
<tr>
<td>4.</td>
<td>2580</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 106.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy (Sambo).

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:

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) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2298</td>
</tr>
<tr>
<td>2.</td>
<td>2325</td>
</tr>
<tr>
<td>3.</td>
<td>2453</td>
</tr>
<tr>
<td>4.</td>
<td>2360</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 161.3 lb./ac.</td>
</tr>
</tbody>
</table>
Crop:—Paddy (Kar).

Ref:—M. 48(67).
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) Sornawari—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) 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 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3310</td>
</tr>
<tr>
<td>2.</td>
<td>3260</td>
</tr>
<tr>
<td>3.</td>
<td>2975</td>
</tr>
<tr>
<td>4.</td>
<td>3450</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>120.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop:—Paddy (Kar).

Ref:—M. 49(10).
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) 20.6.49/15.7.49. (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) Sornawari 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.
RESULTS:

(i) 1792 lb./ac.
(ii) 53.6 lb./ac.
(iii) Treatment differences are highly significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1892</td>
</tr>
<tr>
<td>2.</td>
<td>1810</td>
</tr>
<tr>
<td>3.</td>
<td>1967</td>
</tr>
<tr>
<td>4.</td>
<td>1499</td>
</tr>
</tbody>
</table>

S.E./mean = 21.9 lb./ac.

Crop: Paddy (Sornavari).
Site: Rice Res. Stn., Tirurkuppam.

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°X6°. (e) 2. (v) 400 lb./ac. of G.N.C.+100 lb./ac. of A/S top dressed one month after planting. (v) CO. 13 (early). (vi) Irrigated. (vii) Weeding once. (ix) 30.0°. (x) 24.9.49.

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) (x) 50°X8°. (b) 49°X7°. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3392</td>
</tr>
<tr>
<td>2.</td>
<td>3439</td>
</tr>
<tr>
<td>3.</td>
<td>3512</td>
</tr>
<tr>
<td>4.</td>
<td>3881</td>
</tr>
</tbody>
</table>

S.E./mean = 117.2 lb./ac.
Crop :- Paddy (Samba).
Site :- Rice Res. Stn., Tiruruppam.

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, Tiruruppam. (iii) 5.10.49./5.11.49. (iv) 5 ploughings. (b) As under treatments. (c) 30 lb./ac. (d) 6'×8'. (e) 2. (v) 400 lb./ac. of G.N.C.1+100 lb./ac. of A/S as top dressing one month after transplanting. (vi) CO. 5 (medium). (vii) Irrigated. (viii) Weed.

2. TREATMENTS:
1. Broadcasting.
2. Sprouted seed dibbled.
3. Sprouted seed smeared with cow dung and dibbled.
4. Transplanting.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) [30'×9'. (b) 49'×8'. (v) 6' border left all round the net plot. (v) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947-1949. (b) Nil. (c) N.A. (v) (a) 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. 
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>807</td>
</tr>
<tr>
<td>2.</td>
<td>1172</td>
</tr>
<tr>
<td>3.</td>
<td>1163</td>
</tr>
<tr>
<td>4.</td>
<td>1305</td>
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<tr>
<td>S.E./mean</td>
<td>128.8 lb./ac.</td>
</tr>
</tbody>
</table>

Ref:- M. 49(15).
Type :- 'C'.

Crop :- Paddy (Samba).
Site :- Rice Res. Stn., Tiruruppam.

Object :- To find the optimum combinations of heavy and normal nursery to the total planted area.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Ratu and Gingelly. (c) N.A. ii) (a) Sandy loam. (b) Refer soil analysis, Tiruruppam. (iii) 23.4.49/11.10.49. (iv) (a) 5 ploughings. (b) Bulk planting. (c) As per treatments. (d) N.A. (e) 2 or 3. (v) G.L. at 6000 lb./ac.+100 lb./ac. of Super. +10 lb./ac. of A/S. Super applied at the time of last ploughing. (vi) A/S as top dressing one month after planting. (vi) CO. 19 (late). (vii) Irrigated. (viii) Weed.

2. TREATMENTS:
All combinations of (1) and (2)
(1) Nursery area : A₁=Heavy-thickly sown at 750 lb./ac. and A₂=Normal-thinly sown at 300 lb./ac.
(2) Ratio of nursery area to planted area: R₁=1:5, R₂=1:9 and R₃=1:12.

3. DESIGN:
(i) 2×3 Fakt. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) 8'×8'. (b) 8'×8'. (v) About 6' left as border all round net plot. (v) 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.
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.

<table>
<thead>
<tr>
<th></th>
<th>R₁</th>
<th>R₂</th>
<th>R₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>A₁</td>
<td>2427</td>
<td>2228</td>
<td>2407</td>
<td>2354</td>
</tr>
<tr>
<td>A₂</td>
<td>2279</td>
<td>2379</td>
<td>2343</td>
<td>2333</td>
</tr>
</tbody>
</table>

| 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 (*Kurunai*).

Ref :- M. 50(39).
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" x 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" x 21". (b) 20" x 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.

<table>
<thead>
<tr>
<th></th>
<th>V₁</th>
<th>V₂</th>
<th>V₃</th>
<th>Mean</th>
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<tbody>
<tr>
<td>A₁</td>
<td>2431</td>
<td>2620</td>
<td>1618</td>
<td>2246</td>
</tr>
<tr>
<td>A₂</td>
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<td>3213</td>
<td>1920</td>
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</tr>
<tr>
<td>A₃</td>
<td>2903</td>
<td>2718</td>
<td>1823</td>
<td>2481</td>
</tr>
</tbody>
</table>

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.

Site: Rice Res. Stn., Tirurkuppam.

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)
   (i) (a) 2 varieties: V1 = Adt. 14 and V2 = CO. 13.
   (ii) 3 ages of seedlings at planting: A1 = 3, A2 = 4 and A3 = 5 weeks.
   (iii) 2 spacings: S1 = 4" x 4" and S2 = 6" x 6".

3. DESIGN:
   (i) 3 x 2 x 2 Padd. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 20' x 4'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1948-1949. (b) No. (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.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>Mean.</th>
<th>V1</th>
<th>V2</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>3369</td>
<td>3539</td>
<td>3454</td>
<td>3621</td>
<td>3287</td>
</tr>
<tr>
<td>A2</td>
<td>3617</td>
<td>3463</td>
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<td>A3</td>
<td>3227</td>
<td>3491</td>
<td>3359</td>
<td>3328</td>
<td>3390</td>
</tr>
<tr>
<td>Mean</td>
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<td>3498</td>
<td>3451</td>
<td></td>
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</tr>
<tr>
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<td>3555</td>
<td>3543</td>
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<td></td>
</tr>
<tr>
<td>V2</td>
<td>3277</td>
<td>3449</td>
<td>3359</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of S or V marginal means = 53.1 lb./ac.
S.E. of A marginal means = 63.0 lb./ac.
S.E. of body of A x S or A x V table = 91.9 lb./ac.
S.E. of body of V x S table = 75.0 lb./ac.

Crop: Paddy.

Site: Rice Res. Stn., Tirurkuppam.

Object: To study the effects of spacing and age of seedlings on the yield of two varieties of Paddy.
2. TREATMENTS:
All combinations of (1), (2) and (3)
(1) 2 varieties: V₁=Adt. 14 and V₂=CO. 13.
(2) 2 spacings: S₁=4'x4' and S₂=6'x6'.
(3) 3 ages of seedings: A₁=3, A₂=4 and A₃=5 weeks.

3. DESIGN:
(i) 3 x 2 x 2 Fact. in R.B.D. (ii) 12. (b) N.A. (iii) 6. (iv) (a) 20'x4' for 6' spacing, 19½'x3½' for 4' spacing. (b) 19'x3'. (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 x A are significant. Others are not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>S₁</th>
<th>S₂</th>
<th>Mean</th>
<th>V₁</th>
<th>V₂</th>
</tr>
</thead>
<tbody>
<tr>
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<td>3355</td>
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<tr>
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</tr>
<tr>
<td>A₃</td>
<td>3332</td>
<td>3155</td>
<td>3244</td>
<td>2885</td>
</tr>
</tbody>
</table>

Mean 3442 3327 3384

S.E. of V or S marginal means = 50.4 lb./ac.
S.E. of A marginal means = 61.9 lb./ac.
S.E. of the body of V x A or S x A table = 87.6 lb./ac.
S.E. of the body of V x S table = 71.4 lb./ac.

---

Crop :- Paddy.
Site :- Rice Res. Stn., Ambasamudram.

Ref :- M. 49(125).
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'x6'. (e) 2. (v) N as top dressing at 100 lb./ac. of A/S. (vi) Axd. I (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 :-
B₀ = No manure.
B₁ = C.M. at 10,000 lb./ac.
B₄ = G.L. at 5,000 lb./ac.
3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/replication; 3 sub-plots/main-plot.
   (b) 61' × 12'. (v) 6' left as border. (vi) Yes. (b) N.A. (iii) 4. (iv) (a)

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1949—1950. (b) Yes.
   (c) N.A. (v) (a) Nil. (b) No. (vii) Plot wise yield data not available. The results are collected from annual reports.

5. RESULTS:
   (i) 3353 lb./ac. (ii) N.A. (b) Nil. (c) Nil. (d) 61' × 12'. (v) (a) Nil. (b) Yes. (vi) Nil. (vii) Plot wise yield data not available. The results are collected from annual reports.

<table>
<thead>
<tr>
<th></th>
<th>Summer Ploughed</th>
<th>Not Ploughed</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>B₀</td>
<td>3338</td>
<td>3000</td>
<td>3169</td>
</tr>
<tr>
<td>B₁</td>
<td>3658</td>
<td>3159</td>
<td>3408</td>
</tr>
<tr>
<td>B₂</td>
<td>3637</td>
<td>3375</td>
<td>3481</td>
</tr>
<tr>
<td>Mean</td>
<td>3544</td>
<td>3161</td>
<td>3353</td>
</tr>
</tbody>
</table>

Crop: Paddy.
Site: Rice Res. Stn., Ambasamudram.

Object: To test the soundness of the practice of giving repeated summer ploughings to the Paddy fields.

1. BASAL CONDITIONS:
   (i) 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) As stated (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) 286.4 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.

<table>
<thead>
<tr>
<th>Ploughed</th>
<th>Unploughed</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>B_0</td>
<td>4829</td>
<td>4956</td>
</tr>
<tr>
<td>B_1</td>
<td>5161</td>
<td>5179</td>
</tr>
<tr>
<td>B_2</td>
<td>4902</td>
<td>4476</td>
</tr>
</tbody>
</table>

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.

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 103 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’x6’. (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’x6.5’. (b) 50’x6’.
   (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.

<table>
<thead>
<tr>
<th>Ploughed</th>
<th>Unploughed</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
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<td>2853</td>
<td>2637</td>
</tr>
<tr>
<td>C.M.</td>
<td>2770</td>
<td>3028</td>
</tr>
<tr>
<td>No manure</td>
<td>3002</td>
<td>2787</td>
</tr>
</tbody>
</table>

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.

Site :- Rice Res. Stn., Ambasamudram.

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) Nil.
   (b) Paddy.
   (c) 2000 lb./ac. of G.L. +100 lb./ac. of A/S.
   (ii) Nil. (b) Transplanting.
   (iii) 11.7.53. (iv) (a) N.A. (b) Ploughing with Glyricidia @ 30 lb./ac. (c) Nil.
   (v) Nil. (vi) Asd. 1 (early). (vii) Irrigated. (viii) Weedings. (ix) 5.6'.

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. (v) Yes.
   (vi) Nil. (vii) (a) Nil. (b) N.A. (viii) Nil.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) N.A. (b) No. (c) N.A. (v) (a) Nil.

5. RESULTS:
   (i) 3478 lb./ac.
   (ii) 311.2 lb./ac.
   (iii) Treatment differences are not significant.
   (iv) Av. yield of grain in lb./ac.
   Treatment    Av. yield
   1.         3643
   2.         3528
   3.         3468
   4.         3410
   5.         3575
   S.E./mean  = 165.6 lb./ac.

Crop :- Paddy.

Site :- Paddy Breeding Stn., Coimbatore.

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) CD. 16 (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' x 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' x 56'. (b) 20' x 55'. (v) One row left as border.
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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E., mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2125</td>
<td>5.2 lb./ac.</td>
</tr>
<tr>
<td>2</td>
<td>1558</td>
<td></td>
</tr>
</tbody>
</table>

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) 500 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 (e) 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) 22.3 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.

<table>
<thead>
<tr>
<th>Manure</th>
<th>Jap.</th>
<th>Local</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2115</td>
<td>1953</td>
<td>2034</td>
</tr>
<tr>
<td>2</td>
<td>2616</td>
<td>2319</td>
<td>2468</td>
</tr>
<tr>
<td>3</td>
<td>3517</td>
<td>3294</td>
<td>3405</td>
</tr>
<tr>
<td>4</td>
<td>3566</td>
<td>3470</td>
<td>3518</td>
</tr>
</tbody>
</table>

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).
Site : Rice Res. Stn., Ambasamudram.

Object : To compare the relative merits of Japanese method and Farm method of cultivation.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram.
   (iii) 4.5 Hv. and Asd.2 (early). (iv) (a) to (d) As under treatments. (v) Nil. (vi) Asd.1 and Asd.2 (early). (vii) Irrigated. (viii) As under treatments. (ix) 5.6°.

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) 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.

<table>
<thead>
<tr>
<th></th>
<th>( M_1 )</th>
<th>( M_2 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( V_1 )</td>
<td>4356</td>
<td>3913</td>
<td>4134</td>
</tr>
<tr>
<td>( V_2 )</td>
<td>3999</td>
<td>3744</td>
<td>3845</td>
</tr>
<tr>
<td>Mean</td>
<td>4147</td>
<td>3832</td>
<td>390</td>
</tr>
</tbody>
</table>

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).
Site : Rice Res. Stn., Ambasamudram.

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 treatment. (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' x 22' (main-plot.) 40' x 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.

<table>
<thead>
<tr>
<th></th>
<th>M_1</th>
<th>M_2</th>
<th>Mean</th>
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<tr>
<td>V_1</td>
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<td>2626</td>
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<td>V_2</td>
<td>2953</td>
<td>2561</td>
<td>2757</td>
</tr>
<tr>
<td>Mean</td>
<td>2943</td>
<td>2594</td>
<td>2769</td>
</tr>
</tbody>
</table>

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 = 55.2 lb./ac.
(4) method means at the same level of a variety = 94.0 lb./ac.

Crop: Paddy.
Site: Paddy Breeding Stn., Coimbatore.

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. (iii) (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. (vi) CO. 19 and CO. 25. (vii) Irrigated. (viii) As per treatments. (ix) 15.40°. (x) 12.3.54.

2. TREATMENTS:
Main-plot treatments:
- 2 varieties: V_1 = CO. 19 and V_2 = CO. 25.
Sub-plot treatments:
- 2 methods: M_1 = Japanese and M_2 = 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° x 20'. (b) 14j° x 19j° for Farm method plots and 14j° x 19j° 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.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M_1</th>
<th>M_2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V_1</td>
<td>3346</td>
<td>2936</td>
<td>3141</td>
</tr>
<tr>
<td>V_2</td>
<td>3796</td>
<td>3572</td>
<td>3684</td>
</tr>
<tr>
<td>Mean</td>
<td>3571</td>
<td>3254</td>
<td>3413</td>
</tr>
</tbody>
</table>

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.
Site: Central Sugarcane Res. Stn., Palur.

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) 34.42q. (x) 13.2.

2. TREATMENTS:
Main-plot treatments:
2 varieties: V_1=CO. 19 and V_2=CO. 25.
Sub-plot treatments:
2 methods of cultivation: M_1=Japanese method and M_2=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' x 8'.
(sub-plot) 32' x 8'. (b) (Sub-plot) 31.5' x 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) 3968 lb./ac.
(ii) (a) 454.4 lb./ac.
(b) 469.6 lb./ac.
(iii) None of the effects is significant.
Av. yield of Straw in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M₁</th>
<th>M₂</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V₁</td>
<td>5985</td>
<td>5679</td>
<td>5832</td>
</tr>
<tr>
<td>V₂</td>
<td>6117</td>
<td>6092</td>
<td>6105</td>
</tr>
<tr>
<td>Mean</td>
<td>6051</td>
<td>5886</td>
<td>5968</td>
</tr>
</tbody>
</table>

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 (Kurasai).


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°S3'58.6'53.
   (iv) (a) 3 to 5 ploughings. (b) As under treatments. (c) 6' x 6'.
   (d) 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) 20 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.

<table>
<thead>
<tr>
<th></th>
<th>M₁</th>
<th>M₂</th>
<th>Mean</th>
</tr>
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</tr>
<tr>
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<td>3525</td>
<td>3106</td>
<td>3316</td>
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</table>

S. E.' S. = N. A.
Crop : Paddy (Samba).


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.

   \[
   \begin{array}{ccc}
   \text{M_1} & \text{M_2} & \text{Mean} \\
   V_1 & 2875 & 3088 & 2981 \\
   V_2 & 3838 & 3413 & 3625 \\
   \hline
   \text{Mean} & 3356 & 3250 & 3303 \\
   \end{array}
   \]

   S. E. S. — N. A.

Crop : Paddy (1st Season).

Site : Rice Res. Stn., Tirurkoppam.

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, Tirurkoppam. (iii) 12.3.53/5.7.53.  (iv) (a) 6—10 ploughings.  (b) Transplanting.  (c) —.  (d) 10°×4° (Jap.) and 4°×4° (Farm).  (e) 4 (Jap.).  (f) 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′ × 105′ for (Japanese method) and 66′ × 96′ for (Farm method) (b) 56′ × 94′. (v) One row all round the net plot. (vi) Yes.

4. GENERAL:

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.

<table>
<thead>
<tr>
<th>M1</th>
<th>M2</th>
<th>Mean</th>
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<tbody>
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<td>3123</td>
<td>3056</td>
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<tr>
<td>V2</td>
<td>3260</td>
<td>2956</td>
</tr>
<tr>
<td>Mean</td>
<td>3123</td>
<td>3056</td>
</tr>
</tbody>
</table>

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. (iii) Sandy loam. (b) Refer soil analysis, Tirurkuppam. (iii) 19.5.13/28 to 30.10.53. (iv) (a) 6 ploughings. (b) Transplanting. (c)-. (d) 10′ × 6′ for Japanese and 4′ × 4′ for Farm method. (e) 4 for Jap. and 2 for Farm. method (v) Nil. (vi) CO. 11 & CO. 25. (vii) Irrigated.

2. TREATMENTS:
Main-plot treatments:
2 strains: V1 = CO. 25 and V2 = CO. 19.
Sub-plot treatments:
2 methods; M1 = Japanese method and M2 = 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′ × 15′.
(b) 38′ × 14′ for Jap. method and 39′ × 14′ 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) N.A.
(v) (a) Coimbatore, Aduthurai, Pattukottai, Palur, Ambasamudram and Pattambi, (b) N.A.
(vi) Nil, (vii) Japanese method and Parm 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M1</th>
<th>M2</th>
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</tr>
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<tbody>
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<tr>
<td>V2</td>
<td>1257</td>
<td>1224</td>
<td>1241</td>
</tr>
<tr>
<td>Mean</td>
<td>1531</td>
<td>1458</td>
<td>1495</td>
</tr>
</tbody>
</table>

S.E. of difference of two:
1. V means
2. M means
3. M means at the same level of V = 90.6 lb./ac.
4. V means at the same level of M = 79.9 lb./ac.

Crop: Paddy (Kurucut).
Ref: M. 48(49).
Type: T.

Object: To compare different levels of irrigations.

1. BASEL CONDITIONS:
(ii) (a) Nil, (b) Paddy. (c) N.A. (ii) (a) Sandy loam, (b) Refer soil analysis, Pattukottai, (iii) 5.7.48, (iv) (a) 3 to 5 ploughings, (b) Transplanting. (c) — (d) 6" x 6", (e) 2, (v) 500 lb./ac. of G.L., (vii) 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, (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3784</td>
</tr>
<tr>
<td>2</td>
<td>3519</td>
</tr>
<tr>
<td>3</td>
<td>3813</td>
</tr>
<tr>
<td>4</td>
<td>3701</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>N.A.</td>
</tr>
</tbody>
</table>
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):

<table>
<thead>
<tr>
<th>Stage</th>
<th>Treatment</th>
<th>Nursery</th>
<th>Puddling to Planting</th>
<th>Planting to Flowering</th>
<th>Flowering to Harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>I₁</td>
<td>25°</td>
<td>22°</td>
<td>35°</td>
<td>12°</td>
<td></td>
</tr>
<tr>
<td>I₂</td>
<td>22°</td>
<td>20°</td>
<td>30°</td>
<td>16°</td>
<td></td>
</tr>
<tr>
<td>I₃</td>
<td>19°</td>
<td>18°</td>
<td>25°</td>
<td>8°</td>
<td></td>
</tr>
<tr>
<td>I₄</td>
<td>16°</td>
<td>16°</td>
<td>20°</td>
<td>6°</td>
<td></td>
</tr>
</tbody>
</table>

Sub-plot treatments:—
3 weekly intervals of sowing and planting.

<table>
<thead>
<tr>
<th>Date of Sowing</th>
<th>Date of Planting</th>
<th>Date of Harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>T₁</td>
<td>2.8.48</td>
<td>9.9.48</td>
</tr>
<tr>
<td>T₂</td>
<td>9.8.48</td>
<td>16.9.48</td>
</tr>
<tr>
<td>T₃</td>
<td>16.8.48</td>
<td>23.9.48</td>
</tr>
</tbody>
</table>

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) 348 lb./ac.
(ii) (a) 38.9 lb./ac.
(b) 388.8 lb./ac.
(iii) Only sub-plot treatments differ highly significantly.
(iv) Av yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>I₁</th>
<th>I₂</th>
<th>I₃</th>
<th>I₄</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>T₁</td>
<td>3734</td>
<td>3750</td>
<td>3922</td>
<td>3719</td>
<td>3781</td>
</tr>
<tr>
<td>T₂</td>
<td>3719</td>
<td>3187</td>
<td>3250</td>
<td>3617</td>
<td>3443</td>
</tr>
<tr>
<td>T₃</td>
<td>3375</td>
<td>3250</td>
<td>3094</td>
<td>3212</td>
<td>3235</td>
</tr>
<tr>
<td>Mean</td>
<td>3609</td>
<td>3396</td>
<td>3422</td>
<td>3518</td>
<td>3486</td>
</tr>
</tbody>
</table>

S E. of difference of two
1. 1 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. 1 means at the same level of T. = 244.5 lb./ac.
Crop: Paddy (Kurinai).

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’×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):

<table>
<thead>
<tr>
<th>Irrigation Treatment</th>
<th>Stages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursery Puddling to</td>
<td></td>
</tr>
<tr>
<td>Planting Planting</td>
<td></td>
</tr>
<tr>
<td>Flowering Flowering</td>
<td></td>
</tr>
<tr>
<td>Harvest</td>
<td></td>
</tr>
<tr>
<td>I_1 = 17”</td>
<td></td>
</tr>
<tr>
<td>I_2 = 15”</td>
<td></td>
</tr>
<tr>
<td>I_3 = 13”</td>
<td></td>
</tr>
<tr>
<td>I_4 = 11”</td>
<td></td>
</tr>
</tbody>
</table>

   Sub-plot treatments:
   3 weekly intervals of sowing and planting.

<table>
<thead>
<tr>
<th>Date of Sowing</th>
<th>Date of Planting</th>
<th>Date of Harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>T_1 = 12.7.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T_2 = 19.7.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T_3 = 26.7.49</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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—1919. (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×T is significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>I_1</th>
<th>I_2</th>
<th>I_3</th>
<th>I_4</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>T_1</td>
<td>2380</td>
<td>2304</td>
<td>2293</td>
<td>2250</td>
<td>2307</td>
</tr>
<tr>
<td>T_2</td>
<td>2304</td>
<td>2174</td>
<td>2034</td>
<td>2484</td>
<td>2215</td>
</tr>
<tr>
<td>T_3</td>
<td>2323</td>
<td>2522</td>
<td>7641</td>
<td>2543</td>
<td>2532</td>
</tr>
</tbody>
</table>

   Mean = 2369
   S.E.’s = N.A.

Crop: Paddy (Thaladi).

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’×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) 13.55’. (x) As under treatments.
2. TREATMENTS:

Main-plot treatments:
4 irrigation treatments given at different stages and at different levels (inches).

<table>
<thead>
<tr>
<th>Irrigation Treatment</th>
<th>Nursery Puddling to Planting</th>
<th>Planting to Flowering</th>
<th>Flowering to Harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>I₁ = 22&quot;</td>
<td>8&quot;</td>
<td>35&quot;</td>
<td>7&quot;</td>
</tr>
<tr>
<td>I₂ = 20&quot;</td>
<td>7&quot;</td>
<td>30&quot;</td>
<td>6&quot;</td>
</tr>
<tr>
<td>I₃ = 18&quot;</td>
<td>6&quot;</td>
<td>25&quot;</td>
<td>5&quot;</td>
</tr>
<tr>
<td>I₄ = 16&quot;</td>
<td>5&quot;</td>
<td>20&quot;</td>
<td>4&quot;</td>
</tr>
</tbody>
</table>

Sub-plot treatments:
3 weekly intervals of sowing and planting:

<table>
<thead>
<tr>
<th>Date of Sowing</th>
<th>Date of Planting</th>
<th>Date of Harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>T₁ = 21.9.49</td>
<td>5.11.49</td>
<td>8,9.3.50</td>
</tr>
<tr>
<td>T₂ = 28.9.49</td>
<td>12.11.49</td>
<td>8,9.3.50</td>
</tr>
<tr>
<td>T₃ = 5.9.49</td>
<td>19.11.49</td>
<td>8,9.3.50</td>
</tr>
</tbody>
</table>

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) 1.5 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.

<table>
<thead>
<tr>
<th></th>
<th>I₁</th>
<th>I₂</th>
<th>I₃</th>
<th>I₄</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>T₁</td>
<td>2425</td>
<td>2425</td>
<td>2630</td>
<td>2450</td>
<td>2487</td>
</tr>
<tr>
<td>T₂</td>
<td>2500</td>
<td>2645</td>
<td>2480</td>
<td>2565</td>
<td>2548</td>
</tr>
<tr>
<td>T₃</td>
<td>2645</td>
<td>2590</td>
<td>2435</td>
<td>2565</td>
<td>2559</td>
</tr>
</tbody>
</table>

Mean 2523 2553 2522 2527 2531
S.E.'s. = N.A.

Crop: Paddy.
Site: Paddy Breeding Stn. Coimbatore.
Ref: M. 48(112).
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.

<table>
<thead>
<tr>
<th>Date of Sowing</th>
<th>Date of Planting</th>
<th>Date of Harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>T₁ = 6.8.48</td>
<td>13.9.48</td>
<td>20.2.49</td>
</tr>
<tr>
<td>T₂ = 13.8.48</td>
<td>20.9.48</td>
<td>20.2.49</td>
</tr>
<tr>
<td>T₃ = 20.8.48</td>
<td>28.9.48</td>
<td>20.2.49</td>
</tr>
</tbody>
</table>

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.
(v) N.A. (vi) Yes.

4. GENERAL:


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.

<table>
<thead>
<tr>
<th>I_1</th>
<th>I_2</th>
<th>I_3</th>
<th>I_4</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>2077</td>
<td>2114</td>
<td>2001</td>
<td>1990</td>
<td>2046</td>
</tr>
<tr>
<td>2628</td>
<td>2530</td>
<td>2918</td>
<td>2585</td>
<td>2665</td>
</tr>
<tr>
<td>2860</td>
<td>2573</td>
<td>2444</td>
<td>2773</td>
<td>2663</td>
</tr>
<tr>
<td>Mean</td>
<td>2522</td>
<td>2406</td>
<td>2454</td>
<td>2499</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. T means = 114.9 lb./ac.
2. 1 means = 107.5 lb./ac.
3. 1 means at the same level of T = 186.2 lb./ac.
4. T means at the same level of 1 = 197.9 lb./ac.

Crop :- Paddy (Samba).

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 lb. 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) 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:

<table>
<thead>
<tr>
<th>Date of Sowing</th>
<th>Date of Planting</th>
<th>Date of Harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>T_1 = 24.7.48</td>
<td>2.9.48</td>
<td>17.1.49</td>
</tr>
<tr>
<td>T_2 = 1.8.48</td>
<td>10.9.48</td>
<td>18.1.49</td>
</tr>
<tr>
<td>T_3 = 7.8.48</td>
<td>18.9.48</td>
<td>18.1.49</td>
</tr>
</tbody>
</table>

(2) 4 irrigation levels: I_1 = 55", I_2 = 65", I_3 = 75" and I_4 = 85".

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:


5. RESULTS:

(i) 3689 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.

<table>
<thead>
<tr>
<th></th>
<th>I₁</th>
<th>I₂</th>
<th>I₃</th>
<th>I₄</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>T₁</td>
<td>1570</td>
<td>1519</td>
<td>1925</td>
<td>1740</td>
<td>1689</td>
</tr>
<tr>
<td>T₂</td>
<td>1317</td>
<td>1124</td>
<td>1236</td>
<td>1176</td>
<td>1213</td>
</tr>
<tr>
<td>T₃</td>
<td>2063</td>
<td>2030</td>
<td>2290</td>
<td>2156</td>
<td>2160</td>
</tr>
<tr>
<td>Mean</td>
<td>1649</td>
<td>1557</td>
<td>1817</td>
<td>1724</td>
<td>1689</td>
</tr>
</tbody>
</table>

S.E.'s=N.A.

Crop :- Paddy (*Kuruvai*).

Object :- To compare different level of irrigations along with times of sowing.

2. 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. (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:

<table>
<thead>
<tr>
<th>Date of Sowing</th>
<th>Date of Planting</th>
<th>Date of Harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>T₁= 27.7.49</td>
<td>23.8.49</td>
<td>30.10.49</td>
</tr>
<tr>
<td>T₂= 4.8.49</td>
<td>31.8.49</td>
<td>16.11.49</td>
</tr>
<tr>
<td>T₃= 11.8.49</td>
<td>6.9.49</td>
<td>16.11.49</td>
</tr>
</tbody>
</table>

(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.

<table>
<thead>
<tr>
<th></th>
<th>I₁</th>
<th>I₂</th>
<th>I₃</th>
<th>I₄</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>T₁</td>
<td>1626</td>
<td>1565</td>
<td>2042</td>
<td>1987</td>
<td>1805</td>
</tr>
<tr>
<td>T₂</td>
<td>1709</td>
<td>1862</td>
<td>1946</td>
<td>1989</td>
<td>1877</td>
</tr>
<tr>
<td>T₃</td>
<td>2072</td>
<td>2137</td>
<td>2123</td>
<td>2260</td>
<td>2148</td>
</tr>
<tr>
<td>Mean</td>
<td>1803</td>
<td>1854</td>
<td>2037</td>
<td>2079</td>
<td>1943</td>
</tr>
</tbody>
</table>

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).

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) 6" x 6". (d) 200 lb./ac. of G.L. + 200 lb./ac. of Indigo seeds + 100 lb./ac. of Super+50 lb./ac. of A/S. (v) CO. 19 (late). (vi) Irrigated. (vii) 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
   T1= 20.8.50 6.10.50 12.2.51
   T2= 27.8.50 14.10.50 12.2.51
   T3= 3.9.50 20.10.50 12.2.51
   (2) 4 levels of Irrigation: I1=5", I2=6", I3=7", I4=8"

3. DESIGN:
   (i) 3 x 4 Fact. in R.B.D. (ii) (a) 17. (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) 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.

<table>
<thead>
<tr>
<th></th>
<th>I1</th>
<th>I2</th>
<th>I3</th>
<th>I4</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>1662</td>
<td>1926</td>
<td>1772</td>
<td>2025</td>
<td>1856</td>
</tr>
<tr>
<td>T2</td>
<td>1906</td>
<td>2272</td>
<td>1928</td>
<td>1805</td>
<td>2011</td>
</tr>
<tr>
<td>T3</td>
<td>2002</td>
<td>1879</td>
<td>2148</td>
<td>2016</td>
<td>1945</td>
</tr>
<tr>
<td>Mean</td>
<td>1856</td>
<td>2026</td>
<td>1949</td>
<td>1949</td>
<td>1945</td>
</tr>
</tbody>
</table>

S.E. of 1 marginal means = ±5.9 lb./ac.
S.E. of 1 marginal means = ±5.7 lb./ac.
S.E. of body of table = ±1.4 lb./ac.
2. TREATMENTS:
All combinations of (1) and (2)
(1) 3 weekly intervals of sowing and planting:

<table>
<thead>
<tr>
<th>Date of Sowing</th>
<th>Date of Planting</th>
<th>Date of Harvesting</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>27.7.51</td>
<td>30.10.50</td>
</tr>
<tr>
<td>T2</td>
<td>4.8.50</td>
<td>16.11.50</td>
</tr>
<tr>
<td>T3</td>
<td>11.8.50</td>
<td>16.11.50</td>
</tr>
</tbody>
</table>

(2) 4 levels of irrigation: \( I_1 = 42" \), \( I_2 = 52" \), \( I_3 = 62" \) and \( I_4 = 72" \).

3. DESIGN:
(i) 3x4 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) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(iii) Interaction of times of sowing x levels of irrigation is significant. Others are not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>I1</th>
<th>I2</th>
<th>I3</th>
<th>I4</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>1817</td>
<td>1656</td>
<td>1672</td>
<td>1867</td>
<td>1753</td>
</tr>
<tr>
<td>T2</td>
<td>1546</td>
<td>1670</td>
<td>1534</td>
<td>1516</td>
<td>1527</td>
</tr>
<tr>
<td>T3</td>
<td>1306</td>
<td>1483</td>
<td>1486</td>
<td>1427</td>
<td>1426</td>
</tr>
<tr>
<td>Mean</td>
<td>1538</td>
<td>1603</td>
<td>1564</td>
<td>1603</td>
<td>1582</td>
</tr>
</tbody>
</table>

S.E. of I marginal means = 45.1 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).
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" x 6". (e) 2. (v) 400 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)
(*) 3 weekly intervals of sowing and planting.

<table>
<thead>
<tr>
<th>Date of Sowing</th>
<th>Date of Planting</th>
<th>Date of Harvesting</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>18.8.51</td>
<td>14.2.52</td>
</tr>
<tr>
<td>T2</td>
<td>25.8.51</td>
<td>14.2.52</td>
</tr>
<tr>
<td>T3</td>
<td>19.5.51</td>
<td>16.2.52</td>
</tr>
</tbody>
</table>

(2) 4 levels of irrigation: \( I_1 = 55" \), \( I_2 = 66" \), \( I_3 = 77" \) and \( I_4 = 88" \).

3. DESIGN:
(i) 3x4 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.

<table>
<thead>
<tr>
<th></th>
<th>I₁</th>
<th>I₂</th>
<th>I₃</th>
<th>I₄</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>T₁</td>
<td>1048</td>
<td>632</td>
<td>868</td>
<td>994</td>
<td>885</td>
</tr>
<tr>
<td>T₂</td>
<td>1476</td>
<td>1290</td>
<td>1535</td>
<td>1795</td>
<td>1524</td>
</tr>
<tr>
<td>T₃</td>
<td>2100</td>
<td>2111</td>
<td>2029</td>
<td>1940</td>
<td>2045</td>
</tr>
<tr>
<td>Mean</td>
<td>1341</td>
<td>1344</td>
<td>1477</td>
<td>1576</td>
<td>1485</td>
</tr>
</tbody>
</table>

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 (Kuruvai).
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) 6" x 6". (d) 10 lb./ac. of G.L.+200 lb./ac. of old Indigo seeds.+100 lb./ac. of Super.+50 lb./ac. of A/S. (v) 6" x 6". (vi) 4000 lb./ac. of G.L.+200 lb./ac. of old Indigo seeds.+100 lb./ac. of Super.+50 lb./ac. of A/S. (vii) Adt. 3 (early). (viii) Irrigated. (ix) Weeding once.

2. TREATMENTS:
All combinations of (1) and (2)
(i) 3 weekly intervals of sowing and planting.

<table>
<thead>
<tr>
<th>Date of Sowing</th>
<th>Date of Planting</th>
<th>Date of Harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>T₁ = 18.7.51</td>
<td>8.8.51</td>
<td>18.10.51</td>
</tr>
<tr>
<td>T₂ = 25.7.51</td>
<td>14.8.51</td>
<td>21.10.51</td>
</tr>
<tr>
<td>T₃ = 1.8.51</td>
<td>22.8.51</td>
<td>25.10.51</td>
</tr>
</tbody>
</table>

(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.
Crop:- Paddy.
Site :- Rice Res. Stn. Ambasamudram.

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'x6'. (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) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 20'x4'. (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.

<table>
<thead>
<tr>
<th></th>
<th>D.D.T.</th>
<th>B.H.C.</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>C₁</td>
<td>2646</td>
<td>2902</td>
<td>2774</td>
</tr>
<tr>
<td>C₂</td>
<td>2715</td>
<td>2907</td>
<td>2811</td>
</tr>
<tr>
<td>Mean</td>
<td>2680</td>
<td>2904</td>
<td>2792</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 37.54 lb./ac.
S.E. of body of table = 53.08 lb./ac.
Crop: Paddy.  
Site: Rice Res. Stn., Ambasamudram.  


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' x 6'. (e) 2.

(v) Nil. (vi) Asd. 5 (medium). (vii) Irrigated. (viii) Two weedicings. (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%.
6. 1st spray 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), (b) 30' x 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. (c) Nil. (d) N.A. (e) Nil. (f) Nil. (g) Nil. (h) Nil. (i) Nil. (j) Nil.

5. RESULTS:

(i) 2522 lb./ac.

(ii) 139.6 lb./ac.

(iii) Treatment differences are highly significant.

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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Avg. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2561</td>
</tr>
<tr>
<td>2.</td>
<td>2509</td>
</tr>
<tr>
<td>3.</td>
<td>2606</td>
</tr>
<tr>
<td>4.</td>
<td>2561</td>
</tr>
<tr>
<td>5.</td>
<td>2522</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>57.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy.  
Site: Rice Res. Stn., Ambasamudram.  


4. 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' x 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 weedicings. (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' x 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. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3567</td>
</tr>
<tr>
<td>2.</td>
<td>3760</td>
</tr>
<tr>
<td>3.</td>
<td>3334</td>
</tr>
</tbody>
</table>

S.E./mean = 63.5 lb./ac.

Crop :-Paddy.
Site :-Paddy Breeding Stn., Coimbatore.

Ref :-M. 50(50).
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'x6". (e) 2. (v) 5000 lb./ac. of G.L. (vi) CO. 19 (late). (vii) Irrigated. (viii) Weeding once. (ix) 12.76'. (x) 12.76'.

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'x16'. (b) 5'x15'. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3025</td>
</tr>
<tr>
<td>2.</td>
<td>3058</td>
</tr>
<tr>
<td>3.</td>
<td>3032</td>
</tr>
</tbody>
</table>

S.E./mean = 55.1 lb./ac.

Crop :-Paddy.
Site :-Paddy Breeding Stn., Coimbatore.

Ref :-M. 50(51).
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) 24.8.5 /29.9.50. (iv) (a) 4 ploughings. (b) Transplanting. (c) ——. (d) 6'x6". (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:
2. Pot. Phosphate M.
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.

5. **RESULTS**:

(i) 3283 lb./ac.
(ii) 224.3 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3283</td>
</tr>
<tr>
<td>2.</td>
<td>3397</td>
</tr>
<tr>
<td>3.</td>
<td>2971</td>
</tr>
<tr>
<td>4.</td>
<td>3253</td>
</tr>
<tr>
<td>5.</td>
<td>3296</td>
</tr>
<tr>
<td>6.</td>
<td>3277</td>
</tr>
<tr>
<td>7.</td>
<td>3349</td>
</tr>
<tr>
<td>8.</td>
<td>3259</td>
</tr>
<tr>
<td>9.</td>
<td>3283</td>
</tr>
<tr>
<td>10.</td>
<td>3259</td>
</tr>
</tbody>
</table>

S.E./mean = 112.3 lb./ac.

---

**Crop**: Paddy.

**Site**: Paddy Breeding Stn., Coimbatore.

**Object**: To study the effect of seed treatment with Ceresan.

**Ref**: M. 51(33).

**Type**: 'D'.

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) 3 ploughings. (b) N.A. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super.

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.
3. DESIGN:
(i) R.B.D. (ii) 21. (b) N.A. (iii) 6. (iv) (a) 4' x 16'. (b) 3' x 15'. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1623</td>
<td>12.</td>
<td>1651</td>
</tr>
<tr>
<td>2.</td>
<td>......</td>
<td>13.</td>
<td>1376</td>
</tr>
<tr>
<td>3.</td>
<td>1403</td>
<td>14.</td>
<td>1350</td>
</tr>
<tr>
<td>4.</td>
<td>1421</td>
<td>15.</td>
<td>1350</td>
</tr>
<tr>
<td>5.</td>
<td>1390</td>
<td>16.</td>
<td>1458</td>
</tr>
<tr>
<td>6.</td>
<td>1200</td>
<td>17.</td>
<td>1368</td>
</tr>
<tr>
<td>7.</td>
<td>1493</td>
<td>18.</td>
<td>1383</td>
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<td>8.</td>
<td>1488</td>
<td>19.</td>
<td>1533</td>
</tr>
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<td>9.</td>
<td>1693</td>
<td>20.</td>
<td>1336</td>
</tr>
<tr>
<td>10.</td>
<td>1513</td>
<td>21.</td>
<td>1418</td>
</tr>
<tr>
<td>11.</td>
<td>1646</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 cwt/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' x 6'. (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:
1. 10% Pot. phosphate solution.
2. 20% Pot. phosphate solution.
3. 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' x 21'. (b) 4' x 20'. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3667</td>
</tr>
<tr>
<td>2.</td>
<td>3761</td>
</tr>
<tr>
<td>3.</td>
<td>3338</td>
</tr>
</tbody>
</table>

S.E./mean = 62.1 lb./ac.
Crop :- Paddy.

Site :- Rice Res. Stn., Tirurkuppam.

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"x4". (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.

3. DESIGN :
(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 21'x16'. (b) 20'x15'. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2747</td>
</tr>
<tr>
<td>2.</td>
<td>2831</td>
</tr>
<tr>
<td>3.</td>
<td>2549</td>
</tr>
<tr>
<td>4.</td>
<td>2495</td>
</tr>
<tr>
<td>5.</td>
<td>2514</td>
</tr>
<tr>
<td>6.</td>
<td>2695</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>144.9 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Paddy (Navari).

Site :- Rice Res. Stn., Tirurkuppam.

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"x4". (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 1% D.D.T. solution before planting.
3. Spraying 1% D.D.T. solution once 3 weeks after planting.
4. Spraying 1% 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'x5'. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2231</td>
</tr>
<tr>
<td>2.</td>
<td>2031</td>
</tr>
<tr>
<td>3.</td>
<td>2106</td>
</tr>
<tr>
<td>4.</td>
<td>2156</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>40.1 lb./ac.</td>
</tr>
</tbody>
</table>


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) 13.5:10/9.6:50. (iv) (a) 4 ploughings. (b) Transplanting. (c) —. (d) 4'x4'. (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. (a) 19.0'. (x) 7.9.50.

2. TREATMENTS:
   1. Control.
   2. Dipping seedlings in 1% D.D.T. solution before planting.
   4. Spraying planted crop twice with 1% 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'x15'. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3933</td>
</tr>
<tr>
<td>2.</td>
<td>3987</td>
</tr>
<tr>
<td>3.</td>
<td>39.6</td>
</tr>
<tr>
<td>4.</td>
<td>3926</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>63.69 lb./ac.</td>
</tr>
</tbody>
</table>
Crop : - Paddy (Sambo).

Site : - Rice Res. Stn., Tirurkuppam.

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) 30.9.50/8.11.50. (iv) (a) 4 ploughings. (b) Transplanting. (c) 6" x 6". (d) 75lb. x 3'. (v) One row all round the net plot. (vi) Yes.

2. TREATMENTS:
   1. Control.
   2. Spraying with 1% D.D.T. solution once, 3 weeks after planting.
   3. Spraying with 1% D.D.T. solution twice, 3 and 6 weeks after planting.

3. DESIGN:
   (i) R.B.D. (ii) 4. (b) N.A. (iii) 6. (iv) (a) 76' x 4'. (b) 75' x 3'. (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) Nil. (c) N.A. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1148 lb./ac.
   (ii) 116.9 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.

Ref :- M. 50 (9).

Type :- 'D'.
3. DESIGN:
(i) R.B.D. (ii) 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.

\[
\begin{array}{cccc}
& T_1 & T_2 & T_3 & \text{Mean} \\
C_1 & 1513 & 1462 & 1394 & 1456 \\
C_2 & 1357 & 1441 & 1519 & 1439 \\
\text{Mean} & 1435 & 1452 & 1457 & 1448 \\
\end{array}
\]

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).
Site: Rice Res Stn., Tirurkuppam.
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. (vii) Weeding once. (ix) 32.56'. (x) 9.10.49.

2. TREATMENTS:
1. Spark treatment to seeds and seedlings.

3. DESIGN:
(i) R.B.D. (ii) 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.

\[
\begin{array}{ccc}
\text{Treatment} & \text{Av. yield} \\
1. & 2265 \\
2. & 2141 \\
\text{S.E./mean} & = 120.3 \text{ lb./ac.} \\
\end{array}
\]
Crop: Paddy.  
Site: Paddy Breeding Station, Coimbatore.

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' x 6'  
   (e) 2.  
   (f) 4000 lb./ac. of G.L.+224 lb./ac. of G.N.C.+56 lb./ac. of A/S.
   (v) As per treatments.  
   (vi) Irrigated.  
   (vii) Weeding twice.  
   (ix) N.A.  
   (x) N.A.

2. TREATMENTS:
   All combinations of (1) and (2)
   (i) 2 varieties: V₁=CO.19 and V₃=G.E.B.24. (All late varieties.)
   (ii) 3 chemicals: C₀=Control (water), C₁=Mg. cloride, Solution 15%. C₂=Mg. Sul. solution 15%.
   Paddy seeds soaked for 24 hours before sowing.

3. DESIGN:
   (i) 2 x 3 Fact. in R.B.D.  
   (ii) (a) 6.  
        (b) N.A.  
   (iii) 6.  
   (iv) (a) N.A.  
        (b) 4' x 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.  
   (ii) 194.8 lb./ac.
   (iii) Main effects and interaction are not significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>C₀</th>
<th>C₁</th>
<th>C₂</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V₁</td>
<td>2061</td>
<td>2111</td>
<td>2193</td>
</tr>
<tr>
<td>V₂</td>
<td>2161</td>
<td>2361</td>
<td>2226</td>
</tr>
<tr>
<td>Mean</td>
<td>2111</td>
<td>2286</td>
<td>2210</td>
</tr>
</tbody>
</table>

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.  
Site: Govt. Agri. Chemist, Coimbatore.  

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:
   1. Control (no manure).
   2. G.M. crop raised and ploughed in.
   3. 2500 lb./ac. of G.M. (Daincha) applied.
   4. 5000 lb./ac. of G.M. (Daincha) applied.
   5. 7500 lb./ac. of G.M. (Daincha) applied.
   6. 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) 1951—Jowar; 1950—Cotton. (v) Yes. (vi) Nil. (vii) Nil. (viii) 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) Treatment differences are not significant. (v) Av. yield of grain in lb./ac.
   Treatment Av. yield
   1. 165
   2. 17
   3. 13
   4. 93
   5. 125
   6. 16

Object:—To find out the relative manurial value of Night soil compost and F.Y.M;

1. BASAL CONDITIONS:
   (i) Cholam Ragi—Sunnhemp. (b) Sunnhemp. (c) Nil. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore.
   (iii) 33. (iv) (a) 3 ploughings. (b) N.A. (c) 15 lb./ac. (d) 9" × 9". (e) 1. (f) Nil. (g) CO.9 early.
   (h) Irrigated. (i) Weeding once. (jx) 4.24°. (x) 1.7.49.

2. TREATMENTS:
   1. Control.
   2. Night soil compost at 6 lb./ac. of N.
   3. F.Y.M. at 6 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 × 100 (links.) (c) N.A. (v) 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) 172 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. Site: Central farm, Coimbatore. Ref: M. 51 (68/49 (85)). 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) 26.25.1. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1373</td>
</tr>
<tr>
<td>2.</td>
<td>1387</td>
</tr>
<tr>
<td>3.</td>
<td>1387</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

Crop: Jowar. Site: Central farm, Coimbatore. Ref: M. 51 (69). Type: 'M'.

Object: To study the response of Cholam to the application of F.Y.M. and Night soil compost (Series 2).

1. BALAL CONDITIONS:
(i) (a) Cholam—Ragi—Sunnhemp. (b) Sunnhemp. (c) N.A. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 26.25.1. (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. (d) Nil. (e) N.A. (f) 96.2 lb./ac.

5. RESULTS:
(i) 896 lb./ac.
(ii) 96.2 lb./ac.
(iii) Treatment differences are not significant.
Crop :- Jowar. Ref :- M. 48(97).
Site :- Millet Breeding Stn., Coimbatore. 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
   (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) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>93</td>
</tr>
<tr>
<td>2.</td>
<td>187</td>
</tr>
<tr>
<td>3.</td>
<td>132</td>
</tr>
<tr>
<td>S.E/mean</td>
<td>17.24 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Jowar. Ref :- M. 48(96).
Site :- Millet Breeding Stn., Coimbatore. 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 :
   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) 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. 

<table>
<thead>
<tr>
<th>Crop</th>
<th>Site</th>
<th>Type</th>
<th>Object</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jowar</td>
<td>Central Farm, Coimbatore</td>
<td>T'</td>
<td>To find out the optimum interval and depth of irrigation for the garden land crops like Cotton, Ragi and Cholam etc.</td>
</tr>
</tbody>
</table>

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"x9". (e) -. (f) 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) 2′×4′ left as border. (v) 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:
(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.

\[
\begin{array}{c|cccc|c}
\text{Crop} & \text{I}_1 & \text{I}_2 & \text{I}_3 & \text{I}_4 & \text{Mean} \\
\hline
\text{Jowar} & 3312 & 2779 & 1712 & 1332 & 2294 \\
\text{D_1} & 3997 & 3084 & 2247 & 1523 & 2712 \\
\text{D_2} & 3256 & 3351 & 2122 & 1713 & 2703 \\
\hline
\text{Mean} & 3578 & 3071 & 2107 & 1523 & 2570 \\
\end{array}
\]
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) 3.3.5. (iv) (a) 3 ploughings. (b) N.A. (c) 15 lb./ac. (d) 9”x9”. (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’x120’. (iii) 4. (iv) (a) 30’x20’ (sub-plot); 60’x30’ (main-plot). (b) 26’x12’. sub-plot. (v) 2’x4’ 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.

<table>
<thead>
<tr>
<th></th>
<th>I_1</th>
<th>I_2</th>
<th>I_3</th>
<th>I_4</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>D_1</td>
<td>2461</td>
<td>1601</td>
<td>876</td>
<td>593</td>
<td>1383</td>
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<tr>
<td>D_2</td>
<td>2748</td>
<td>1522</td>
<td>1238</td>
<td>445</td>
<td>1488</td>
</tr>
<tr>
<td>D_3</td>
<td>2990</td>
<td>1408</td>
<td>994</td>
<td>331</td>
<td>1431</td>
</tr>
<tr>
<td>Mean</td>
<td>2733</td>
<td>1510</td>
<td>1036</td>
<td>456</td>
<td>1434</td>
</tr>
</tbody>
</table>

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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”x9”. (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.
   3. 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) 25x100 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>703</td>
</tr>
<tr>
<td>2</td>
<td>696</td>
</tr>
<tr>
<td>3</td>
<td>652</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>56.3 lb./ac.</td>
</tr>
</tbody>
</table>

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) Cholam.  (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" x 9".  (e) 1.  (v) Nil.  (vi) CO. I Ragi (late).  (vii) Irrigated.  (viii) Weeding once.  (ix) 13.63", (x) 4.11.50.

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 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 x 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>687</td>
</tr>
<tr>
<td>2</td>
<td>640</td>
</tr>
<tr>
<td>3</td>
<td>602</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>29.3 lb./ac.</td>
</tr>
</tbody>
</table>
**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) *Cvsm-Ragi-Sunnhemp* (b) *Cholam*. (c) As under treatments. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 2.75/l.30.7.51. (iv) (a) *Mummatty* digging twice. (b) N.A. (c) N.A. (d) 9"×9". (e) N.A. (f) Nil. (v) CO. 1 *Ragi*. (late). (vii) Irrigated. (viii) Weeding once on 1.8.51. (ix) N.A. (x) 24.10.51.

2. **TREATMENTS** :
   1. Control. (no manure).
   2. Night soil compost at 63 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.
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>555</td>
</tr>
<tr>
<td>2.</td>
<td>541</td>
</tr>
<tr>
<td>3.</td>
<td>537</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>32.8 lb./ac.</td>
</tr>
</tbody>
</table>

---

**Crop** :- Ragi.  
**Ref.** :- M. 49(87).

**Site** :- Central Farm, Coimbatore.  
**Type** :- 'M'.

Object :- To find out the relative merits and manural 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. 1 *Ragi* (late). (vi) Weeding once. (ix) 5.31". (v) 19.9.49.

2. **TREATMENTS** :
   1. Control (no manure).
   2. Night soil compost at 65 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>638</td>
</tr>
<tr>
<td>2.</td>
<td>588</td>
</tr>
<tr>
<td>3.</td>
<td>649</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>40.8 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Ragi.  
Site :- Central Farm, Coimbatore.  
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) 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:
   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 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) Normal.  (ii) Nil.  (iii) Grain yield.  (iv) (a) 1949–1951.  (b) Yes.  (c) Nil.  (v) (a) Nil.  (b) Nil.  (vi) & (vii) Nil.

5. RESULTS:
   (i) 569 lb./ac.
   (ii) 65.9 lb./ac.
   (iii) Treatment differences are not significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>592</td>
</tr>
<tr>
<td>2.</td>
<td>557</td>
</tr>
<tr>
<td>3.</td>
<td>558</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>26.1 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Ragi.  
Site :- Central Farm, Coimbatore.  
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 5/28, 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:
   1. No manure (control).
   2. Night soil compost at 60 lb./ac. of N.
   3. 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 x 75 sq. links. (iii) 6. (iv) (a) N.A. (b) 100 x 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>469</td>
<td>43.8 lb./ac.</td>
</tr>
<tr>
<td>2.</td>
<td>530</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>458</td>
<td></td>
</tr>
</tbody>
</table>

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. (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) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 100 x 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>563.2</td>
<td>44.0 lb./ac.</td>
</tr>
<tr>
<td>2.</td>
<td>583.2</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>555.2</td>
<td></td>
</tr>
</tbody>
</table>
Crop : Ragi.

Site : Central Farm, Coimbatore.

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 (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.

   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.

Site : Central Farm, Coimbatore.

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) 23′×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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1857</td>
</tr>
<tr>
<td>2.</td>
<td>1786</td>
</tr>
<tr>
<td>3.</td>
<td>1837</td>
</tr>
<tr>
<td>4.</td>
<td>1908</td>
</tr>
</tbody>
</table>

S.E./mean = 46.8 lb./ac.

---

### 2. TREATMENTS:

1. Control.
2. Zinc Sul at 4 lb./ac.
3. Zinc Sul at 5 lb./ac.
4. Zinc Sul at 6 lb./ac.

---

### 3. DESIGN:

(i) R.B.D. (ii) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3131</td>
</tr>
<tr>
<td>2.</td>
<td>3214</td>
</tr>
<tr>
<td>3.</td>
<td>3099</td>
</tr>
<tr>
<td>4.</td>
<td>3355</td>
</tr>
</tbody>
</table>

S.E./mean = 93.6 lb./ac.
2. TREATMENTS:
1. Control.
2. 5 lb/ac. of Alphatron.
3. 10 lb/ac. of Alphatron.
4. 20 lb/ac. of Alphatron.

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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>956</td>
</tr>
<tr>
<td>2.</td>
<td>863</td>
</tr>
<tr>
<td>3.</td>
<td>971</td>
</tr>
<tr>
<td>4.</td>
<td>990</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 49.4 lb/ac.</td>
</tr>
</tbody>
</table>

Crop :- Ragi. 
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"x6", (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) 54x45 Sq. links. (b) 50x41 Sq. links. (v) 2 links alround. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1278</td>
</tr>
<tr>
<td>2.</td>
<td>1541</td>
</tr>
<tr>
<td>3.</td>
<td>1561</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 34.6 lb/ac.</td>
</tr>
</tbody>
</table>
Crop : Ragi.  

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 x 1 Sq. link. (e) 1 (v) Nil. (vi) P. 1 Ragi. (vii) Irrigated. (viii) Weeding once. (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 x 54 Sq. links. (b) 41 x 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.
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1009</td>
</tr>
<tr>
<td>2.</td>
<td>1122</td>
</tr>
<tr>
<td>3.</td>
<td>1098</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>32.3 lb./ac.</td>
</tr>
</tbody>
</table>

Crop : Ragi.  

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) 25.1.52/26.8.52. (iv) (a) 3 ploughings. (b) N.A. (c) 8 lb./ac. (d) 1 x 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' x 30'. (b) 32' x 28'. (v) 2' x 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>455</td>
</tr>
<tr>
<td>2.</td>
<td>582</td>
</tr>
<tr>
<td>3.</td>
<td>543</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>37.0 lb./ac.</td>
</tr>
</tbody>
</table>

Ref :- M. 52 (57)/52 (61)/51 (82).
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) 13.65 lb./ac. 7.7.52.
(iv) (a) 3 ploughings. (b) N.A. (c) 8 lb./ac. (d) 1 x 1 sq. link. (e) 1. (v) Nil. (vi) P. I 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) 3. (b) N.A. (iii) 6. (iv) (a) 43 x 52 sq. links. (b) 41 x 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) 350.0 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>595</td>
</tr>
<tr>
<td>2.</td>
<td>638</td>
</tr>
<tr>
<td>3.</td>
<td>542</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>143.0 lb./ac.</td>
</tr>
</tbody>
</table>

Ref :- M. 49 (112).
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 x 1 sq. link. (e) 1. (v) Nil. (vi) R-382. (vii) Irrigated. (viii) Weeding once. (ix) 17.12. (x) 13.9.49.
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) $54 \times 45$ sq. links. (b) $50 \times 41$ 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1286</td>
</tr>
<tr>
<td>2.</td>
<td>1445</td>
</tr>
<tr>
<td>3.</td>
<td>1420</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>57.9 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Ragi.
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 x 1 sq. link. (e) N.A. (v) Nil. (vi) P.1. (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) $45 \times 54$ sq. links. (b) $41 \times 50$ sq. links. (v) 2 links left all round. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1010</td>
</tr>
<tr>
<td>2.</td>
<td>1118</td>
</tr>
<tr>
<td>3.</td>
<td>1076</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>42.4 lb./ac.</td>
</tr>
</tbody>
</table>
Crop: Ragi.


Ref: M. 52(62)/51(81)/49(112).

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) Cuma—Groundnut—Ragi—Sunn hemp. (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) 1x1 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' x 30'. (b) 12' x 12'. (v) 2' x 1' left as border. (vi) Yes.

4. GENERAL:
   (i) Not satisfactory due to severe drought conditions. (ii) Nil. (iii) Grain yield. (iv) (a) 1949—1951. (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.
   1. 491
   2. 522
   3. 559
   S.E./mean = 25.0 lb./ac.

Crop: Ragi.


Ref: M. 52(58)/52(62)/51(81)/49(112).

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) Loamy. (b) Refer soil analysis, Palur. (iii) 13,6,52/ 7.7,52. (iv) (a) 3 ploughings. (b) N.A. (c) 8 lb./ac. (d) 1x1 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 x 52 sq. links. (b) 41 x 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) 299 lb./ac.
   (ii) 95.6 lb./ac.
   (iii) Treatment differences are not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>329</td>
</tr>
<tr>
<td>2.</td>
<td>257</td>
</tr>
<tr>
<td>3.</td>
<td>307</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 39.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Ragi (1st crop).
Site: Central Sugarcane Res. Stn., Palur.

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) 29-5.53/24-5.53. (iv) (a) 5 ploughings. (b), (c), (d) & (e) N.A. (v) Nil. (vi) P. I. (vii) Irrigated. (viii) 2 weedings. (ix) 11.23°. (x) 6.9.53.

2. TREATMENTS:
   All combinations of (1), (2) and (3)
   (1) 2 levels of basal dressings:–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:–A/S and C/N.
   (3) 2 levels of N:–N₁=40 & N₂=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 P₂O₅.

3. DESIGN:
   (i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a) 20'x32'. (b) 19½'x32'. (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.

<table>
<thead>
<tr>
<th></th>
<th>A/S</th>
<th>C/N</th>
<th>Mean</th>
<th>N₁</th>
<th>N₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>B₀</td>
<td>476</td>
<td>398</td>
<td>437</td>
<td>445</td>
<td>429</td>
</tr>
<tr>
<td>B₁</td>
<td>602</td>
<td>544</td>
<td>573</td>
<td>544</td>
<td>603</td>
</tr>
<tr>
<td>Mean</td>
<td>539</td>
<td>471</td>
<td>505</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N₁</td>
<td>524</td>
<td>465</td>
<td>494</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N₂</td>
<td>555</td>
<td>476</td>
<td>516</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of the marginal means = 17.0 lb./ac.
S.E. of body of table = 24.1 lb./ac.
Crop: Ragi (2nd crop).
Site: Central Sugarcane Res. Stn. Palur.
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) 12.53, 51.54. (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\textsubscript{0}=0 and B\textsubscript{1}=Lime at 450 lb./ac.+C.M. at 3 ton/ac.+Super at 30 lb./ac. of P\textsubscript{2}O\textsubscript{5}.
   (2) 2 sources of N:—A/S and C/N.
   (3) 2 levels of N:—N\textsubscript{1}=40 & N\textsubscript{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\textsubscript{2}O\textsubscript{5}.

3. DESIGN:
   (i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a) 20' x 32'. (b) 19' x 32'. (v) 1/4' allround (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.

<table>
<thead>
<tr>
<th></th>
<th>A/S</th>
<th>C/N</th>
<th>Mean</th>
<th>N\textsubscript{1}</th>
<th>N\textsubscript{2}</th>
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<tr>
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<td>1642</td>
<td>1693</td>
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<td>B\textsubscript{1}</td>
<td>2006</td>
<td>1982</td>
<td>1994</td>
<td>1877</td>
<td>2112</td>
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<tr>
<td>Mean</td>
<td>1892</td>
<td>1744</td>
<td>1818</td>
<td></td>
<td></td>
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<tr>
<td>N\textsubscript{1}</td>
<td>1797</td>
<td>1773</td>
<td>1785</td>
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<tr>
<td>N\textsubscript{2}</td>
<td>1987</td>
<td>1716</td>
<td>1851</td>
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</tr>
</tbody>
</table>

S.E. of any marginal mean =46.0 lb./ac.
S.E. of body of table =65.1 lb./ac.

Crop: Ragi.
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\textsubscript{2}O\textsubscript{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) 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) 2575 lb./ac.
(ii) N.A.
(iii) N.A.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Control=2745 lb./ac.</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>Mean</th>
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</thead>
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<tr>
<td>Sunnhemp</td>
<td>2783</td>
<td>2945</td>
<td>2714</td>
<td>2814</td>
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<tr>
<td>C.M.</td>
<td>2350</td>
<td>2560</td>
<td>2791</td>
<td>2577</td>
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<tr>
<td>Compost</td>
<td>2863</td>
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<td>2609</td>
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<td>2614</td>
<td>2711</td>
<td>2667</td>
</tr>
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</table>

Crop :- Ragi.
Site :- Central Farm, Coimbatore.

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) '66.49/11.74.9.
(iv) (a) 3 ploughings. (b) N.A. (c) 15 lb./ac. (d) 9" x 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) 15.6'. (x) 15.10.49.

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) 4 main-plots/replication ; 3 sub-plots/main-plot. (b) 60' x 120'. (iii) 4. (iv) (a) 30' x 20' (sub-plot) 30' x 60' (main-plot). (b) 26' x 12' (sub-plot). (c) 2' x 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.
(b) N.A.
(iii) Main-plot treatment effects alone are significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>I₁</th>
<th>I₂</th>
<th>I₃</th>
<th>I₄</th>
<th>Mean</th>
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</thead>
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<tr>
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<td>571</td>
<td>242</td>
<td>174</td>
<td>484</td>
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<tr>
<td>D₂</td>
<td>1055</td>
<td>597</td>
<td>342</td>
<td>292</td>
<td>571</td>
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<td>636</td>
</tr>
<tr>
<td>Mean</td>
<td>1057</td>
<td>617</td>
<td>333</td>
<td>248</td>
<td>564</td>
</tr>
</tbody>
</table>

Crop: Ragi.  
Site: Central Farm, Coimbatore.  
Ref: M. 50(89).  
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"×9". (e) —. (f) 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) 30×50 Sq. links. (b) 22×42 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.

<table>
<thead>
<tr>
<th></th>
<th>I₁</th>
<th>I₂</th>
<th>I₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>D₁</td>
<td>886</td>
<td>820</td>
<td>337</td>
<td>681</td>
</tr>
<tr>
<td>D₂</td>
<td>939</td>
<td>1016</td>
<td>734</td>
<td>896</td>
</tr>
<tr>
<td>Mean</td>
<td>913</td>
<td>918</td>
<td>536</td>
<td>789</td>
</tr>
</tbody>
</table>

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.

Site :- Central Farm, Coimbatore.

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.

<table>
<thead>
<tr>
<th>$I_1$</th>
<th>$I_2$</th>
<th>$I_3$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1109</td>
<td>724</td>
<td>561</td>
<td>798</td>
</tr>
<tr>
<td>1455</td>
<td>1048</td>
<td>899</td>
<td>1134</td>
</tr>
</tbody>
</table>
   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.
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.

<table>
<thead>
<tr>
<th></th>
<th>I₁</th>
<th>I₂</th>
<th>I₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
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<td>252</td>
</tr>
<tr>
<td>D₂</td>
<td>335</td>
<td>286</td>
<td>278</td>
<td>300</td>
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<tr>
<td>Mean</td>
<td>319</td>
<td>271</td>
<td>238</td>
<td>276</td>
</tr>
</tbody>
</table>

S.E. N.A.

Crop :- Ragi. 
Site :- Millet Breeding Stn., Coimbatore.
Type :- 'D'.

Object :- To study the effect of harmones 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) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1386</td>
</tr>
<tr>
<td>2.</td>
<td>1606</td>
</tr>
<tr>
<td>3.</td>
<td>1372</td>
</tr>
<tr>
<td>4.</td>
<td>1223</td>
</tr>
<tr>
<td>5.</td>
<td>1353</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 66.3 lb./ac.</td>
</tr>
</tbody>
</table>
Crop :- Potato. 
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° x 9°. (e) 1. (v) Nil. (vi) Great Scot. (vii) Irrigated. (viii) Weeding and earthing up once. (ix) 30.60°. (x) 16 to 18.8.49.

2. TREATMENTS:
All combinations of (1), (2) and (3)
(1) 2 levels of lime: L0 = 0 and L1 = 2 ton/ac.
(2) 2 levels of N: N1 = 40 and N2 = 80 lb./ac.
(3) 4 levels of P2O5: P0 = 0, P1 = 40, P2 = 120 and P3 = 200 lb./ac.

3. DESIGN:
(i) 2 x 2 x 4 Fact. in R.B.D. (ii) 16. (b) N.A. (iii) S. (iv) N.A. (b) 20' x 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.

<table>
<thead>
<tr>
<th></th>
<th>P0</th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
<th>Mean</th>
<th>L0</th>
<th>L1</th>
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<tr>
<td>N2</td>
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<td>12008</td>
<td>14336</td>
<td>14597</td>
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<td>14586</td>
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</table>

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 x P or L x P table =518.0 lb./ac.
S.E. of body of N x L table =366.0 lb./ac.
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' x 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.

<table>
<thead>
<tr>
<th></th>
<th>( P_0 )</th>
<th>( P_1 )</th>
<th>( P_2 )</th>
<th>( P_3 )</th>
<th>Mean</th>
<th>( L_0 )</th>
<th>( L_1 )</th>
</tr>
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<tbody>
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<td>7647</td>
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<td>6149</td>
<td>7453</td>
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<tr>
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<td>7318</td>
<td>8248</td>
<td>6875</td>
<td>6938</td>
<td>6813</td>
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<tr>
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<td>7505</td>
<td>7948</td>
<td>6838</td>
<td>6543</td>
<td>7133</td>
</tr>
<tr>
<td>( L_0 )</td>
<td>5015</td>
<td>6637</td>
<td>6762</td>
<td>7760</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( L_1 )</td>
<td>5059</td>
<td>7090</td>
<td>8248</td>
<td>8135</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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).
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-Soosai-Lupin. (b) Lupini. (c) Nil. (ii) (a) Laterite soil (b) Refer soil analysis, Nanjanad.
(ii) 7, 8.5.51. (iv) (a) 2 ploughings. (b) N.A. (c) 2000 lb./ac. (d) 27' x 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 effects and interactions are not significant. (iv) Av. yield of Potato in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>P₀</th>
<th>P₁</th>
<th>P₂</th>
<th>P₃</th>
<th>Mean</th>
<th>L₀</th>
<th>L₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₁</td>
<td>6361</td>
<td>7353</td>
<td>7661</td>
<td>7917</td>
<td>7323</td>
<td>7083</td>
<td>7563</td>
</tr>
<tr>
<td>N₂</td>
<td>7183</td>
<td>8810</td>
<td>8748</td>
<td>10430</td>
<td>8793</td>
<td>8604</td>
<td>8981</td>
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<tr>
<td>Mean</td>
<td>6772</td>
<td>8082</td>
<td>8204</td>
<td>9174</td>
<td>8058</td>
<td>7844</td>
<td>8272</td>
</tr>
<tr>
<td>L₀</td>
<td>6044</td>
<td>8031</td>
<td>8025</td>
<td>9276</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L₁</td>
<td>7501</td>
<td>8132</td>
<td>8384</td>
<td>9071</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 N x P or L x P table = 280.7 lb./ac.
S.E. of body of N x L table = 198.5 lb./ac.

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'x6'. (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:
1. Nanjanad mixture applied in furrows in a level with seed tubers.
2. Nanjanad mixture applied 3" below furrows.
3. 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16110</td>
</tr>
<tr>
<td>2</td>
<td>16547</td>
</tr>
<tr>
<td>3</td>
<td>15143</td>
</tr>
</tbody>
</table>

S.E./mean = 185.0 lb./ac.
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) $27'' \times 6''$. (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; exp. failed in 1949. (b) No. (c) N.A. (v) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 4583 lb./ac.
   (ii) 2465 lb./ac.
   (iii) Treatment differences are not significant.
   (iv) 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).
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) $27'' \times 6''$. (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:
   (i) 17761 lb./ac.
   (ii) 1292 lb./ac.
   (iii) Treatment differences are not significant.
Crop : Potato (1st crop).  

Object : To find out the best method of applying P₂O₅.

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" × 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).  

Object : To find out the best method of applying P₂O₅.

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" × 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 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.

4. 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>5050</td>
<td>228 lb./ac.</td>
</tr>
<tr>
<td>2.</td>
<td>4550</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>4500</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>228 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Potato.  
Object: To find out the best method applying P_2O_5.  
Type: 'M'.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Lupin G.M. crop. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 14.2.50. (iv) (a) 2 ploughings. (b) Planting in lines. (c) 2000 lb./ac. (d) 27" x 9". (e) —. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>4617</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>5717</td>
<td>544.4 lb./ac.</td>
</tr>
<tr>
<td>3.</td>
<td>5233</td>
<td></td>
</tr>
</tbody>
</table>
Crop :- Potato (main crop).

Object :- To find out the effect of Borax on the yield of Potato.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) SantJi. (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) 52.23°. (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.

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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3300</td>
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<td>2.</td>
<td>2467</td>
</tr>
<tr>
<td>3.</td>
<td>3467</td>
</tr>
<tr>
<td>4.</td>
<td>2700</td>
</tr>
<tr>
<td>5.</td>
<td>2733</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>213 lb/ac</td>
</tr>
</tbody>
</table>


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"×6". (c)—. (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:
   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) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>10117</td>
</tr>
<tr>
<td>2.</td>
<td>9558</td>
</tr>
<tr>
<td>3.</td>
<td>9908</td>
</tr>
<tr>
<td>4.</td>
<td>9417</td>
</tr>
<tr>
<td>5.</td>
<td>9042</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>203 lb/ac</td>
</tr>
</tbody>
</table>
Object:—To find out the effect 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) 2.2.49. (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 (early). (vii) Rainfed. (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. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>11467</td>
</tr>
<tr>
<td>2.</td>
<td>12467</td>
</tr>
<tr>
<td>3.</td>
<td>12000</td>
</tr>
<tr>
<td>4.</td>
<td>12890</td>
</tr>
<tr>
<td>5.</td>
<td>11767</td>
</tr>
</tbody>
</table>

   S.E./mean = 456 lb./ac.

---

Crop:—Potato (main crop).

Site:—Agri. Res. Stn., Nanjanad.

Ref:—M. 49(33). Type:—‘M’.

Object:—To find out the effect 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° × 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3480</td>
<td>85.0 lb./ac.</td>
</tr>
<tr>
<td>2.</td>
<td>3651</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>3583</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>3480</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>3937</td>
<td></td>
</tr>
</tbody>
</table>

Crop: Potato (2nd crop).
Object: To find out the effect of Borax on the yield of Potato.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Lupin. (c) Nil. (d) Nil. (ii) Laterite soil. (iii) Refer soil analysis, Nanjanad. (iv) 1.9.49. (a) 2 ploughings. (b) Planting in lines. (c) 2000 lb./ac. (d) 27° × 6°. (e) —. (f) 5 ton/ac. of C.M. + 1610 lb./ac. of Nanjanad mixture. (g) Great scot. (h) Rainfed. (i) Weeding and earthing up once. (j) 18.7°. (k) 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) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3583</td>
<td>152.7 lb./ac.</td>
</tr>
<tr>
<td>2.</td>
<td>3500</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>3733</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>3800</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>3867</td>
<td></td>
</tr>
</tbody>
</table>

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) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>12367</td>
</tr>
<tr>
<td>2.</td>
<td>13300</td>
</tr>
<tr>
<td>3.</td>
<td>13367</td>
</tr>
<tr>
<td>4.</td>
<td>12367</td>
</tr>
<tr>
<td>5.</td>
<td>11733</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>740 lb./ac.</td>
</tr>
</tbody>
</table>


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. (v) 1.0 cent (vi) Nil. (vii) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>5625</td>
</tr>
<tr>
<td>2.</td>
<td>4150</td>
</tr>
<tr>
<td>3.</td>
<td>5100</td>
</tr>
<tr>
<td>4.</td>
<td>5825</td>
</tr>
<tr>
<td>5.</td>
<td>5325</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>274 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Potato (main crop).

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 guddalis. Open furrows and ridges with ridge plough. (b) Planting in lines. (c) 2000 lb./ac. (d) 27" x 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:
1. No mulching.
2. Mulching at 1250 lb./ac.
3. Mulching at 2500 lb./ac.
4. Mulching at 8,000 lb./ac.
5. 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), (b) Nil. (vi) Nil. (vii) and (viii) Nil.

5. RESULTS:
(i) 9115 lb./ac.
(ii) 1250 lb./ac.
(iii) Treatments differ highly significantly.
(iv) Av. yield of potato in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>14100</td>
</tr>
<tr>
<td>2.</td>
<td>4825</td>
</tr>
<tr>
<td>3.</td>
<td>6475</td>
</tr>
<tr>
<td>4.</td>
<td>9025</td>
</tr>
<tr>
<td>5.</td>
<td>11150</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>645 lb./ac.</td>
</tr>
</tbody>
</table>
Crop :— Potato
Site :— Agri. Res. Stn., Nanjanad.
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" × 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>4700</td>
</tr>
<tr>
<td>2.</td>
<td>4900</td>
</tr>
<tr>
<td>3.</td>
<td>4400</td>
</tr>
<tr>
<td>4.</td>
<td>6150</td>
</tr>
<tr>
<td>5.</td>
<td>7200</td>
</tr>
</tbody>
</table>
S.E./mean = 636 lb./ac.

Crop :— Potato (2nd crop).
Site :— Agri. Res. Stn., Nanjanad.
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" × 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.
3. Mulching Sanai leaf at 1250 lb./ac.
4. Mulching Sanai leaf at 2500 lb./ac.
5. 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—1951. (b) Nil. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1700</td>
</tr>
<tr>
<td>2.</td>
<td>1950</td>
</tr>
<tr>
<td>3.</td>
<td>2725</td>
</tr>
<tr>
<td>4.</td>
<td>3725</td>
</tr>
<tr>
<td>5.</td>
<td>4100</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>200 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Potato (main crop). Site: Agri. Res. Stn., Nanjanad. Obj.: 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) Trial crops. (c) 5 ton/ac. of C.M. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 5.1952. (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" × 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 2200 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) Nil. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) 4 months dormented 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>9500</td>
</tr>
<tr>
<td>2.</td>
<td>10600</td>
</tr>
<tr>
<td>3.</td>
<td>10375</td>
</tr>
<tr>
<td>4.</td>
<td>17450</td>
</tr>
<tr>
<td>5.</td>
<td>18850</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>1418 lb./ac.</td>
</tr>
</tbody>
</table>
Crop: Potato (2nd crop).  
Ref: M. 52 (9).  
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.  

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 dormant 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.  

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>9875</td>
</tr>
<tr>
<td>2.</td>
<td>9875</td>
</tr>
<tr>
<td>3.</td>
<td>10325</td>
</tr>
<tr>
<td>4.</td>
<td>10400</td>
</tr>
<tr>
<td>5.</td>
<td>10675</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>1288 lb./ac.</td>
</tr>
</tbody>
</table>

---

Crop: Potato (2nd crop).  
Ref: M. 53 (38).  
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) 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 Sanai straw the stems of a reed (Juncus glaucus) Commonly growing in swamps, were used.  4 months dormanted 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>11,125</td>
</tr>
<tr>
<td>2.</td>
<td>10,200</td>
</tr>
<tr>
<td>3.</td>
<td>9,800</td>
</tr>
<tr>
<td>4.</td>
<td>9,300</td>
</tr>
<tr>
<td>5.</td>
<td>9,550</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>985 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Potato (main crop).  
Ref :- M. 53(40).  
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) 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) 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 dormanted 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>9100</td>
</tr>
<tr>
<td>2.</td>
<td>9425</td>
</tr>
<tr>
<td>3.</td>
<td>9350</td>
</tr>
<tr>
<td>4.</td>
<td>12725</td>
</tr>
<tr>
<td>5.</td>
<td>12450</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>2043 lb./ac.</td>
</tr>
</tbody>
</table>
Crop :- Potato

Object :- To find out if mulching the land under the crop with dried vegetable refuse, such as *sanyal* 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" 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 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 dormanted 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>11400</td>
</tr>
<tr>
<td>2.</td>
<td>12540</td>
</tr>
<tr>
<td>3.</td>
<td>13000</td>
</tr>
<tr>
<td>4.</td>
<td>15200</td>
</tr>
<tr>
<td>5.</td>
<td>14650</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 636 lb./ac.</td>
</tr>
</tbody>
</table>

---

Crop :- Potato (main crop).

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" 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) 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) 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.
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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>6125</td>
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<tr>
<td>2.</td>
<td>6175</td>
</tr>
<tr>
<td>3.</td>
<td>6450</td>
</tr>
<tr>
<td>4.</td>
<td>6375</td>
</tr>
<tr>
<td>5.</td>
<td>6400</td>
</tr>
</tbody>
</table>

   (vii) S.E./mean = 427.4 lb./ac.

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 6". (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) 1930-1932. (b) No. (c) Nil. (v) 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.

<table>
<thead>
<tr>
<th></th>
<th>M₃</th>
<th>M₂</th>
<th>M₁</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>L₁</td>
<td>6800</td>
<td>6150</td>
<td>6250</td>
<td>6223</td>
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<td>5525</td>
<td>6000</td>
<td>5875</td>
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<td>5625</td>
</tr>
<tr>
<td>Mean</td>
<td>6142</td>
<td>5625</td>
<td>5967</td>
<td>5911</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 207.7 lb./ac.
S.E. of body of table = 360.0 lb./ac.

Crop: Potato (2nd crop).

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.
(ii) 20-9-51. (iii) (a) 2 ploughings. (b) N.A. (c) 2000 lb./ac. (d) 37°C. (e) N.A. (f) 660 lb./ac.

(ii) Great Scot. (vii) Rainfed. (viii) Weeding and earthing up once. (ix) 14.6°C. (x) 2.1.52.

2. TREATMENTS:

All combinations of (1) and (2) + 2 extra treatments
(1) 3 levels of slaked lime: L₁=1, L₂=2 and L₃=4 ton/ac.
(2) 3 methods of application of Lime: M₃=broadcast 4 weeks before planting, M₂=applied in 2 bands, 4" deep on either side of the ridges 4 weeks before planting, and M₁=broadcast to previous G.M. (Lupin) crop.

Extra treatments are:

T₁=Control (no lime).
T₂=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 c.h.t. (dimensions N.A.) (v) N.A. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1930-1932. (b) No. (c) Nil. (v) (a) N.A. (v) (a) Nil.
(b) N.A. and (v) Nil.

5. RESULTS:

(i) 3941 lb./ac.
(ii) 396 lb./ac.
(iii) None of the effects is significant.
(iv) Av. yield of tuber in lb./ac.

\[
\begin{array}{|c|c|c|c|}
\hline
 & M_1 & M_2 & M_3 & \text{Mean} \\
\hline
L_1 & 4125 & 3750 & 3800 & 3892 \\
L_2 & 3750 & 4150 & 4025 & 3975 \\
L_3 & 4425 & 3800 & 4550 & 4258 \\
\hline
\text{Mean} & 4100 & 3900 & 4125 & 4042 \\
\hline
\end{array}
\]

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).
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' 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) 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.

   \[
   \begin{array}{|c|c|c|c|}
   \hline
   & L_1 & L_2 & L_3 & \text{Mean} \\
   \hline
   M_1 & 13300 & 14700 & 14800 & 14267 \\
   M_2 & 13733 & 12500 & 13667 & 13300 \\
   \hline
   \text{Mean} & 13517 & 13600 & 14234 & 13784 \\
   \hline
   \end{array}
   \]

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).  
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 dormerent 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.

<table>
<thead>
<tr>
<th></th>
<th>T_1</th>
<th>T_2</th>
<th>T_3</th>
<th>T_4</th>
<th>T_5</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>G_0</td>
<td>7180</td>
<td>7840</td>
<td>7820</td>
<td>7260</td>
<td>7700</td>
<td>7560</td>
</tr>
<tr>
<td>G_1</td>
<td>8340</td>
<td>7960</td>
<td>7060</td>
<td>7420</td>
<td>7680</td>
<td>7692</td>
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<tr>
<td>Mean</td>
<td>7760</td>
<td>7900</td>
<td>7440</td>
<td>7340</td>
<td>7690</td>
<td>7626</td>
</tr>
</tbody>
</table>

S.E. of difference of two
   1. main-plot treatment means = 792 lb./ac.  
   2. sub-plot treatment means = 414 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).  
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.: $G_0 = \text{No. G.L. and } G_1 = 5000 \text{ lb./ac. of G.L.}$

Sub-plot treatments:--

- 7 treatments:
  - $T_1 = \text{Nanjanad mixture}$
  - $T_2 = \text{Nanjanad mixture} + 1500 \text{ lb./ac. of lime.}$
  - $T_3 = \text{Nanjanad mixture} + 000 \text{ lb./ac. of slurry.}$
  - $T_4 = \text{Nanjanad mixture} + 3000 \text{ lb./ac. of slurred lime.}$
  - $T_5 = \text{Nanjanad mixture} + 3000 \text{ lb./ac. of slurred lime.}$

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 dormant seeds used.

5. RESULTS:

- (i) $12300 \text{ lb./ac.}$
- (ii) (a) $2700 \text{ lb./ac.}$ (b) $1300 \text{ lb./ac.}$
- (iii) None of the effects is significant.
- (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$T_1$</th>
<th>$T_2$</th>
<th>$T_3$</th>
<th>$T_4$</th>
<th>$T_5$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$G_0$</td>
<td>11360</td>
<td>12960</td>
<td>13240</td>
<td>11800</td>
<td>11920</td>
<td>12256</td>
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<tr>
<td>$G_1$</td>
<td>12120</td>
<td>13560</td>
<td>11560</td>
<td>11800</td>
<td>12680</td>
<td>12344</td>
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<tr>
<td>Mean</td>
<td>11740</td>
<td>13260</td>
<td>12400</td>
<td>11800</td>
<td>12300</td>
<td>12300</td>
</tr>
</tbody>
</table>

S.E. of difference of two:

1. main-plot treatment means

2. sub-plot treatment means

3. sub-plot treatment means at the same level of main-plot treatment

4. main-plot treatment means at the same level of sub-plot treatment

---

Crop: Potato.


Ref: M. 52(11).

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) 1.67. (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 $G_1 = 5000 \text{ lb./ac.}$
- (2) 2 levels of lime: $L_0 = 0$ and $L_1 = 1500 \text{ lb./ac.}$

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. (v) N.A. (vi) 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) N.A. (vii) 4 months dormerent seed used.

5. RESULTS:
(i) 15984 lb./ac.
(ii) (a) 16521 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.,

<table>
<thead>
<tr>
<th></th>
<th>G1L0</th>
<th>G1L1</th>
<th>G2L0</th>
<th>G2L1</th>
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<td>16500</td>
<td>15500</td>
<td>14850</td>
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<td>13750</td>
<td>14800</td>
<td>14850</td>
<td>15700</td>
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<tr>
<td>B4</td>
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<td>16876</td>
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<td>15826</td>
<td>15984</td>
</tr>
</tbody>
</table>

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. 
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" 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. (ix) 53.62". (x) 21.9.53.

2. TREATMENTS:
Main-plot treatments:
All combinations of (1) and (2)
(1) 2 levels of G: 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 dormerent 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>G1L0</th>
<th>G1L9</th>
<th>G1L1</th>
<th>G1L1</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>13000</td>
<td>12200</td>
<td>14200</td>
<td>12400</td>
<td>12950</td>
</tr>
<tr>
<td>B2</td>
<td>13100</td>
<td>14800</td>
<td>16500</td>
<td>14000</td>
<td>14600</td>
</tr>
<tr>
<td>B3</td>
<td>14200</td>
<td>13200</td>
<td>14500</td>
<td>16200</td>
<td>14525</td>
</tr>
<tr>
<td>B4</td>
<td>12100</td>
<td>13400</td>
<td>15500</td>
<td>15400</td>
<td>14100</td>
</tr>
<tr>
<td>Mean</td>
<td>13100</td>
<td>13400</td>
<td>15175</td>
<td>14500</td>
<td></td>
</tr>
</tbody>
</table>

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.
Object :- To determine the optimum doses of N and P2O5 for Potato crop.

1. BASAL CONDITIONS :
(i) (a) Nil. (b) Sand. (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"x9". (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 dormernted seed used. Flat wise yield data N.A.

5. RESULTS :
(i) 18,831 lb./ac.
(ii) N.A.
(iii) N.A.
Crop: Potato.


Ref: M. 53(42).

Type: 'M'.

Object: To determine the optimum doses of N & P₂O₅ for Potato yield.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Potato. (c) As under treatments. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad.
   (iii) 28.3.51. (iv) (a) Two ploughings. (b) Sown in furrows. (c) N.A. (d) 24”x9”. (e) N.A. (v) 1500 lb./ac. of slaked lime+500 lb./ac. of G.L. incorporated 10 days before planting. (vi) Great Scot
   (vii) Irrigated. (viii) Weeding one month after planting and earthing up 45 & 60 days after planting. (ix) 56.97w.
   (x) 23, 24.9.53.

2. 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.

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. (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 dormernted seeds used.

5. RESULTS:
   (i) 10,258 lb./ac.
   (ii) 1156 lb./ac.
   (iii) Main effect of P and Control vs. others are highly significant. N and NP are not significant.
   (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Control \ N₁</th>
<th>N₂</th>
<th>N₃</th>
<th>N₄</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>P₁</td>
<td>8400</td>
<td>7500</td>
<td>8800</td>
<td>8450</td>
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<td>10500</td>
<td>10250</td>
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<tr>
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<td>P₅</td>
<td>10350</td>
<td>12100</td>
<td>11500</td>
<td>11250</td>
</tr>
<tr>
<td>P₆</td>
<td>11800</td>
<td>10750</td>
<td>11800</td>
<td>12500</td>
</tr>
<tr>
<td>Mean</td>
<td>9800</td>
<td>10433</td>
<td>10433</td>
<td>10350</td>
</tr>
</tbody>
</table>

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.  
Type :-'M'.  
Ref :-M. 53(43).

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.  (i) (a) Laterite soil.  (b) Refer soil analysis, Nanjanad.  
   (ii) 12.4.53.  (iv) (a) 2 ploughings.  (b) Sown in furrows.  (c) N.A.  (d) 24' 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'.  

2. TREATMENTS:
   All combinations of (1), (2) and (3) + M_4 L_0 + M_4 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_4 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.  
   (vii) 4 months dormernted seeds used.

5. RESULTS:
   (i) 12,425 lb./ac.  
   (ii) 12,40 lb./ac.  
   (iii) Main effect of M is significant and interaction M x L is highly significant.  
   L is not significant
   (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Mg. Sul. to Soil</th>
<th>Mg. Sul. Sprayed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M_0</td>
</tr>
<tr>
<td>L_0</td>
<td>12700</td>
</tr>
<tr>
<td>L_1</td>
<td>11900</td>
</tr>
<tr>
<td>Mean</td>
<td>12300</td>
</tr>
</tbody>
</table>

S.E. for the marginal mean of M = 439.0 lb./ac.  
S.E. for the marginal mean of L = 215.0 lb./ac.  
S.E. for the body of table = 620.0 lb./ac.

Crop :-Potato (main crop).  
Type :-'M'.  
Ref :-M. 50(67).

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) 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) Nil. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>13,300</td>
</tr>
<tr>
<td>2</td>
<td>13,317</td>
</tr>
<tr>
<td>3</td>
<td>11,033</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>446.5 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Potato (main crop).

Object: To find out if the substitution of Super phosphate content of the Nanjanad mixture with Fused phosphate on equivalent P<sub>2</sub>O<sub>5</sub> 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" × 9". (e) N.A. (f) 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) 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) 13,400 lb./ac.
(ii) 13,308 lb./ac.
(iii) The treatment difference is not significant.
(iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>13,400</td>
</tr>
<tr>
<td>2</td>
<td>13,308</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>158 lb./ac.</td>
</tr>
</tbody>
</table>
Crop :- Potato (2nd crop).  
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$_2$O$_5$ 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" x 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.  
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$_2$O$_5$ 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" x 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$_2$O$_5$ as Super+100 lb./ac. of K$_2$O as Pot. Sul.
   2. 80 lb./ac. of N as A/S+200 lb./ac. of P$_2$O$_5$ as Kotka phosphate+100 lb./ac. of K$_2$O 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 dormanted 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>10,440</td>
</tr>
<tr>
<td>2.</td>
<td>9,480</td>
</tr>
<tr>
<td>3.</td>
<td>10,980</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>318.12 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Potato (main crop).

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" x 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>15917</td>
</tr>
<tr>
<td>2.</td>
<td>16718</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>471.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Potato (2nd crop).

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" x 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).
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) 1.49. (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 Ib./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.
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) 15/8". (x) 3.8.50.

2. TREATMENTS:
   1. Planting mature seeds.
   2. Planting immature seeds.

3. DESIGN:
   (i) (a) R.B.D. (ii) 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) Nil. (vi)
   (vii) Nil. (viii) 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).

Object: — To compare yields due to planting mature and immature seeds.

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.

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) 2. (b) N.A. (iii) 12. (iv) (a) 0.25 cent (dimension 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) 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. 
Site :- Agri Res. Stn., Nanjanad.

Object :- To compare yields due to planting mature and immature seeds.

1. BASAL CONDITIONS :
   (i) 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 guddals. (b) Open furrows and ridges with ridge plough. (c) 2000 lb/ac. (d) 27"×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) 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          | 6213      |
2          | 7033      |
S.E./mean  = 279.0 lb/ac.

---

Crop :- Potato (main crop). 
Site :- Agri Res. Stn., Njanad.

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"×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) 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 (2nd crop).  
Object : To compare the yield due to planting mature and immature seed.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Rp 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.
   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) 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./mean =  =  145.6 lb./ac.
Crop : Potato (main crop).
Object : To determine the optimum seed size.

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) Planting in furrows. (c) As under treatments. (d) 27° × 6°. (e) N.A. (v) 5 ton/ac. of C.M.+16.10 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 \( \frac{1}{4} \) oz. as seed.
2. Whole tuber of 1 oz. as seed.
3. Whole tuber of 2 oz. as seed.
4. \( \frac{1}{4} \) 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) 15655 lb/ac.
(ii) 5400 lb/ac.
(iii) Treatments differ significantly.
(iv) Av. yield of tuber in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12758</td>
</tr>
<tr>
<td>2</td>
<td>17038</td>
</tr>
<tr>
<td>3</td>
<td>20075</td>
</tr>
<tr>
<td>4</td>
<td>12767</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>2204 lb/ac.</td>
</tr>
</tbody>
</table>

Crop : Potato.
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° × 9°. (e) —. (v) 5 ton/ac. of C.M.+16.10 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 \( \frac{1}{4} \) oz. as seed.
2. Whole tuber of 1 oz. as seed.
3. Whole tuber of 2 oz. as seed.
4. \( \frac{1}{4} \) 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.
   
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1533</td>
</tr>
<tr>
<td>2</td>
<td>2667</td>
</tr>
<tr>
<td>3</td>
<td>4367</td>
</tr>
<tr>
<td>4</td>
<td>933</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 203.0 lb./ac.</td>
</tr>
</tbody>
</table>

   Crop :- Potato.
   
   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. (f) 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 ½ oz. as seed.
   2. whole tuber of 1 oz. as seed.
   3. whole tuber of 2 oz. as seed.
   4. ½ 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. (v) 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.
   
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9973</td>
</tr>
<tr>
<td>2</td>
<td>16347</td>
</tr>
<tr>
<td>3</td>
<td>20387</td>
</tr>
<tr>
<td>4</td>
<td>8637</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 463 lb./ac.</td>
</tr>
</tbody>
</table>

   Crop :- Potato.
   Ref :- M. 48(29).
   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. *Ryals' method* :—Storing the freshly harvested main crop seed in bags near a hearth for quick sprouting.

3. DESIGN:
   1. 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:
   1. 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:
   1. 10805 lb./ac.
   2. 1248 lb./ac.
   3. Treatments differ significantly.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>14600</td>
</tr>
<tr>
<td>2.</td>
<td>9320</td>
</tr>
<tr>
<td>3.</td>
<td>8620</td>
</tr>
<tr>
<td>4.</td>
<td>10630</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>358.0 lb./ac.</td>
</tr>
</tbody>
</table>

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Crop :- Potato.  
Object :- To study the influence of spacing on yield.

1. BASAL CONDITIONS:
   1. (a) Nil. (b) *Sanai*. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 12.4.1952. (i) (a) 2 preliminary ploughings; 3 ploughings done after applying F.Y.M. (b) Sowing done in furrows. (c) 2:00 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:
   1. 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:
   1. 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 dormanted seed used.

5. RESULTS:
   1. 5'93 lb./ac.
   2. 1732 lb./ac.
   3. Treatments differ significantly.
Crop: Potato (main crop).  Ref: M. 53(33).

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.  | 16240 |
   S.E./mean = 889.0 lb./ac.

Crop: Potato (2nd crop).  Ref: M. 53(34).

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 tcn/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.

Object:—To find out the best time of planting of Potato.

Ref:—M. 49 (32).
Type:—‘C’.

Crop:—Potato (main crop).
Site:—Agri. Res. Stn., Nanjanad.
(iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>11480</td>
</tr>
<tr>
<td>2.</td>
<td>10880</td>
</tr>
<tr>
<td>3.</td>
<td>11560</td>
</tr>
<tr>
<td>4.</td>
<td>10680</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>404.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: = Potato (2nd crop).  
Ref: = M. 49 (39).  
Type: = 'C'.

Object: = To find out the best time of planting of Potato.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Sansi. (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°x6°. (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°. (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) 1549—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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>5640</td>
</tr>
<tr>
<td>2.</td>
<td>5920</td>
</tr>
<tr>
<td>3.</td>
<td>4560</td>
</tr>
<tr>
<td>4.</td>
<td>3440</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>518.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: = Potato (main crop).  
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°x9°. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>9880</td>
</tr>
<tr>
<td>2.</td>
<td>10400</td>
</tr>
<tr>
<td>3.</td>
<td>13160</td>
</tr>
<tr>
<td>4.</td>
<td>10480</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>611.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Potato (2nd crop).
Object: To find out the best time for planting Potato.

Ref: M. 50(69).
Type: 'C'.

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". (e) 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. (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) 3900 lb./ac.
   (ii) 683.4 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>4600</td>
</tr>
<tr>
<td>2.</td>
<td>3960</td>
</tr>
<tr>
<td>3.</td>
<td>3200</td>
</tr>
<tr>
<td>4.</td>
<td>3840</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>305.6 lb./ac.</td>
</tr>
</tbody>
</table>
Crop :- Potato (main crop).

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/acre 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:

(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.

3. DESIGN:

(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.

4. GENERAL:

(i) 17962 lb./ac. (ii) 1863 lb./ac. (iii) Treatments differ highly significantly. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>16440</td>
</tr>
<tr>
<td>2.</td>
<td>16280</td>
</tr>
<tr>
<td>3.</td>
<td>22120</td>
</tr>
<tr>
<td>4.</td>
<td>17090</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>833.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Potato (2nd Crop).

Object :- To study the influence of the time of planting 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) 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/acre 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:

(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.

3. DESIGN:

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1945-1951. (b) No. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Tuber weight. (iv) (a) 1945-1951. (b) No. (c) N.A. (v) (a) Nil. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>11840</td>
</tr>
<tr>
<td>2.</td>
<td>7280</td>
</tr>
<tr>
<td>3.</td>
<td>7520</td>
</tr>
<tr>
<td>4.</td>
<td>6240</td>
</tr>
</tbody>
</table>

S.E./mean = 480.0 lb./ac.

Crop :- Potato (2nd Crop).

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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>8110</td>
</tr>
<tr>
<td>2.</td>
<td>6997</td>
</tr>
</tbody>
</table>

S.E./mean = 617.0 lb./ac.
2. TREATMENTS:
1. Farm method:—Ploughing the land twice with victory plough and forming the ridges along the contours with a 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) Tubers 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) 2390 lb./ac. 
(ii) 202.0 lb./ac.
(iii) The difference due to treatments is not significant.
(iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2636</td>
</tr>
<tr>
<td>2.</td>
<td>2546</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>145.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Potato (2nd crop).
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"x9". (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) Tubers 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3883</td>
</tr>
<tr>
<td>2.</td>
<td>3745</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>233.3 lb./ac.</td>
</tr>
</tbody>
</table>
Crop :- Potato (2nd crop).  
Object :- To compare Royts' method with Farm method.

1. BASAL CONDITIONS :
(i) (a) Nil. (b) Sanai. (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) 27.5\times9.0. (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. Ryots' 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.  

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3954</td>
</tr>
<tr>
<td>2.</td>
<td>4364</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>172.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Potato (2nd crop).  
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) 27.5\times9'. (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 :
1. Control (untreated tubers).  
2. Tubers soaked for 6 hours in Indole Acetic Acid 10 ppm.  
3. Tubers soaked for 6 hours in Indole Acetic Acid 60 ppm.  
4. Tubers soaked for 6 hours in Indole Acetic Acid 100 ppm.  
5. Tubers soaked for 6 hours in Butyric Acid 10 ppm.  
6. Tubers soaked for 6 hours in Butyric Acid 60 ppm.  
7. Tubers soaked for 6 hours in Butyric Acid 100 ppm.  
8. 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:

   **Av. yield in lb./ac.**

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Seed</th>
<th>Chats</th>
<th>Rejects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1300</td>
<td>1410</td>
<td>450</td>
</tr>
<tr>
<td>2</td>
<td>1226</td>
<td>1360</td>
<td>634</td>
</tr>
<tr>
<td>3</td>
<td>1560</td>
<td>1490</td>
<td>610</td>
</tr>
<tr>
<td>4</td>
<td>1210</td>
<td>1458</td>
<td>524</td>
</tr>
<tr>
<td>5</td>
<td>1476</td>
<td>1510</td>
<td>624</td>
</tr>
<tr>
<td>6</td>
<td>1626</td>
<td>1600</td>
<td>484</td>
</tr>
<tr>
<td>7</td>
<td>1726</td>
<td>1444</td>
<td>544</td>
</tr>
<tr>
<td>8</td>
<td>1434</td>
<td>1434</td>
<td>534</td>
</tr>
</tbody>
</table>

   **G.M.** 1445  **S.E./plot** 286.7 lb./ac.  **S.E./mean** 117.0 lb./ac.  **Significance** Significant / Not significant

   Crop :- Potato (1st crop).

   Ref :- M. 51(57).
   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"x9".  (e) N.A.  (v) 5 ton/ac. of C.M.+1610 lb./ac. of

2. TREATMENTS:
   1. Dithane D-24+Zinc sul. sprayed.
   2. Dithane Z-78 sprayed.
   4. Control (unsprayed) Phygon x L.
   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.
Crop : Potato (main crop).

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) 2:00 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.
   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.

Object : To study the influence of 'Sandoz' (a proprietary preparation) on yield of Potato.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Sanul. (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 dormant 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>8870</td>
</tr>
<tr>
<td>2.</td>
<td>9230</td>
</tr>
<tr>
<td>3.</td>
<td>9220</td>
</tr>
</tbody>
</table>

S.E./mean = 1928.0 lb./ac.

Crop: Potato (main crop).
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) 1o. (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 dormant 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>10330</td>
</tr>
<tr>
<td>2.</td>
<td>10010</td>
</tr>
<tr>
<td>3.</td>
<td>11110</td>
</tr>
</tbody>
</table>

S.E./mean = 788.7 lb./ac.

Ref: M'53'35.
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"x9". (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 dormerseed 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.        | 7510      |
   S.E./mean = 106.2 lb./ac.
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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3200</td>
</tr>
<tr>
<td>2.</td>
<td>3067</td>
</tr>
<tr>
<td>3.</td>
<td>2800</td>
</tr>
<tr>
<td>4.</td>
<td>2933</td>
</tr>
<tr>
<td>5.</td>
<td>3067</td>
</tr>
<tr>
<td>6.</td>
<td>3200</td>
</tr>
<tr>
<td>7.</td>
<td>3200</td>
</tr>
</tbody>
</table>

S.E./mean = 513.2 lb/ac.

Crop :- Potato.

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) Unirrigated. (viii) Weeding one month after planting; earthing-up after 45 and 60 days of planting. (ix) 22.59''.
(x) 17.12.52.

2. TREATMENTS:
1. Control (untreated).
2. 120 ppm. of Indole Acetic Acid.
3. 60 ppm. of 2-4 D.
4. 30 ppm. of 2-4 D.
5. Manganese sulphate 10 lb/ac. in 100 gallons.
6. Copper sulphate 15 lb/ac. in 100 gallons.
7. 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) 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 dormernted 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>7833</td>
</tr>
<tr>
<td>2.</td>
<td>7967</td>
</tr>
<tr>
<td>3.</td>
<td>7767</td>
</tr>
<tr>
<td>4.</td>
<td>6767</td>
</tr>
<tr>
<td>5.</td>
<td>7833</td>
</tr>
<tr>
<td>6.</td>
<td>7233</td>
</tr>
<tr>
<td>7.</td>
<td>8333</td>
</tr>
</tbody>
</table>

S.E./mean = 1968 lb/ac.
Crop: Potato. Ref: M. 53(37).

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) Aye 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’x9” (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 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 dormented 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>10,500</td>
</tr>
<tr>
<td>2.</td>
<td>10,440</td>
</tr>
<tr>
<td>3.</td>
<td>10,560</td>
</tr>
<tr>
<td>4.</td>
<td>10,180</td>
</tr>
</tbody>
</table>
S.E./mean = 467.6 lb./ac.

Crop: Potato (2nd crop). Ref: M. 53(39).

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’x9”. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>11400</td>
</tr>
<tr>
<td>2.</td>
<td>12260</td>
</tr>
<tr>
<td>3.</td>
<td>11500</td>
</tr>
<tr>
<td>4.</td>
<td>~11840</td>
</tr>
</tbody>
</table>

   S.E./mean = 1609 lb./ac.

---


Object: To find out the effect of spraying Bordeaux mixture on the yield.

Ref: M. 50(71). Type: 'D'.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Sanai. (c) Nil. (ii) (a) Laterite soil. (b) Refer soil analysis, Nanjanad. (iii) 1.4.5.0.
   (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:
   1. No spraying.
   2. Sprayed on 10th July.
   3. Sprayed on 10th July and 20th July.
   4. 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>110.0</td>
</tr>
<tr>
<td>2.</td>
<td>9760</td>
</tr>
<tr>
<td>3.</td>
<td>12280</td>
</tr>
<tr>
<td>4.</td>
<td>10840</td>
</tr>
</tbody>
</table>

   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) Sanai. (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.

   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) 2390 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) Sanai. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>7020</td>
</tr>
<tr>
<td>2.</td>
<td>7260</td>
</tr>
<tr>
<td>3.</td>
<td>6140</td>
</tr>
<tr>
<td>4.</td>
<td>7800</td>
</tr>
</tbody>
</table>

S.E./mean = 894.9 lb./ac.

Crop :- Potato.
Reference :- 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) Referred soil analysis, Nanjanad.
(iii) 16.8.51.

(a) 2 ploughings, (b) Planting in furrows, (c) 2000 lb./ac.
(d) 27' × 9' 3". (e) N.A. (f) 5 t/ha. of C.M + 1610 lb./ac. of Nanjanad mixture at planting.
(g) Great Scot. (h) Rainfed. (i) Weeding and earthing-up once.

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.

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) Nil.

5. RESULTS:

(i) 1955 lb./ac.
(ii) 219.3 lb./ac.
(iii) Treatments do not differ significantly.

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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2060</td>
</tr>
<tr>
<td>2.</td>
<td>1840</td>
</tr>
<tr>
<td>3.</td>
<td>1920</td>
</tr>
<tr>
<td>4.</td>
<td>1920</td>
</tr>
</tbody>
</table>

S.E./mean = 98.1 lb./ac.

Crop :- Potato (main crop).
Reference :- M. 52(10).
Type :- 'D'.

Object :- To study the effect of Bordeaux mixture spray on the yield.

1. BASAL CONDITIONS:

(i) (a) Nil, (b) Sanad, (c) 5 ton/ac. of F.Y.M. (ii) (a) Laterite soil, (b) Referred soil analysis, Nanjanad.
(iii) 10.4.52.

(a) 2 preliminary ploughings and breaking clods by hand. (b) Sown in furrows. (c) —.
(d) 24" × 9". (e) 256 tubers/plot. (f) 5 ton/ac. of C.M. broadcast and covered by victory plough at the third ploughing.
(g) Great Scot (medium). (h) Unirrigated. (i) Weeding one month after planting and earthing up 45 and 60 days after planting.

(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.
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>6340</td>
</tr>
<tr>
<td>2.</td>
<td>6400</td>
</tr>
<tr>
<td>3.</td>
<td>6040</td>
</tr>
<tr>
<td>4.</td>
<td>6020</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>1040 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Potato (2nd crop).
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) Sand. (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) 25 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) 1902 lb./ac.
   (iii) Treatments do not differ significantly.
Crop: Potato.

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) 3.1.2.5. (iv) (a) 3 ploughings, (b) Sown in furrows. (c) 2000 lb./ac. (d) 24°×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.
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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>7680</td>
</tr>
<tr>
<td>2.</td>
<td>9840</td>
</tr>
<tr>
<td>3.</td>
<td>9840</td>
</tr>
<tr>
<td>4.</td>
<td>8640</td>
</tr>
<tr>
<td>5.</td>
<td>8440</td>
</tr>
<tr>
<td>6.</td>
<td>7700</td>
</tr>
<tr>
<td>7.</td>
<td>7800</td>
</tr>
<tr>
<td>8.</td>
<td>6520</td>
</tr>
<tr>
<td>9.</td>
<td>6980</td>
</tr>
</tbody>
</table>

S.E./mean = 2412 lb./ac.
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.+Nanoanad 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) same. (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. and Bordeaux mixture.
   3. Dithane-Z. 78.
   4. Perenox.
   5. 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. (vi) 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.

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) same. (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: M0=Control, M1=F.Y.M. and M2=G.L. each at 10,000 lb./ac.
   Sub-plot treatments:—
   3 levels of N: N0=0, N1=50 and N2=100 lb./ac.
   Sub-sub-plot treatments:—
   3 levels of K2O: K0=0, K1=40 and K2=80 lb./ac.
   N as A/S, K2O as Pot. Sul. and P2O5 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' x 4'. (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) N.A. (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.

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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.

Site :- Central Farm, Coimbatore.

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'x9". (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 : M₃=control, M₁=F.Y.M. and M₂=G.M. each 10,000 lb./ac.

Sub-plt treatments :-
At combinations of (1) and (2)
(1) 3 levels of N : N₀=0, N₁=52 and N₂=103 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-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'x4'. (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) 5363 lb./ac.
(ii) (a) 316.3 lb./ac.
(b) 127.1 lb./ac.
(c) 115.8 lb./ac.

(iii) Main effect of N and interaction N×M and N×K×M are highly significant. Other effects and interactions are not significant.

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

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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. Site: Central Farm, Coimbatore. Ref: M. 53(85). Type: M'.

Object: To determine a suitable manurial recipe for Sweetpotato under local conditions.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Cloam. (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 (e) 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: M₀ = 0, M₁ = F.Y.M. and M₂ = G.M. each at 10,000 lb./ac.
Sub-plot treatments:--
All combinations of (1), (2) and (3).
(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.
(3) 2 levels of P₂O₅: P₀ = 0 and P₁ = 80 lb./ac.
N as A/S and K₂O as Murr. of Pot. or Pot. Sul. were applied one month after planting. P₂O₅ 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' x 6'. (b) 8' x 2'. (v) 1' x 2' 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 Breeding station, Mangalore (Mysore State). (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

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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 = 233.4 lb./ac.
S.E. of body of N X P or K X P table = 148.3 lb./ac.
S.E. of body of N X K table = 181.7 lb./ac.
Crop: Sweetpotato.  
Site: Central Farm, Coimbatore.  
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.  
   (f) F.Y.M. 10 ton/acre. applied about four weeks before planting.  
   (g) N.A.  
   (h) N.A.  
   (i) 30.10.48.  

2. TREATMENTS:
   1. No Borax.  
   2. Borax at 40 lb./acre.  
   3. Borax at 80 lb./acre.  
   4. Borax at 120 lb./acre.  
   Borax applied to the soil on 30.10.48.

3. DESIGN:
   (i) R.B.D.  
   (ii) 4.  
   (iii) 6.  
   (iv) (a) 66' x 40'. (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. (d) Nil.  
   (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 4586 lb./acre.  
   (ii) 1235.0 lb./acre.  
   (iii) Treatment differences are significant.  
   (iv) Av. yield of tuber in lb./acre.

   Treatment  | Av. yield
   1.  | 4311  
   2.  | 5900  
   3.  | 4489  
   4.  | 3644  
   S.E./mean = 554.0 lb./acre.

Crop: Sweetpotato.  
Site: Central Farm, Coimbatore.  
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.  
   (f) F.Y.M. at 10 ton/acre. other details N.A.  
   (g) N.A.  
   (h) Irrigated.  
   (i) Weeding and earthing up once.  
   (j) 7.25°.  
   (k) 23rd to 25th January 1950.

2. TREATMENTS:
   1. No Borax.  
   2. Borax 20 lb./acre.  
   3. Borax 30 lb./acre.  
   4. Borax 40 lb./acre.  
   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.

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<td>S.E./mean</td>
<td>460.4 lb./ac.</td>
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Crop : Sweetpotato.  
Site : Central Farm, Coimbatore.  
Ref: M.50(53).  
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.

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Crop :- Sweetpotato.  
Site :- Central Farm, Coimbatore.  

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) 5.3.33.

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.  
   (d) 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.              6851  
   2.              6425  
   S.E./mean = 871.2 lb./ac.

Crop :- Sweetpotato.  
Site :- Central Farm, Coimbatore.  

Object :- To find out the proper method of planting Sweetpotato.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Chalam. (c) 10 ton/ac. of F.Y.M.  
   (ii) (a) 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 sets 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 breeding station Mangalore. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 11061 lb./ac.  
   (ii) 3635.3 lb./ac.  
   (iii) Treatment difference is not significant.
Crop :- Sweetpotato.  
Site :- Central Farm, Coimbatore.  
Object :- To compare yield of vines from vines and vines from tubers.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Loam. (b) Refer soil analysis, Coimbatore. (iii) 16.9.51. (iv) 3 ploughings. (v) 5 ton/ac. of F.Y.M. (vi) 1B. 22. (vii) Irrigated. (viii) Weeding thrice. (ix) 8.8'. (x) 9.1.52.

2. TREATMENTS:
   1. Vines from vines.
   2. Vines from tubers.

3. DESIGN:
   (i) R.B.D. (ii) 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) 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. 12323  
   2. 14153  
   S.E./mean = 1027.0 lb/ac.

---

Crop :- Sweetpotato.  
Site :- Central Farm, Coimbatore.  
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) ar d (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) 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) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>12524</td>
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<tr>
<td>2.</td>
<td>11761</td>
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<tr>
<td>S.E./mean</td>
<td>1263.2 lb./ac.</td>
</tr>
</tbody>
</table>

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) 30.10.51.
(iv) (a) Ploughing 4 times, working of Cambridge roller once and ridging once. (b) 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) 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) 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.

<table>
<thead>
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<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
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<td>1.</td>
<td>4557</td>
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<tr>
<td>2.</td>
<td>5994</td>
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<tr>
<td>S.E./mean</td>
<td>1103.7 lb./ac.</td>
</tr>
</tbody>
</table>

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. (d) 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<sub>1</sub>=Bed planting and M<sub>2</sub>=Furrow planting.

Sub-plot treatments:—
3 spacings:—S<sub>1</sub>=4'x6'', S<sub>2</sub>=3'x9'' and S<sub>3</sub>=2'x12''.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/replication; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 20'x30', (b) 20'x24'; (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,<sup>3</sup> (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.

<table>
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<tr>
<th></th>
<th>M&lt;sub&gt;1&lt;/sub&gt;</th>
<th>M&lt;sub&gt;2&lt;/sub&gt;</th>
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<td>3528</td>
<td>4138</td>
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<td>4632</td>
</tr>
<tr>
<td>Mean</td>
<td>4728</td>
<td>3883</td>
<td>4305</td>
</tr>
</tbody>
</table>

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. 
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<sub>1</sub>=planting in beds and M<sub>2</sub>=planting in furrows.

Sub-plot treatments:—
3 spacings: S<sub>1</sub>=4'x6'', S<sub>2</sub>=3'x9'' and S<sub>3</sub>=2'x12''.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/replication; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 20'x20'. (b) 20'x12'. (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 (l) 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.

<table>
<thead>
<tr>
<th></th>
<th>$M_1$</th>
<th>$M_2$</th>
<th>Mean</th>
</tr>
</thead>
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<td>$S_1$</td>
<td>5318</td>
<td>5490</td>
<td>5386</td>
</tr>
<tr>
<td>$S_2$</td>
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<td>5679</td>
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<tr>
<td>$S_3$</td>
<td>6015</td>
<td>4863</td>
<td>5421</td>
</tr>
<tr>
<td>Mean</td>
<td>5337</td>
<td>5090</td>
<td>5514</td>
</tr>
</tbody>
</table>

S.E. of the difference of two
1. $M$ marginal means $= 109.1$ lb./ac.
2. $S$ marginal means $= 3.86$ 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.
Site :- Central Farm, Coimbatore.

Ref :- M. 5:13.
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) 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 Sta., Mangalore (Mysore State). (b) N.A. (vi) and (viii) Nil.

5. RESULTS:
(i) 7412.1 lb./ac.
(ii) 1956.6 lb./ac.
(iii) Treatment difference is not significant.
(iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>7452</td>
<td>618.7</td>
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<tr>
<td>2.</td>
<td>7371</td>
<td></td>
</tr>
</tbody>
</table>
Crop :- Sweetpotato.  
Ref :- M. 52(42).  
Site :- Central Farm, Coimbatore.  
Type :- 'D'.

Object:—To compare the different insecticides for controlling weevil in Sweetpotato.

1. BASAL CONDITIONS:
   (i) (a) Nil, (b) 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'x9'.  
   (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 spray.  
   6. Calcium arsenate and lime in 1:1 oz. in one gallon of water.  

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’x10’.  
   (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) N.A.  
   (v) 6.  
   (vi) (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.  

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td>6235</td>
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<tr>
<td>2.</td>
<td>5472</td>
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<td>3.</td>
<td>4861</td>
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<tr>
<td>4.</td>
<td>4883</td>
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<td>5.</td>
<td>5254</td>
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<td>6.</td>
<td>6444</td>
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<td>7.</td>
<td>5875</td>
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<tr>
<td>S.E./mean</td>
<td>394.5 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Sweetpotato.  
Ref :- M. 53(9).  
Site :- Central Farm, Coimbatore.  
Type :- 'M'.  

Object:—To compare the different insecticides for controlling weevil in Sweetpotato.

1. BASAL CONDITIONS:
   (i) (a) No.  
   (b) Cholam.  
   (c) 10 ton/ac. of F.Y.M.  
   (ii) (a) Loam.  
   (b) Refer soil analysis, Coimbatore.  
   (iii) 27.11.53.  
   (iv) (a) 4 ploughings; working of Cambridge roller once and ridging up once.  
   (b) and (c) N.A.  
   (d) 2’x11’ (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) 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) 8 x 12'; (v) 3' x 1' 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.

<table>
<thead>
<tr>
<th>M_0</th>
<th>M_1</th>
<th>M_2</th>
<th>Mean</th>
<th>K_0</th>
<th>K_1</th>
<th>K_2</th>
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<td>1751</td>
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</table>

S.E. of difference of two
1. M marginal means = 55.1 lb./ac.
2. N or K marginal means = 8.6 lb./ac.
3. P marginal means = 61.3 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.
Object: To determine a suitable manurial recipe for Tapioca under local conditions.

Type: ‘M’.

Ref: M. 53 (84).

1. BASAL CONDITIONS:
(i) Nil. (b) Cholam. (c) 10 ton/ac. of F.Y.M. (ii) (a) Red loam. (b) Refer soil analysis. Coimbatore. (iii) 20, 3'-8.53. (iv) (a) 4 ploughings. Working of Cambridge roller and ridging up once. (b) to (e) N.A. (v) Nil. (vi) Valencia. (vii) Irrigated. (viii) 2 weedings. (ix) 28.34'. (x) 26, to 28.7.53.
2. **TREATMENTS:**

**Main-plot treatments:**
3 levels of manures: 
- \( M_0 = 0 \), \( M_1 = \text{F.Y.M. at 10,000 lb./ac.} \) and \( M_2 = \text{G.L. at 10,000 lb./ac.} \)

**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 \text{8'}. (b) 10' \times \text{4'}. (v) 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:**

<table>
<thead>
<tr>
<th>( M_0 )</th>
<th>( M_1 )</th>
<th>( M_2 )</th>
<th>Mean</th>
<th>( K_0 )</th>
<th>( K_1 )</th>
<th>( K_2 )</th>
<th>( P_0 )</th>
<th>( P_1 )</th>
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<tbody>
<tr>
<td>N_0</td>
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<td>8531</td>
<td>7919</td>
<td>7971</td>
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<td>8512</td>
<td>7254</td>
<td>7834</td>
</tr>
<tr>
<td>N_1</td>
<td>9018</td>
<td>9446</td>
<td>8761</td>
<td>9075</td>
<td>8216</td>
<td>10118</td>
<td>8891</td>
<td>9790</td>
</tr>
<tr>
<td>N_2</td>
<td>6070</td>
<td>8326</td>
<td>6698</td>
<td>7231</td>
<td>7896</td>
<td>8234</td>
<td>5564</td>
<td>7729</td>
</tr>
<tr>
<td>P_0</td>
<td>8632</td>
<td>8929</td>
<td>7794</td>
<td>8452</td>
<td>8431</td>
<td>9106</td>
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<td>K_0</td>
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<td>9363</td>
<td>7174</td>
<td>8087</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K_1</td>
<td>8732</td>
<td>8537</td>
<td>9594</td>
<td>8954</td>
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<tr>
<td>K_2</td>
<td>6695</td>
<td>8404</td>
<td>6610</td>
<td>7236</td>
<td></td>
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<tr>
<td>Mean</td>
<td>7717</td>
<td>8768</td>
<td>7793</td>
<td>8093</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.
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: M1 = On mounds and M2 = On ridges.
   Sub-plot treatments:—
   3 spacings: S1 = 2′ × 15″, S2 = 3′ × 12″ and S3 = 4′ × 9″.

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 2. (iv) (a) 30′ × 30′. (b) 30′ × 2′. (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) 143.8 lb/ac.
   (iii) Only the main effect of M is highly significant.
   (iv) Av. yield of tapioca in lb/ac.

<table>
<thead>
<tr>
<th></th>
<th>M1</th>
<th>M2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>5379</td>
<td>5828</td>
<td>5603</td>
</tr>
<tr>
<td>S2</td>
<td>6736</td>
<td>6734</td>
<td>6745</td>
</tr>
<tr>
<td>S3</td>
<td>6050</td>
<td>6373</td>
<td>6212</td>
</tr>
<tr>
<td>Mean</td>
<td>6062</td>
<td>6312</td>
<td>6187</td>
</tr>
</tbody>
</table>

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.
2. TREATMENTS

All combinations of 

(1) 2 methods of planting: \( M_1 = \text{On mounds} \) and \( M_2 = \text{On ridges} \).

(2) 3 spacings (between rows \( \times \)between plants): \( S_1 = 2' \times 3' \), \( S_2 = 3' \times 2' \) and \( S_3 = 4' \times 1' \).

2. DESIGN:

(i) \( 3 \times 2 \) 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.

<table>
<thead>
<tr>
<th></th>
<th>( M_1 )</th>
<th>( M_2 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( S_1 )</td>
<td>1373</td>
<td>871</td>
<td>1122</td>
</tr>
<tr>
<td>( S_2 )</td>
<td>2971</td>
<td>1476</td>
<td>2223</td>
</tr>
<tr>
<td>( S_3 )</td>
<td>1519</td>
<td>959</td>
<td>1239</td>
</tr>
<tr>
<td>Mean</td>
<td>1954</td>
<td>1102</td>
<td>1528</td>
</tr>
</tbody>
</table>

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 manural 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 sets/ac. (d) 32' \times 3' links. (e) 3-budded: setts. (v) Nil. (vi) CO. 419. (vii) Irrigated. (viii) Weeding once; mummatty hoeing and earthing-up once. (ix) 16.3". (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.

\( \frac{1}{4} \) 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 \times 100 sq. links. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Sugarcane yield. (iv) (a) No. (b) Nil. (c) N.A. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>50.82</td>
</tr>
<tr>
<td>2</td>
<td>51.49</td>
</tr>
<tr>
<td>3</td>
<td>53.28</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>1.99</td>
</tr>
</tbody>
</table>

Crop :- Sugarcane.
Site :- Central Farm, Coimbatore.

Ref :- M. 50(87).
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, 55. 
(iv) (a) 3 ploughings and ridge forming. (b) N.A. (c) 32" x 3 links. (d) N.A. (e) N.A. (f) Nil. (g) CO. 419. (h) Irrigated. (i) Weeding on 22 and 24.6.50; earthing up during 27.9.50 and 4.10.50. (j) N.A. 

2. Night soil compost at 25() lb/ac. of N.
3. F.Y.M. at 250 lb/ac. of N.
Manures were applied on 11, 12.4.5J. 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) 100x25 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>36.27</td>
</tr>
<tr>
<td>2</td>
<td>46.26</td>
</tr>
<tr>
<td>3</td>
<td>42.72</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>2.38</td>
</tr>
</tbody>
</table>

Crop :- Sugarcane.
Site :- Sugarcane Res. Stn., Gudiyattam.

Ref :- M. 48 (26).
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 weedicings 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 x 3 Fact. in R.B.D.  (ii) (a) 6.  (b) 96' x 104'.  (iii) 6.  (iv) (a) 48' x 34'—8'.  (b) 40' x 24'.  (v) About 4' x 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.

<table>
<thead>
<tr>
<th></th>
<th>(P_0)</th>
<th>(P_1)</th>
<th>(P_2)</th>
<th>Mean</th>
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<tbody>
<tr>
<td>(N_1)</td>
<td>35.80</td>
<td>36.56</td>
<td>36.33</td>
<td>36.23</td>
</tr>
<tr>
<td>(N_2)</td>
<td>39.29</td>
<td>37.02</td>
<td>37.04</td>
<td>37.78</td>
</tr>
<tr>
<td>Mean</td>
<td>37.55</td>
<td>36.79</td>
<td>36.69</td>
<td>37.01</td>
</tr>
</tbody>
</table>

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, 31.34. 9 and 1.4.49.  (iv) (a) 6 ploughings.  (b) 2.  (c) 15,000, 3 budded setts/ac.  (d) 32" x 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 x 2 Fact. in R.B.D.  (ii) (a) 6.  (b) N.A.  (iii) 6.  (iv) (a) 48' x 34'—8'.  (b) 40' x 24'.  (v) About 4' x 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.

<table>
<thead>
<tr>
<th></th>
<th>P0</th>
<th>P1</th>
<th>P2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1</td>
<td>47.41</td>
<td>48.01</td>
<td>48.41</td>
<td>47.94</td>
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<tr>
<td>N2</td>
<td>50.49</td>
<td>50.89</td>
<td>51.10</td>
<td>50.83</td>
</tr>
</tbody>
</table>

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.
Site :- Sugarcane Res. Stn., Gudiyattam.

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) 5030 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) 150 lb., 3-budded setts/ac. (d) 32"x4 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. ½ N applied at the time of planting and ½ at earthing up.
P2O5 applied as Super.

3. DESIGN:
(i) 3x4 Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 89x42 sq. links. (b) 60x36 sq. links. (v) 14)x3 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.

<table>
<thead>
<tr>
<th></th>
<th>P0</th>
<th>P1</th>
<th>P2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1</td>
<td>39.18</td>
<td>37.07</td>
<td>38.07</td>
<td>38.11</td>
</tr>
<tr>
<td>N2</td>
<td>45.13</td>
<td>41.91</td>
<td>43.14</td>
<td>43.66</td>
</tr>
</tbody>
</table>

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.  
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) 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) 3. (b) N.A. (iii) 6. (iv) (a) 30' x 36'. (b) 24' x 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.  

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>20.60</td>
</tr>
<tr>
<td>2.</td>
<td>29.30</td>
</tr>
<tr>
<td>3.</td>
<td>25.50</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>0.62</td>
</tr>
</tbody>
</table>

Crop: Sugarcane.  
Object: To study the effect of adding varying doses of P_2O_5 to a high dose of N on the yield of Sugar cane.  

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) 36.57". (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. 340 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) 6. (b) N.A. (iii) 4. (iv) (a) 60' x 20'. (b) 54' x 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 ton/ac.
(ii) 5.14 ton/ac.
(iii) Treatment differences are highly significant.
(iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>20.07</td>
</tr>
<tr>
<td>2.</td>
<td>35.41</td>
</tr>
<tr>
<td>3.</td>
<td>37.68</td>
</tr>
<tr>
<td>4.</td>
<td>37.84</td>
</tr>
<tr>
<td>5.</td>
<td>41.18</td>
</tr>
<tr>
<td>6.</td>
<td>41.68</td>
</tr>
</tbody>
</table>

S.E./mean = 2.57 ton/ac.

Crop: - Sugarcane.

Object: - To study the effect of adding varying doses of P2O5 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 P2O5 (but a basal dressing as mentioned below).
3. 50 lb./ac. of P2O5 as Super.
4. 100 lb./ac. of P2O5 as Super.
5. 200 lb./ac. of P2O5 as Super.
6. 400 lb./ac. of P2O5 as Super.

Treatments 2 to 6 received a basal dressing of 40 lb./ac. of N as A/S+G.N.C. in the ratio 1:3. N applied in 2 doses after planting; P2O5 before planting.

3. DESIGN:

(i) R.B.D. (ii) 6. (b) N.A. (iii) 4. (iv) (a) 36’x20’ (b) 30’x20’. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>29.09</td>
</tr>
<tr>
<td>2.</td>
<td>59.20</td>
</tr>
<tr>
<td>3.</td>
<td>56.08</td>
</tr>
<tr>
<td>4.</td>
<td>57.01</td>
</tr>
<tr>
<td>5.</td>
<td>56.00</td>
</tr>
<tr>
<td>6.</td>
<td>57.03</td>
</tr>
</tbody>
</table>

S.E./mean = 1.60 ton/ac.
Crop: Sugarcane.
Object: To determine the optimum dose of N 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)
(I) 6 levels of N: N1 = 250, N2 = 300, N3 = 350, N4 = 400, N5 = 450 and N6 = 500 lb./ac.

3. DESIGN:
(i) 6 x 2 Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) 45' x 20'. (b) 39' x 20'. (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.

<table>
<thead>
<tr>
<th></th>
<th>R1</th>
<th>R2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1</td>
<td>42.71</td>
<td>41.55</td>
<td>42.13</td>
</tr>
<tr>
<td>N2</td>
<td>41.50</td>
<td>42.32</td>
<td>41.91</td>
</tr>
<tr>
<td>N3</td>
<td>43.03</td>
<td>42.82</td>
<td>42.92</td>
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<tr>
<td>N4</td>
<td>43.63</td>
<td>42.14</td>
<td>42.88</td>
</tr>
<tr>
<td>N5</td>
<td>44.03</td>
<td>46.23</td>
<td>45.13</td>
</tr>
<tr>
<td>N6</td>
<td>38.27</td>
<td>43.23</td>
<td>40.75</td>
</tr>
<tr>
<td>Mean</td>
<td>42.20</td>
<td>43.03</td>
<td>42.62</td>
</tr>
<tr>
<td>S.E. of marginal mean of R</td>
<td>~0.41 ton/ac.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.E. of marginal mean of N</td>
<td>~1.06 ton/ac.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.E. of body of table</td>
<td>~1.70 ton/ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop: Sugarcane.
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) Sunnhemp. (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)
(I) 6 levels of N: N1 = 250, N2 = 300, N3 = 350, N4 = 400, N5 = 450 and N6 = 500 lb./ac.
Manures applied at the time of planting.
(iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th></th>
<th>$V_1$</th>
<th>$V_2$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$T_1$</td>
<td>75.97</td>
<td>77.64</td>
<td>76.80</td>
</tr>
<tr>
<td>$T_2$</td>
<td>44.70</td>
<td>44.90</td>
<td>44.80</td>
</tr>
<tr>
<td>Mean</td>
<td>60.33</td>
<td>61.27</td>
<td>60.80</td>
</tr>
</tbody>
</table>

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.
Site :- Sugarcane Res. Stn., Gudiyattam.

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" x 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 weedicings, 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 : $T_1$ = March and $T_2$ = May.
   Sub-plot treatments :-
   2 varieties : $V_1$ = CO. 419 and $V_2$ = 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 7'-0" x 26'-8" ; Sub-plot 7'-0" x 13'-4". (b) Sub-plot 68'-6" x 8'. (v) 3' x 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.

<table>
<thead>
<tr>
<th></th>
<th>$V_1$</th>
<th>$V_2$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$T_1$</td>
<td>57.34</td>
<td>61.08</td>
<td>59.21</td>
</tr>
<tr>
<td>$T_2$</td>
<td>26.90</td>
<td>47.60</td>
<td>37.25</td>
</tr>
<tr>
<td>Mean</td>
<td>42.12</td>
<td>54.34</td>
<td>48.23</td>
</tr>
</tbody>
</table>

S.E. s = N.A.
Crop: Sugarcane.

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.

(iii) (a) S'000, 3-budded setts/ac. (d) 32" x 3 links. (e) —. (v) 10 ton/ac. of F.Y.M. + 200 lb./ac. of N as Castorcake and A/S in 2:1 ratio 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) \( 3 \times 3 \times 2 \) Fact. in R.B.D. (ii) (a) 18. (b) N.A. (iii) 4. (iv) (a) 13'4" x 73'-6". (b) 8' x 8'-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) 4.60 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) Avg. yield of Sugarcane in ton/ac.

<table>
<thead>
<tr>
<th></th>
<th>( T_1 )</th>
<th>( T_2 )</th>
<th>( T_3 )</th>
<th>Mean</th>
<th>( V_1 )</th>
<th>( V_2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>( A_1 )</td>
<td>45.08</td>
<td>35.17</td>
<td>21.61</td>
<td>34.95</td>
<td>36.70</td>
<td>33.21</td>
</tr>
<tr>
<td>( A_2 )</td>
<td>54.15</td>
<td>38.47</td>
<td>24.45</td>
<td>39.02</td>
<td>38.42</td>
<td>39.62</td>
</tr>
<tr>
<td>( A_3 )</td>
<td>51.99</td>
<td>33.69</td>
<td>25.26</td>
<td>36.99</td>
<td>34.08</td>
<td>39.89</td>
</tr>
<tr>
<td>Mean</td>
<td>50.41</td>
<td>35.78</td>
<td>24.77</td>
<td>36.99</td>
<td>36.40</td>
<td>37.57</td>
</tr>
<tr>
<td>( V_1 )</td>
<td>50.99</td>
<td>36.43</td>
<td>21.78</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( V_2 )</td>
<td>49.83</td>
<td>35.12</td>
<td>27.77</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 \( A \times T \) = 1.70 ton/ac.

S.E. of body of table \( A \times V \) or \( V \times T \) = 1.39 ton/ac.

Crop: Sugarcane.

Site: Sugarcane Res. Stn., Gudiyattam.

Ref: M. 52(43).

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.

(iii) (a) 15000, 3-budded setts/ac. (d) 32" x 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.
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 x V are highly significant.
   (iv) Av. yield of sugarcane in ton/ac.'

```
<table>
<thead>
<tr>
<th></th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>40.48</td>
<td>32.77</td>
<td>38.37</td>
<td>37.21</td>
</tr>
<tr>
<td>V2</td>
<td>45.27</td>
<td>26.66</td>
<td>45.90</td>
<td>39.28</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. P marginal means = 1.72 ton/ac.
2. V marginal means = 0.98 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.
Site:- Sugarcane Res. Stn., Gudiyattam.
Ref:- M. 53(53).
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) 1.33. (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) Ir. CO. 419 (late) and CO. 449 (medium). (viii) Weed 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 sets.
   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. lirks. (b) 47×30 sq. lirks.
       (v) 4×5 lirks 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.
Crop :- Sugarcane.

Site :- Sugarcane Res. Stn., Gudiyattam.

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 Ib./ac. of G.L.+150 Ib./ac. of A/S+150 Ib./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' x 3 links. (e) —. (v) 3500 lb./ac. of N as 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 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 : T1 = January, T2 = May and T3 = September.
   (2) 3 ages at harvest : A1 = 10 months, A2 = 12 months and A3 = 14 months.
   (3) 2 varieties: V1 = CO. 419 and V2 = CO. 449.

3. DESIGN:
   (i) 3X3X2 Fact. in R.B.D. (ii) (a) 18. (b) N.A. (iii) 4. (iv) (a) 13'-4" x 73'-6". (b) 8' x 8'-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) 3.99 ton/ac.
   (ii) 4.80 ton/ac.
   (iii) Main effect of T and interaction V x A are highly significant. Main effect of A and interactions V x T, T x A are significant. Main effect of V and other interactions are not significant.
   (iv) Av. yield of Sugarcane in ton/ac.

<table>
<thead>
<tr>
<th></th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>Mean</th>
<th>V1</th>
<th>V2</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>45.08</td>
<td>35.17</td>
<td>24.61</td>
<td>34.95</td>
<td>36.70</td>
<td>33.21</td>
</tr>
<tr>
<td>A2</td>
<td>54.15</td>
<td>38.47</td>
<td>24.45</td>
<td>39.02</td>
<td>38.42</td>
<td>39.62</td>
</tr>
<tr>
<td>A3</td>
<td>51.99</td>
<td>33.69</td>
<td>25.26</td>
<td>36.99</td>
<td>34.08</td>
<td>39.89</td>
</tr>
<tr>
<td>Mean'</td>
<td>50.41</td>
<td>35.74</td>
<td>24.77</td>
<td>36.99</td>
<td>36.40</td>
<td>37.57</td>
</tr>
<tr>
<td>V1</td>
<td>50.99</td>
<td>36.43</td>
<td>21.78</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V2'</td>
<td>49.83</td>
<td>35.12</td>
<td>27.77</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 x T = 1.70 ton/ac.
S.E. of body of table A x V or V x T = 1.39 ton/ac.

Crop :- Sugarcane.

Site :- Sugarcane Res. Stn., Gudiyattam.

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' x 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 with hand hoes and earthing up once. (ix) Varies from treatment to treatment. (x) As under treatments.
2. TREATMENTS:
(A) All combinations of (1), (2) and (3)
(B) Age at harvest: A1=10 months, A2=12 months and A3=14 months.
(C) 2 varieties: V1=CO. 419 and V2=CO. 449.

3. DESIGN:
(A) 3 x 3 x 2 Fact. in R.B.D.
(B) Age at harvest: A1=10, A2=12, A3=14 months.
(C) 2 varieties: V1=CO. 419, V2=CO. 449.

4. GENERAL:
(A) Satisfactory. (B) Mild attack of early shoot borer. Spraying of DDT 50%.
(C) Height and weight measurements. (D) 1951-1953.
(E) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(A) 28.11 ton/ac.
(B) 4.97 ton/ac.
(C) Main effects of T, V and interactions T x V are highly significant. Main effect A and of interactions T x A and T x A x V are not significant.
(D) Av. yield of sugarcane in lb./ac.

<table>
<thead>
<tr>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>Mean</th>
<th>V1</th>
<th>V2</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2</td>
<td>37.51</td>
<td>30.95</td>
<td>21.02</td>
<td>29.83</td>
<td>25.64</td>
</tr>
<tr>
<td>A3</td>
<td>31.34</td>
<td>33.29</td>
<td>19.04</td>
<td>27.89</td>
<td>21.85</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>33.51</td>
<td>19.85</td>
<td>28.11</td>
<td>24.85</td>
</tr>
</tbody>
</table>

Crop => Sugarcane.
Site => Sugarcane Res. Stn., Gudiyattam.
Ref => M. 53(54).
Type => CV'.

Object => To find the optimum combination of time of planting and age at harvest for two varieties of Sugarcane.

1. BASAL CONDITIONS:
(A) (a) Sugarcane=Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super.
(B) (a) Sandy loam. (b) Refer soil analysis, Gudiyattam. (iii) As under treatments.
(C) 4 ploughings with Cooper-11 plough and 2 with victory plough. (d) 32 x 3 links.
(D) 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.
(E) CO. 419 (late) CO. 449 (medium).
(F) 7 weedings and earthing up once. (i) 40.2'. (a) As under treatments.

2. TREATMENTS:
(A) All combinations of (1), (2) and (3)
(B) Age at harvest: A1=10, A2=12 and A3=14 months.
(C) 2 varieties: V1 = CO. 419 and V2 = CO. 449.

3. DESIGN:
(A) 2 x 3 x 2 Fact. in R.B.D. (b) N.A. (iii) 4.
(C) 2 varieties: V1 = CO. 419 and V2 = CO. 449.

4. GENERAL:
(A) Satisfactory. (B) Mild attack of early shoot borer. Spraying of DDT 50%.
(C) Height and weight measurements. (D) 1951-1953.
(E) (a) Nil. (b) N.A. (vi) and (vii) Nil.
4. GENERAL:
(i) Satisfactory. (ii) Early shoot borer. Sprayed DDT 59%. (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/jacl.
(iii) Main effect of V and T are highly significant. Interactions V×A and T×A are significant. Effect of A and interactions V×T are not significant.
(iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th></th>
<th>T1</th>
<th>T2</th>
<th>Mean</th>
<th>V1</th>
<th>V2</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>39.63</td>
<td>40.88</td>
<td>40.41</td>
<td>38.48</td>
<td>42.33</td>
</tr>
<tr>
<td>A2</td>
<td>44.92</td>
<td>30.68</td>
<td>37.80</td>
<td>32.02</td>
<td>48.59</td>
</tr>
<tr>
<td>A3</td>
<td>40.92</td>
<td>27.31</td>
<td>34.12</td>
<td>23.26</td>
<td>44.96</td>
</tr>
<tr>
<td>Mean</td>
<td>41.92</td>
<td>32.96</td>
<td>37.44</td>
<td>31.25</td>
<td>43.63</td>
</tr>
</tbody>
</table>

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×A or V×A = 5.26 ton/ac.
S.E. of body of table T×V = 2.66 ton/ac.

Crop: Sugarcane. 
Site: Sugarcane Res. Stn., Gudiyattam.
Type: CV.
Ref: M. 52(44).

Object: To find out the suitability of Java method of planting Rayamgan 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 sets for Rayamgan and slips and 10,000 sets of sprouted sets. (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 = Rayamgan, P2 = Sprouted slips and P3 = Ordinary sets.
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 x V are highly significant.

(iv) Av. yield of sugarcane in ton/ac:

<table>
<thead>
<tr>
<th></th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>40.48</td>
<td>32.77</td>
<td>38.37</td>
<td>37.21</td>
</tr>
<tr>
<td>V2</td>
<td>45.27</td>
<td>26.66</td>
<td>45.90</td>
<td>39.23</td>
</tr>
</tbody>
</table>

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.

Site :- Sugarcane Res. Stn., Gudiyattam.

Ref :- M. 53(53).

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/ez. of F.Y.M. + 200 lb. 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 sets.
2. 3 spacings: S1 = 6' x 6', S2 = 12' x 12' and S3 = 18' x 18'.
3. 2 varieties: V1 = CO. 419 and V2 = CO. 449.

3. DESIGN:

(i) 3 x 2 x 2 Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 2. (iv) (a) 53 x 46 sq. lirks. (b) 4' x 20 sq. lirks.
(v) 4 x 5 lirks left as border. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Mild attack of early shoot borer. Spraying of 50% DDT. (iii) Height measurements. Cane yield (iv) (a) 1952—1954. (b) N.A. (c) N.A. (vi) (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.

<table>
<thead>
<tr>
<th></th>
<th>P₀</th>
<th>P₁</th>
<th>Mean</th>
<th>V₀</th>
<th>V₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₀</td>
<td>43.87</td>
<td>45.32</td>
<td>44.59</td>
<td>46.50</td>
<td>42.69</td>
</tr>
<tr>
<td>S₁</td>
<td>47.34</td>
<td>48.80</td>
<td>48.07</td>
<td>50.95</td>
<td>45.19</td>
</tr>
<tr>
<td>S₂</td>
<td>47.08</td>
<td>36.46</td>
<td>41.77</td>
<td>43.07</td>
<td>40.47</td>
</tr>
<tr>
<td>V₁</td>
<td>47.18</td>
<td>46.50</td>
<td>46.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V₂</td>
<td>45.01</td>
<td>40.56</td>
<td>42.79</td>
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<td></td>
</tr>
</tbody>
</table>

Crop :- Sugarcane.

Site :- Sugarcane Res. Stn., Gudiyattam.

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) 3/1000,3-budded sets/ac. (iv) 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°. (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' x 69°-4'; sub-plot : 48°-34°-8' (b) sub-plot : 35°-18°-8'. (v) 6½ x 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.

<table>
<thead>
<tr>
<th></th>
<th>I₁</th>
<th>I₂</th>
<th>I₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V₁</td>
<td>36.48</td>
<td>38.18</td>
<td>37.50</td>
<td>37.39</td>
</tr>
<tr>
<td>V₂</td>
<td>42.94</td>
<td>44.69</td>
<td>41.01</td>
<td>42.88</td>
</tr>
</tbody>
</table>

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.

Ref :- M. 48(27).

Type :- 'IV'.
Crop: Sugarcane.

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 20th April. (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) 1 weeding and earthing up once. (ix) 35-55°. (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" main-plot; 48" x 34" x 5" sub-plot (b) 35" x 18"-8" (sub-plot). (v) 6" 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.

<table>
<thead>
<tr>
<th></th>
<th>I 1</th>
<th>I 2</th>
<th>I 3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V 1</td>
<td>35.18</td>
<td>34.21</td>
<td>36.34</td>
<td>35.25</td>
</tr>
<tr>
<td>V 2</td>
<td>40.01</td>
<td>38.06</td>
<td>39.57</td>
<td>39.21</td>
</tr>
<tr>
<td>Mean</td>
<td>37.59</td>
<td>36.14</td>
<td>37.95</td>
<td>37.23</td>
</tr>
</tbody>
</table>

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).
Site: Sugarcane Res. Stn., Gudiyattam.

Object: To find optimum requirement of irrigation for Sugarcane.

1. BASAL CONDITIONS:
   (i) (a) Sugarcane-Paddy. (b) Sugarcane (plant). (c) 10 tons/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) 33" x 4 links. (e)—. (v) 10 ton/ac of F.Y.M.+100 lb./ac. of N as Castorcake 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: $V_1 = 0.419$ and $V_2 = 0.449$.

3. **DESIGN** :

(i) Split plot. (ii) 3 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 75 x 53 sq. links. (b) 53 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** :

<table>
<thead>
<tr>
<th></th>
<th>$I_1$</th>
<th>$I_2$</th>
<th>$I_3$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_1$</td>
<td>23.37</td>
<td>18.92</td>
<td>19.98</td>
<td>20.76</td>
</tr>
<tr>
<td>$V_2$</td>
<td>28.47</td>
<td>22.61</td>
<td>24.61</td>
<td>25.08</td>
</tr>
<tr>
<td>Mean</td>
<td>25.92</td>
<td>20.76</td>
<td>22.07</td>
<td>22.92</td>
</tr>
</tbody>
</table>

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.  
Ref: M. 52 (65).  
Site: Govt. Agri. Chemist, Coimbatore.  
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** :

1. Control.  
2. G.M. crop raised with field and applied.  
3. 2500 lb./ac. of G.M. from outside applied.  
4. 5000 lb./ac. of G.M. from outside applied.  
5. 7500 lb./ac. of G.M. from outside applied.  
6. 10000 lb./ac. of G.M. from outside applied.

3. **DESIGN** :

(i) R.B.D. (ii) 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** :

(i) 613 lb./ac.  
(ii) N.A.
Crop :- Cotton.
Site :- Agri. Res. Stn., Koilpatti.

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 Chulam. (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) 8" x 6". (e) 1. (v) Nil. (vi) K-1. (vii) Rainfed. (viii) Weeding once. (ix) 19.84". (x) 30.3.49. to 26.7.49.

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) 1,948-1951. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>364</td>
</tr>
<tr>
<td>2.</td>
<td>420</td>
</tr>
<tr>
<td>3.</td>
<td>405</td>
</tr>
<tr>
<td>4.</td>
<td>368</td>
</tr>
<tr>
<td>5.</td>
<td>363</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>33.12 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Cotton.
Site :- Agri. Res. Stn., Koilpatti.

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) 4½ 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>476</td>
</tr>
<tr>
<td>2.</td>
<td>539</td>
</tr>
<tr>
<td>3.</td>
<td>552</td>
</tr>
<tr>
<td>4.</td>
<td>556</td>
</tr>
<tr>
<td>5.</td>
<td>596</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>48.1 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Cotton. Ref: M. 50(103)/49(1)/48(90).
Site: Agri. Res. Stn., Koilpati. 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, Koilpati.
(iii) 24.10.50. (iv) (a) 3 ploughings. (b) N.A. (c) 12 lb./ac. (d) 18"×6". (e) 1. (f) Nil. (vi) K-2.

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) 250 lb./ac.
(ii) 30.4 lb./ac.
(iii) Treatment differences are not significant.
Crop: Cotton.


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' × 1'. (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:
   1. 0 lb./ac of 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 boric acid at the time of last ploughing.

3. DESIGN:
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 90 × 18 sq. links. (b) 81 × 9 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.


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 gorr. (d) 1½' × 1½'. (e) 1. (v) Nil. (vi) K-2. (vii) Rainfed. (viii) Weeding once. (ix) 16.3°. (x) 1.4.54 to 3.7.54.

Ref: M. 51(14)/50(103)/49(1)/48(90).

Type: 'M'.
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 : N₁ = 30 lb./ac. and N₂ = 80 lb./ac.
(3) 2 levels of basal dressing : B₁ = Lime at 450 lb./ac. + C.M. at 3 ton/ac. + Super at 30 lb./ac. of P₂O₅.

Control = as under B₁ 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 4½ 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) 47.510 lb./ac.

(iii) None of the effects is significant.
(iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>B₀</th>
<th>B₁</th>
<th>Mean</th>
<th>N₁</th>
<th>N₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>A/S</td>
<td>413</td>
<td>396</td>
<td>404</td>
<td>392</td>
<td>416</td>
</tr>
<tr>
<td>C/N</td>
<td>401</td>
<td>432</td>
<td>417</td>
<td>409</td>
<td>424</td>
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<tr>
<td>Mean</td>
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<td>414</td>
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<td>N₁</td>
<td>396</td>
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<tr>
<td>N₂</td>
<td>418</td>
<td>422</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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).
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) Ragi. (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Palur. (iii) 16.2.48. (iv) (a) 4 ploughings. (b) to (c) 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 : N₀ = 0, N₁ = 25, N₂ = 50, N₃ = 75 and N₄ = 100 lb./ac.
(2) 2 sources of N : S₁ = A/S and S₂ = G.N.C.
(3) 3 levels of P₂O₅ : P₀ = 0, P₁ = 30 and P₂ = 60 lb./ac.

3. DESIGN:

(i) 5 × 2 × 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.

\[ P_0 = 871\text{ lb./ac.}, \quad P_1 = 786\text{ lb./ac.} \text{ and } P_2 = 845\text{ lb./ac. (without Nitrogen).} \]

<table>
<thead>
<tr>
<th>A/S</th>
<th>N_1</th>
<th>N_2</th>
<th>N_3</th>
<th>N_4</th>
<th>Mean</th>
<th>( P_0 )</th>
<th>( P_1 )</th>
<th>( P_2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>942</td>
<td>963</td>
<td>817</td>
<td>793</td>
<td>879</td>
<td>907</td>
<td>829</td>
<td>899</td>
</tr>
<tr>
<td>G.N.C.</td>
<td>847</td>
<td>827</td>
<td>997</td>
<td>907</td>
<td>934</td>
<td>872</td>
<td>927</td>
<td>913</td>
</tr>
<tr>
<td>Mean</td>
<td>894</td>
<td>895</td>
<td>907</td>
<td>869</td>
<td>891</td>
<td>889</td>
<td>878</td>
<td>906</td>
</tr>
</tbody>
</table>

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.

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) Red soil. (b) Refer soil analysis, Satyamangalam. (iii) 9.12.52
(iv) (a) N.A. (b) N.A. (c) N.A. (d) 18°x10°. (e) N.A. (v) 45 lb./ac. of N as A/S+30 lb./ac. of \( P_2 \) as Super. (vi) MU I (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. : \( G_1 = 2500 \), \( G_2 = 5000 \) and \( G_3 = 7500 \) lb./ac.
(2) 2 sources of G.L. : \( S_1 = \text{Cassia leaf} \) and \( S_2 = \text{Sunn hemp.} \)

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 w.r. others' are significant.
(iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>G1</th>
<th>G2</th>
<th>G3</th>
<th>G4</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>1025</td>
<td>1071</td>
<td>1237</td>
<td></td>
<td>1111</td>
</tr>
<tr>
<td>S2</td>
<td>925</td>
<td>928</td>
<td>1145</td>
<td></td>
<td>999</td>
</tr>
<tr>
<td>Mean</td>
<td>975</td>
<td>1000</td>
<td>1191</td>
<td></td>
<td>1056</td>
</tr>
</tbody>
</table>

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.
Site: Central Farm, Coimbatore.

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.

3. TREATMENTS:
   1. Preparatory cultivation with 16-coulted plough once, followed by 1 country plough just before forming beds.
   2. Preparatory cultivation with 16-coulted plough twice followed by country plough once.

4. 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.

5. 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), (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1225</td>
</tr>
<tr>
<td>2.</td>
<td>1263</td>
</tr>
<tr>
<td>3.</td>
<td>1179</td>
</tr>
<tr>
<td>4.</td>
<td>1276</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= N.A.</td>
</tr>
</tbody>
</table>
Object:—To determine the seed rate of Indigo that should be mixed with Irangu Cholam and the optimum time of ploughing in of the Indigo crop to remove the Cholam 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 = Cholam + Indigo at 8 lb./ac. B = Cholam + Indigo at 12 lb./ac. C = Cholam alone. D = Cumbu alone.

3. DESIGN:
(i) 2 x 4 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) 37 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>Crop</th>
<th>Site</th>
<th>Object</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton</td>
<td>Agri. Res. Stn., Koilpatti</td>
<td>To determine the seed rate of Indigo that should be mixed with Irangu Cholam and the optimum time of ploughing in of the Indigo crop to remove the Cholam effect on succeeding crop of Cotton.</td>
<td>‘C’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>T₁</th>
<th>T₂</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>347</td>
<td>311</td>
<td>329</td>
</tr>
<tr>
<td>B</td>
<td>360</td>
<td>353</td>
<td>359</td>
</tr>
<tr>
<td>Mean</td>
<td>356</td>
<td>332</td>
<td>344</td>
</tr>
</tbody>
</table>

S.E. of any marginal means = 17.8 lb./ac.
S.E. of body of table = 35.6 lb./ac.
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. (vii) Weeding once. (ix) 13.04. (x) Cotton pickings on 27.2.51 to 14.7.51.

2. TREATMENTS:
   All combinations of (1) and (2)
   (1) 2 times of ploughing in Indigo crop: T1=Early (April-May) and T2=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.
   \[
   \begin{align*}
   \text{Cholam (pure)} & = 274 \text{ lb./ac.} \\
   \text{Cumbu (pure)} & = 271 \text{ lb./ac.}
   \end{align*}
   \]
<table>
<thead>
<tr>
<th></th>
<th>T1</th>
<th>T2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>256</td>
<td>157</td>
<td>207</td>
</tr>
<tr>
<td>B</td>
<td>264</td>
<td>128</td>
<td>196</td>
</tr>
<tr>
<td>Mean</td>
<td>260</td>
<td>143</td>
<td>201</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 19.1 lb./ac.
S.E. of body of table = 27.0 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) 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 Indigo crop: T1=Early (April-May) and T2=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.

<table>
<thead>
<tr>
<th>Crop</th>
<th>Site</th>
<th>Object</th>
</tr>
</thead>
<tbody>
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<td>Cholam</td>
<td>Cotton Specialist, Coimbatore.</td>
<td>To study the effect of topping on different varieties of Cotton.</td>
</tr>
<tr>
<td>Cumbu</td>
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<td>247</td>
</tr>
<tr>
<td>B</td>
<td>268</td>
<td>226</td>
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</tbody>
</table>

Mean: 253

Mean: 237

S.E. of any marginal mean = 23.3 lb./ac.
S.E. of body of table = 32.9 lb./ac.

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.

<table>
<thead>
<tr>
<th>V1</th>
<th>V2</th>
<th>Mean</th>
</tr>
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<tr>
<td>T3</td>
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<td>384</td>
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</table>

Mean: 366

Mean: 389

Mean: 378
Crop: Cotton. Site: Cotton Specialist, Coimbatore.

Ref: M. 49(144). 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-Sand 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) 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.

<table>
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<tr>
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<th>V₂</th>
<th>Mean</th>
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<td>T₂</td>
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<td>T₃</td>
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<td>330</td>
</tr>
<tr>
<td>Mean</td>
<td>266</td>
<td>321</td>
</tr>
</tbody>
</table>

Crop: Cotton. Site: Cotton Specialist, Coimbatore.

Ref: M. 50 (115). 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 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.

<table>
<thead>
<tr>
<th></th>
<th>(V_1)</th>
<th>(V_2)</th>
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<tr>
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<td>295</td>
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</tbody>
</table>

Crop: Cotton.  
Ref: M. 49 (109).  
Type: ‘CM’.  


Object: To find out whether \(P_2O_5\) 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) \(1:1:6\). (e) N.A. (v) Nil. (vi) K-3 (vii) Not irrigated. (viii) Weeding once. (ix) 13.52". (x) 1.3.50 to 7.6.50.

2. TREATMENTS:
Main-plot treatments: — (previous crops).
\(M_1\) = Sorghum + Indigo.
\(M_2\) = Sorghum + Indigo + 30 lb./ac. of \(P_2O_5\).
\(M_3\) = Cumbo + Indigo.
\(M_4\) = Cumbo + Indigo + 30 lb./ac. of \(P_2O_5\).
\(M_5\) = Sorghum alone.
\(M_6\) = Sorghum + 30 lb./ac. of \(P_2O_5\).
\(M_7\) = Cumbo alone.
\(M_8\) = Cumbo + 30 lb./ac. of \(P_2O_5\).
\(M_9\) = Indigo alone.
\(M_{10}\) = Indigo + 30 lb./ac. of \(P_2O_5\).

Sub-plot treatments: —
2 levels of N: \(N_0 = 0, N_1 = 30\) 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. (v) 1.01 cent. (vi) A. (vii) 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) 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.

<table>
<thead>
<tr>
<th></th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
<th>M5</th>
<th>M6</th>
<th>M7</th>
<th>M8</th>
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<td>506</td>
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</tbody>
</table>

Crop: Cotton

Ref: M. 51(78)/50(N.A.)/49(109).


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 7.8.52.

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 = Sorghum (previous crop).

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.

<table>
<thead>
<tr>
<th></th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
<th>M5</th>
<th>M6</th>
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<td>264</td>
<td>284</td>
<td>268</td>
<td>254</td>
<td>272</td>
</tr>
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</table>

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.

Object: To find out an economic method for overcoming the effect of cereals on the succeeding crop of Cotton.

1. BASAL CONDITIONS:
   (i) (a) *frungu 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) 15°×6°. (e) 1 seed/hole. (v) Nil. (vi) K-2 cotton. (vii) Rainfed. (viii) Weeding onc. (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 = Sorghum alone.
   - M₅ = Sorghum + 3J lb./ac. of P₂O₅.
   - M₆ = Cumbu alone.
   - M₇ = Sorghum + 30 lb./ac. of P₂O₅.
   - M₈ = Cumbu alone.
   - 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) 108×45 sq. links (main-plot); 108×15. sq. links (b) 90×15 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.

<table>
<thead>
<tr>
<th></th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
<th>M₄</th>
<th>M₅</th>
<th>M₆</th>
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<th>M₈</th>
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</table>

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.
Site: Central Farm, Coimbatore.

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. (f) F.Y.M. at 5 ton/ac. (vi) CO. 2 (cambodia). (vii) Irrigated. (viii) Inter-cultivation with junior hoe once. (ix) N.A. (x) 4.2.49 to 22.4.49.

2. TREATMENTS:
   Main-plot treatments:
   - 4 intervals of irrigation: \( I_1 = \text{Ryots' interval (details N.A.)}, I_2 = 2 \text{weeks}, I_3 = 3 \text{weeks and} I_4 = 4 \text{weeks.} \)

   Sub-plot treatments:
   - 3 depths of irrigation: \( D_1 = 2", D_2 = 3" \text{and} D_3 = 4". \)

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.

<table>
<thead>
<tr>
<th></th>
<th>( I_1 )</th>
<th>( I_2 )</th>
<th>( I_3 )</th>
<th>( I_4 )</th>
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<td>1451</td>
<td>1667</td>
</tr>
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S.E.'s N.A.

Crop: Cotton.
Site: Central Farm, Coimbatore.

Ref: M. 49(89).
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. (f) 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: \( I_1 = 1 \text{ week}, I_2 = 2 \text{weeks}, I_3 = 3 \text{weeks and} I_4 = 4 \text{weeks.} \)

   Sub-plot treatments:
   - 3 depths of irrigation: \( D_1 = 2", D_2 = 3" \text{ and} D_3 = 4". \)
3. DESIGN:
(i) Split-plot. (ii) (a) 3 main-plots/block; 3 sub-plots/main-plot. (b) 60'x120'. (iii) 4. (iv) (a) 30'x60'. main-plot. 30'x20' sub-plot. (b) 26'x12' (sub-plot) (v) 2'x4' 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.

<table>
<thead>
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<th>I1</th>
<th>I2</th>
<th>I3</th>
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Mean 1441 1566 1395 1412 | 1454 |

S.E.'s N.A.

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Crop :-Cotton.  
Site :-Cotton Specialist, Coimbatore.  
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 V3=K-1.  
(2) 2 levels of irrigation : I1=Irrigated and I2=Unirrigated.

3. DESIGN:
(i) 2x2 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. K-5 Irrigated</td>
<td>542</td>
</tr>
<tr>
<td>2. K-5 Rainfed</td>
<td>406</td>
</tr>
<tr>
<td>3. K-1 Irrigated</td>
<td>730</td>
</tr>
<tr>
<td>4. K-1 Rainfed</td>
<td>426</td>
</tr>
</tbody>
</table>

---

Ref. :-M. 48(117).  
Type :-'IV'.
Crop :- Cotton.  
Ref :- M. 49(145). 
Type :- 'IV'.  

Site :- Cotton Specialist, Coimbatore.  

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: \( I_1 = \text{Irrigated} \) and \( I_2 = \text{Unirrigated} \).

3. DESIGN:
(i) \( 2 \times 2 \) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>K-5 Irrigated</td>
<td>520</td>
</tr>
<tr>
<td>K-5 Rainfed</td>
<td>394</td>
</tr>
<tr>
<td>K-1 Irrigated</td>
<td>619</td>
</tr>
<tr>
<td>K-1 Rainfed</td>
<td>404</td>
</tr>
</tbody>
</table>

Crop :- Cotton.  
Ref :- M. 50(116). 
Type :- 'IV'.  

Site :- Cotton Specialist, Coimbatore.  

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: \( I_1 = \text{Irrigated} \) and \( I_2 = \text{Unirrigated} \).

3. DESIGN:
(i) \( 2 \times 2 \) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>K-5 Irrigated</td>
<td>915</td>
</tr>
<tr>
<td>K-5 Rainfed</td>
<td>229</td>
</tr>
<tr>
<td>K-1 Irrigated</td>
<td>1082</td>
</tr>
<tr>
<td>K-1 Rainfed</td>
<td>319</td>
</tr>
</tbody>
</table>

Crop: Groundnut.  
Ref: M. 50(109).  
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 x 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:—
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) 3. (b) N.A. (iii) 6. (iv) (a) 35.6' x 29.7'. (b) 34.3' x 27.1'. (v) 0.7' x 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2585</td>
</tr>
<tr>
<td>2.</td>
<td>3210</td>
</tr>
<tr>
<td>3.</td>
<td>3101</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 44.7 lb/ac.</td>
</tr>
</tbody>
</table>
Crop :- Groundnut.  

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) 3 ploughings. (b) N.A. (c) N.A. (d) 2 links x 1 link. (e) 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) 32. (b) N.A. (iii) 4. (iv) 3. 15,6. (v) 0.7' x 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.
   
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1475</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1875</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1566</td>
<td></td>
</tr>
<tr>
<td></td>
<td>141.6 lb./ac.</td>
<td></td>
</tr>
</tbody>
</table>

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Crop :- Groundnut.  

Object :- To find out the optimum and economic dose of P2O5 and K2O for Groundnut.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Groundnut. (c) 5000 lb./ac. of town rubbish. (ii) (a) Red sandy loam. Tindivanam. (iii) 12.9.48. (iv) 3 ploughings. (b) N.A. (c) 80 lb./ac. (d) 9" x 9". (e) 1. (vi) Nil. (vii) TMV-3 spreading. (viii) Unirrigated. (ix) One weeding. (x) 20.71N.

2. TREATMENTS:
   All combinations of (1), (2) and (3)
   (1) 2 levels of B.D. : B0 = No B.D. and B1 = B.D. of C.M. at 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. of K2O as Pot. Sulphate and P2O5 as Super.

3. DESIGN:
   (i) 2 x 4 x 4 x 4 Fact. in R.B.D. (ii) 32. (b) N.A. (iii) 4. (iv) 31' x 6'. (b) 28' x 4'. (v) 11' x 3' 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.

<table>
<thead>
<tr>
<th></th>
<th>K₀</th>
<th>K₁</th>
<th>K₂</th>
<th>K₃</th>
<th>Mean</th>
<th>B₀</th>
<th>B₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>P₀</td>
<td>713</td>
<td>742</td>
<td>722</td>
<td>771</td>
<td>737</td>
<td>718</td>
<td>756</td>
</tr>
<tr>
<td>P₁</td>
<td>530</td>
<td>827</td>
<td>762</td>
<td>701</td>
<td>705</td>
<td>712</td>
<td>698</td>
</tr>
<tr>
<td>P₂</td>
<td>804</td>
<td>730</td>
<td>650</td>
<td>805</td>
<td>747</td>
<td>773</td>
<td>721</td>
</tr>
<tr>
<td>P₃</td>
<td>757</td>
<td>733</td>
<td>629</td>
<td>749</td>
<td>717</td>
<td>668</td>
<td>766</td>
</tr>
</tbody>
</table>


crop: Groundnut.

Ref: M. 50 (100).
type: 'M'.
(iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>P₀</th>
<th>P₁</th>
<th>P₂</th>
<th>P₃</th>
<th>Mean</th>
<th>K₀</th>
<th>K₁</th>
<th>K₂</th>
<th>K₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>C₀</td>
<td>350</td>
<td>386</td>
<td>389</td>
<td>415</td>
<td>385</td>
<td>387</td>
<td>384</td>
<td>354</td>
<td>415</td>
</tr>
<tr>
<td>C₁</td>
<td>429</td>
<td>422</td>
<td>422</td>
<td>413</td>
<td>421</td>
<td>409</td>
<td>394</td>
<td>440</td>
<td>441</td>
</tr>
<tr>
<td>Mean</td>
<td>389</td>
<td>404</td>
<td>405</td>
<td>414</td>
<td>.403</td>
<td>398</td>
<td>389</td>
<td>397</td>
<td>428</td>
</tr>
<tr>
<td>K₀</td>
<td>392</td>
<td>415</td>
<td>391</td>
<td>394</td>
<td></td>
<td>390</td>
<td>391</td>
<td>394</td>
<td></td>
</tr>
<tr>
<td>K₁</td>
<td>342</td>
<td>407</td>
<td>411</td>
<td>395</td>
<td></td>
<td>392</td>
<td>395</td>
<td>398</td>
<td></td>
</tr>
<tr>
<td>K₂</td>
<td>413</td>
<td>366</td>
<td>396</td>
<td>413</td>
<td></td>
<td>412</td>
<td>397</td>
<td>453</td>
<td></td>
</tr>
<tr>
<td>K₃</td>
<td>409</td>
<td>426</td>
<td>424</td>
<td>453</td>
<td></td>
<td>408</td>
<td>413</td>
<td>426</td>
<td></td>
</tr>
</tbody>
</table>

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

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′×4′. (v) 2′×2′ 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.
Crop : Groundnut.

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. (iii) (a) (b) Refer soil analysis, Tindivanam. (iii) 20.8.52.
   (iv) (a) 4 ploughings. (b) N.A. (c) 50 lb./ac. (d) 9"x9". (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 KₐO : 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) 2x4x4 Fact. in R.B.D. (iii) (a) 32. (b) N.A. (iii) 4. (iv) (a) 28'x6'. (b) 24'x4½'. (v) 2'x4' 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.

<table>
<thead>
<tr>
<th></th>
<th>$P_0$</th>
<th>$P_1$</th>
<th>$P_2$</th>
<th>$P_3$</th>
<th>Mean.</th>
<th>$K_0$</th>
<th>$K_1$</th>
<th>$K_2$</th>
<th>$K_3$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$C_0$</td>
<td>201</td>
<td>135</td>
<td>176</td>
<td>163</td>
<td>169</td>
<td>179</td>
<td>149</td>
<td>170</td>
<td>178</td>
</tr>
<tr>
<td>$C_1$</td>
<td>250</td>
<td>201</td>
<td>220</td>
<td>195</td>
<td>219</td>
<td>233</td>
<td>189</td>
<td>234</td>
<td>222</td>
</tr>
<tr>
<td>Mean.</td>
<td>226</td>
<td>168</td>
<td>203</td>
<td>179</td>
<td>194</td>
<td>.206</td>
<td>169</td>
<td>202</td>
<td>200</td>
</tr>
</tbody>
</table>

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 x K = 10.60 lb./ac.  
S.E. of body of table C x P or C x K = 7.50 lb./ac.  

Object: To determine the optimum and economic dose of $P_2O_5$ and $K_2O$ 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" x 9". (e) Nil. (f) Nil.  
   (v) TMV-3.  
   (vi) Irrigated. (vii) 2 weedings. (ix) 22.28". (x) 2931.12.53.

2. TREATMENTS:
   All combinations of (1), (2) and (3)
   (1) 2 levels of C.M.: $C_0=0$ and $C_1=5$ ton/ac.
   (2) 2 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.

$K_2O$ as Pot. Sul. and $P_2O_5$ as Super. Other details N.A.

3. DESIGN:
   (i) 4 x 4 x 2 Fact.in. R.B.D. (ii) (a) 32. (b) N.A. (iii) 4. (iv) (a) 27" x 6". (b) 24" x 41/". (v) Length wise 1½ feet on either side, breadth wise 2 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.

Crop: Groundnut.  
Ref: M. 53(110).  
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' x 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) 67' x 9". (b) 60' x 6'. (v) 7.5' x 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.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>M₁</td>
<td>486</td>
<td>558</td>
<td>522</td>
</tr>
<tr>
<td>M₂</td>
<td>531</td>
<td>472</td>
<td>502</td>
</tr>
<tr>
<td>M₃</td>
<td>413</td>
<td>430</td>
<td>422</td>
</tr>
</tbody>
</table>

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.  
Site :- Agri. Res. Stn., Tindivanam.  
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"×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) 82’x12’. (b) 66’x65’. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>631</td>
</tr>
<tr>
<td>2</td>
<td>708</td>
</tr>
<tr>
<td>3</td>
<td>529</td>
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<td>4</td>
<td>710</td>
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<td>5</td>
<td>568</td>
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<td>6</td>
<td>559</td>
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<td>7</td>
<td>546</td>
</tr>
<tr>
<td>8</td>
<td>562</td>
</tr>
<tr>
<td>9</td>
<td>555</td>
</tr>
</tbody>
</table>

S.E./mean = 60.9 lb./ac.

Crop :- Groundnut.  
Site :- Agri. Res. Stn., Tindivanam.  
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"×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.
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.

DESIGN:
(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 82"x12". (b) 66"x6". (v) 16"x6". (vi) Yes.

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.

RESULTS:
(i) 382 lb./ac.
(ii) 83.6 lb./ac.
(iii) Treatment differences are not significant.
(iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>346</td>
</tr>
<tr>
<td>2.</td>
<td>396</td>
</tr>
<tr>
<td>3.</td>
<td>309</td>
</tr>
<tr>
<td>4.</td>
<td>368</td>
</tr>
<tr>
<td>5.</td>
<td>432</td>
</tr>
<tr>
<td>6.</td>
<td>409</td>
</tr>
<tr>
<td>7.</td>
<td>371</td>
</tr>
<tr>
<td>8.</td>
<td>403</td>
</tr>
<tr>
<td>9.</td>
<td>404</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>≈ 41.8 lb./ac.</td>
</tr>
</tbody>
</table>


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) 50 lb./ac. of kernels. (d) 9"x9". (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) 82"x12". (b) 60"x6". (v) 16"x6". (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>404</td>
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<tr>
<td>2.</td>
<td>410</td>
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<tr>
<td>3.</td>
<td>385</td>
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<td>4.</td>
<td>397</td>
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<tr>
<td>5.</td>
<td>425</td>
</tr>
<tr>
<td>6.</td>
<td>410</td>
</tr>
<tr>
<td>7.</td>
<td>402</td>
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<td>8.</td>
<td>414</td>
</tr>
<tr>
<td>9.</td>
<td>395</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>31.0 lb/ac.</td>
</tr>
</tbody>
</table>

Crop : Groundnut.
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”x82’5”. (b) 6’x66’. (v) 8½’x3’. 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>505</td>
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<tr>
<td>2.</td>
<td>552</td>
</tr>
<tr>
<td>3.</td>
<td>546</td>
</tr>
<tr>
<td>4.</td>
<td>394</td>
</tr>
<tr>
<td>5.</td>
<td>498</td>
</tr>
<tr>
<td>6.</td>
<td>504</td>
</tr>
<tr>
<td>7.</td>
<td>497</td>
</tr>
<tr>
<td>8.</td>
<td>471</td>
</tr>
<tr>
<td>9.</td>
<td>435</td>
</tr>
</tbody>
</table>

S.E./mean = 40.3 lb./ac.

Crop :- Groundnut.

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

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. (v) 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) 8 1/2’ x 12’. (b) 66’ x 3’. (v) 8 1/2’ 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) 412 lb./ac.
(ii) 77.5 lb./ac.
(iii) Treatment differences are highly significant.
(iv) Av. yield of dry pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>398</td>
</tr>
<tr>
<td>2.</td>
<td>482</td>
</tr>
<tr>
<td>3.</td>
<td>512</td>
</tr>
<tr>
<td>4.</td>
<td>312</td>
</tr>
<tr>
<td>5.</td>
<td>512</td>
</tr>
<tr>
<td>6.</td>
<td>346</td>
</tr>
<tr>
<td>7.</td>
<td>455</td>
</tr>
<tr>
<td>8.</td>
<td>489</td>
</tr>
<tr>
<td>9.</td>
<td>476</td>
</tr>
</tbody>
</table>

S.E./mean = 38.8 lb./ac.
Crop: Groundnut.  

Object: To find out the optimum spacing for the brassica groundnut under irrigated conditions.

1. BASAL CONDITIONS:

(i) (a) Loamy. (b) Refer soil analysis, Tindivanam. (iii) 30.5.53. (iv) (a) As under treatments.  
(b) N.A. (c) 10 C.L./ac. of F.Y.M. (d) 4 ploughings. (e) — (v) As per item. (i) (c) (vi) T.M.V.-2 (Bunch). (vii) Irrigated. (viii) 2 weedings. (ix) 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.

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Avg. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>639</td>
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<tr>
<td>2.</td>
<td>745</td>
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<tr>
<td>3.</td>
<td>674</td>
</tr>
<tr>
<td>4.</td>
<td>515</td>
</tr>
<tr>
<td>5.</td>
<td>602</td>
</tr>
</tbody>
</table>

S.E./mean = 34.8 lb./ac.


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:
Spacing
1. Bunch pure. 6" × 6".
2. Bunch + 1 Spreading. 6.9" × 6.9".
3. Bunch + 1 Spreading. 7.6" × 7.6".
4. Bunch + 1 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) 43' × 9'. (b) 38½' × 7½'. (v) Yes, one row left. (vi) Yes.

4. GENERAL.
(i) Satisfactory. (ii) Nil. (iii) Yield of groundnut pod. (iv) (a) 1949—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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Avg. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
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</tr>
<tr>
<td>2.</td>
<td>784</td>
</tr>
<tr>
<td>3.</td>
<td>695</td>
</tr>
<tr>
<td>4.</td>
<td>787</td>
</tr>
<tr>
<td>5.</td>
<td>740</td>
</tr>
</tbody>
</table>

S.E./mean = 41.7 lb./ac.
Crop :- Groundnut.  
Site :- Agri. Res. Stn., Tindivanam.  
Ref :- M. 49(6).  
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) 10.7.49. (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 TMV-2 bunch. (vii) Unirrigated. (viii) 2 weedings and hoeings. (ix) 18.00". (x) Bunch : 24.10.49 ; Spreading : 22.12.49.

2. TREATMENTS :  
1. Bunch pure.  
2. Bunch + 1 Spreading.  
3. Bunch + 1 Spreading.  
4. Bunch + 1 Spreading.  
5. Spreading pure.

3. DESIGN :  
(i) R.B.D. (ii) 5. (b) N.A. (iii) 6. (iv) (a) 40’x9’. (b) 38½’x7½’. (v) ½’x1½’. (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.  
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>853</td>
</tr>
<tr>
<td>2.</td>
<td>745</td>
</tr>
<tr>
<td>3.</td>
<td>839</td>
</tr>
<tr>
<td>4.</td>
<td>788</td>
</tr>
<tr>
<td>5.</td>
<td>753</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>57.6 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Groundnut.  
Ref :- M. 52(59).  
Type :- ‘T’.  
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) 14.2.52. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) 1’ x 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) 4. (b) N.A. (iii) 6. (iv) (a) 27’x12’. (b) 23’x10’. (v) 2’x1’ 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1843</td>
</tr>
<tr>
<td>2.</td>
<td>1725</td>
</tr>
<tr>
<td>3.</td>
<td>1302</td>
</tr>
<tr>
<td>4.</td>
<td>1314</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 94.5 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Groundnut.
Ref.: M. 53(§).
Type: ‘I’.

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 S.F. (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.

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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1668</td>
</tr>
<tr>
<td>2.</td>
<td>930</td>
</tr>
<tr>
<td>3.</td>
<td>439</td>
</tr>
<tr>
<td>4.</td>
<td>312</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 164.6 lb./ac.</td>
</tr>
</tbody>
</table>
Crop := Groundnut.


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'x1'. (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) 4. (b) N.A. (iii) 6. (iv) (a) 36'x10'. (b) 34'x8'. (v) 1 foot border left all on sides.

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. (v) and (vii) Nil. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1659</td>
</tr>
<tr>
<td>2.</td>
<td>946</td>
</tr>
<tr>
<td>3.</td>
<td>456</td>
</tr>
<tr>
<td>4.</td>
<td>307</td>
</tr>
<tr>
<td>S.E.(mean) =</td>
<td>172.6 lb./ac.</td>
</tr>
</tbody>
</table>

---

Crop := Gingelly.

Site := Agri Res. Stn., Tindivanam.

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) 10,00 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'x6'
2. 9'x9'
3. 1'x1'
4. 11'x11'
5. 2'x2'

3. DESIGN :

(i) R.B.D. (ii) 5. (b) N.A. (iii) 6. (iv) (a) 48'x9', 48'x9', 48'x9', 48'x9' and 48'x10'. (b) 42'x6'. (v) About 3'x1' 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. (v) 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.
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>70</td>
</tr>
<tr>
<td>2.</td>
<td>69</td>
</tr>
<tr>
<td>3.</td>
<td>74</td>
</tr>
<tr>
<td>4.</td>
<td>107</td>
</tr>
<tr>
<td>5.</td>
<td>89</td>
</tr>
</tbody>
</table>
S.E./mean = 7.4 lb./ac.

Crop :- Gingelly.
Site :- Agri. Res. Stn., Tindivanam.

Ref :- 52 (34).
Type :- 'C'.
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’×1’; 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.  
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.

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’×1’; left as border treatments 1 to 4 and 3’×2’ left as border for treatments 5. (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.
   (ii) 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). 
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; 153 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' x 2'.
   2. 1' x 1'.
   3. 1' x 1'.
   4. 9' x 9'.
   5. 6' x 6'.

3. DESIGN:
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) Varies as per treatments. (b) 30' x 6'. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>134</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>101</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>S.E./mean</td>
<td>12.9 lb./ac.</td>
<td></td>
</tr>
</tbody>
</table>

---

Crop: Cumbu.  
Ref: M. 49(113).  
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 63 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' x 35.6'. (b) 29.7' x 31.7'. (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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>317</td>
</tr>
<tr>
<td>2.</td>
<td>345</td>
</tr>
<tr>
<td>3.</td>
<td>313</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 22.5 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Cumbu.  
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'x6'. (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'x36'. (b) 28'x32'. (v) 1'x2' 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1411</td>
</tr>
<tr>
<td>2.</td>
<td>1713</td>
</tr>
<tr>
<td>3.</td>
<td>1695</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 46.8 lb./ac.</td>
</tr>
</tbody>
</table>

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 P.Y.M. (vi) Tenai CO. 1. (vii) Un-irrigated. (viii) 1 weeding. (ix) 11.17". (x) N.A.
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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>400</td>
</tr>
<tr>
<td>2.</td>
<td>448</td>
</tr>
<tr>
<td>3.</td>
<td>502</td>
</tr>
<tr>
<td>4.</td>
<td>516</td>
</tr>
<tr>
<td>5.</td>
<td>509</td>
</tr>
<tr>
<td>6.</td>
<td>527</td>
</tr>
<tr>
<td>7.</td>
<td>487</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>30.2 lb./ac.</td>
</tr>
</tbody>
</table>

Crop : - Tenai.
Site : - Millet Breeding Stn., Coimbatore.
Ref : -M. 48(94).
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) 5.2.49.

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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1601</td>
</tr>
<tr>
<td>2.</td>
<td>1399</td>
</tr>
<tr>
<td>3.</td>
<td>1272</td>
</tr>
<tr>
<td>4.</td>
<td>1355</td>
</tr>
<tr>
<td>5.</td>
<td>1003</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>9.08</td>
</tr>
</tbody>
</table>

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) 20.10.1949. (iv) (a) to (c) 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 13.4.49 to 20.4.49, Cumbu 25.1.49 and Irungu cholam 15.2.1949.

2. TREATMENTS:

   Main-plot treatments :
   - Rotations
   - 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.

<table>
<thead>
<tr>
<th>Treatment No :</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>477.5</td>
<td>454.4</td>
<td>534.6</td>
<td>518.0</td>
<td>396.6</td>
<td>485.5</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>=34.10</td>
<td>lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Treatment No :</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>241.0</td>
<td>210.1</td>
<td>228.0</td>
<td>222.6</td>
<td>216.0</td>
<td>224.0</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>=15.89</td>
<td>lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

III. Crop :- Cotton (Pooled).
   (i) 436.7 lb./ac.
   (ii) 55.48 lb./ac.
   (iii) Treatment differences are significant.

<table>
<thead>
<tr>
<th>Treatment No :</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>503.5</td>
<td>361.0</td>
<td>430.2</td>
<td>503.6</td>
<td>407.5</td>
<td>414.6</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>=19.67</td>
<td>lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop: Cotton, Cholam etc.
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:
   Sub-plot treatments:
   1. Country plough 2 to 3 times.
   2. R.E. Gunataka 2 to 3 times.
   3. No cultivation.
   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.
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; 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

   Sub-plot treatments:
   1. Country plough 2—3 times.
   2. R.E. Gumatka 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/ae.
   (ii) 61.84 lb/ae.
   (iii) Treatment differences are not significant.
   (iv) Av. yield in lb/ae.
   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/ae.

   II. Crop: Cotton (after Cumbu)
   (i) 191.2 lb/ae.
   (ii) 43.35 lb/ae.
   (iii) Treatment differences are not significant.
   (iv) Av. yield in lb/ae.
   Treatment No. 1 2 3 4 5 6
   Av. yield 256.9 127.9 95.44 233.2 191.8 251.9
   S.E./mean=21.67 lb/ae.

   III. Crop: Irungu Cholam (Straw)
   (i) 675.8 lb/ae.
   (ii) 379.7 lb/ae.
   (iii) Treatment differences are not significant.
   (iv) Av. yield in lb/ae.
   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/ae.

   IV. Crop: Cumbu
   (i) 51.02 lb/ae.
   (ii) 55.77 lb/ae.
   (iii) Treatment differences are not significant.
   (iv) Av. yield in lb/ae.
   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/ae.
Crop: Cotton Cholam etc.  
Ref: M. 51(77)/50(107)/49(102)/48(91).  
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

Sub-plot treatments:--

1. Country plough 3 times.
2. R.E. Guntaka 3 times.
3. 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)

1. 299.1 lb./ac.
2. 59.82 lb./ac.
3. Treatment differences are not significant.
4. Av. yield in lb./ac.

<table>
<thead>
<tr>
<th>Treatment No.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<tr>
<td>Av. yield</td>
<td>320.0</td>
<td>331.0</td>
<td>264.1</td>
<td>255.6</td>
<td>322.4</td>
<td>301.6</td>
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<tr>
<td>S.E./mean=29.91 lb./ac.</td>
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</table>

II. Crop: Cotton (after Cumbu)

1. 355.9 lb./ac.
2. 43.06 lb./ac.
3. Treatment differences are not significant.
4. Av. yield in lb./ac.

<table>
<thead>
<tr>
<th>Treatment No.</th>
<th>1</th>
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<th>3</th>
<th>4</th>
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<th>6</th>
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</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>396.8</td>
<td>306.6</td>
<td>344.1</td>
<td>366.6</td>
<td>372.9</td>
<td>348.6</td>
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<td>S.E./mean=21.53</td>
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<td></td>
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</table>

III. Crop: Cumbu

1. 264.1 lb./ac.
2. 70.22 lb./ac.
3. Treatment differences are not significant.
4. Av. yield in lb./ac.

<table>
<thead>
<tr>
<th>Treatment No.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>278.1</td>
<td>249.2</td>
<td>247.4</td>
<td>299.8</td>
<td>216.7</td>
<td>293.4</td>
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<tr>
<td>S.E./mean=35.11 lb./ac.</td>
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<td></td>
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</tbody>
</table>

IV. Crop: Cholam Straw

1. 3612 lb./ac.
2. 5689 lb./ac.
3. Treatment differences are not significant.
4. Av. yield in lb./ac.

<table>
<thead>
<tr>
<th>Treatment No.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3720</td>
<td>3258</td>
<td>3388</td>
<td>3634</td>
<td>3872</td>
<td>384</td>
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<tr>
<td>S.E./mean = 284.1 lb./ac.</td>
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<td></td>
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</tbody>
</table>
Crop: Cotton, Cumbu, Cholam.  
Ref: M.-52(52)/51(77)/50(107)/49(102)/48(91).
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 (c) 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

   Sub-plot treatments:
   1. Country plough 2-3 times.
   2. R.E. Guntaka 2-3 times.
   3. No cultivation.
   5. Cooper plough twice.
   6. Cooper plough once.

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.

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.  
      Av. yield  
      1  2  3  4  5  6  
      65.02 63.21 48.27 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.  
      Av. yield  
      1  2  3  4  5  6  
      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.  
      Av. yield  
      1  2  3  4  5  6  
      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.  
      Av. yield  
      1  2  3  4  5  6  
      52.38 8.16 40.67 64.15 28.03 60.91  
      S.E./mean = 16.61 lb./ac.
Crop :- Cotton, Cumbu, Cholam.  
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 K 2 ; Cumbu-K 1 Iruga cholam-K 1 .  
   (vii) Unirrigated.  
   (viii) Weeding once.  
   (ix) 17.04'.  
   (x) Cholam 11.2.54 Cumbu 17.1.54  
   Cotton 30.3.54 to 25.6.1954.

2. TREATMENTS:
   Main-plot treatments :-
      Rotations

   Sub-plot treatments :-
      1. Country plough 2—3 times.
      2. R.E. Guntaka 2—3 times.
      3. No cultivation.
      5. 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.  
   (vi) Details N.A.  
   (v) 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 : Cholam (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=403.6 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 286.4 240.8 237.9 271.4 257.1 263.4
      S.E./mean=18.49 lb./ac.

   IV. Crop : Cotton (after Cholam)
      (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
      S.E./mean=18.35 lb./ac.
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, Kolipatti. (iii) 21.10.45. (iv) (a) 3 ploughings. (b) to (e) N.A. (v) Nil. (vi) Cotton K-1, Cumbu K-1 and Cholam K-1. (vii) Rainfed. (viii) Weeding once. (ix) 19.84". (x) Cumbu 21.4.49, Irungcholam 9.2.49 and Cotton 11.3.49 to 15.4.49.

2. TREATMENTS:
   Rotations as follows:
   1. Cotton every year.
   2. (Cotton + Black gram) every year.
   4. (Cotton + Black gram) — (Cholam + Indigo).
   7. Cumbu every year.
   8. (Cumbu + Indigo) every year.
   9. Cholam every year.
   10. (Cholam + Indigo) every year.

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 3 4
   Previous crop Cotton Cotton + Cumbu Cumbu + Cholam Cholam + Cholam + Cholam + Blackgram Indigo Indigo 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.
Object:—To study the different system 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) Nil. (v) Cotton K—2; Irrangu cholam K—1; Cumbu K—1. (vi) Rain fed. (vii) Weeding once. (ix) 18.46. (x) Cotton 9.3.50 to 12.6.50, Cumbu 18.1.50 and Cholam 27.2.53.

2. TREATMENTS:
   11. Rotation as follows:
      1. Cotton every year.
      2. (Cotton+Black gram) every year.
      4. (Cotton+Black gram)—(Cholam+Indigo).
      5. Cotton—Cumbu

3. DESIGN:
   (i) R.B.D. (ii) 4 (a) 16. (b) N.A. (iii) 4. (iv) (a) 82.5’x17.8’. (b) 73.3’x 8.9’. (v) 3.3’x 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) 2988.7 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 | 5730 | 4583
      S.E./mean = 1034.4 lb./ac.
   III. Crop: Cotton.
      (i) 228.4 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+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).
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 Irungus cholam 1.2.51.

2. TREATMENTS :

II. rotations as follows —
1. Cotton every year.
2. (Cotton+Black gram) every year.
4. (Cotton+Blackgram)—(Cholam+Indigo).
5. Cotton Cumbu,

DESIGN :
7. Cumbu every year.
8. (Cumbu+Indigo) every year.
9. Cholam every year.
10. (Cholam+Indigo) every year.

(i) R.B.D. (iii) (a) 16. (b) N.A. (iii) 4. (iv) (a) 82.5 x 17.8'. (b) 73.3 x 8.9'. (v) 3.3 x 4.5' left as border.

(ii) No, as per rotation.

GENERAL:
Not satisfactory. Due to severe drought conditions very poor yields were obtained. (ii) Nil. (iii) Yield, (iv) (a) 1947—1951. (b) Yes, as per rotation. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

YIELDS :

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.

<table>
<thead>
<tr>
<th>Rotation No.</th>
<th>Previous crop</th>
<th>Cumbu</th>
<th>Cumbu+Indigo</th>
<th>Cotton</th>
<th>Cotton+Blackgram</th>
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<td>7</td>
<td>127.2</td>
<td>31.3</td>
<td>23.3</td>
<td>25.3</td>
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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.

<table>
<thead>
<tr>
<th>Rotation No.</th>
<th>Previous crop</th>
<th>Cholam</th>
<th>Cholam+Indigo</th>
<th>Cotton</th>
<th>Cotton+Blackgram</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Av. yield</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>313</td>
<td>1125</td>
<td>533</td>
<td>407</td>
<td>600</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Rotation No.</th>
<th>Previous Crop</th>
<th>Cotton</th>
<th>Cotton+Blackgram</th>
<th>Cholam</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Av. yield</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>57.50</td>
<td>62.00</td>
<td>330.2</td>
<td>154.7</td>
</tr>
</tbody>
</table>

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(105)/49(103)/48(92).

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) Rainfed. (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.
   2. (Cotton + Black gram) every year.
   5. Cotton Cumbu
   7. Cumbu every year.
   8. (Cumbu + Indigo) every year.
   9. Cholam every year.
   10. (Cholam + Indigo) every year.

3. DESIGN:
   (i) R.B.D. (ii) 16. (b) N.A. (iii) 4. (iv) (a) 82.5'x17.8''. (b) 73.3'x8.9''. (v) 3.3'x4.5''. (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. (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:
   Previous crop:
   Av. yield
   Cumbu
   Cumbu + Indigo
   Cotton
   Cotton
   S.E./mean
   458.3
   379.2
   408.3
   325.0
   =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:
   Previous crop:
   Av. yield
   Cholam
   Cholam + Indigo
   Cotton
   Cotton + Black gram
   S.E./mean
   6763
   6092
   4413
   4238
   3554
   =49.3 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:
   Previous crop:
   Av. yield
   Cotton
   Cotton + Blackgram
   Cholam + Indigo
   Cholam + Indigo
   Cumbu
   Cholam + Indigo
   Cumbu
   S.E./mean
   126.0
   192.7
   241.3
   245.5
   270.7
   209.2
   274.8
   =20.20 lb./ac.

Note:—Yield data of Blackgram and Indigo are N.A.
Crop: Groundnut and Cereal.  
Ref.: M. 48 (76).  
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) 
20.10.1948.

2. TREATMENTS:
5. Groundnut followed by Cholam.  

3. DESIGN:
(i) R.B.D.  (ii) (a) 11.  (b) N.A.  (iii) 4.  (iv) (a) 62’×13’.  (b) 56’×6’.  (v) 3’×3’ 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  
   Cholam  
   Varagu  
   Cumbu,  
   Av. yield  
   1009  
   847  
   906  
   1085  
   S.E./mean=102.2 lb./ac.

II. Crop: Cholam
   (i) 989 lb./ac.  
   (ii) 412.4 lb./ac.  
   (iii) Treatment differences are not significant.  
   (iv) Av. yield in lb./ac.  
   Treatment (previous crops)  
   Cholam  
   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)  
   Varagu  
   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)  
   Cumbu  
   Groundnut.  
   Av. yield  
   132.0  
   175.7  
   S.E./mean=21.50 lb./ac.

V. Gingelly
   Gingelly =852.8 lb./ac.
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'×6' for groundnut. 1'×6' 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:
   5. Groundnut—Cholam. 11. Varagu—Varagu.

3. DESIGN:
   (i) R.B.D. (ii) (a) 11. (b) N.A. (iii) 4. (iv) (a) 62'×13'. (b) 56'×6'. (v) 3'×3' 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 Cholam Varagu Cumbu Gingelly
   Av. yield 1036 881 1087 1017 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 Cholam
   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 Varagu
   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 Cumbu
   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’×9’ for groundnut and 1’×1’ 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.
   2. Varagu followed by Varagu.
   4. Varagu followed by Groundnut.
   5. Cumbu followed by Groundnut.
   7. Groundnut followed by gingelly.
   8. Groundnut followed by Cholam.
   10. 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’×3’ 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.

<table>
<thead>
<tr>
<th>Treatment (previous crop)</th>
<th>Varagu</th>
<th>Cumbu</th>
<th>Gr. nut</th>
<th>Cholam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>818.7</td>
<td>928.0</td>
<td>765.2</td>
<td>844.2</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>—51.5</td>
<td>lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

II. Crop : Cholam

   (i) 1211 lb./ac.
   (ii) 554.0 lb./ac.
   (iii) Treatment difference is not significant.
   (iv) Av. yield in lb./ac.

<table>
<thead>
<tr>
<th>Treatment (previous crop)</th>
<th>Cholam</th>
<th>Groundnut</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>906</td>
<td>1515</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>—277.0</td>
<td>lb./ac.</td>
</tr>
</tbody>
</table>

III. Crop : Varagu

   (i) 597.2 lb./ac.
   (ii) 1960.0 lb./ac.
   (iii) Treatment difference is not significant.
   (iv) Av. yield in lb./ac.

<table>
<thead>
<tr>
<th>Treatment (previous crop)</th>
<th>Varagu</th>
<th>Groundnut</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>548.5</td>
<td>526.0</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>—98.0</td>
<td>lb./ac.</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Treatment (previous crops)</th>
<th>Cumbu</th>
<th>Groundnut</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>477.0</td>
<td>718.5</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>—53.8</td>
<td>lb./ac.</td>
</tr>
</tbody>
</table>

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) 50.0 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.
   5. Groundnut followed by Cholam.
   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'×3' 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) Nil. (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.

<table>
<thead>
<tr>
<th>Treatment (previous crop)</th>
<th>Gr. nut</th>
<th>Cholam</th>
<th>Cumbu</th>
<th>Varagu</th>
<th>Gingelly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>724.0</td>
<td>821.2</td>
<td>772.2</td>
<td>697.7</td>
<td>797.7</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>50.1 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Treatments (previous crop)</th>
<th>Groundnut</th>
<th>Cholam</th>
<th>Varagu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>942.2</td>
<td>828.5</td>
<td>111.5</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>42.15 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Treatments (previous crop)</th>
<th>Groundnut</th>
<th>Varagu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>178.2</td>
<td>111.5</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>19.60 lb./ac.</td>
<td></td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Treatments (previous crop)</th>
<th>Groundnut</th>
<th>Cumbu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>824.5</td>
<td>515.2</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>49.30 lb./ac.</td>
<td></td>
</tr>
</tbody>
</table>
Crop: Groundnut and Cereals.

Ref: M. 52(72)/51(75)/50(79)/49(100)/48(76).


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. (e) 90 lb./ac. for Gr. nut; 10 lb./ac. for cereals. (d) 9" x 9" for Gr. nut; 1' x 6" 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:

3. DESIGN:
   (i) R.B.D. (ii) (a) 1; (b) N.A. (iii) 4. (iv) (a) 68' x 13'. (b) 60' x 6'. (v) 4' x 3', 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) 532.7 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. 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) 21.8.1950. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) 6' × 6' for groundnut and 1' × 6' for other crops.

2. TREATMENTS:
   5. Groundnut followed by Varagu.
   11. Cumbu followed by Cumbu.

3. DESIGN:
   (i) R.B.D. (ii) (a) N.A. (iii) 4. (iv) (a) 63' × 13'. (b) 56' × 6'. (v) 3' × 3' 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
      Av. yield 845.9 780.8 684.6
      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) 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) 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) 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. 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'×6' for groundnut; 1'×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 :
5. Groundnut followed by Cholam. 11. Varagu after Varagu.

3. DESIGN:
(i) R.B.D. (ii) (a) 1. (b) N.A. (iii) 4. (iv) (a) 62'×13'. (b) 56'×6'. (v) 2'×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 Cholam Varagu Cumbu 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) 269.1 lb./ac.
(iii) Treatment difference is not significant.
(iv) Av. yield in lb./ac. Treatments (previous crop) Groundnut Cholam
   - 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 Varagu
   - 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 Cumbu
   - Av. yield 459.4 128.3
   S.E./mean = 5.67 lb./ac.
Crop: Groundnut and Cereals.  Ref: M. 52(73) 51(74) 50(93) 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) 500 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 ground-

2. TREATMENTS
   2. Groundnut—Cholam.
   5. Groundnut—Gingelly.
   7. Cumbu—Groundnut.
   8. Varagu—Groundnut.
   11. Varagu—Varagu.

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 3' 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) S.E./mean
           
           | Treatments (previous crop) | Groundnut | Cholam | Cumbu | Varagu |
           | Av yield | 495.2 | 455.5 | 623.4 | 411.6 |
           | 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) 25.12 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).  
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"x9", for Groundnut and 9"x9" for cotton. (e) N.A. (v) 10,000 lb./ac. of town rubbish. (vi) TMV-3 Groundnut. (vii) Irrigated. (viii) 2 weedicings. (ix) 15.2", (x) 1.2:53.

2. TREATMENTS:
   1. Groundnut pure.
   2. Groundnut+MCV., cotton.
   5. Groundnut+H. 420 cotton.

3. DESIGN:
   (i) R.B.D. (ii) (a) N.A. (b) N.A. (iii) 4. (iv) (a) 69'x'18'. (b) 66'x6'. (v) 1'x6' 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) 6:2.6 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.  
Site :- Agri. Res. Stn., Tindivanam.  
Ref :- M 48(78).  
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. (d) N.A. (e) Red sandy loam. (f) Refer soil analysis, Tindivanam. (iii) 30.7.48. (iv) (a) 3-4 ploughings. (b) and (c) N.A. (d) Groundnut (Bunch) 6'x6'; Groundnut spreading 9'x8'; Castor 3'x2'; Redgram 6'x9'; Cholam 6'x6'; Cumbu 3'x6'. (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.
   5. Bunch-Groundnut+Cumbu.
   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.
   Other details N.A.
3. DESIGN:
(i) R.B.D. (ii) (a) 14. (*ii) N.A. (iii) 4. (iv) (a) 39'×18'. (b) 33'×6'. (v) 3'×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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Groundnut</th>
<th>Subsidiary Crop</th>
<th>Treatment</th>
<th>Groundnut</th>
<th>Subsidiary Crop</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>771</td>
<td>Nil</td>
<td>8.</td>
<td>746</td>
<td>303</td>
</tr>
<tr>
<td>2.</td>
<td>433</td>
<td>71</td>
<td>9.</td>
<td>559</td>
<td>319</td>
</tr>
<tr>
<td>3.</td>
<td>622</td>
<td>210</td>
<td>10.</td>
<td>611</td>
<td>108</td>
</tr>
<tr>
<td>4.</td>
<td>427</td>
<td>237</td>
<td>11.</td>
<td>—</td>
<td>407</td>
</tr>
<tr>
<td>5.</td>
<td>436</td>
<td>65</td>
<td>12.</td>
<td>—</td>
<td>262</td>
</tr>
<tr>
<td>6.</td>
<td>930</td>
<td>Nil</td>
<td>13.</td>
<td>—</td>
<td>328</td>
</tr>
<tr>
<td>7.</td>
<td>738</td>
<td>106</td>
<td>14.</td>
<td>—</td>
<td>1169</td>
</tr>
</tbody>
</table>

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.

6. BASAL CONDITIONS:
(i) (a) Nil. (b) Cumbu (c) Nil. (ii) (a) Black soil. (b) Refer soil analysis, Koilpatti. (iii) 19.10.45. (iv) (a) 3 ploughings. (b) to (e) N.A. (v) (a) Nil. (vi) Nil. (vii) Unirrigated. (viii) Weeding once. (ix) 16.74'. (x) 10.3.49 to 14.4.49.

2. TREATMENTS:
2. Cotton+Groundnut.
4. Cotton+Horse gram.
5. Cotton+Pilliperara.
Other details are N.A.

3. DESIGN:
(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 1/30th 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>327</td>
</tr>
<tr>
<td>2.</td>
<td>294</td>
</tr>
<tr>
<td>3.</td>
<td>170</td>
</tr>
<tr>
<td>4.</td>
<td>192</td>
</tr>
<tr>
<td>5.</td>
<td>93</td>
</tr>
<tr>
<td>6.</td>
<td>143</td>
</tr>
</tbody>
</table>
S E./mean = N.A.
Crop :- Cotton & Pulses.  
Site :- Agri. Res. Stn., Koilpatti.  
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.
Others details N.A.

3. DESIGN:
(i) R.B.D. (ii) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>646</td>
</tr>
<tr>
<td>2.</td>
<td>507</td>
</tr>
<tr>
<td>3.</td>
<td>235</td>
</tr>
<tr>
<td>4.</td>
<td>454</td>
</tr>
<tr>
<td>5.</td>
<td>185</td>
</tr>
<tr>
<td>6.</td>
<td>399</td>
</tr>
</tbody>
</table>
| S.E./mean   | = 19.6 lb./ac.

Object :- To study the effect of growing cotton in association with short duration pulses (after *Cumbu* crop).
3. DESIGN:
(i) R.B.D. (ii) (a) 4, (a1) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>343.8</td>
</tr>
<tr>
<td>2.</td>
<td>364.6</td>
</tr>
<tr>
<td>3.</td>
<td>313.7</td>
</tr>
<tr>
<td>4.</td>
<td>371.6</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>11.92</td>
</tr>
</tbody>
</table>


Object: To find out whether mixed sowing of pulses with cotton increases the yield of cotton.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Camtub. (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:
2. Cotton+Groundnut.
3. Cotton+Horsegram.
Other details N.A.

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' 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>321</td>
</tr>
<tr>
<td>2.</td>
<td>282</td>
</tr>
<tr>
<td>3.</td>
<td>221</td>
</tr>
<tr>
<td>4.</td>
<td>377</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>29.3 lb./ac.</td>
</tr>
</tbody>
</table>

———

Object: To study the effect of growing cotton in association with short duration pulses. (after Ilarangacholam).

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Ilarangacholam. (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.
   5. Cotton + Pillipesara.

3. DESIGN:
   (i) R.B.D. (ii) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>525</td>
</tr>
<tr>
<td>2.</td>
<td>499</td>
</tr>
<tr>
<td>3.</td>
<td>337</td>
</tr>
<tr>
<td>4.</td>
<td>315</td>
</tr>
<tr>
<td>5.</td>
<td>100</td>
</tr>
<tr>
<td>6.</td>
<td>304</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 26.0 lb./ac.</td>
</tr>
</tbody>
</table>

---


Object: To study the effects of growing cotton in association with short duration pulses (after Ilarangacholam).

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Ilarangacholam. (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.
   4. Cotton + Horse gram.
   5. Cotton + Pillipesara.

3. DESIGN:
   (i) R.B.D. (ii) 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>426</td>
</tr>
<tr>
<td>2.</td>
<td>305</td>
</tr>
<tr>
<td>3.</td>
<td>180</td>
</tr>
<tr>
<td>4.</td>
<td>220</td>
</tr>
<tr>
<td>5.</td>
<td>92</td>
</tr>
<tr>
<td>6.</td>
<td>315</td>
</tr>
<tr>
<td>S.E./mean =</td>
<td>12.59 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Cotton & Cereals.  
Site :- Agri. Res. Stn., Koilpatti.  
Ref :- M. 50(102)/49(111)/49(99).  
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.

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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>254.7</td>
</tr>
<tr>
<td>2.</td>
<td>221.7</td>
</tr>
<tr>
<td>3.</td>
<td>202.0</td>
</tr>
<tr>
<td>4.</td>
<td>257.5</td>
</tr>
<tr>
<td>S.E./mean =</td>
<td>18.44 lb./ac.</td>
</tr>
</tbody>
</table>
Crop: Cotton & Pulses.


Ref: M. 53(52).

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:
   2. Cotton+Groundnut.
   3. Cotton+Horse gram.

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. 136
      4. 139
      S.E./mean = 12.8 lb./ac.

Crop: Cotton, Groundnut.


Ref: M. 50(105).

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:

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) 1415 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.

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, 17.9.48.

2. TREATMENTS:
   1. Ragi (January)+Groundnut (March).
   2. Cotton (January)+Groundnut (March).
   Other details N.A.
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 35.6' x 14.9'. (b) 26.7' x 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.            306.00
   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 economies of raising mixed crops of groundnut, cotton and rafi.

1. BASAL CONDITIONS
   (i) (a) Nil. (b) Sunnhemp. (c) Nil. (ii) (a) Leamy 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"x9"; Groundnut 1'x1'. (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.

   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'x26.4'. (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)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Ragi</th>
<th>Groundnut</th>
<th>Cotton</th>
<th>Monetary value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1291</td>
<td>217</td>
<td></td>
<td>267—12—0</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
<td>95—13—0</td>
</tr>
<tr>
<td>3.</td>
<td>1150</td>
<td>156</td>
<td></td>
<td>113—13—0</td>
</tr>
<tr>
<td>4.</td>
<td>734</td>
<td>156</td>
<td></td>
<td>141—2—0</td>
</tr>
<tr>
<td>5.</td>
<td>1017</td>
<td>311—7—0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>961</td>
<td>344—7—0</td>
<td>344—7—0</td>
<td></td>
</tr>
</tbody>
</table>

   "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"x9" Groundnut 1'x1' 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.
   4. Ragi+Cotton.
   5. Ragi+Groundnut.
3. DESIGN:
(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 33' x 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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Monetary value in Rs./ac</th>
<th>Av. yield in lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>190.00</td>
<td>1144</td>
</tr>
<tr>
<td>2.</td>
<td>331.14</td>
<td>758</td>
</tr>
<tr>
<td>3.</td>
<td>380.14</td>
<td>1149</td>
</tr>
<tr>
<td>4.</td>
<td>384.43</td>
<td>(Ragi) 1208 + 419 (cotton)</td>
</tr>
<tr>
<td>5.</td>
<td>516.40</td>
<td>(Ragi) 1286 + 910 (Groundnut)</td>
</tr>
<tr>
<td>6.</td>
<td>574.40</td>
<td>(Ragi) 1296 + 289 (Groundnut) + 691</td>
</tr>
</tbody>
</table>

S.E./mean = 24.81 N.A.

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Crop: Banana.  
Site: Central Banana Res. Stn., Aduthurai.  
Ref: M. 51(29).  
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 P₂O₅ would contribute to yield (wet-lands).

1. BASAL CONDITIONS:

2. TREATMENTS:
1. Control no manure.  
2. C.M. at 4 lb. N/Plant  
3. C.M. at 4 lb. N/Plant + A/S as 4 lb. N/Plant.  
4. C.M. at 4 lb. N/Plant + G.N.C. at 4 lb. N/Plant.  
5. G.N.C. at 4 lb. N/Plant + A/S at 4 lb. N/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.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>16.1</td>
</tr>
<tr>
<td>2.</td>
<td>20.0</td>
</tr>
<tr>
<td>3.</td>
<td>33.9</td>
</tr>
<tr>
<td>4.</td>
<td>29.2</td>
</tr>
<tr>
<td>5.</td>
<td>30.0</td>
</tr>
<tr>
<td>6.</td>
<td>16.2</td>
</tr>
<tr>
<td>7.</td>
<td>18.3</td>
</tr>
<tr>
<td>8.</td>
<td>16.6</td>
</tr>
</tbody>
</table>

S.E./mean = 1.6 lb/bunch.