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NATIONAL INDEX

OF

AGRICULTURAL

FIELD

EXPERIMENTS

VOL. 7 PART 2

MADRAS

1954–59

PUBLISHED BY

INDIAN COUNCIL OF AGRICULTURAL RESEARCH
NEW DELHI
FOREWORD

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

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

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

A. D. PANDIT

Vice-President,

Indian Council of Agricultural Research.

NEW DELHI,

March 26, 1965.
The present set of volumes form Part II in the series of compendia of Agricultural Field Experiments being published by the Indian Council of Agricultural Research under the project for National Index of Field Experiments and contains a unified record of experiments conducted at agricultural research stations and institutes all over the country. Volumes in Part I in this series were published in 1962 and contained results of some 7,500 experiments conducted during the period 1948-53. The present set of volumes includes results of experiments conducted during the next period that is 1954-59. After the period, covered by Part I of the series, agricultural research and experimentation has expanded so much that for the period 1954-59, to which the present volumes refer, results of more than 15,000 experiments are available.

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

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

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

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

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

Thanks are due to the State Departments of Agriculture, the Central Institutes and the Commodity Committees who made the data of the experiments conducted under their jurisdiction readily available to the staff of the Institute. The present publication has become possible only through their unstinted co-operation. The Institute is also thankful to the various
officers in the States who worked as Regional Supervisors for the project from time to time and took keen interest in the working of the Scheme. The list of the names of the regional supervisors and the regional staff of the project is given on the following page.

NEW DELHI,
March 25, 1965.

V.G. PANSE
Statistical Adviser,
<table>
<thead>
<tr>
<th>Region and Headquarters</th>
<th>Statistical staff from the Institute of Agricultural Research Statistics</th>
<th>Regional Supervisors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Andhra Pradesh (Hyderabad)</td>
<td>S.K. Jilani, P.R. Yeri</td>
<td>Dr. Mohd. Quadiruddin Khan, Joint Director of Agricultural. Late Dr. Syed Waheeduddin. Shri Md. Khasim Adoni, Joint Director of Extension. Shri N.V. Mohana Rao, Joint Director, Agricultural Research Institute, Rajendranagar. Shri L. Venkatataratnam, Deputy Director of Agriculture (Research).</td>
</tr>
<tr>
<td>2. Maharashtra (Poona)</td>
<td>P.D. Mehta, B. Ramakrishnan</td>
<td>Shri D.S. Rangarao, Statistician, Department of Agriculture.</td>
</tr>
<tr>
<td>5. Madhya Pradesh</td>
<td>T. Lokeswara Rao, H.C. Gupta</td>
<td>Shri A.G. Khare, Statistician, Department of Agriculture.</td>
</tr>
<tr>
<td>6. Punjab, Jammu &amp; Kashmir &amp; Himachal Pradesh (Chandigarh)</td>
<td>A.C. Kaitha, B.L. Kaitha, M.S. Batra</td>
<td>Shri Piara Singh Sahota, Director of Crop Insurance. Shri Mohinder Singh Pannu, Statistician, Department of Agriculture.</td>
</tr>
<tr>
<td>7. Bihar (Sabour)</td>
<td>M.K. Joshi, P.C. Kholia</td>
<td>Shri G.P. Singh, Statistician, Department of Agriculture. Shri R.S. Roy, Principal, Agricultural Research Institute, Sabour.</td>
</tr>
<tr>
<td>8. Rajasthan (Jaipur)</td>
<td>B.P. Dyundi, N.K. Ohri</td>
<td>Shri H.C. Kothari, Statistician, Department of Agriculture.</td>
</tr>
<tr>
<td>9. Orissa (Bhubaneswar)</td>
<td>L.B.S. Somayazulu</td>
<td>Shri B. Misra, Deputy Director of Agriculture (Hq.). Shri D. Misra, Principal, Uttakal Krushi Mahavidyalaya, Bhubaneswar.</td>
</tr>
<tr>
<td>10. West Bengal (Calcutta)</td>
<td>S.N. Nath</td>
<td>Shri S.N. Mukerjee, Statistical Officer, Directorate of Agriculture.</td>
</tr>
</tbody>
</table>
11. Madras (Coimbatore)  
P. Prabhakara Rao  
V. Venkateswara Rao  
Late Shri M. Bhavani Sankar Rao, 
Vice-Principal and Secretary, Research Council, Agricultural College and Research Institute, Coimbatore.  
Shri T. Natarajan,  
Agronomist.  
Shri A.H. Sarma,  
Extension Specialist.  
Shri V. Raman,  
Secretary, Research Council.  
Shri K.R. Naga Raja Rao,  
Secretary, Research Council.

12. Assam  
T.K. Gupta  
Dr. S.R. Barooha,  
Director of Agriculture, Assam.  
Shri B.N. Duara,  
Joint Director of Agriculture, Assam.

13. Mysore (Bangalore)  
K.A. Balakrishnan  
Shri M.A. Wali,  
Director of Statistics,  
Shri B.V.S. Rao,  
Assistant Director of Statistics.

14. Kerala (Trivandrum)  
V.N. Iyer  
Shri M. Janardanan Nair,  
Director of Agriculture,  
Shri N. Shankara Menon  
Director of Agriculture.  
Shri P.D. Nair,  
Director of Agriculture.
ABBREVIATIONS COMMON TO EXPERIMENTS ON ANNUAL AND PERENNIAL CROPS AND EXPERIMENTS ON CULTIVATORS' FIELDS.

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

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

Abbreviations adopted for States are as follows :-

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

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

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

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

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

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

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

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

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

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

Other abbreviations used in the text of experiments :

N—Nitrogen Phosphate
A/S—Ammonium Sulphate
A/S/N—Ammonium Sulphate Nitrate
C/A/N—Calcium Ammonium Nitrate
C/A/S—Calcium Ammonium Sulphate
A/N—Ammonium Nitrate
A/C—Ammonium Chloride
C/N—Chilean Nitrate
N—Nitrogen
P—Phosphate
(x)

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

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

DETAILS OF EXPERIMENTAL STATIONS

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

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

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

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

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

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

BASAL CONDITIONS

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

B. For experiments on perennial crops:
   (i) History of site including manuring and other operations. (ii) (a) Soil type. (b) Soil analysis. (iii) Method of propagation of plants. (iv) Variety. (v) Date and method of sowing/planting. (vi) Age of seedlings at the time of planting. (vii) Basal dressing with time and method of application. (viii) Cultural operations during the year. (ix) Inter cropping if any. (x) Irrigated or Unirrigated. (xi) Rainfall during crop season. (xii) Date of harvest.
C. For experiments on cultivators' fields:
   (i) (a) Crop rotation, if any. (b) Previous crop. (c) Manuring of previous crop. (ii) Soil type in general. (iii) Basal manuring with time and method of application. (iv) Variety. (v) Cultural practices. (a) Preparatory cultivation. (b) Method of sowing. (c) Seed-rate. (d) Spacing. (e) No. of seedlings per hole. (vi) Period of sowing/planting. (vii) Irrigated or Unirrigated. (viii) Post-sowing/planting cultural operations. (ix) Rainfall during crop season. (x) Period of harvesting.

DESIGN

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

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

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

GENERAL

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

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

C. For experiments on cultivators’ fields:
   (i) Crop condition during growth. (ii) Incidence of pests and diseases with control measures taken. (iii) Quantitative observations taken. (iv) In case of repetition in successive years, (a) from what year to what year, (b) whether treatments were assigned to the same plots in the same manner every year, (c) reference to combined analysis, if any. (v) In case of repetition in other places names of places along with reference. (vi) Abnormal occurrences, like heavy rains, frost, storm etc., if any. (vii) Any other important information.
TABLE OF CONversions TO METRIC UNITS

<table>
<thead>
<tr>
<th>Unit</th>
<th>Conversion Factor</th>
</tr>
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<tbody>
<tr>
<td>1 foot</td>
<td>304.8 mm</td>
</tr>
<tr>
<td>1 acre</td>
<td>0.404606 hectare</td>
</tr>
<tr>
<td>1 gram</td>
<td>0.035274 ounce = 0.085735 tola = 0.017147 chatak</td>
</tr>
<tr>
<td>1 kg.</td>
<td>2.20462 pounds = 1.07169 seers.</td>
</tr>
<tr>
<td>1 metric tone</td>
<td>0.9842 ton = 26.7923 maunds.</td>
</tr>
<tr>
<td>1 maund</td>
<td>0.373242 quintal = 37.3242 kg.</td>
</tr>
<tr>
<td>1 lb./ac.</td>
<td>1.12085 kg./hectare</td>
</tr>
<tr>
<td>1 md./ac.</td>
<td>92.23002 kg./hectare = 0.9223 quintal/hectare</td>
</tr>
<tr>
<td>1 ton/ac.</td>
<td>2.51071 metric tones/hectare.</td>
</tr>
<tr>
<td>1 gallon (Imp.)</td>
<td>4.54596 litres.</td>
</tr>
<tr>
<td>Sl. No.</td>
<td>Name of Crop</td>
</tr>
<tr>
<td>---------</td>
<td>------------------</td>
</tr>
<tr>
<td>1.</td>
<td>Paddy</td>
</tr>
<tr>
<td>4.</td>
<td>Ragi</td>
</tr>
<tr>
<td>5.</td>
<td>Tenai</td>
</tr>
<tr>
<td>6.</td>
<td>Bhindi (Lady's finger)</td>
</tr>
<tr>
<td>7.</td>
<td>Brinjal ; Egg plant</td>
</tr>
<tr>
<td>8.</td>
<td>Bitter gourd</td>
</tr>
<tr>
<td>9.</td>
<td>Radish</td>
</tr>
<tr>
<td>11.</td>
<td>Potato</td>
</tr>
<tr>
<td>13.</td>
<td>Tomato</td>
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<tr>
<td>14.</td>
<td>Tapioca</td>
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<tr>
<td>Sl. No.</td>
<td>Name of Crop</td>
</tr>
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<td>---------</td>
<td>--------------</td>
</tr>
<tr>
<td>15.</td>
<td>Sugarcane</td>
</tr>
<tr>
<td>17.</td>
<td>Groundnut</td>
</tr>
<tr>
<td>18.</td>
<td>Castor</td>
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<tr>
<td>19.</td>
<td>Gingelly</td>
</tr>
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<td>20.</td>
<td>Lucerne</td>
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</tbody>
</table>
## CONTENTS

<table>
<thead>
<tr>
<th>Contents</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOREWORD</td>
<td>(iii)</td>
</tr>
<tr>
<td>PREFACE</td>
<td>(v)</td>
</tr>
<tr>
<td>LIST OF ABBREVIATIONS</td>
<td>(ix)</td>
</tr>
<tr>
<td>GLOSSARY OF VERNACULAR NAMES OF CROPS</td>
<td>(xiii)</td>
</tr>
<tr>
<td>MADRAS STATE</td>
<td>(xvii)</td>
</tr>
<tr>
<td>PARTICULARS OF RESEARCH STATIONS</td>
<td>(xx)</td>
</tr>
<tr>
<td>EXPERIMENTAL RESULTS (CROP-WISE)</td>
<td></td>
</tr>
<tr>
<td>Paddy</td>
<td>1</td>
</tr>
<tr>
<td>Jowar</td>
<td>198</td>
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<tr>
<td>Bajra</td>
<td>211</td>
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<td>Ragi</td>
<td>228</td>
</tr>
<tr>
<td>Tenai</td>
<td>244</td>
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<td>Bhindi</td>
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<td>254</td>
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<td>Radish</td>
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<td>Sugarcane</td>
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<td>Cotton</td>
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<td>Groundnut</td>
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<td>Castor</td>
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<tr>
<td>Gingelly</td>
<td>430</td>
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<td>Mixed crop</td>
<td>442</td>
</tr>
<tr>
<td>Rotational Experiments</td>
<td>448</td>
</tr>
<tr>
<td>Lucerne</td>
<td>459</td>
</tr>
<tr>
<td>Grasses</td>
<td>460</td>
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<tr>
<td>Glyricidia</td>
<td>461</td>
</tr>
<tr>
<td>Banana</td>
<td>462</td>
</tr>
</tbody>
</table>
MAP OF MADRAS STATE SHOWING
AGRO-CLIMATIC REGIONS, SOILS,
RAINFALL REGIONS, AGRICULTURAL
RESEARCH STATIONS ETC.

ANDHRA PRADESH

HILLS & FORESTS

COASTAL SANDY SOIL
(ALLUVIUM)

RED SOIL

BLACK SOIL

MIXED RED AND BLACK
SOIL

RED SOIL (LATERITE)

RIVER, ALLUVIUM

DIST. BOUNDARIES

RAINFALL REGIONS

DIST. H.Q.

AGRI. RES. STN.
MADRAS

1. General:

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

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

TABLE 1
Land utilisation statistics of Madras State (1958—59)
(Area in '000 acres.)

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Area (000 acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Professional survey</td>
<td>32,085</td>
</tr>
<tr>
<td>2.</td>
<td>Village papers (reporting area)</td>
<td>32,021</td>
</tr>
<tr>
<td>3.</td>
<td>Forests</td>
<td>4,387</td>
</tr>
<tr>
<td>4.</td>
<td>Land put to non-agricultural uses</td>
<td>3,109</td>
</tr>
<tr>
<td>5.</td>
<td>Barren and unculturable land</td>
<td>2,469</td>
</tr>
<tr>
<td>6.</td>
<td>Permanent pastures and other grazing land</td>
<td>929</td>
</tr>
<tr>
<td>7.</td>
<td>Land under misc. crops such as trees</td>
<td>637</td>
</tr>
<tr>
<td>8.</td>
<td>Culturable waste</td>
<td>2,000</td>
</tr>
<tr>
<td>9.</td>
<td>Fallow lands other than current fallows</td>
<td>1,649</td>
</tr>
<tr>
<td>10.</td>
<td>Current fallows</td>
<td>2,515</td>
</tr>
<tr>
<td>11.</td>
<td>Net area sown</td>
<td>14,326</td>
</tr>
<tr>
<td>12.</td>
<td>Area sown more than once</td>
<td>2,771</td>
</tr>
</tbody>
</table>

2. Soil types and agro-climatic regions:

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

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

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

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

1. Regional Research Station, Aduthurai.

A. General information:

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

B. Normal rainfall in mm.

<table>
<thead>
<tr>
<th>Month</th>
<th>June</th>
<th>July</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>March</th>
<th>April</th>
<th>May</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainfall (mm)</td>
<td>41.7</td>
<td>58.9</td>
<td>83.6</td>
<td>125.2</td>
<td>183.6</td>
<td>250.2</td>
<td>146.1</td>
<td>73.4</td>
<td>40.9</td>
<td>8.4</td>
<td>7.5</td>
<td>35.9</td>
<td>73.4</td>
</tr>
</tbody>
</table>

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

C. Irrigation and drainage facilities.

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

D. Soil type and soil analysis.

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

<table>
<thead>
<tr>
<th>Depth</th>
<th>0–6&quot;</th>
<th>6&quot;–12&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Moisture</td>
<td>5.15</td>
<td>5.37</td>
</tr>
<tr>
<td>2. Loss on ignition</td>
<td>6.93</td>
<td>4.69</td>
</tr>
<tr>
<td>3. Insolubles</td>
<td>69.66</td>
<td>69.68</td>
</tr>
<tr>
<td>4. Iron</td>
<td>9.03</td>
<td>8.80</td>
</tr>
<tr>
<td>5. Alumina</td>
<td>3.52</td>
<td>8.80</td>
</tr>
<tr>
<td>6. Total Nitrogen</td>
<td>0.066</td>
<td>0.076</td>
</tr>
<tr>
<td>7. Total P₂O₅</td>
<td>0.056</td>
<td>0.068</td>
</tr>
<tr>
<td>8. Lime (CaO)</td>
<td>1.17</td>
<td>1.08</td>
</tr>
<tr>
<td>9. Magnesium (MgO)</td>
<td>0.59</td>
<td>0.73</td>
</tr>
<tr>
<td>10. Total Potash (K₂O)</td>
<td>0.47</td>
<td>0.61</td>
</tr>
<tr>
<td>11. Available Nitrogen in lb./ac.</td>
<td>196.00</td>
<td>182.00</td>
</tr>
<tr>
<td>12. Available P₂O₅ in lb./ac.</td>
<td>4.40</td>
<td>2.80</td>
</tr>
<tr>
<td>13. pH</td>
<td>6.9</td>
<td>7.3</td>
</tr>
<tr>
<td>14. Electrical Conductivity</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>15. Organic Carbon</td>
<td>0.66</td>
<td>0.58</td>
</tr>
<tr>
<td>16. Total base exchange capacity</td>
<td>32.6</td>
<td>33.3</td>
</tr>
<tr>
<td>17. Exchangeable Calcium</td>
<td>18.0</td>
<td>18.5</td>
</tr>
<tr>
<td>18. Exchangeable magnesium</td>
<td>1.64</td>
<td>1.58</td>
</tr>
</tbody>
</table>
Water Soluble salts

19. Total solids 0.08 9.10
20. Carbonates 0.009 0.015
21. Bicarbonates 0.01 0.014

(iii) Mechanical analysis.
22. Clay 42.3 43.5
23. Silt 17.8 16.5
24. Fine sand 26.9 24.4
25. Coarse sand 12.7 15.4

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

E. No. of experiments:
Paddy—61, Cotton—8. Total=69.

2. Central Banana Research Station, Aduthurai.

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

B. Normal rainfall in mm.

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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>41.66</td>
<td>58.93</td>
<td>83.57</td>
<td>125.22</td>
<td>183.64</td>
<td>250.19</td>
<td>146.05</td>
<td>40.89</td>
<td>8.38</td>
<td>7.62</td>
<td>35.81</td>
<td>73.41</td>
<td>1055.37</td>
</tr>
</tbody>
</table>

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

C. Irrigation and drainage facilities:

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

D. Soil type and soil analysis:

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

<table>
<thead>
<tr>
<th>Depth of the Soil</th>
<th>Moisture</th>
<th>Nitrogen</th>
<th>Total P&lt;sub&gt;2&lt;/sub&gt;O&lt;sub&gt;5&lt;/sub&gt;</th>
<th>Available P&lt;sub&gt;2&lt;/sub&gt;O&lt;sub&gt;5&lt;/sub&gt;</th>
<th>Total K&lt;sub&gt;2&lt;/sub&gt;O</th>
<th>Available K&lt;sub&gt;2&lt;/sub&gt;O</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>1'</td>
<td>4.56</td>
<td>0.056</td>
<td>0.112</td>
<td>0.025</td>
<td>0.041</td>
<td>0.013</td>
<td>7.5</td>
</tr>
<tr>
<td>2'</td>
<td>5.06</td>
<td>0.060</td>
<td>0.105</td>
<td>0.012</td>
<td>0.0384</td>
<td>0.012</td>
<td></td>
</tr>
<tr>
<td>3'</td>
<td>4.25</td>
<td>0.043</td>
<td>0.074</td>
<td>0.009</td>
<td>0.355</td>
<td>0.014</td>
<td></td>
</tr>
</tbody>
</table>

(iii) Mechanical analysis—N.A.

E. No. of experiments:
Banana—6, Rotation expt.—1. Total=7.
3. Rice Research Station, Ambasamudram.

A. General information:
   (i) Tirunelvely district, 21 miles from Ambasamudram Railway Station. Plain land sloping from west to east. (ii) Established Tambraparni delta. (iii) Established in 1937. (iv) Paddy after paddy is the cropping pattern. (v) Manural and cultural trials are the main items of research.

B. Normal rainfall in mm:
   ------------------ ----------------- ------------------ ------------------ ------------------ ------------------ ------------------ ------------------ ------------------ ------------------ ------------------ ------------------ ------------------ ------------------ ------------------ ------------------ ------------------
   28.32  | 42.06  | 11.33  | 26.74  | 157.58 | 232.89 | 190.55 | 79.55  | 39.17  | 70.41  | 86.94  | 79.79  | 957.33

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

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

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

E. No. of experiments:

4. Agricultural Research Station, Bhavanisagar.

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

E. No. of experiments:

5. Agricultural College and Research Institute, Coimbatore.

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

B. Normal rainfall in mm:
   ------------------ ----------------- ------------------ ------------------ ------------------ ------------------ ------------------ ------------------ ------------------ ------------------ ------------------ ------------------ ------------------
   34.8  | 37.2  | 53.1  | 74.4  | 166.3 | 112.7 | 35.5  | 13.7  | 10.6  | 16.7  | 52.5  | 36.5  | 644.0

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

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

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

E. No. of experiments:
6. Cotton Breeding Station, Coimbatore.

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

B. Normal rainfall in mm.:

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>41.14</td>
<td>45.97</td>
<td>33.78</td>
<td>56.13</td>
<td>119.89</td>
<td>42.93</td>
<td>12.45</td>
<td>24.77</td>
<td>55.88</td>
<td>54.86</td>
<td></td>
<td></td>
<td>639.1</td>
</tr>
</tbody>
</table>

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

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

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

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Red soil</th>
<th>Black soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Loss on ignition (organic matter)</td>
<td>5.129</td>
<td>4.27</td>
</tr>
<tr>
<td>2. Insoluble mineral matter (sand etc.)</td>
<td>82.40</td>
<td>84.73</td>
</tr>
<tr>
<td>3. Iron</td>
<td>3.63</td>
<td>1.95</td>
</tr>
<tr>
<td>4. Alluminium</td>
<td>5.76</td>
<td>4.49</td>
</tr>
<tr>
<td>5. Lime</td>
<td>1.30</td>
<td>2.40</td>
</tr>
<tr>
<td>6. Magnesia</td>
<td>0.60</td>
<td>0.72</td>
</tr>
<tr>
<td>7. Potash</td>
<td>0.45</td>
<td>0.18</td>
</tr>
<tr>
<td>8. Soda</td>
<td>0.13</td>
<td>0.32</td>
</tr>
<tr>
<td>9. Carbon dioxide</td>
<td>0.52</td>
<td>0.90</td>
</tr>
<tr>
<td>10. Phosphoric acid</td>
<td>0.065</td>
<td>0.03</td>
</tr>
<tr>
<td>11. Sulphuric acid</td>
<td>-0.016</td>
<td>0.01</td>
</tr>
<tr>
<td>12. Nitrogen</td>
<td>0.07</td>
<td>0.032</td>
</tr>
<tr>
<td>13. Available Potash</td>
<td>0.021</td>
<td>0.014</td>
</tr>
<tr>
<td>14. Available P₂O₅</td>
<td>0.030</td>
<td>0.009</td>
</tr>
</tbody>
</table>

(iii) Mechanical analysis:

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Red soil</th>
<th>Black soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Moisture</td>
<td>3.01</td>
<td>2.8</td>
</tr>
<tr>
<td>2. Fine gravel</td>
<td>8.0</td>
<td>9.5</td>
</tr>
<tr>
<td>3. Coarse sand</td>
<td>18.9</td>
<td>25.0</td>
</tr>
<tr>
<td>4. Fine sand</td>
<td>16.4</td>
<td>15.1</td>
</tr>
<tr>
<td>5. Silt</td>
<td>6.2</td>
<td>6.4</td>
</tr>
<tr>
<td>6. Clay</td>
<td>14.9</td>
<td>28.1</td>
</tr>
</tbody>
</table>

E. No. of experiments:
Cotton—17. Total=17.

7. Millet Breeding Station, Coimbatore.

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

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30.7</td>
<td>31.5</td>
<td>38.9</td>
<td>42.7</td>
<td>156.5</td>
<td>129.5</td>
<td>33.4</td>
<td>16.0</td>
<td>3.8</td>
<td>16.0</td>
<td>67.6</td>
<td>46.0</td>
<td>612.6</td>
</tr>
</tbody>
</table>

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

C. Irrigation and drainage facilities:

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

D. Soil type and soil analysis:

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

<table>
<thead>
<tr>
<th></th>
<th>0-6&quot;</th>
<th>6&quot;-12&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total N %</td>
<td>0.053</td>
<td>0.033</td>
</tr>
<tr>
<td>Total P2O5 %</td>
<td>0.070</td>
<td>0.066</td>
</tr>
<tr>
<td>Total K2O %</td>
<td>0.740</td>
<td>0.700</td>
</tr>
<tr>
<td>pH</td>
<td>8.500</td>
<td>8.700</td>
</tr>
</tbody>
</table>

(iii) Mechanical analysis:

<table>
<thead>
<tr>
<th></th>
<th>0-6&quot;</th>
<th>6&quot;-12&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clay %</td>
<td>18.8</td>
<td>20.0</td>
</tr>
<tr>
<td>Silt %</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Fine sand %</td>
<td>29.7</td>
<td>29.3</td>
</tr>
<tr>
<td>Coarse sand %</td>
<td>42.8</td>
<td>41.5</td>
</tr>
<tr>
<td>Acid solubles %</td>
<td>3.7</td>
<td>4.2</td>
</tr>
<tr>
<td>Organic carbon %</td>
<td>0.24</td>
<td>0.19</td>
</tr>
</tbody>
</table>

E. No. of experiments:


8. Paddy Breeding Station, Coimbatore.

A. General information:

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

B. Normal rainfall in mm.

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</thead>
<tbody>
<tr>
<td></td>
<td>56.8</td>
<td>78.9</td>
<td>20.3</td>
<td>27.4</td>
<td>120.1</td>
<td>139.1</td>
<td>35.1</td>
<td>10.2</td>
<td>4.3</td>
<td>14.9</td>
<td>56.3</td>
<td>64.8</td>
<td>628.2</td>
</tr>
</tbody>
</table>

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

C. Irrigation and drainage facilities:

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

D. Soil type and soil analysis:

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

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Moisture%</td>
<td>5.843</td>
<td></td>
</tr>
<tr>
<td>Total Potash%</td>
<td>0.5728</td>
<td></td>
</tr>
<tr>
<td>P2O5%</td>
<td>0.0471</td>
<td></td>
</tr>
<tr>
<td>Nitrogen%</td>
<td>0.0758</td>
<td></td>
</tr>
<tr>
<td>Available Potash%</td>
<td>0.0193</td>
<td></td>
</tr>
<tr>
<td>Available P2O5%</td>
<td>0.0064</td>
<td></td>
</tr>
</tbody>
</table>

(ii) Mechanical analysis—N.A.
E. No. of experiments:
Paddy—32. Total = 32.

9. Central Sugarcane Research Station, Cuddalore.

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

B. Normal rainfall in mm:
   | J | J | J | A | S | O | D | J | J | T |
   | 51.1 | 83.1 | 124.5 | 318.7 | 188.7 | 112.0 | 10.4 | 24.4 | 72.9 | 1089.1 |

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

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

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

   | pH | Total N % | Total P<sub>2</sub>O<sub>5</sub> % | Total K<sub>2</sub>O % | Organic carbon % |
   | 6.8 to 8.5 | 0.035 | 0.045 | 0.500 | 0.250 |

   (iii) Mechanical analysis:
   | Clay % | Silt % | Coarse sand % | Fine sand % |
   | 21.3 | 13.7 | 47.0 | 15.3 |

E. No. of experiments:
   Sugarcane—22. Total = 22.

10. Sugarcane Research Station, Gudiyattam.

A. General information:
   (i) North Arcot district, 14 miles from Gudiyattam Railway Station with plain level fields. (ii) Garden land area with mostly sandy loam. (iii) Established in 1935. (iv) Sugarcane—paddy—G.M. crop is the cropping pattern. (v) Agronomic experiments on sugarcane is the programme of research.

B. Normal rainfall in mm:
   | J | J | J | A | S | O | D | J | J | T |
   | 99.1 | 126.5 | 122.7 | 112.3 | 176.5 | 98.8 | 61.2 | 35.3 | 32.3 | 17.5 | 36.3 | 78.5 | 997.0 |

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

C. Irrigation and drainage facilities:
   (i) (a) Irrigation facilities are available since 1935. (b) Wells are the source of irrigation. (iii) Drainage facilities are available.
11. Regional Research Station, Koilpatti.

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

B. Normal rainfall in mm.:

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>114</td>
<td>11.7</td>
<td>36.6</td>
<td>78.7</td>
<td>167.9</td>
<td>178.3</td>
<td>86.4</td>
<td>27.4</td>
<td>40.6</td>
<td>94.7</td>
<td>62.5</td>
<td>40.6</td>
<td>808.9</td>
</tr>
</tbody>
</table>

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

C. Irrigation and drainage facilities:
(i) (a) and (b) No irrigation facilities. Only rainfed. (ii) Drainage facilities available.

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

<table>
<thead>
<tr>
<th>Component</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moisture</td>
<td>9.19</td>
</tr>
<tr>
<td>Loss on ignition</td>
<td>3.79</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>0.022</td>
</tr>
<tr>
<td>CaO</td>
<td>4.03</td>
</tr>
<tr>
<td>Total P₂O₅</td>
<td>0.095</td>
</tr>
<tr>
<td>Available P₂O₅</td>
<td>0.018</td>
</tr>
<tr>
<td>Total K₂O</td>
<td>0.36</td>
</tr>
<tr>
<td>Available K₂O</td>
<td>0.019</td>
</tr>
</tbody>
</table>

(iii) Mechanical analysis—N.A.

E. No. of experiments:
Cotton—1, Mixed crop—1 and Rotation expt.—3. Total=5.

12. Paddy Farm, Nagercoil.

A. General information:
(i) Kanyakumari district. (ii) to (v) N.A.

B. Normal rainfall in mm.:
Details—N.A.

C. Irrigation and drainage facilities:
(i) (a) Irrigation facilities available. (b) Tank irrigation. (ii) Drainage facilities available.

D. Soil type and soil analysis:
(i) Heavy clay alkaline in patches. (ii) Chemical and (iii) Mechanical analysis—N.A.

E. No. of experiments:
Paddy—5. Total=5.
13. Agricultural Research Station, Nanjanad.

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

B. Normal rainfall in mm.

   84.8    198.1   69.5   57.9    52.1   20.0  4.5     5.8   13.0  32.6   79.0  688.7

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

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

D. Soil type and soil analysis:
   (i) Laterite soil. (ii) Chemical analysis as given below (Figures in %)

<table>
<thead>
<tr>
<th>Moisture</th>
<th>Total Potash</th>
<th>Loss on ignition</th>
<th>Soda</th>
<th>Insolubles</th>
<th>Carbon dioxide</th>
<th>Iron</th>
<th>Total P2O5</th>
<th>Alumina</th>
<th>Sulphuric acid</th>
<th>Lime</th>
<th>Nitrogen</th>
<th>Magnesia</th>
<th>pH.</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.70</td>
<td>0.13</td>
<td>14.04</td>
<td>0.41</td>
<td>55.22</td>
<td>0.04</td>
<td>9.95</td>
<td>0.07</td>
<td>55.22</td>
<td>0.03</td>
<td>0.07</td>
<td>0.02</td>
<td>0.10</td>
<td>4.63</td>
</tr>
</tbody>
</table>

   (iii) Mechanical analysis:
    Thin gravel: 6.5
    Fine silt: 29.9
    Coarse sand: 7.5
    Clay: 16.9
    Fine sand: 16.5
    Moisture etc.: 6.2
    Silt: 16.5

E. No. of experiments:
   Potato—49. Total=49.


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

B. Normal rainfall in mm.

   69.6    88.4    141.2  90.9    221.7  164.8  132.8  22.4  5.6    8.6    14.7  86.1  1046.8

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

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

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

<table>
<thead>
<tr>
<th>pH</th>
<th>0°—6° depth</th>
<th>6°—12° depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>7.6</td>
<td>7.7</td>
</tr>
<tr>
<td>P₂O₅</td>
<td>210.0 lb./ac.</td>
<td>210.0 lb./ac.</td>
</tr>
<tr>
<td>K₂O</td>
<td>20.0 lb./ac.</td>
<td>20.0 lb./ac.</td>
</tr>
<tr>
<td></td>
<td>408.0 lb./ac.</td>
<td>344.0 lb./ac.</td>
</tr>
</tbody>
</table>

(iii) Mechanical analysis—N.A.

E. No. of experiments:

15. Agricultural Research Station, Pattukottai.

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

B. Normal rainfall in mm.:

<table>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>34.0</td>
<td>84.8</td>
<td>112.5</td>
<td>84.8</td>
<td>151.4</td>
<td>48.5</td>
<td>16.0</td>
<td>18.3</td>
<td>40.4</td>
<td>25.7</td>
<td>967.4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Figures are based on 10 years data).

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

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

E. No. of experiments:

16. Agriculture Research Station, Satyamangalam.

A. General information:
(i) Coimbatore district. (ii) to (v) N.A.

B. Normal rainfall in mm.:
Details—N.A.

C. Irrigation and drainage facilities:
Details—N.A.

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

E. No. of experiments:
Cotton—1, Total=1.

17. Regional Research Station, Tindivanam.

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

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td></td>
<td>50.3</td>
<td>115.0</td>
<td>146.3</td>
<td>88.6</td>
<td>216.4</td>
<td>168.6</td>
<td>79.7</td>
<td>29.2</td>
<td>13.4</td>
<td>11.4</td>
<td>21.8</td>
<td>941.2</td>
<td></td>
</tr>
</tbody>
</table>

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

C. Irrigation and drainage facilities:

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

B. Soil type and soil analysis:

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

(ii) Chemical analysis.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available N</td>
<td>250 lb/ac.</td>
</tr>
<tr>
<td>Available P2O5</td>
<td>25 lb/ac.</td>
</tr>
<tr>
<td>Electric conductivity</td>
<td>-2</td>
</tr>
<tr>
<td>pH value</td>
<td>about 7.2</td>
</tr>
</tbody>
</table>

(iii) Mechanical analysis—N.A.

E. No. of experiments:


18. Regional Millet Station, Tirupathur.

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

E. No. of experiments:

Mixed crop—3. Total=3.

19. Rice Research Station, Tirur.

A. General information:

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

B. Normal rainfall in mm:

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>86.1</td>
<td>117.9</td>
<td>134.1</td>
<td>155.7</td>
<td>182.4</td>
<td>194.1</td>
<td>98.3</td>
<td>10.9</td>
<td>—</td>
<td>—</td>
<td>27.2</td>
<td>30.7</td>
<td>1037.4</td>
</tr>
</tbody>
</table>

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

C. Irrigation and drainage facilities:

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

D. Soil type and soil analysis:

(i) Sandy loam to a depth of 6" to 9", light gravy in colour.

(ii) Chemical analysis.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>P2O5</td>
<td>0.035 to 0.041</td>
</tr>
<tr>
<td>N</td>
<td>0.073 to 0.074</td>
</tr>
<tr>
<td>pH</td>
<td>7.00 to 8.75</td>
</tr>
</tbody>
</table>

(iii) Mechanical analysis—N.A.

E. No of experiments:

Paddy—38. Total=38.
Crop :- Paddy (Samba).


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

1. BASAL CONDITIONS:
   (i) (a) Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 1.8.1956/19,20.9.1956. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6"x6". (e) 2. (v) 5000 lb./ac. of G.L. + 30 lb./ac. of P2O5 as Super. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 29.24". (x) 4.2.1957.

2. TREATMENTS:
   All combinations of (1) and (2) + a control
   (1) 3 sources of N : S1=A/S, S2=A/C and S3=Urea.
   (2) 4 levels of N : N1=15, N2=30, N3=45 and N4=60 lb./ac.

3. DESIGN:
   (i) R.B D. (ii) (a) 13. (b) N.A. (iii) 4. (iv) (a) 42'x10'. (b) 41'x10'. (v) N.A. (vi) Yes.

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

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

   Control = 3449 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N1</th>
<th>N2</th>
<th>N3</th>
<th>N4</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>3784</td>
<td>3562</td>
<td>3358</td>
<td>3109</td>
<td>3503</td>
</tr>
<tr>
<td>S2</td>
<td>3627</td>
<td>3482</td>
<td>3286</td>
<td>3198</td>
<td>3399</td>
</tr>
<tr>
<td>S3</td>
<td>3562</td>
<td>3466</td>
<td>3449</td>
<td>3263</td>
<td>3435</td>
</tr>
<tr>
<td>Mean</td>
<td>3658</td>
<td>3703</td>
<td>3654</td>
<td>3257</td>
<td>3446</td>
</tr>
</tbody>
</table>

   S.E. of S marginal mean = 75.9 lb./ac.
   S.E. of N marginal mean = 87.6 lb./ac.
   S.E. of body of table or control mean = 151.8 lb./ac.

Crop :- Paddy (Samba).


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

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 6.8.1957/22.9.1957. (iv) (a) Digging with mummatty and preparing experimental plots. (b) Transplanted. (c) 30 lb./ac. (d) 6"x6". (e) 2. (v) 50-70 lb./ac. of G.L. + 30 lb./ac. of P2O5 as Super. (vi) CO—25 (late). (vii) Irrigated. (viii) Weeding twice. (ix) 28.78". (x) 10.1.1958.

2. TREATMENTS to 4. GENERAL:
   Same as in ext. no. 56(35) above.

   RESULTS:
   (i) 3079 lb./ac. (ii) 221.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.
Control = 2939 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N1</th>
<th>N2</th>
<th>N3</th>
<th>N4</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>3103</td>
<td>3200</td>
<td>3240</td>
<td>3049</td>
<td>3148</td>
</tr>
<tr>
<td>S2</td>
<td>3122</td>
<td>3004</td>
<td>3016</td>
<td>3010</td>
<td>3038</td>
</tr>
<tr>
<td>S3</td>
<td>3332</td>
<td>3082</td>
<td>3016</td>
<td>2912</td>
<td>3086</td>
</tr>
<tr>
<td>Mean</td>
<td>3186</td>
<td>3095</td>
<td>3091</td>
<td>2990</td>
<td>3091</td>
</tr>
</tbody>
</table>

S.E. of S marginal mean = 55.4 lb./ac.
S.E. of N marginal mean = 64.0 lb./ac.
S.E. of body of table or control mean = 110.8 lb./ac.

Crop: Paddy (Samba).

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

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

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 56(35) on page 1.

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

Control = 3621 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N1</th>
<th>N2</th>
<th>N3</th>
<th>N4</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>4094</td>
<td>4133</td>
<td>4120</td>
<td>3962</td>
<td>4077</td>
</tr>
<tr>
<td>S2</td>
<td>4080</td>
<td>3661</td>
<td>3871</td>
<td>3844</td>
<td>3864</td>
</tr>
<tr>
<td>S3</td>
<td>3.62</td>
<td>4015</td>
<td>3995</td>
<td>3766</td>
<td>3933</td>
</tr>
<tr>
<td>Mean</td>
<td>4045</td>
<td>3936</td>
<td>3993</td>
<td>3857</td>
<td>3958</td>
</tr>
</tbody>
</table>

S.E. of N marginal mean = 75.1 lb./ac.
S.E. of S marginal mean = 65.1 lb./ac.
S.E. of body of table = 130.2 lb./ac.

Crop: Paddy (Kurucai).

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

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of Super applied at the time of planting and 150 lb./ac. of A/S top-dressed. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 7.7.1954-31.7.1954. (iv) Ploughed with mould board plough thrice and levelled with Burmese Setum. (b) N.A. (c) 30 lb./ac. (d) 6" x 6". (e) N.A. (f) Nil. (v) Adt. 3 (early). (vi) Irrigated. (vii) 2 weedings. (ix) 13.03°. (x) 17.10.1954.
2. TREATMENTS:

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

3. DESIGN:

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) $24' \times 12'$. (b) $23' \times 11'$. (v) 1 row of plants left as border. (vi) Yes.

4. GENERAL:

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

5. RESULTS:

(i) 2602 lb./ac. (ii) 193.7 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$S_0$</th>
<th>$S_1$</th>
<th>$S_2$</th>
<th>$S_3$</th>
<th>$S_4$</th>
<th>$S_5$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2384</td>
<td>2317</td>
<td>2478</td>
<td>3485</td>
<td>2814</td>
<td>3136</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>79.1 lb./ac.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Crop :- Paddy (Thaladi).

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

1. BASAL CONDITIONS:

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

2. TREATMENTS to 4. GENERAL:

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

5. RESULTS:

(i) 1809 lb./ac. (ii) 184.1 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$S_0$</th>
<th>$S_1$</th>
<th>$S_2$</th>
<th>$S_3$</th>
<th>$S_4$</th>
<th>$S_5$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1625</td>
<td>1638</td>
<td>1759</td>
<td>1813</td>
<td>1894</td>
<td>2122</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>75.2 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Paddy (Kanuvi).

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

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) $5000 \text{ lb./ac. of G.L.} + 150 \text{ lb./ac. of Super applied at planting} + 150 \text{ lb./ac. of A/S top-dressed.}$ (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 19.6.1954/22.7.1954. (iv) (a) Ploughed with mould board plough thrice and levelled with Burmese Settun once. (b) N.A. (c) 30 lb./ac. (d) $6' \times 6'$. (e) N.A. (v) Nil. (vi) Adt.—20 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 13.03$. (x) 4.10.194.

2. TREATMENTS:

1. No manure (control).
2. Sesbania in green form at $5000 \text{ lb./ac.}$
3. Sesbania in dry form equivalent to $5000 \text{ lb./ac. of G.L.}$

The manures were applied and trampled in just before planting.
3. DESIGN:
(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 18'×12'. (b) 17½'×11½'. (v) 1 row left as guard row. (vi) Yes.

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

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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
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</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2835</td>
<td>3298</td>
<td>3013</td>
</tr>
<tr>
<td>S.E./mean = 55.7 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Crop:** Paddy *(Thaladi).*  
**Ref:** M. 54(81).  
**Site:** Agri. Res. Stn., Aduthurai.  
**Type:** 'M'.

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

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

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 54 80) on page 3.

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

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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
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</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1970</td>
<td>2298</td>
<td>2164</td>
</tr>
<tr>
<td>S.E./mean = 40.4 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Crop:** Paddy *(Kuruvai).*  
**Ref:** M. 59(108).  
**Site:** Agri. Res. Stn., Aduthurai.  
**Type:** 'M'.

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

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

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

4 green manures: \( M_0 = \) No G.M., \( M_1 = \) Sesbania, \( M_2 = \) Kollangi, and \( M_3 = \) Pileus esagra.

\( P_2 \) applied to G.M. crop under \( M_1, M_2 \) and \( M_3 \) and to Paddy crop under \( M_0 \).

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

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

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

<table>
<thead>
<tr>
<th>( P )</th>
<th>( P_0 )</th>
<th>( P_1 )</th>
<th>( P_2 )</th>
<th>( P_3 )</th>
<th>( P_4 )</th>
<th>( P_5 )</th>
<th>Mean</th>
</tr>
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<tbody>
<tr>
<td>( M_0 )</td>
<td>2313</td>
<td>2492</td>
<td>2490</td>
<td>2879</td>
<td>2230</td>
<td>2561</td>
<td>2494</td>
</tr>
<tr>
<td>( M_1 )</td>
<td>2566</td>
<td>2146</td>
<td>2380</td>
<td>2815</td>
<td>2118</td>
<td>2541</td>
<td>2428</td>
</tr>
<tr>
<td>( M_2 )</td>
<td>3034</td>
<td>2323</td>
<td>2730</td>
<td>3174</td>
<td>2545</td>
<td>2696</td>
<td>2750</td>
</tr>
<tr>
<td>( M_3 )</td>
<td>2474</td>
<td>2146</td>
<td>2370</td>
<td>2830</td>
<td>2253</td>
<td>2637</td>
<td>2452</td>
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<tr>
<td>Mean</td>
<td>2597</td>
<td>2277</td>
<td>2493</td>
<td>2925</td>
<td>2287</td>
<td>2609</td>
<td>2331</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. \( P \) marginal means = 188.4 lb./ac.
2. \( M \) marginal means = 160.7 lb./ac.
3. \( P \) means at the same level of \( M \) = 281.2 lb./ac.
4. \( M \) means at the same level of \( P \) = 241.3 lb./ac.

Crop: Paddy (Kuruvai).


Ref: M. 58(80).

Type: 'M'.

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

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

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

3. DESIGN:
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 12' \times 30'. (b) 10' \times 28' 4'. (v) One row left. (vi) Yes.

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

5. RESULTS:
(i) 2763 lb./ac. (ii) 168.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.
Treatment  | 1 | 2 | 3 | 4 | 5
Av. yield  | 2733 | 2781 | 2999 | 2763 | 2739

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

Crop :- Paddy (\textit{Thaladi}).
Ref :- M. 58(81).
Type :- 'M'.

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

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

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

N applied as A/S.

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

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

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

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

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

Crop :- Paddy (\textit{Samba}).
Ref :- M. 58(82).
Type :- 'M'.

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

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

2. TREATMENTS :
   Same as in expt. no. 58(81) above.

3. DESIGN :
   (i) R B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 15' x 30'. (b) 14'7" x 29'2". (v) One row left (vi) Yes.
4. GENERAL
Same as in expt. no. 58(80) on page 5.

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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3397</td>
<td>3311</td>
<td>3269</td>
<td>3388</td>
<td>3311</td>
</tr>
</tbody>
</table>

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

Crop: Paddy (Kuruvai).
Ref: M. 59(65).
Type: 'M'.

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

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

2. TREATMENTS to 4. GENERAL
Same as in expt. no. 58(80) on page 5.

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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2634</td>
<td>2934</td>
<td>2997</td>
<td>2955</td>
<td>2955</td>
</tr>
</tbody>
</table>

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

Crop: Paddy (Thaladi).
Ref: M. 59(63).
Type: 'M'.

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

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

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 58(81) on page 6.

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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2799</td>
<td>2777</td>
<td>2758</td>
<td>2681</td>
<td>2758</td>
</tr>
</tbody>
</table>

S.E./mean = 78.4 lb./ac.
Crop : Paddy (Samba).  

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

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

2. TREATMENTS to 4. GENERAL:
   Same as in expt. on 58(81) on page 6

5. RESULTS.
   (i) 4128 lb./ac. (ii) 243.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.
   Treatment  
   1  2  3  4  5  
   Av. yield  
   4315 4120 4068 4038 4079  
   S.E./mean = 99.2 lb./ac.

Crop : Paddy (Navarai).  

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

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

2. TREATMENTS:
   All combinations of (1) and (2)
   (1) 3 manurial treatments: M₀=No manure, M₁=G.L. at 5000 lb./ac. and M₂=G.L. at 5000 lb./ac+45 lb./ac. of N as A/S+60 lb./ac. of P₂O₅ as Super.
   (2) 4 trace elements: T₀=Nil, T₁=Trace elements applied before planting, T₂=Trace elements sprayed one month after planting and T₃=Urea sprayed one month after planting.
   T₁=20 lb./ac. of C/S+10 lb./ac. of Mn. Sul.+10 lb./ac. of Zn. Sul.+40 lb./ac. of Fe. Sul.+40 lb./ac. of Mg. Sul. while T₃=5 lb./ac. of C/S+5 lb./ac. of Mg. Sul.+5 lb./ac. of Zn. Sul.+10 lb./ac. of Fe. Sul.+10 lb./ac. of Mg. Sul. Urea applied at 10 lb./ac. of N.

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

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

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

<table>
<thead>
<tr>
<th>T₀</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>Mean</th>
</tr>
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<tbody>
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<td>3011</td>
<td>2386</td>
<td>3144</td>
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<td>3277</td>
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</tr>
<tr>
<td>M₂</td>
<td>3864</td>
<td>3769</td>
<td>3712</td>
<td>3902</td>
</tr>
</tbody>
</table>

Mean  
3403 3352 3156 3422 3333
Crop :- Paddy (Kuruvai).
Object :- To find out the effect of trace elements on the yield of Paddy.

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

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 54(106) on page 8.

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

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

<table>
<thead>
<tr>
<th></th>
<th>T₀</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>Mean</th>
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<tbody>
<tr>
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<td>3523</td>
<td>3248</td>
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</tr>
<tr>
<td>M₁</td>
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<td>3608</td>
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<tr>
<td>M₂</td>
<td>4110</td>
<td>3712</td>
<td>3703</td>
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<tr>
<td>Mean</td>
<td>3656</td>
<td>3614</td>
<td>3466</td>
<td>3603</td>
<td>3585</td>
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</tbody>
</table>

S.E. of M marginal mean = 58.02 lb./ac.
S.E. of T marginal mean = 67.00 lb./ac.
S.E. of body of table = 116.06 lb./ac.
3. DESIGN:
(i) Fact. in R.B.D.  (ii) (a) 9.  (b) N.A.  (iii) 4.  (iv) (a) and (b) 24'×18'.  (v) Nil.  (vi) Yes.

4. GENERAL:
(i) Satisfactory.  (ii) Nil.  (iii) Grain yield.  (iv) (a) 1954—contd.  (b) No.  (c) Nil.  (v) (a) and (b) Nil.  (vi) Nil.  (vii) The expt. was conducted by Systematic Botanist, Coimbatore.

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

<table>
<thead>
<tr>
<th></th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>Mean</th>
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<tr>
<td>M0</td>
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<td>458</td>
<td>496</td>
<td>452</td>
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<td>M1</td>
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<td>M2</td>
<td>934</td>
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<td>702</td>
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<table>
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<th></th>
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<th>S.E. of marginal mean of M or T</th>
<th>S.E. of body of table</th>
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<tr>
<td></td>
<td>624</td>
<td>62.9 lb./ac.</td>
<td>109.0 lb./ac.</td>
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</table>

Crop: - Paddy (Samba).

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

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

2. TREATMENTS:
Main-plot treatments:  
3 previous crops: C1=Summer fallow, C2=Green gram in rice fallow and C3=Cotton in rice fallow.

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

3. DESIGN:
(i) Split-plot.  (ii) (a) 3 main-plots/block; 4 sub-plots/main-plot.  (b) 47'×166'.  (iii) 4.  (iv) (a) 47'×13'.  (b) 46'×121'.  (v) 6' left as border.  (vi) Yes.

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

5. RESULTS:
(i) 4729 lb./ac.  (ii) (a) 548.8 lb./ac.  (b) 409.8 lb./ac.  (iii) None of the effects is significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M0</th>
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<th>M2</th>
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<td>C2</td>
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<td>4776</td>
<td>5010</td>
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<td>Mean</td>
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<td>4666</td>
<td>4836</td>
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</table>
S.E. of difference of two
1. C marginal means = 194.0 lb./ac.
2. M marginal means = 167.3 lb./ac.
3. M means at the same level of C = 289.8 lb./ac.
4. C means at the same level of M = 317.2 lb./ac.

**Crop**: Paddy (*Kuruvai*).

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

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

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

2. **TREATMENTS**:
   All combinations of (1), (2) and (3)
   (1) 3 levels of N as A/S: N₀ =0, N₁ =40 and N₂ =80 lb./ac.
   (2) 3 levels of P₂O₅ as Super: P₀ =0, P₁ =24 and P₂ =48 lb./ac.
   (3) 3 levels of K₂O as Pot. Sul.: K₀ =0, K₁ =52 and K₂ =104 lb./ac.
   except the combinations P₁K₁, P₂K₁, P₂K₂ and P₂K₂.

3. **DESIGN**:
   (i) R.B.D. (ii) (a) 23. (b) N.A. (iii) 4. (iv) (a) and (b) 6'X20'.

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

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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>N₁P₀K₀</th>
<th>N₁P₀K₁</th>
<th>N₁P₀K₂</th>
<th>N₁P₁K₀</th>
<th>N₁P₁K₁</th>
<th>N₁P₁K₂</th>
<th>N₁P₂K₀</th>
<th>N₁P₂K₁</th>
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<td>Av. yield</td>
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<td>2704</td>
<td>2532</td>
<td>2405</td>
<td>2305</td>
<td>2632</td>
<td>2805</td>
<td>2732</td>
<td>2695</td>
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<td>N₁P₁K₁</td>
<td>N₁P₁K₂</td>
<td>N₁P₂K₀</td>
<td>N₁P₂K₁</td>
<td>N₁P₂K₂</td>
<td>N₂P₀K₀</td>
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<td>Av. yield</td>
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<td>2686</td>
<td>2804</td>
<td>2369</td>
<td>2623</td>
<td>2532</td>
<td>2242</td>
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</table>

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

**Crop**: Paddy (*Samba*).

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

Object:—To find out the effect of different levels and sources of P at different levels of N on the yield of Paddy.
1. BASAL CONDITIONS:
   (i) (a) Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Alluvial loam. (b) Refer soil analysis, Aduthurai.
   (iii) 6.8.1957/23 and 24.9.1957. (iv) (a) Digging with *mummatty* and preparing the plots. (b) N.A. (c) 30 lb./ac. (d) 6°×6°. (e) 2. (v) 5000 lb./ac. of G.L. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings.
   (ix) 28.78°. (x) 11, 12.2.1958.

2. TREATMENTS:
   All combinations of (1), (2) and (3) + 3 extra treatments.
   (1) 4 levels of P₂O₅: P₁=15, P₂=30, P₃=45 and P₄=60 lb./ac.
   (2) 3 sources of P₂O₅: S₁=Super, S₂=Dical. Phos. and S₃=Hyper Phos.
   (3) 3 levels of N as A/S: N₁=30, N₂=45 and N₃=60 lb./ac.
   Extra treatments: T₁=30, T₂=45 and T₃=60 lb./ac. of N as A/S.

3. DESIGN:
   (i) R.B.D. (ii) (a) 39. (b) N.A. (iii) 4. (iv) (a) 101'×28'. (b) 10'×271'. (v) One row left as border.
   (vi) Yes.

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

5. RESULTS:
   (i) 2869 lb./ac. (ii) 269.6 lb./ac. (iii) Mean effect of P alone is significant. (iv) Av. yield of grain in lb./ac.
   Extra treatments: T₁=2762, T₂=3030 and T₃=3149 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>P₁</th>
<th>P₂</th>
<th>P₃</th>
<th>P₄</th>
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<th>S₂</th>
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<tr>
<td>S₁</td>
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<td>2854</td>
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<tr>
<td>S₂</td>
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<td>2941</td>
<td>44.9 lb./ac.</td>
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<tr>
<td>S₃</td>
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<td>2848</td>
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<td>S.E. of body of N×P or S×P table</td>
<td>77.8 lb./ac.</td>
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<td>S.E. of body of N×S table</td>
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**Crop:** Paddy *(Samba).*

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

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

---

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

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 57(24) on page 11.
5. RESULTS:

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

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

<table>
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<th></th>
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<th>P2</th>
<th>P3</th>
<th>P</th>
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S.E. of N or S marginal mean
S.E. of P marginal mean
S.E. of body of N×P or S×P table
S.E. of body of N×S table

$=\frac{1}{4} 20$, $=\frac{1}{4} 20$, $=\frac{1}{4} 20$

Crop :- Paddy (Kuruvai).

Ref :- M. 54(82).
Type :- 'M'.

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

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

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

Sub-plot treatments:
All combinations of (1), (2) and (3)
(1) 2 levels of $P_2O_5$ as Super : $P_0 = 0$ and $P_1 = 60$ lb./ac.
(2) 2 levels of $K_2O$ as Pot. Sul : $K_0 = 0$ and $K_1 = 60$ lb./ac.
(3) 2 levels of slaked lime : $L_0 = 0$ and $L_1 = 1500$ lb./ac.

3. DESIGN:
(i) Split-plot. (ii) (a) 5 main-plots/block and 8 sub-plots/main-plot. (b) 90' x 150'. (iii) 4. (iv) (a) 45' x 7'. (b) 44' x 7'. (v) 1 row left as guard row. (vi) Yes.

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

5. RESULTS:
(i) 3072 lb./ac. (ii) (a) 413.0 lb./ac. (b) 170.8 lb./ac. (iii) No main effect or interaction is significant. (iv) Av. yield of grain in lb./ac.
Object: To find out the comparative merits of different organic manures when applied alone and in combination with \( P, \ K \) and lime on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 16.9.1954-11.11.1954. (iv) (a) Mummer: digging after wetting the plots to get the required puddle. (b) Transplanted. (c) 30 lb./ac. (d) 6'x6'. (e) N.A. (vi) Nil. (vi) Adt. 25 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 26.8.1954. (x) 26.2.1955.

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 54/82; on page 13.

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

<table>
<thead>
<tr>
<th>( M_0 )</th>
<th>( M_1 )</th>
<th>( M_2 )</th>
<th>( M_3 )</th>
<th>( M_4 )</th>
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</table>

S.E. of difference of two
1. \( M \) marginal means = 95.1 lb./ac.
2. \( P, \ K \) or \( L \) marginal means = 90.7 lb./ac.
3. \( P, \ K \) or \( L \) means at the same level of \( M \) = 202.8 lb./ac.
4. \( M \) means at the same level of \( P, \ K \) or \( L \) = 177.1 lb./ac.
S.E. of body of \( P \times K, K \times L \) or \( P \times L \) table = 90.7 lb./ac.
Crop :- Paddy (*Thaladi*).


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

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

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 54(82) on page 13.

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

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S.E. of difference of two
1. M marginal means = 134.5 lb./ac.
2. P, K or L marginal means = 33.7 lb./ac.
3. P, K or L means at the same level of M = 75.4 lb./ac.
4. M means at the same level of P, K or L = 144.2 lb./ac.
S.E. of body of P×K, P×L or K×L table = 33.7 lb./ac.
5. RESULTS:
(i) 3368 lb./ac. (ii) (a) 554.3 lb./ac. (b) 221.8 lb./fac. (iii) Main effects of M and K and interaction M×K are highly significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

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

S.E. of body of P×L, P×K or K×L table = 35.1 lb./ac.

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

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

2. TREATMENTS:
Same as in exp. no. 54/32, on page 13.

3. DESIGN:
(i) Split-plot. (ii) (a) 5 main-plots/block ; 8 sub-plots/main-plot. (b) 90'×150'. (iii) 4. (iv) (a) 45'×7'. (b) 44'×6'. (v) 6' left around the net plot. (vi) Yes.

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

5. RESULTS:
(i) 2800 lb./ac. (ii) (a) 423.1 lb./ac. (b) 315.3 lb./ac. (iii) Main effects of M, P, I and K are highly significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.
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S.E. of difference of two
1. M marginal means = 105.8 lb./ac.
2. P, K or L marginal means = 49.9 lb./ac.
3. P, K or L means at the same level of M = 111.5 lb./ac.
4. M means at the same level of P, K or L = 131.9 lb./ac.
S.E. of body of P×K, P×L or K×L table = 49.9 lb./ac.

**Crop :-** Paddy (Kuruvai).
**Site :-** Agri. Res. Stn., Aduthurai.
**Ref :-** M. 57(29).
**Type :-** 'M'.

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

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

2. **TREATMENTS :**
   Same as in expt. no. 54(82) on page 13.

3. **DESIGN** and 4. **GENERAL :**
   Same as in expt. no. 56(38) on page 16.

5. **RESULTS :**
   (i) 3370 lb./ac. (ii) (a) 444 lb./ac. (b) 305.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

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

Crop: Paddy (Kuruvai).

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

1. BASAL CONDITIONS:
   (i) Fallow—Paddy—Paddy. (b) Fallow. (c) Nil. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 9, 10.7.1958/10, 11.8.1958. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 4'×4'. (e) None.

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 54(82) on page 13.

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

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

Crop: Paddy (Thaladi).

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

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

2. TREATMENTS to 4. GENERAL:
Same as extn. no. 54(82) on page 13.

5. RESULTS:

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

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S.E. of difference of two

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

Crop :- Paddy (Kuruvai).
Site :- Agri. Res. Sta., Aduthurai
Object:—To find out the comparative merits of different organic manures when applied alone and in combination with P, K and lime on the yield of Paddy.

1. BASAL CONDITIONS:

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

2. TREATMENTS to 4. GENERAL:
Same as in extn. no. 54(82) on page 13.

5. RESULTS:

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

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

1. **BASAL CONDITIONS** :
   (i) (a) Fallow—Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Alluvial clay. (b) Refer soil analysis. Aduthurai. (iii) 24.9.1959/11.12.1959. (iv) (a) 3 and 4 ploughings. (b) Transplanted. (c) 25 lb./ac. (d) 6'x6'. (e) 2. (v) Nil. (vi) CO—25 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 12 and 13.3.1960.

2. **TREATMENTS to 4. GENERAL** :
   Same as in expt. no 54(82) on page 13.

5. **RESULTS** :
   (i) 1735 lb./ac. (ii) (a) 472.5 lb./ac. (b) 288.7 lb./ac. (iii) Main effects of M, P and interaction P×K×L are highly significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.
S.E. of difference of two
1. M marginal means = 118.1 lb./ac.
2. P, K or L marginal means = 45.6 lb./ac.
3. P, K or L means at the same level of M = 102.1 lb./ac.
4. M means at the same level of P, K or L = 138.4 lb./ac.
S.E. of body of P×L, and P×K×L table = 45.6 lb./ac.

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

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

1. BASAL CONDITIONS :
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of Super + 150 lb./ac. of A/S.
   (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6'×6'. (e) 2. (v) 5000 lb./ac. of G.L. + 150 lb./ac.

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

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

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

5. RESULTS:
   (i) 3637 lb./ac. (ii) 424.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain
   in lb./ac.

   Treatment T1  T2  T3  T4  T5
   Av. yield 3842 3555 3400 3718 3671
   S.E./mean = 173.3 lb./ac.

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

Ref :- M. 59(8).
Type :- 'M'.

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

1. BASAL CONDITIONS :
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of Super + 30 lb./ac. of N as A/S.
   (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 14.9.1959/30.10.1959.
   (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6'×6'. (e) 2. (v) 5000 lb./ac. of G.L. + 150 lb./ac.

2. TREATMENTS :
   Same as in expt. no. 58(7) above.

3. RESULTS:
   (i) 2545 lb./ac. (ii) 303 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain
   in lb./ac.
Crop :- Paddy (Kar).
Site :- Rice Res. Stn., Ambasamudram.

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

1. BASAL CONDITIONS :
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of Super + 150 lb./ac. of A/S (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 22.6.1955/26.7.1958. (iv) 8. 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 4" x 4". (e) 1. (v) 5000 lb./ac. of G.L. – 150 lb./ac. of Super. (vi) ASD—1. (vii) Irrigated. (viii) 1 weeding. (ix) 4.00°. (x) 19.10.1958.

2. TREATMENTS :
   5 times of application of 30 lb./ac. of N as A/S : T₁ = One month after planting, T₂ = ½ at planting + ½ month after planting, T₃ = ½ at planting + ¾ a week prior to flowering, T₄ = ½ at planting + ½ a fortnight after planting + ½ one month after planting and T₅ = ½ at planting + ½ a fortnight after planting + ½ a week prior to flowering.

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

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

5. RESULTS :
   (i) 4295 lb./ac. (ii) 248.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

   Treatment | T₁  | T₂  | T₃  | T₄  | T₅  | Av. yield | S.E./mean
   Treatment | T₁  | T₂  | T₃  | T₄  | T₅  | Av. yield | S.E./mean

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

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

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

2. TREATMENTS :
   Same as in expt. no. 58(7) above.

5. RESULTS :
   (i) 3335 lb./ac. (ii) 99.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.
Crop := Paddy (Samba).
Ref := M. 57(47).
Type := 'M'.

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

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

2. TREATMENTS:
All combinations of (1) and (2) + a control
(1) 2 levels of $P_2O_5$ as Super: $P_1$ = 30 lb./ac. and $P_2$ = 60 lb./ac.
(2) 3 methods of application of $P_2O_5$: $M_1$ = Broadcast at planting, $M_2$ = Mixed with cowdung and granulated and broadcast at planting and $M_3$ = Mixed with cowdung and applied in pellet form at planting by placement at a depth of 3" on both the sides of paddy seedlings.

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

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Height, tiller count and yield of grain. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) This exp't. was conducted by Agronomist.

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

<table>
<thead>
<tr>
<th></th>
<th>$M_1$</th>
<th>$M_2$</th>
<th>$M_3$</th>
<th>Mean</th>
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</tr>
<tr>
<td>Mean</td>
<td>1258</td>
<td>1268</td>
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<td>1233</td>
</tr>
</tbody>
</table>

S.E. of P marginal mean = 54.2 lb./ac.
S.E. of M marginal mean = 66.4 lb./ac.
S.E. of body of table or control mean = 93.9 lb./ac.

Crop := Paddy (Samba).
Ref := M. 58(44).
Type := 'M'.

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

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy. (b) Paddy. (c) 150 lb./ac. of A/S + 150 lb./ac. of Super over A/B.D. of 5000 lb./ac. of G.L. (ii) (a) Clay loam. (b) Refer soil analysis, Coimbatore. (iii) 21.7.1958/12.9.1958. (iv) (a) 2 ploughings. (b) Transplanting. (c) 3 to 4 lb./ac. (d) and (e) N.A. (v) 5000 lb./ac. of G.L. (vi) ASD—5 (medium). (vii) Irrigated. (viii) 3 weedicings. (x) 17.71". (x) 7.8.1.1959.
2. **TREATMENTS:**

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

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

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

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

3. **DESIGN:**

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

4. **GENERAL:**

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

5. **RESULTS:**

(i) 442 lb./ac. (ii) 332.1 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>T</th>
<th>F_1</th>
<th>F_2</th>
<th>F_3</th>
<th>F_4</th>
<th>F_5</th>
<th>F_6</th>
<th>Mean</th>
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<td>4285</td>
<td>4464</td>
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<td>T_2</td>
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<td>4353</td>
<td>4419</td>
<td>4353</td>
<td>4576</td>
<td>4464</td>
<td>4434</td>
</tr>
</tbody>
</table>

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

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

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

Crop :- Paddy (*Navarai*).

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

Ref :- M. 59(37).

Type :- 'M'.

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

1. **BASAL CONDITIONS:**

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S and Super each. (ii) (a) Clay loam. (b) Refer soil analysis, Coimbatore. (iii) 11.1.1959/17 to 19.2.1959. (iv) (a) 2 ploughings. (b) Transplanting. (c) 3 to 4 lb./ac. (d) and (e) N.A. (v) 5000 lb./ac. of G.L. (vi) CO.—13 ,early) (vii) Irrigated. (viii) 1 weeding. (ix) 5.93'. (x) 21.5.1959.

2. **TREATMENTS:**

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

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

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

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

3. **DESIGN:**

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

4. **GENERAL:**

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

5. **RESULTS:**

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


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

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

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

   Actual quantities of different chemicals N.A.

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

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

5. RESULTS:
   (i) 2884 lb./ac. (ii) 302.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>F₀</th>
<th>F₁</th>
<th>F₂</th>
<th>F₃</th>
<th>F₄</th>
<th>F₅</th>
<th>F₆</th>
<th>F₇</th>
<th>F₈</th>
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<td>2946</td>
<td>2827</td>
<td>2946</td>
<td>2738</td>
<td></td>
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<tr>
<td>S.E./mean</td>
<td>106.9 lb./ac.</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 150 lb./ac. of A/S+150 lb./ac. of Super+B.D. of 5000 lb./ac. of G.L. (ii) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) 16.2.1954/18.3.1954. (iv) (a) Puddling the soil 4 times. (b) Transplanting in lines. (c) 3 to 4 lb./ac. (d) and (e) N.A. (v) As per treatments. (vi) CO—13. (vii) Irrigated. (viii) 2 weedings. (ix) Height of plants and yield of grain. (x) 17.12.1954.

2. TREATMENTS:
   All combinations of (1) and (2)
   (1) 3 levels of B.D.: B₀ = Nil, B₁ = G.L. at 5000 lb./ac. and B₂ = G.L. at 5000 lb./ac.+45 lb./ac. of N as A/S+60 lb./ac. of P₂O₅ as Super.
   (2) 4 methods of application of trace elements: M₀ = No trace elements, M₁ = Soil application of trace elements, M₂ = Trace elements sprayed one month after planting and M₃ = Trace elements and Urea sprayed one month after planting.

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

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

5. RESULTS:
   (i) 507 lb./ac. (ii) 196.4 lb./ac. (iii) None of the effects is significant. (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>Mean</th>
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<td>634</td>
<td>605</td>
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<tr>
<td>B₁</td>
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<td>561</td>
<td>450</td>
<td>354</td>
<td>497</td>
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</tr>
<tr>
<td>Mean</td>
<td>538</td>
<td>571</td>
<td>455</td>
<td>466</td>
<td>507</td>
</tr>
</tbody>
</table>

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

Crop :- Paddy (Samba).
Site :- Agri. College and Res. Instt., Coimbatore.
Ref :- M. 54(105).
Type :- 'M'.

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

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 150 lb./ac. of A/S+150 lb./ac. of Super+B.D. of 5000 lb./ac. of G.L. (ii) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) 16.2.1954/18.3.1954. (iv) (a) Puddling 4 times. (b) Transplanting. (c) 3 to 4 lb./ac. (d) and (e) N.A. (v) As per treatments. (vi) CO—1. (vii) Irrigated. (viii) 2 weedings and 1 ridging. (ix) 13.64°. (x) 17.12.1954.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 54(104) on page 25.

5. RESULTS:
   (i) 2326 lb./ac. (ii) 214.7 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.
Crop: Paddy (Samba).


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

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

2. TREATMENTS:
   Strips in one direction:
   4 G.M. crops: G₀ = Control, G₁ = Sesbania, G₂ = Dhaíncha and G₃ = Pillipesara.

   Strips in orthogonal direction:
   6 sources of P₂O₅ at 40 lb./ac.: S₀ = Control, S₁ = Dical. Phos., S₂ = Rock Phos., S₃ = Super, S₄ = Hyper Phos. and S₅ = B.M. P₂O₅ applied to G.M. crops and G.M. is ploughed in as manure to the succeeding paddy crop. In case of G₀, P₂O₅ is applied to paddy crop directly.

3. DESIGN:
   (i) Strip-plot. (ii) (a) 24. (b) N.A. (iii) 3. (iv) (a) 26' x 12'. (b) 24' x 10'. (v) I' x I'. (vi) Yes.

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

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

\[
\begin{array}{c|cccc|c}
 & M₀ & M₁ & M₂ & M₃ & \text{Mean} \\
\hline
B₀ & 2377 & 2549 & 2328 & 2230 & 2394 \\
B₁ & 2279 & 2157 & 2230 & 2340 & 2252 \\
B₂ & 2328 & 2377 & 2402 & 2405 & 2378 \\
\hline
\text{Mean} & 2328 & 2361 & 2320 & 2325 & 2344 \\
\end{array}
\]

S.E. of M marginal mean = 50.62 lb./ac.
S.E. of B marginal mean = 43.84 lb./ac.
S.E. of body of table = 87.67 lb./ac.
Object:—To study the uptake of phosphates by the common G.M. crops from different forms of phosphates applied and their availability to Paddy.

1. BASAL CONDITIONS:
   (i) (a) to (c) As per treatments. (ii) (a) Clay loam. (b) Refer soil analysis, Coimbatore. (iii) N.A./September 1959. (iv) (a) 4 ploughings. (b) Transplanted in lines. (c) 30 lb/ac. (d) 6'x6'. (e) 2. (v) As per treatments. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) Feb. 1960.

2. TREATMENTS:
   (a) to (b) As per treatments. (c) 3088 lb./ac. (d) 631.6 lb./ac. (e) 336.1 lb./fac. (f) 252.8 lb./fac. (g) G effect is highly significant, S effect is significant. Interaction is not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S0</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
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<td>2741</td>
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<td>G2</td>
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<td>3303</td>
<td>2904</td>
<td>3149</td>
<td>3076</td>
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<td>G3</td>
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<td>3222</td>
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<tr>
<td>Mean</td>
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<td>3058</td>
<td>2870</td>
<td>3129</td>
<td>3035</td>
<td>3263</td>
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</tbody>
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S.E. of difference of two
1. C marginal means = 163.1 lb./ac.
2. S marginal means = 106.3 lb./ac.
3. S means at the same level of C = 174.6 lb./ac.
4. C means at the same level of S = 218.9 lb./ac.

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

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clayey. (b) Refer soil analysis, Coimbatore. (iii) N.A. (iv) (a) 3 ploughings. (b) Transplanted. (c) 30 lb/ac. (d) 6'x6'. (e) N.A. (v) 5000 lb./ac. of G.L. (vi) 30 lb./ac. of N as A/S. (vii) CO—25 (late). (viii) Irrigated. (ix) Nil. (x) 11.87%. (x) 2.3.1955.

2. TREATMENTS:
   3 methods of application of Super: M1=Super spread on surface and puddled in, M2 = Dipping of seedlings in a paste of mud and Super before planting and M3 = Super broadcast at planting.
45 lb./ac. of P$_2$O$_5$ as Super was applied.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 10'x16'. (b) 9'x15'. (v) N.A. (vi) Yes.

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

5. RESULTS:
   (i) 3647 lb./ac. (ii) 348.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.
Crop :- Paddy.
Site :- Paddy Breeding Stn., Coimbatore.
Object :- To find out the effect of different levels and sources of P₂O₅ at different levels of N, on the yield of Paddy.

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

2. TREATMENTS:
   All combinations of (1), (2) and (3)+ 3 extra treatments.
   (1) 3 levels of N as A/S: N₁ =30, N₂ =45 and N₃ =60 lb./ac.
   (2) 4 levels of P₂O₅ as Super: P₁ =15, P₂ =30, P₃ =45 and P₄ =60 lb./ac.
   (3) 3 sources of P₂O₅ : S₁ =Super, S₂ =Dical. Phos. and S₃ =Hyper Phos.
   3 extra treatments : 3 levels of N as A/S without phosphate: T₁ =30, T₂ =45 and T₃ =60 lb./ac.
   Phosphate applied at planting and N top dressed one month after planting.

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

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

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

   Extra treatments = 3442 lb./ac.

<table>
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<tr>
<th></th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
<th>Mean</th>
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<td>3373</td>
<td>3182</td>
<td>3184</td>
<td>3104</td>
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</table>

S.E. of P marginal mean = 22.25 lb./ac.
S.E. of N or S marginal mean = 19.27 lb./ac.
S.E. of body of P x N or P x S table = 38.54 lb./ac.
S.E. of body of N x S table = 33.38 lb./ac.
**Crop:** Paddy (Samba).  
**Site:** Paddy Breeding Stn., Coimbatore.  
**Ref:** M. 57(59).  
**Type:** ‘M’.

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

1. **BASAL CONDITIONS:**
   (i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) N.A. (iii) 12.9.1957/13.11.1957. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6’x6’. (e) 2. 2000 lb./ac. of G.L. (vi) CO—25 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 18.75”. (x) 31.3.1958.

2. **TREATMENTS:**
   Same as in expt. no. 56(64) on page 29.

3. **DESIGN:**
   (i) R.B.D. (ii) (a) 39. (b) N.A. (iii) 4. (iv) (a) 20’x10’. (b) 19’x9’. (v) 6’ left as border. (vi) Yes.

4. **GENERAL:**
   (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—1958. (b) Yes. (c) Nil. ‘c’; Pattrakkottai and Tirur. (b) N.A. (vii) Nil. (viii) Av. yields of extra treatments are not available separately.

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

   **Extra treatments = 3243 lb./ac.**

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<th>N₃</th>
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<td>3533</td>
<td>3261</td>
<td>3405</td>
<td>3106</td>
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</table>

S.E. of P marginal mean = 68.1 lb./ac.
S.E. of N or S marginal mean = 59.8 lb./ac.
S.E. of body of P × N or P × S table = 119.7 lb./ac.
S.E. of body of N × S table = 103.6 lb./ac.

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

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

1. **BASAL CONDITIONS:**
   (i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) N.A. (iii) 9.8.1958/10.16.1958. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6’x6’. (e) 2. 2000 lb./ac. of G.L. (vi) CO—25 (late). (vii) Irrigated. (viii) Weeding twice. (ix) 32.4”. (x) 5 to 8.2.1959.
2. TREATMENTS:
Same as in expl. no. 56(64) on page 29.

3. DESIGN and 4. GENERAL:
Same as in expl. no 57(59) on page 30.

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

<table>
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<tr>
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<th>N3</th>
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<td>3084</td>
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<td>3147</td>
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<tr>
<td>Mean</td>
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<td>2971</td>
<td>3021</td>
<td>3005</td>
<td>3174</td>
<td>2773</td>
<td>3068</td>
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</table>

S.E. of P marginal mean = 90.3 lb./ac.
S.E. of N or S marginal mean = 78.2 lb./ac.
S.E. of body of P X N or P X S table = 156. lb./ac.
S.E. of body of N X S table = 135. lb./ac.

Crop :- Paddy (Samba).
Site :- Paddy Breeding Stn., Coimbatore.

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

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+30 lb./ac. of N as A/S. (ii) (a) Clayey loam. (b) N.A. (iii) 16.8.1958/20.10.1958. (iv) (a) 4 ploughings. (b) Transplanted in lines. (c) 30 lb./ac. (d) 10"x6". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. Super. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 19.2.1959.

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

3. DESIGN:
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 10'x17'6". (b) 8'4"x16'6". (v) 10'x6". (vi) Yes.

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

5. RESULTS:
(i) 2865 lb./ac. (ii) 53.43 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
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<th>T3</th>
<th>T4</th>
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<tr>
<td>Av. yield</td>
<td>2664</td>
<td>2853</td>
<td>2981</td>
<td>2919</td>
<td>2906</td>
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</table>
| S.E./mean | 21.81 lb./ac.
Crop : Paddy (Samba).

Site : Paddy Breeding Stn., Coimbatore.

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

1. BASAL CONDITIONS :
   (i) (a) Paddy Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+30 lb./ac. of N as A/S +1.0 lb./ac. of Super. (ii) (a) Clayey loam. (b) N.A. (iii) 22.9.1959/29.11.1959. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 10" x 6". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 7.4.1960.

2. TREATMENTS to 4. GENERAL :
   Same as in expt. no. 58(6) on page 31.

5. RESULTS :
   (i) 2418 lb./ac. (ii) 134.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
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<th>T4</th>
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<tr>
<td>Av. yield</td>
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<td>2325</td>
<td>2378</td>
<td>2487</td>
<td>2369</td>
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<tr>
<td>S.E./mean</td>
<td>54.94 lb./ac.</td>
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</table>

Crop : Paddy (Navarai).

Site : Paddy Breeding Stn., Coimbatore.

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

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

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

3. DESIGN :
   (i) R.B.D. (ii) 5. (b) N.A. (iii) 6. (iv) (a) 13°8" x 15°4". (b) 12° x 14°8". (v) 10° x 4". (vi) Yes.

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

5. RESULTS :
   (i) 2298 lb./ac. (ii) 183.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
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<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
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<td>2172</td>
<td>2355</td>
<td>2261</td>
<td>2355</td>
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<tr>
<td>S.E./mean</td>
<td>74.7 lb./ac.</td>
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</table>
Crop :- Paddy (Samba).


Ref :- M. 54(116).

Type :- 'M'.

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

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

2. TREATMENTS:
   All combinations of (1) and (2)+a control.
   (1) 2 G.M. crops preceding paddy : G1=Daincha and G2=Sannhemp.
   (2) 2 methods of application of Super: M1=Applied to G.M. crop and M2=Applied to paddy crop. 30 lb./ac. of P2O5 as Super applied to paddy crop without raising and ploughing in of G.M. crop preceding paddy crop.

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

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

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

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<td>3660</td>
<td>3827</td>
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<tr>
<td>S.E. of G or M marginal mean = 71.4 lb./ac.</td>
<td></td>
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<tr>
<td>S.E. of body of table or control mean = 111.0 lb./ac.</td>
<td></td>
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</table>

Crop :- Paddy (Samba).


Ref :- M. 55(81).

Type :- 'M'.

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

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

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

5. RESULTS:
   (i) 3691 lb./ac. (ii) 236.3 lb./ac. (iii) 'Control vs. rest' alone is highly significant. (iv) Av. yield of grain in lb./ac.
Control = 2946 lb./ac.

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<td>M2</td>
<td>3924</td>
<td>3805</td>
<td>3865</td>
</tr>
<tr>
<td>Mean</td>
<td>3908</td>
<td>3847</td>
<td>3878</td>
</tr>
</tbody>
</table>

S.E. of G or M mean = 74.7 lb./ac.
S.E. of body of table or control mean = 105.7 lb./ac.

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

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

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) N.A. (iii) N.A./8.9.1956. (iv) (a) 4 ploughings. (b) Transplanted in rows. (c) 30 lb./ac. (d) 6'x6'. (e) 2. (f) As per treatments. (vi) CO-25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 30.1.1957.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 55(81) on page 33.

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

Control = 2588 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>G1</th>
<th>G2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td>3697</td>
<td>3572</td>
<td>3635</td>
</tr>
<tr>
<td>M2</td>
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<td>3640</td>
</tr>
<tr>
<td>Mean</td>
<td>3764</td>
<td>3511</td>
<td>3637</td>
</tr>
</tbody>
</table>

S.E. of G or M mean = 51.2 lb./ac.
S.E. of body of table or control mean = 72.4 lb./ac.

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

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

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Paddy. (c) Nil. (ii') (a) Heavy 'clay. Alkaline in patches. (b) Refer soil analysis, Nagercoil. (iii) 10.9.1954/14.10.1954. (iv) (a) The field was dug with mummaty. (b) Planting in lines. (c) 16 lb./ac. (d) 10'x10'. (e) 1. (f) 4000 lb./ac. of G.L. (vi) Valsiramuradon (late). (vii) Irrigated. (viii) 2 weedings and 2 intercultures. (ix) 20.4'. (x) 28.2.1955.

2. TREATMENTS:
   16 treatments of different levels of A/S and Super applied at 4 different times.
<table>
<thead>
<tr>
<th>Treatment no.</th>
<th>A/S (in lb./ac.)</th>
<th>Super (in lb./ac.)</th>
<th>Treatment no.</th>
<th>A/S (in lb./ac.)</th>
<th>Super (in lb./ac.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>100t₁</td>
<td>100t₁</td>
<td>9.</td>
<td>100t₁+100t₃</td>
<td>200t₁</td>
</tr>
<tr>
<td>2.</td>
<td>100t₁</td>
<td>200t₁</td>
<td>10.</td>
<td>100t₁+50t₂+50t₄</td>
<td>100t₁+100t₂</td>
</tr>
<tr>
<td>3.</td>
<td>100t₁</td>
<td>100t₁</td>
<td>11.</td>
<td>100t₁+50t₂+50t₄</td>
<td>200t₁</td>
</tr>
<tr>
<td>4.</td>
<td>100t₁</td>
<td>100t₁</td>
<td>12.</td>
<td>100t₂+100t₄</td>
<td>200t₁</td>
</tr>
<tr>
<td>5.</td>
<td>150t₂</td>
<td>150t₂</td>
<td>13.</td>
<td>100t₂+100t₄</td>
<td>100t₂+100t₄</td>
</tr>
<tr>
<td>6.</td>
<td>150t₂</td>
<td>100t₁+50t₂</td>
<td>14.</td>
<td>100t₂+100t₄</td>
<td>200t₂</td>
</tr>
<tr>
<td>7.</td>
<td>100t₁+100t₂</td>
<td>100t₁+100t₂</td>
<td>15.</td>
<td>200t₂</td>
<td>200t₁</td>
</tr>
<tr>
<td>8.</td>
<td>100t₁+100t₂</td>
<td>200t₁</td>
<td>16.</td>
<td>200t₂</td>
<td>200t₁</td>
</tr>
</tbody>
</table>

4 times of application: \( t₁ = \text{one day before transplanting}, \ t₂ = 3 \text{ weeks after transplanting}, \ t₃ = 4 \frac{1}{2} \text{ weeks after transplanting.} \)

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

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

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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>4183</td>
<td>4020</td>
<td>4390</td>
<td>4267</td>
<td>4344</td>
<td>4524</td>
<td>4301</td>
<td>4492</td>
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<table>
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<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>4378</td>
<td>4374</td>
<td>4517</td>
<td>4749</td>
<td>4851</td>
<td>4668</td>
<td>4469</td>
<td>4594</td>
</tr>
</tbody>
</table>

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

Crop: Paddy \( (Rabi) \)


Ref: M. 55(2).

Type: 'M'.

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

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

2. TREATMENTS to 4. GENERAL:
Same as in exp. no. 54(3) on page 34.

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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>4220</td>
<td>4161</td>
<td>3647</td>
<td>3996</td>
<td>4084</td>
<td>4452</td>
<td>4501</td>
<td>4462</td>
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<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
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<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>4472</td>
<td>4520</td>
<td>4540</td>
<td>4559</td>
<td>4326</td>
<td>4443</td>
<td>4578</td>
<td>4365</td>
</tr>
</tbody>
</table>

S.E./mean = 128.0 lb./ac.
Crop :- Paddy (Kharif).
Site :- Paddy Farm, Nagercoil.

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

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

2. TREATMENTS to 4. GENERAL :
Same as in expt. no. 54(3) on page 34.

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

<table>
<thead>
<tr>
<th>Treatment</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>3861</td>
<td>3686</td>
<td>4026</td>
<td>3958</td>
<td>4103</td>
<td>4035</td>
<td>3802</td>
<td>3928</td>
</tr>
<tr>
<td>Treatment</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>Av. yield</td>
<td>4190</td>
<td>4249</td>
<td>4161</td>
<td>4414</td>
<td>4316</td>
<td>4297</td>
<td>4093</td>
<td>4278</td>
</tr>
</tbody>
</table>

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

Crop :- Paddy (Kanni).
Site :- Agri. Res. Stn., Nagercoil.

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

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

2. TREATMENTS to 4. GENERAL :
Same as in expt. no. 54(3) on page 34.

5. RESULTS :
(i) 4339 lb./ac. (ii) 336.3 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

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

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

Crop :- Paddy (Samba).

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

1 BASAL CONDITIONS :
(i) (a) to (c) As per treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) N.A./9.10.1954.
2. TREATMENTS:
   
   **Main-plot treatments:**
   3 crops prior to Paddy: \( C_0 = \text{Fallow}, C_1 = \text{Cotton} \) and \( C_2 = \text{G.M.} \).

   **Sup-plot treatments:**
   3 manurial treatments: \( M_1 = \text{No manure} \), \( M_2 = 30 \text{ lb./ac. of N as A/S} + 30 \text{ lb./ac. of P}_2O_5 \) as Super and \( M_3 = 30 \text{ lb./ac. of N as A/S} + 30 \text{ lb./ac. of P}_2O_5\) as Super + 5000 lb./ac. of G.M.

3. DESIGN:
   (i) Split-plot. (ii) (a) 3 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 35'x20'. (b) 34'x19'. (v) 6" left as border (vi) Yes.

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

5. RESULTS:
   (i) 22.69 lb./ac. (ii) (a) 258.8 lb./ac. (b) 296.9 lb./ac. (iii) Main effects of C and M are significant. Interaction is not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>( C_0 )</th>
<th>( C_1 )</th>
<th>( C_2 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( M_1 )</td>
<td>1595</td>
<td>2187</td>
<td>1996</td>
<td>1926</td>
</tr>
<tr>
<td>( M_2 )</td>
<td>2489</td>
<td>2435</td>
<td>2786</td>
<td>2570</td>
</tr>
<tr>
<td>( M_3 )</td>
<td>2153</td>
<td>2341</td>
<td>2436</td>
<td>2310</td>
</tr>
<tr>
<td>Mean</td>
<td>2079</td>
<td>2321</td>
<td>2406</td>
<td>2269</td>
</tr>
</tbody>
</table>

S.E. of difference of two

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

---

**Crop:** Paddy *(Samba)*  
**Site:** Agri. Res. Stn., Palur.  
**Ref:** M. 54(69).  
**Type:** 'M'.

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

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As per treatments. (a) Clayey-loam. (b) Refer soil analysis, Palur. (iii) 6.8.1954/15.11.1954. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6"x6". (e) 2. (v) As per treatments. (vi) PLR—1 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 32.30". (x) 21.2.1955.

2. TREATMENTS:
   **Main-plot treatments:**
   5 G.M. crops preceding Paddy: \( G_1 = \text{Wild Indigo}, G_2 = \text{Pillipesara}, G_3 = \text{Sannhef}, G_4 = \text{Sesbania} \) and \( G_5 = \text{Dhaincha} \).

   **Sub-plot treatments:**
   3 manurial treatments: \( M_1 = \text{No P}_2O_5, M_2 = 45 \text{ lb./ac. of P}_2O_5 \) as Super to previous G.M. crop and \( M_3 = 45 \text{ lb./ac. of P}_2O_5\) as Super to paddy crop.

3. DESIGN:
   (i) Split-plot. (ii) (a) 5 main-plots/block, 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 28'x18'. (b) 27'x17'. (v) 6"x6". (vi) Yes.
4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1953–1957. (b) No. (c) Nil. (v) Nil and (b) Nil. (vi) and (vii) Nil.

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

<table>
<thead>
<tr>
<th></th>
<th>G1</th>
<th>G2</th>
<th>G3</th>
<th>G4</th>
<th>G5</th>
<th>Mean</th>
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<tbody>
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<tr>
<td>M2</td>
<td>2390</td>
<td>2991</td>
<td>3049</td>
<td>2855</td>
<td>2735</td>
<td>2824</td>
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<tr>
<td>M3</td>
<td>2991</td>
<td>3067</td>
<td>3044</td>
<td>3189</td>
<td>3050</td>
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<tr>
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<td>2899</td>
<td>2949</td>
<td>3095</td>
<td>3030</td>
<td>2905</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. G marginal means = 238.2 lb./ac.
2. M marginal means = 235.1 lb./ac.
3. M means at the same level of G = 525.7 lb./ac.
4. G means at the same level of M = 491.0 lb./ac.

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

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.-+150 lb./ac. of A/S+-150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 9.8.1955/30.9.1955. (iv) (a) 4 to 5 ploughings (b) Transplanted. (c) 50 lb./ac. (d) 6' x 6'. (e) 2. (v) Nil. (vi) PLR—1 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 24.49'. (x) 24.2.1956.

2. TREATMENTS:
Same as in exp no. 54(69) on page 37.

3. DESIGN:
(i) Split-plot. (ii) (a) 5 main-plots/block; 3 sub-plots/main-plot. (b) 80' x 75'. (iii) 4. (iv) (a) 16' x 25'. (b) 15' x 24'. (v) N.A. (vi) Yes.

4. GENERAL:
Same as in exp no. 54(69) on page 37.

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

<table>
<thead>
<tr>
<th></th>
<th>G1</th>
<th>G2</th>
<th>G3</th>
<th>G4</th>
<th>G6</th>
<th>Mean</th>
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<td>M3</td>
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<td>3042</td>
<td>3171</td>
<td>2888</td>
<td>3264</td>
<td>3081</td>
</tr>
</tbody>
</table>
Crop :- Paddy (Samba).

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

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 30.7.1956/1.9.1956. (iv) (a) 4 to 5 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6"x6". (e) 2. (v) Nil. (vi) PLR—1 (late). (vii) Irrigated. (viii) Weeding twice. (ix) 43.52". (x) 22.1.1957.

2. TREATMENTS to 4. GENERAL :
   Same as in expt. no. 55(53) on page 38.

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

\[
\begin{array}{cccccccc}
 & G_1 & G_2 & G_3 & G_4 & G_5 & \text{Mean} \\
M_1 & 2852 & 3930 & 2640 & 2877 & 2460 & 2952 \\
M_2 & 3123 & 2523 & 3948 & 2064 & 2381 & 2808 \\
M_3 & 3082 & 2607 & 2636 & 2166 & 2727 & 2644 \\
\text{Mean} & 3019 & 3020 & 3075 & 2369 & 2523 & 2801 \\
\end{array}
\]

S.E. of difference of two

1. G marginal means = 173.8 lb./ac.
2. M marginal means = 196.6 lb./ac.
3. M means at the same level of G = 39.7 lb./ac.
4. G means at the same level of M = 398.8 lb./ac.

Crop :- Paddy (Samba).

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

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 23.8.1957/5.10.1957. (iv) (a) 4 to 5 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6"x6". (e) 2. (v) Nil. (vi) PLR—1 (late). (vii) Irrigated. (viii) Weeding twice. (ix) 31.22". (x) 6.2.1958.

2. TREATMENTS to 4. GENERAL :
   Same as in expt. no. 55(53) on page 38.

5. RESULTS :
   (i) 2487 lb./ac. (ii) (a) 192.7 lb./ac. (b) 228.2 lb./ac. (iii) Only main effect of M is significant. (iv) Av. yield of grain in lb./ac.
<table>
<thead>
<tr>
<th></th>
<th>G1</th>
<th>G2</th>
<th>G3</th>
<th>G4</th>
<th>G5</th>
<th>Mean</th>
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<tbody>
<tr>
<td>M0</td>
<td>2302</td>
<td>2689</td>
<td>2657</td>
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<td>2553</td>
<td>2441</td>
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<tr>
<td>M2</td>
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<td>2460</td>
<td>2191</td>
<td>2431</td>
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<tr>
<td>Mean</td>
<td>2415</td>
<td>2530</td>
<td>2482</td>
<td>2551</td>
<td>2560</td>
<td>2487</td>
</tr>
</tbody>
</table>

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

**Crop:** Paddy (*Vavarei*).

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

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

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

2. **TREATMENTS:**
   T1 = One month after planting.
   T2 = at planting $\pm$ one month after planting.
   T3 = at planting $\pm$ a week prior to flowering.
   T4 = at planting $\pm$ fifteen days after planting $\pm$ one month after planting.
   T5 = at planting $\pm$ fifteen days after planting $\pm$ a week prior to flowering.
   N applied at 30 lb./ac.

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

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

5. **RESULTS**
   (i) 1933 lb./ac. (ii) 218.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
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<tbody>
<tr>
<td>1933</td>
<td>1963</td>
<td>1887</td>
<td>1926</td>
<td>1955</td>
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</table>

S.E./mean = 89.28 lb./ac.
1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+30 lb./ac. of N as A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 25.5.1959/19.6.1959. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 10"x5". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) PLR-2 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 31.2". (x) 27.9.1959.

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 58(109) on page 40.

5. RESULTS:
   (i) 3076 lb./ac. (ii) 302.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
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<tbody>
<tr>
<td>Av. yield</td>
<td>2981</td>
<td>2987</td>
<td>2904</td>
<td>3171</td>
<td>3337</td>
</tr>
<tr>
<td>S.E./mean</td>
<td></td>
<td></td>
<td></td>
<td>123.4 lb./ac.</td>
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</table>

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

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+30 lb./ac. of N as A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 31.12.1958/31.1.1959. (iv) (a) 5 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 10"x4". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) PLR-2 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 32.5". (x) 9.3.1959.

2. TREATMENTS:
   5 times of application of 30 lb./ac. of N as A/S: T1 =2 months after planting, T2 = 4 at the time of planting +2 months after planting, T3 = 6 at the time of planting +2 months after planting +1 week prior to flowering, T4 = 7 at the time of planting +1 month after planting +2 months after planting and T5 = 8 at the time of planting +1 month after planting +1 week prior to flowering.

Object: To find out the suitable time of application of A/S to Paddy.
3. DESIGN:
(i) R.B.D. (a) 5. (b) N.A. (ii) 6. (iv) (a) 30'×71'. (b) 29°7'×6°8'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (i) Nil. (iii) Yield of grain. (iv) (a) 1958—1960. (b) Yes. (c) Nil. (v) Nil. (vi) Nil.

5. RESULTS:
(i) 3108 lb./ac. (ii) 506 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>T₄</th>
<th>T₅</th>
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<tr>
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<td>2937</td>
<td>3232</td>
<td>2945</td>
<td>3328</td>
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<tr>
<td>S.E./mean</td>
<td>206.6 lb./ac.</td>
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</table>

__Crop => Paddy (Samba).__

__Site => Agri. Res. Sta., Palur.__

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

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+30 lb./ac. of N as A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 15.9.1955/29.10.1959. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 10°×5°. (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedicings. (ix) 31.8°. (x) 29.2.1960.

2. TREATMENTS to 4. GENERAL:
Same as in exp. no. 58,110) on page 41.

5. RESULTS:
(i) 3773 lb./ac. (ii) 332.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>T₄</th>
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<td>3767</td>
<td>3767</td>
<td>3724</td>
<td>3795</td>
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<tr>
<td>S.E./mean</td>
<td>135.7 lb./ac.</td>
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</table>

__Crop => Paddy (Samba).__

__Site => Agri. Res. Sta., Palur.__

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

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

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

Sub-plot treatments:
All combinations of (1), (2) and (3)
(1) 2 levels of P₂O₅ as Super : P₀=0 and P₁=60 lb./ac.
(2) 2 levels of K₂O as Pot. Sul. : K₀=0 and K₁=60 lb./ac.
(3) 2 levels of lime : L₀=0 and L₁=1500 lb./ac.
3. DESIGN:
   (i) Split-plot. (ii) (a) 5 main-plots/block; 8 sub-plots/main-plot. (b) 64' × 250'. (iii) 4. (iv) (a) 16' × 25'. (b) 15' × 24'. (v) N.A. (vi) Yes.

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

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

<table>
<thead>
<tr>
<th></th>
<th>B_0</th>
<th>B_1</th>
<th>B_2</th>
<th>B_3</th>
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<th>L_0</th>
<th>L_1</th>
<th>K_0</th>
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</table>

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

Crop :- Paddy (Samba).

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

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

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 55(60) on page 42.

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


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

1. BASAL CONDITIONS:

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 55(60) on page 42.

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

<table>
<thead>
<tr>
<th>B₀</th>
<th>B₁</th>
<th>B₂</th>
<th>B₃</th>
<th>B₄</th>
<th>L₀</th>
<th>L₁</th>
<th>K₀</th>
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<td>3477</td>
<td>3499</td>
<td>3500</td>
<td>3521</td>
<td>3535</td>
</tr>
<tr>
<td>Mean</td>
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<td>3614</td>
<td>3334</td>
<td>3490</td>
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<td>L₀</td>
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<td>3534</td>
<td>3515</td>
<td>3535</td>
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<td></td>
</tr>
</tbody>
</table>
| L₁ | 3609 | 3660 | 3632 | 3462 | 3416 | 154.8 lb./ac. | 37.4 lb./ac. | 83.6 lb./ac. | 165.7 lb./ac. | 37.4 lb./ac.
Crop :- Paddy (Samba).

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

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 26.7.1958/19.9.1958. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6"X6". (e) 2. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 32.75°. (x) 2.2.1959.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 55(60) on page 42.

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

<table>
<thead>
<tr>
<th></th>
<th>B1</th>
<th>B2</th>
<th>B3</th>
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<td>3640</td>
</tr>
</tbody>
</table>

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

Crop :- Paddy (Samba).

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

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 14.8.1959/2.10.1959. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6"X6". (e) 2. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 17.2.1960.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 55(60) on page 42.

5. RESULTS:
(i) 3583 lb./ac. (ii) (a) 390.7 lb./ac. (b) 167.4 lb./ac. (iii) Main effects of N and L and interaction P X K, N X P, N X L, N PK, N X K X L, N X L X P and N X P X K X L are highly significant. (iv) Av. yield of grain in lb./ac.
Crop: Paddy (Samba).


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

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) 5000 lb./ac. of G.L.+100 lb. ac. of Super—CO lb. ac. of A.S. 
   (ii) (a) Sandy loam. (b) N.A. 
   (iv) (a) 4 to 6 ploughings. 
   (b) Transplanting in lines. 
   (c) 30 lb./ac. 
   (d) 6' X 6'. 
   (e) 2. 
   (f) 5000 lb./ac. of G.L.+30 lb./ac. of P_{2}O_{5} as Super. 
   (g) CO—25 (late). 
   (h) Irrigated. 
   (i) 1 weeding. 

2. TREATMENTS:
   All combinations of (1) and (2) + a control
   (1) 2 sources of N: S_{1}=A/S and S_{2}=A/C. 
   (2) 4 levels of N: N_{1}=15, N_{2}=30, N_{3}=45 and N_{4}=60 lb./ac.

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

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

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

Control = 3120 lb./ac.

<table>
<thead>
<tr>
<th>N_{1}</th>
<th>N_{2}</th>
<th>N_{3}</th>
<th>N_{4}</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>3407</td>
<td>3431</td>
<td>3221</td>
<td>3461</td>
<td>3380</td>
</tr>
<tr>
<td>2676</td>
<td>3563</td>
<td>3599</td>
<td>3291</td>
<td>3260</td>
</tr>
<tr>
<td>Mean</td>
<td>3042</td>
<td>3497</td>
<td>3365</td>
<td>3376</td>
</tr>
</tbody>
</table>
Crop :- Paddy (Samba).
Ref :- M. 57(32).
Type :- 'M'.

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

1. BASAL CONDITIONS :
(i) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 19.7.1957/31.8.1957. (iv) (a) 4 to 6 ploughings. (b) Transplanting in lines. (c) 30 lb./ac. (d) 6"x6". (e) 2. (v) Nil. (vi) CO—25 (late). (vii) Weeding. (viii) 41.44'. (x) 7.2.1958.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 56(20) on page 46.

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

<table>
<thead>
<tr>
<th></th>
<th>N1</th>
<th>N2</th>
<th>N3</th>
<th>N4</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>1552 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>S1</td>
<td>1276</td>
<td>1260</td>
<td>1095</td>
<td>539</td>
<td>1043</td>
</tr>
<tr>
<td>S2</td>
<td>1478</td>
<td>1618</td>
<td>1210</td>
<td>1174</td>
<td>1370</td>
</tr>
<tr>
<td>Mean</td>
<td>1377</td>
<td>1439</td>
<td>1153</td>
<td>857</td>
<td>1207</td>
</tr>
</tbody>
</table>

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

Crop :- Paddy (Samba).
Ref :- M. 58(74).
Type :- 'M'.

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

1. BASAL CONDITIONS :
(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 28.1.1959.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 56(20) on page 46.

3. RESULTS:
(i) 3946 lb./ac. (ii) 453.9 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.
Control = 4050 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N1</th>
<th>N2</th>
<th>N3</th>
<th>N4</th>
<th>Mean</th>
</tr>
</thead>
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<tr>
<td>S1</td>
<td>3949</td>
<td>4011</td>
<td>4006</td>
<td>3649</td>
<td>3904</td>
</tr>
<tr>
<td>S2</td>
<td>3773</td>
<td>4115</td>
<td>4148</td>
<td>3813</td>
<td>3962</td>
</tr>
<tr>
<td>Mean</td>
<td>3861</td>
<td>4063</td>
<td>4077</td>
<td>3731</td>
<td>3933</td>
</tr>
</tbody>
</table>

S.E. of N marginal mean = 143.6 lb./ac.
S.E. of S marginal mean = 101.5 lb./ac.
S.E. of body of table or control mean = 203.0 lb./ac.

---

**Crop:** Paddy *(Kuruvai).*

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

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

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

2. **TREATMENTS:**
   5 times of application of 30 lb./ac. of N as A/S: T1 = one month after planting, T2 = one month after planting + half month after planting + one week prior to flowering, T3 = at planting + half month after planting + one week prior to flowering, T4 = at planting + one half month after planting + one week prior to flowering.

3. **DESIGN:**
   (i) R.B.D. (ii) ‘a’ 5. (b) N.A. (iii) 6. (iv) (a) and (b) 15’ x 12’. (v) Nil. (vi) Yes.

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

5. **RESULTS:**
   (i) 2091 lb./ac. (ii) 147 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2052</td>
<td>2097</td>
<td>2193</td>
<td>2017</td>
<td>2097</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>60 lb./ac.</td>
<td>60 lb./ac.</td>
<td>60 lb./ac.</td>
<td>60 lb./ac.</td>
<td>60 lb./ac.</td>
</tr>
</tbody>
</table>

---

**Crop:** Paddy *(Samba).*

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

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

1. **BASAL CONDITIONS:**
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of Super + 150 lb./ac. of A/S.
   (ii) (a) Sandy loam. (b) N.A. (iii) 8.8.1958/9.9.1958. (iv) (a) 3 to 4 ploughings. (b) Transplanting in lines. (c) 25 lb./ac. (d) 6’ x 6’.
   (e) 2. (v) 5000 lb./ac. of G.L. + 150 lb./ac. of Super. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 2.2.1959.
2. TREATMENTS:

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

3. DESIGN and 4. GENERAL:

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

5. RESULTS:

(i) 3653 lb./ac. (ii) 441 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3706</td>
<td>3510</td>
<td>3620</td>
<td>3697</td>
<td>3732</td>
</tr>
</tbody>
</table>

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

Crop: Paddy (Thaladi).
Object: To find out the suitable time of application of A/S.

1. BASAL CONDITIONS:

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S.

(ii) (a) Sandy loam. (b) N.A. (iii) 13.9.1958/20.11.1958. (iv) (a) 3 to 4 ploughings. (b) Transplanting in lines. (c) 20 lb./ac. (d) 10" x 5". (e) 2. (f) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 24.2.1959.

2. TREATMENTS to 4. GENERAL:

Same as in exp. no. 58(72) on page 48.

5. RESULTS:

(i) 2605 lb./ac. (ii) 237.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2480</td>
<td>2758</td>
<td>2632</td>
<td>2677</td>
<td>2476</td>
</tr>
</tbody>
</table>

S.E./mean = 97.0 lb./ac.

Crop: Paddy (Kuruvai).
Object: To find out the suitable time of application of A/S.

1. BASAL CONDITIONS:

(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 4.7.1959/30,8.1959. (iv) (a) 3 to 4 ploughings. (b) Transplanted in lines. (c) 30 lb./ac. (d) 6" x 6". (e) 2. (f) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 1 weeding. (ix) N.A. (x) 10.10.1959

2. TREATMENTS to 4. GENERAL:

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

5. RESULTS:

(i) 2166 lb./ac. (ii) 144.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac
Treatment | $T_1$ | $T_2$ | $T_3$ | $T_4$ | $T_5$
---|---|---|---|---|---
Av. yield | 2118 | 2302 | 2159 | 2126 | 2127
S.E./mean | 59.0 lb./ac.

**Crop:** Paddy (Samba).
**Site:** Agri. Res. Stn., Pattukkottai.
**Object:** To find out the suitable time of application of A/S.

1. **BASAL CONDITIONS:**
   - (i) (a) Paddy—Paddy.  
   - (b) Paddy.  
   - (c) As per treatments.  
   - (ii) (a) Sandy loam.  
   - (b) N.A.  
   - (iv) (a) 3 to 4 ploughings.  
   - (b) Transplanted in lines.  
   - (c) 25 lb./ac.  
   - (d) 6' x 6'.  
   - (e) 2.  
   - (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super.  
   - (vi) CO—25 (late).  
   - (vii) Irrigated.  
   - (viii) 1 weeding.  
   - (ix) N.A.  
   - (x) 5.2.1960.

2. **TREATMENTS to 4. GENERAL:**
   - Same as in exp. no. 58(72) on page 48.

5. **RESULTS:**
   - (i) 3278 lb./ac.  
   - (ii) 205.8 lb./ac.  
   - (iii) Treatment differences are not significant.  
   - (iv) Av. yield of grain in lb./ac.

   **Crop:** Paddy (Thaladi).
   **Site:** Agri. Res. Stn., Pattukkottai.
   **Object:** To find out the suitable time of application of A/S to Paddy.

1. **BASAL CONDITIONS:**
   - (i) (a) Paddy—Paddy.  
   - (b) Paddy.  
   - (c) As per treatments.  
   - (ii) (a) Sandy loam.  
   - (b) N.A.  
   - (iii) 23.9.1959/3.11.1959.  
   - (iv) (a) 3 to 4 ploughings.  
   - (b) Transplanted in lines.  
   - (c) 25 lb./ac.  
   - (d) 6' x 6'.  
   - (e) 2.  
   - (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super.  
   - (vi) CO—25 (late).  
   - (vii) Irrigated.  
   - (viii) 1 weeding.  
   - (ix) N.A.  
   - (x) 3.3.1960.

2. **TREATMENTS to 4. GENERAL:**
   - Same as in exp. no. 58(72) on page 48.

5. **RESULTS:**
   - (i) 1878 lb./ac.  
   - (ii) 245 lb./ac.  
   - (iii) Treatment differences are not significant.  
   - (iv) Av. yield of grain in lb./ac.

   **Crop:** Paddy (Samba).
   **Site:** Agri. Res. Stn., Pattukkottai.
   **Object:** To find out the optimum dose of manures for Paddy.
1. BASAL CONDITIONS:
   (i) (a) Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 5.8.1954/15, 16.9.1954. (iv) (a) 4 ploughings with Cooper II plough. (b) Transplanting in lines. (c) 25 lb./ac. (d) 6" x 6". (e) Nil. (vi) Adt. 8 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 30.82". (x) 15, 16.1.1955.

2. TREATMENTS:
   6 manurial treatments.
   \[ T_1 = 2,000 \text{ lb./ac. of G.L.} \]
   \[ T_2 = 5,000 \text{ lb./ac. of G.L.} + 150 \text{ lb./ac. of Super} + 150 \text{ lb./ac. of A/S} \]
   \[ T_3 = 10,000 \text{ lb./ac. of G.L.} + 300 \text{ lb./ac. of Super} \]
   \[ T_4 = 10,000 \text{ lb./ac. of G.L.} + 300 \text{ lb./ac. of Super} + 1000 \text{ lb./ac. of lime} \]
   \[ T_5 = 10,000 \text{ lb./ac. of G.L.} + 300 \text{ lb./ac. of Super} + 1000 \text{ lb./ac. of lime} + 100 \text{ lb./ac. of A/S} \]
   \[ T_6 = 10,000 \text{ lb./ac. of G.L.} + 300 \text{ lb./ac. of Super} + 1000 \text{ lb./ac. of lime} + 100 \text{ lb./ac. of A/S} \]

3. DESIGN:
   (i) R.B.D. (ii) (a) 6. (b) 87' x 150'. (iii) 4. (iv) (a) and (b) 87' x 25'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Mild incidence of stem-borer. (iii) Height, tiller count and grain yield. (iv) (a) 1953—1957 (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1749 lb./ac. (ii) 127.0 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.
   \[
   \begin{array}{cccccc}
   \text{Treatment} & T_1 & T_2 & T_3 & T_4 & T_5 & T_6 \\
   \text{Av. yield} & 2493 & 2933 & 2768 & 2749 & 2635 & 2915 \\
   \text{S.E./mean} & & & & & & 63.5 lb./ac.
   \end{array}
   \]

**Crop :- Paddy (Samba)**

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

**Object :-** To find out the optimum dose of manures for Paddy.

**BASAL CONDITIONS :**
   (i) (a) Paddy—Fallow—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 14.8.1955/17 and 19.9.1955. (iv) (a) 4 to 6 ploughings. (b) Transplanting in lines. (c) 30 lb./ac. (d) 6" x 6". (e) 2. (v) Nil. (vi) Adt. 8 (late). (vii) Irrigated. (viii) 1 weeding. (ix) 39.52". (x) 25 to 27.1.1956.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 54(87) on page 50.

4. RESULTS:
   (i) 3857 lb./ac. (ii) 544 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.
   \[
   \begin{array}{cccccc}
   \text{Treatment} & T_1 & T_2 & T_3 & T_4 & T_5 & T_6 \\
   \text{Av. yield} & 4130 & 3663 & 3868 & 3864 & 3990 & 3628 \\
   \text{S.E./mean} & & & & & & 272 lb./ac.
   \end{array}
   \]

**Crop :- Paddy (Samba)**

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

**Ref :- M. 55(30).**

**Type :- 'M'.**

**Object :-** To find out the optimum dose of manures for Paddy.

**BASAL CONDITIONS :**
   (i) (a) Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 25.8.1956/27 and 28.9.1956. (iv) (a) 4 to 6 ploughings. (b) Transplanting in lines. (c) 30 lb./ac. (d) 6" x 6". (e) 2. (v) Nil. (vi) Adt. 8 (late). (vii) Irrigated. (viii) 1 weeding. (ix) 31.44". (x) 13 to 15.2.1957.
2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 54(87) on page 50.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1953—1957. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 2460 lb./ac. (ii) 294 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
<th>T6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2090</td>
<td>2540</td>
<td>2515</td>
<td>2410</td>
<td>2540</td>
<td>2670</td>
</tr>
</tbody>
</table>

S.E./mean = 147 lb./ac.

---

**Crop:** Paddy (*Samba*).  
**Site:** Agri. Res. Stn., Pattukkottai.  
**Object:** To find out the optimum dose of manures for Paddy crop.

1. BASAL CONDITIONS:
(i) (v) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 25.7.1957/8 and 10.9.1957. (iv) (a) 4 to 6 ploughings. (b) N.A. (c) 30 lb./ac. (d) 6''x6''. (e) 2. (v) Nil. (vi) 8 late. (vii) Irrigated. (viii) 1 wedding. (ix) 39.61''. (x) 10.2.1958.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 54(87) on page 50.

4. GENERAL:
(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1953—1957. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 1708 lb./ac. (ii) 188 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
<th>T6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2210</td>
<td>1913</td>
<td>1581</td>
<td>1457</td>
<td>1733</td>
<td>1355</td>
</tr>
</tbody>
</table>

S.E./mean = 94.0 lb./ac.

---

**Crop:** Paddy (*Thaladi*).  
**Site:** Agri. Res. Stn., Pattukkottai.  
**Type:** 'M'.

**Object:** To find out the optimum dose of manures for Paddy.

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 15.9.1954/31.10.1954. (iv) (a) 4 ploughings with Cooper II plough in puddle. (b) Transplanting in lines. (c) 25 lb./ac. (d) 6''x6''. (e) 2. (v) Nil. (vi) CO—25 late. (vii) Irrigated. (viii) 2 weedings. (ix) 28.09''. (x) 22.2.1955.

2. TREATMENTS:
6 manurial treatments.  
T1 = No manure.  
T2 = 3000 lb./ac. of G.L.+300 lb./ac. of Super+300 lb./ac. of A/S.  
T3 = 1000 lb./ac. of G.L.+300 lb./ac. of Super.
T4 = 10000 lb./ac. of G.L. + 300 lb./ac. of Super + 100 lb./ac. of A/S.
T5 = 10000 lb./ac. of G.L. + 300 lb./ac. of Super + 100 lb./ac. of lime.
T6 = 10000 lb./ac. of G.L. + 300 lb./ac. of Super + 1000 lb./ac. of lime + 100 lb./ac. of A/S.

GL. applied at the time of last ploughing; N and P applied at the time of planting and 1/2 N one month after planting.

3. DESIGN:
Same as in expt. no. 54(87) on page 50.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Height, tiller count and grain yield. (iv) 1954—1957. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 2052 lb./ac. (ii) 176 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
<th>T6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1008</td>
<td>2435</td>
<td>2430</td>
<td>1810</td>
<td>2076</td>
<td>2010</td>
</tr>
<tr>
<td>S.E./mean</td>
<td></td>
<td></td>
<td></td>
<td>88.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Crop :- Paddy (Thaladi).**

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

Object :- To find out the optimum dose of manures for Paddy.

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy—Follow. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N. A. (iii) 22.9.1955./22 to 24.10.1955. (iv) (a) 4 to 6 ploughings. (b) Transplanting in lines. (c) 30 lb./ac. (d) 6"X6". (e) 2. (vi) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) 1 weeding. (ix) 32.95. (x) 29.2.1956.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 54(89) on page 52.

5. RESULTS:
(i) 3373 lb./ac. (ii) 350 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
<th>T6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2273</td>
<td>3621</td>
<td>3010</td>
<td>3521</td>
<td>3764</td>
<td>4049</td>
</tr>
<tr>
<td>S.E./mean</td>
<td></td>
<td></td>
<td></td>
<td>175</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Crop :- Paddy (Thaladi)**

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

Object :- To find out the optimum dose of manures for Paddy.

1. BASAL CONDITIONS:
(i) (a) Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 10.9.1956./15, 16.10.1956. (iv) (a) 4 to 6 ploughings. (b) Transplanting in lines. (c) 30 lb./ac. (d) 6"X6". (e) 2. (vi) Nil. (vii) CO—25 (late). (viii) Irrigated. (viii) 1 weeding. (ix) 36.04. (x) 15.1.1957.

TREATMENTS to 4. GENERAL:
Same as in expt. no. 54(89) on page 52.
5. RESULTS:
(i) 2355 lb./ac. (ii) 252 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
<th>T6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1605</td>
<td>2765</td>
<td>2345</td>
<td>2565</td>
<td>2315</td>
<td>2630</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>126 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop: Paddy ('Thaladi').

Object: To find out the optimum dose of manures for Paddy.

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 23.8.1957/29.9.1957. (iv) (a) 4 to 6 ploughings. (b) Transplanting in lines. (c) 30 lb./ac. (d) 6"x6". (e) 2. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) 1 weeding. (ix) 38.01°. (x) 27.2.1958.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 54(89) on page 52.

5. RESULTS:
(i) 2115 lb./ac. (ii) 240 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
<th>T6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1387</td>
<td>2459</td>
<td>1969</td>
<td>1996</td>
<td>2383</td>
<td>2500</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>120 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop: Paddy ('Kuruvai').

Object: To find out the optimum dose of manures for Paddy.

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 8.7.1955/2.8.1955. (iv) (a) 4 to 6 ploughings. (b) Transplanting in lines. (c) 30 lb./ac. (d) 6"x6". (e) 2. (v) Nil. (vi) ADT. 3 (early). (vii) Irrigated. (viii) 1 hand weeding. (ix) 11.55°. (x) 10, 11.10.1955.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 54(87) on page 50.

5. RESULTS:
(i) 3731 lb./ac. (ii) 1228 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
<th>T6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3637</td>
<td>4108</td>
<td>3554</td>
<td>3498</td>
<td>3796</td>
<td>3789</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>614 lb./ac.</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Crop: Paddy ('Kuruvai').

Object: To find out the optimum dose of manures for Paddy.
1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 4.6.1956/16 to 18.7.1956. (iv) (a) 4 to 6 ploughings. (b) Transplanting in lines. (c) 30 lb./ac. (d) 6" x 6". (e) 2. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 1 weeding. (ix) 18.60°. (x) 1.10.1956.

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 54(87) on page 50.

3. RESULTS:
   (i) 2031 lb./ac. (ii) 221.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
<th>T6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1976</td>
<td>2232</td>
<td>1952</td>
<td>1903</td>
<td>2062</td>
<td>2061</td>
</tr>
<tr>
<td>S.E./mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>110.9 lb./ac.</td>
</tr>
</tbody>
</table>

   **Crop:** Paddy *(Kuruvai)*  
   **Site:** Agri. Res. Stn., Pattukkottai.  
   **Object:** To find out the optimum dose of manures for Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 7.6.1959/26 to 30.6.1957. (iv) (a) 4 to 6 ploughings. (b) Transplanting in lines. (c) 30 lb./ac. (d) 6" x 6". (e) 2. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 1 weeding. (ix) 10.14°. (x) 20.9.1957.

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 54(87) on page 50.

3. RESULTS:
   (i) 2677 lb./ac. (ii) 190 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
<th>T6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2235</td>
<td>2905</td>
<td>2205</td>
<td>2845</td>
<td>2875</td>
<td>2995</td>
</tr>
<tr>
<td>S.E./mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>95.0 lb./ac.</td>
</tr>
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</table>

   **Crop:** Paddy *(Samba).*  
   **Site:** Agri. Res. Stn., Pattukkottai.  
   **Object:** To find out the effect of different levels and sources of P at different levels of N on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) 15000 lb./ac. of G.L.+100 lb./ac. of Super+100 lb./ac. of A/S. (ii) (a) Sandy loam. (b) N.A. (iii) 20.8.1956/23.9.1956. (iv) (a) 4 to 6 ploughings. (b) Transplanting in lines. (c) 25 lb./ac. (d) 6" x 6". (e) 2. (v) Nil. (vi) Adt. 3 (late). (vii) Irrigated. (viii) 1 weeding. (ix) 10.14°. (x) 19.2.1957.

2. TREATMENTS:
   All combinations of (1), (2) and (3) + 3 extra treatments
   (1) 3 levels of N as A/S: N1 = 30, N2 = 45 and N3 = 60 lb./ac.
   (2) 4 levels of P2O5: P1 = 15, P2 = 30, P3 = 45 and P4 = 60 lb./ac.
   (3) 3 sources of P2O5: S1 = Super, S2 = Hyper Phos. and S3 = Dical. Phos.

   Extra treatments: T1 = 30, T2 = 45 and T3 = 60 lb./ac. of N as A/S.

3. DESIGN:
   (i) R.B.D. (ii) (a) 39. (b) N.A. (iii) 4. (iv) (a) and (b) 14" x 101". (v) No. (vi) Yes.
4. GENERAL:
   (i) Satisfactory.   (ii) Nil.   (iii) Grain yield.   (iv) (a) 1956—1958.   (b) Yes.   (c) Nil.   (v) Nil.
   (vi) and (vii) Nil.

5. RESULTS:
   (i) 3265 lb./ac.   (ii) 356.8 lb./ac.   (iii) No effect is significant.   (iv) Av. yield of grain in lb./ac.

   \[ T_1 = 3297, T_2 = 3222 \text{ and } T_3 = 3352 \text{ lb./ac.} \]

<table>
<thead>
<tr>
<th></th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
<th>P4</th>
<th>Mean</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1</td>
<td>3247</td>
<td>3145</td>
<td>3148</td>
<td>3192</td>
<td>3183</td>
<td>3225</td>
<td>3162</td>
<td>3162</td>
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<tr>
<td>N2</td>
<td>3241</td>
<td>3235</td>
<td>3278</td>
<td>3346</td>
<td>3275</td>
<td>3195</td>
<td>3287</td>
<td>3343</td>
</tr>
<tr>
<td>N3</td>
<td>3216</td>
<td>3420</td>
<td>3408</td>
<td>3284</td>
<td>3332</td>
<td>3477</td>
<td>3250</td>
<td>3269</td>
</tr>
<tr>
<td>Mean</td>
<td>3235</td>
<td>3267</td>
<td>3278</td>
<td>3274</td>
<td>3263</td>
<td>3299</td>
<td>3233</td>
<td>3258</td>
</tr>
</tbody>
</table>

   S.E. of N or S marginal mean = 51.5 lb./ac.
   S.E. of P marginal mean = 59.5 lb./ac.
   S.E. of body of N×P or S×P table = 103.0 lb./ac.
   S.E. of body of N×S table = 89.2 lb./ac.

---

**Crop**: Paddy *(Samba)*.

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

**Type**: 'M'.

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

1. **BASAL CONDITIONS**:
   (i) (a) Paddy—Paddy.   (b) Paddy.   (c) As per treatments.   (ii) Sandy loam.   (b) N.A.   (iii) 19.7.1957—3.9.1957.   (iv) (a) 4 to 6 ploughings.   (b) Transplanting in lines.   (c) 25 lb./ac.   (d) 6'x6'.   (e) 2.   (v) Nil.   (vi) CO—25 (late).   (vii) Irrigated.   (viii) 1 weeding.   (ix) 28.9°.   (x) 18.3.1958.

2. **TREATMENTS**

Same as in exp. no. 56(85) on page 55.

5. **RESULTS**:
   (i) 1902 lb./ac.   (ii) 327.7 lb./ac.   (iii) P effect alone is significant.   (iv) Av. yield of grain in lb./ac.

   \[ T_1 = 1926, T_2 = 1704 \text{ and } T_3 = 1843 \text{ lb./ac.} \]

<table>
<thead>
<tr>
<th></th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
<th>P4</th>
<th>Mean</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1</td>
<td>2082</td>
<td>2074</td>
<td>1858</td>
<td>1914</td>
<td>1982</td>
<td>1993</td>
<td>2140</td>
<td>1813</td>
</tr>
<tr>
<td>N3</td>
<td>1784</td>
<td>2000</td>
<td>1880</td>
<td>1697</td>
<td>1840</td>
<td>1869</td>
<td>1822</td>
<td>1828</td>
</tr>
<tr>
<td>Mean</td>
<td>1940</td>
<td>2019</td>
<td>1863</td>
<td>1810</td>
<td>1908</td>
<td>1883</td>
<td>1967</td>
<td>1874</td>
</tr>
</tbody>
</table>
Object:—To find out the effect of different levels and sources of P at different levels of N on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 8.8.1958/31.8.1958. (iv) (a) 3 to 4 ploughings. (b) Transplanting in lines. (c) 25 lb./ac. (d) 6′x6′. (e) 2. (f) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 30.2°. (x) 1.2.1959.

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 56(85) on page 55.

5. RESULTS:
   (i) 3436 lb./ac. (ii) 341.8 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

   \[
   \begin{array}{cccc}
   & T_1 & T_2 & T_3 & T_4 \\
   S_1 & 3281 & 3365 & 3362 & 3336 \\
   S_2 & 3460 & 3392 & 3417 & 3423 \\
   S_3 & 3518 & 3454 & 3559 & 3519 \\
   \text{Mean} & 3477 & 3443 & 3406 & 3442 \\
   \text{N}_1 & 3368 & 3463 & 3429 & 3462 \\
   \text{N}_2 & 3530 & 3422 & 3530 & 3411 \\
   \text{N}_3 & 3511 \\
   \end{array}
   \]

S.E. of S or N marginal mean = 49.3 lb./ac.
S.E. of P marginal mean = 57.0 lb./ac.
S.E. of body of N×P or S×P table = 98.6 lb./ac.
S.E. of body of N×S table = 85.4 lb./ac.

Crop :— Paddy (Samba).
Site :— Agri. Res. Stn., Pattukkottai.

Object:—To test the efficacy of fish manure as a manure for Paddy.

1. BASAL CONDITIONS:
   (i) Paddy—Paddy—Fallow. (b) Paddy. (c) 5000 lb./ac. of G.L.+100 lb./ac. of Super+100 lb./ac. of A/S. (ii) (a) Sandy loam. (b) N.A. (iii) 20.8.1956/21.9.1956. (iv) 4 to 6 ploughings. (b) N.A. (c) 30 lb./ac. (d) 6′x6′. (c) 2. (f) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) 1 weeding. (ix) 30.2°. (x) 21.2.1957.

2. TREATMENTS:
   6 manurial treatments: M\(_1\) =No manure, M\(_2\) =F.M. at 30 lb./ac. of N, M\(_3\) =G.L. at 5000 lb./ac. of N, M\(_4\) =G.L. at 500 lb./ac.+F.M. at 30 lb./ac. of N+Super at 30 lb./ac. of P\(_2\)O\(_5\), M\(_5\) =G.L.
58

at 5000 lb./ac. of N+Super at 30 lb./ac. of P2O5 and M6=G.L. at 5000 lb./ac. of N+Super and F.M. at 15 lb./ac. of N+A/S at 15 lb./ac. of N+Super at 30 lb./ac. of P2O5.

3. DESIGN:
   (i) R.B.D. (ii) (a) 6. (b) 40'×42'. (iii) 6. (iv) (a) and (b) 20'×14'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—1957. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 3029 lb./ac. (ii) 326 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
<th>M5</th>
<th>M6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2698</td>
<td>3092</td>
<td>2923</td>
<td>3170</td>
<td>3112</td>
<td>3184</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>133 lb./ac.</td>
<td></td>
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<td></td>
<td></td>
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</tr>
</tbody>
</table>

Crop :- Paddy.
Object :- To test the efficacy of fish manure as a manure to Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Fallow—Paddy. (b) Fallow. (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 19.7.1957/6.9.1957. (iv) (a) 4 to 6 Ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6'×6'. (e) 2. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) Weeding. (ix) 39.07°. (x) 11.1.1958.

2. TREATMENTS:
   Same as in expt. no. 56(21) on page 57.

5. RESULTS:
   (i) 1759 lb./ac. (ii) 333 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
<th>M5</th>
<th>M6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1148</td>
<td>1822</td>
<td>1782</td>
<td>1977</td>
<td>2003</td>
<td>1822</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>136 lb./ac.</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

Crop :- Paddy.
Site :- Rice Res. Stn., Tirur.
Object :- To find out the effect of different levels and sources of P with different levels of N on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 24.7.1956/22 to 25.9.1956. (iv) (a) Ploughing twice with iron plough and 3 times with country plough. (b) Transplanted. (c) 30 lb./ac. (d) 6'×6'. (e) 2. (v) Nil. (vi) G.L. at 5000 lb./ac. (vii) ASD. 5 (medium). (viii) Irrigated. (ix) 1 weeding. (x) 39.07°. (x) 11.1-1957.

2. TREATMENTS:
   All combinations of (1), (2) and (3)+3 extra treatments
   (1) 3 levels of N as A/S : N1 =30, N2 =45 and N3 =60 lb./ac.
   (2) 4 levels of P2O5 : P1 =15, P2 =30, P3 =45 and P4 =60 lb./ac.
   (3) 3 sources of P2O5 : S1 =Super, S2 =Hyper Phos. and S3 =Dical. Phos.
   3 extra treatments : T1 =30, T2 =45 and T3 =60 lb./ac. of N as A/S.
3. DESIGN:
(i) R.B.D. (ii) (a) 39. (b) N.A. (iii) 4. (iv) (a) 42'x6'. (b) 41½'x5½'. (v) 1 row on one side. (vi) Yes.
4. GENERAL:
(i) Normal. (ii) Folidol was sprayed as a prophylactic measure against stem-borer. (iii) Grain yield. (iv) (a) 1956—contd. (b) and (c) No. (v) (a) Aduthurai, Pattukkottai and Coimbatore. (b) N.A. (vi) and (vii) Nil.
5. RESULTS:
(i) 3316 lb./ac. (ii) 252 lb./ac. (iii) Interaction N x S alone is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N1</th>
<th>N2</th>
<th>N3</th>
<th>Mean</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
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<td>3317</td>
<td>3315</td>
<td>3318</td>
<td>3318</td>
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<tr>
<td>P4</td>
<td>3274</td>
<td>3387</td>
<td>3280</td>
<td>3313</td>
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<tr>
<td>Mean</td>
<td>3280</td>
<td>3362</td>
<td>3323</td>
<td>3322</td>
<td>3332</td>
<td>3315</td>
<td>3318</td>
</tr>
</tbody>
</table>

S.E. of N or S marginal mean = 36.37 lb./ac.
S.E. of P marginal mean = 42.00 lb./ac.
S.E. of body of P X N or P X S table = 72.74 lb./ac.
S.E. of body of N X S table = 63.00 lb./ac.

Crop:—Paddy (Samba).
Site:—Rice. Res. Sta., Tirur.
Object:—To find out the effect of different levels and sources of P at different levels of N on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Light clayey. (b) Refer soil analysis, Tirur. (iii) 17.9.1959/23 to 26.9.1959. (iv) 3 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6"x6". (e) 2. (v) G.L. at 5000 lb./ac. (vi) ASD. 5 (medium). (vii) Irrigated. (viii) Weddings and intercultivation one month after planting. (ix) 29.01". (x) 24.2.1960.

2. TREATMENTS:
Same as in expt. no. 56(45) on page 58.

3. DESIGN:
(i) R.B.D. (ii) (a) 39. (b) N.A. (iii) 4. (iv) (a) 46'x5½'. (b) 45½'x5½'. (v) One row left. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Nil. (iv) 1956—contd. (b) No. (c) Nil. (v) (a) and (b) No. (vi) No. (vii) Expt. was not conducted during 1957 and 1958.

5. RESULTS:
(i) 2236 lb./ac. (ii) 238.3 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.
Crop :- Paddy.  
Site :- Rice Res. Stn., Tirur.  
Type :- ‘M’.

Object :- To compare the efficacy of A/C and A/S as nitrogenous fertilizers to Paddy.

1. BASAL CONDITIONS:
(i) (a) Nil.  (b) Fallow.  (c) Nil.  (ii) (a) Sandy loam.  (b) Refer soil analysis, Tirur.  (iii) 4.10.1956/14.11.1956.  (iv) (a) 5 ploughings.  (b) Transplanted in lines.  (c) 30 lb./ac. (d) 6' x 6'. (e) 2. (v) 5000 lb./ac. of G.L.+30 lb./ac. of P_2O_5 as Super.  (vi) ASD. 5 (medium).  (vii) Irrigated. (viii) 1 weeding.  (ix) 19.39°.  (x) 19.3.1957.

2. TREATMENTS:
All combinations of (1) and (2)+a control (no nitrogen).
(1) 2 sources of N : S_1 = A/S and S_2 = A/C.
(2) 4 levels of N : N_1 = 15, N_2 = 30, N_3 = 45 and N_4 = 60 lb./ac.

3. DESIGN:
(i) R.B.D. (ii) 9.  (b) N.A.  (iii) 5.  (iv) (a) 38' x 12'. (b) 37' x 11'. (v) 6' around.  (vi) Yes.

4. GENERAL:
(i) Normal.  (ii) Nil.  (iii) Grain yield. (iv) (a) 1956–1958.  (b) No.  (c) Nil.  (v) (a) Aduthurai, Pattukkottai and Coimbatore.  (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 2165 lb./ac.  (ii) 188.7 lb./ac.  (iii) ‘Control vs. others’ is highly significant and main effect of N is significant while other effects are not significant.  (iv) Av. yield of grain in lb./ac.

\[
T_1 = 2224, T_2 = 2347 \text{ and } T_3 = 2266 \text{ lb./ac.}
\]

<table>
<thead>
<tr>
<th>N_1</th>
<th>N_2</th>
<th>N_3</th>
<th>N_4</th>
<th>Mean</th>
</tr>
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<tbody>
<tr>
<td>P_1</td>
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<td>2189</td>
<td>2149</td>
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</tr>
<tr>
<td>P_4</td>
<td>2212</td>
<td>2278</td>
<td>2323</td>
<td>2271</td>
</tr>
</tbody>
</table>

Mean 2206 2227 2263 2232

S.E. of N or S marginal mean = 34.40 lb./ac.
S.E. of P marginal mean = 39.72 lb./ac.
S.E. of body of N x P or S x P table = 65.89 lb./ac.
S.E. of body of N x S table = 59.58 lb./ac.

Control = 1768 lb./ac.

<table>
<thead>
<tr>
<th>S_1</th>
<th>S_2</th>
<th>S_3</th>
</tr>
</thead>
<tbody>
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<td>1990</td>
<td>2208</td>
</tr>
<tr>
<td>S_2</td>
<td>2187</td>
<td>2096</td>
</tr>
</tbody>
</table>

Mean 2089 2152 2243 2375 2215

S.E. of N marginal mean = 59.7 lb./ac.
S.E. of S marginal mean = 42.2 lb./ac.
S.E. of body of table = 84.4 lb./ac.
Crop: Paddy.
Site: Rice Res. Sta., Tirur.

Object: To compare the efficacy of A/C and A/S as nitrogenous fertilizers to Paddy.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Fallow. (c) Nil. (ii) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 31.8.1957/20.10.1957. (iv) (a) Ploughed twice with iron plough and 3 times with country plough till good puddle is obtained. (b) N.A. (c) 30 lb./ac. (d) 6"x6". (e) 2. (v) 5000 lb./ac. of G.L.+30 lb./ac. of P₂O₅ as Super. (vi) ASD. 5 (medium). (vii) Irrigated. (viii) Weeded once after planting. (ix) 19.06". (x) 4.2.1958.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 56(6) on page 60.

3. RESULTS:
(i) 1695 lb./ac. (ii) 201.0 lb./ac. (iii) 'Control vs. rest' and main effect of N are highly significant while others are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Control</th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
<th>N₄</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
<td>1435</td>
<td>1653</td>
<td>1832</td>
<td>2031</td>
<td>1738</td>
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<tr>
<td>S₂</td>
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<td>1733</td>
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<tr>
<td>Mean</td>
<td>1438</td>
<td>1673</td>
<td>1803</td>
<td>2028</td>
<td>1736</td>
</tr>
</tbody>
</table>

S.E. of N marginal mean = 63.6 lb./ac.
S.E. of S marginal mean = 44.9 lb./ac.
S.E. of body of table = 89.9 lb./ac.

Crop: Paddy (Samba).
Site: Rice Res. Sta., Tirur.

Object: To compare the efficacy of A/C and A/S as nitrogenous fertilizers to Paddy.

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy. (b) Fallow. (c) Nil. (ii) (a) Light clayey. (b) Refer soil analysis, Tirur. (iii) 26.9.1958/8.11.1958. (iv) (a) 3 ploughings. (b) Bulk planting. (c) 2½ to 3 lb./ac. (d) 6"x6". (e) 2. (v) 5000 lb./ac. of G.L.+30 lb./ac. of P₂O₅ as Super. (vi) ASD. 5 (medium). (vii) Irrigated. (viii) Inter­cultivation and hand weeding. (ix) 30.75". (x) 26.2.1959.

2. TREATMENTS:
Same as in expt. no. 56(6) on page 60.

3. DESIGN:
(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a) 31'x13'. (b) 30'x12'. (v) One row on each side. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Slight attack of stem-borer. (iii) Nil. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 1780 lb./ac. (ii) 198.9 lb./ac. (iii) 'Control vs. rest' and main effect of N are highly significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.
62

Control = 1350 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N1</th>
<th>N2</th>
<th>N3</th>
<th>N4</th>
<th>Mean</th>
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<td>S1</td>
<td>1540</td>
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<td>1822</td>
<td>2191</td>
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<tr>
<td>S2</td>
<td>1538</td>
<td>1787</td>
<td>1864</td>
<td>2091</td>
<td>1820</td>
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<tr>
<td>Mean</td>
<td>1539</td>
<td>1813</td>
<td>1843</td>
<td>2191</td>
<td>1834</td>
</tr>
</tbody>
</table>

S.E. of N marginal mean = 62.91 lb./ac.
S.E. of S marginal mean = 44.48 lb./ac.
S.E. of body of table = 88.95 lb./ac.

Crop: Paddy (Samba).
Site: Rice Res. Stn., Tirur.
Object: To find out the effect of time of application of A/S on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Chalan—Fodder—Paddy (b) Fodder—Chalan. (c) Nil. (ii) (a) Light clayey soil. (b) Refer soil analysis, Tirur. (iii) 20.9.1958-5.11.1958. (iv) (a) 3 to 4 ploughings. (b) N.A. (c) 2 to 3 lb. ac. (d) 6"x6". (e) 2. (f) G.L. at 5000 lb./ac.+30 lb./ac. of P2O5 as Super. (v) CO-25 (late). (vi) Irrigated. (vii) 1 weedling and intercultivations. (ix) 31.33". (x) 3.3.1959.

2. TREATMENTS:

   5 times of application of N: T1= two months after planting, T2= at planting+1 two months after planting, T3= at planting+1 a week prior to flowering, T4= at planting+ 1 one month after planting+1 two months after planting and T5= at planting+1 one month after planting+1 a week prior to flowering.

   N applied as A/S at 30 lb./ac.

3. DESIGN:
   (i) R.B.D. (ii) 5. (b) N.A. (iii) 6. (iv) 44"x6". (b) 43"x5". (v) One row left on either side. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) No. (iii) Grain yield. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) (a) and (b) No. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1017 lb./ac. (ii) 196.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>937</td>
<td>1049</td>
<td>998</td>
<td>1085</td>
<td>1015</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>80.3 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Crop: Paddy (Navarai).
Site: Rice Res. Stn., Tirur.
Object: To find out the effect of time of application of A/S on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) [a] Paddy—cotton. (b) Cotton. (c) N.A. (ii) Light clayey. (b) Refer soil analysis, Tirur (iii) 10.12.1958-21.1.1959. (iv) (a) 3 ploughings. (b) N.A. (c) 3 to 4 lb./ac. (d) 4"x4". (e) 2 to 3. (x) 5000 lb./ac. of G.L.+30 lb./ac. of P2O5 as Super. (vi) TKM. 6 (medium). (vii) Irrigated. (viii) Weeding and intercultivations one month after plantings. (ix) 1.21". (x) 21.4.1959.
2. TREATMENTS:
5 times of application of N: $T_1$ = One month after planting, $T_2$ = $\dfrac{1}{2}$ month after planting, $T_3$ = $\dfrac{1}{2}$ at planting + $\dfrac{1}{2}$ week prior to flowering, $T_4$ = $\dfrac{1}{2}$ at planting + $\dfrac{1}{2}$ fifteen days after planting + $\dfrac{1}{2}$ month after planting and $T_5$ = $\dfrac{1}{2}$ at planting + $\dfrac{1}{2}$ fifteen days after planting + $\dfrac{1}{2}$ week prior to flowering. N applied as A/S at 30 lb./ac.

3. DESIGN:
Same as in the expt. no. 58(37) on page 62.

4. GENERAL:
(i) Satisfactory. (ii) Slightly attacked by stem-borer. (iii) Nil. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 2403 lb./ac. (ii) 349.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$T_1$</th>
<th>$T_2$</th>
<th>$T_3$</th>
<th>$T_4$</th>
<th>$T_5$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2493</td>
<td>2376</td>
<td>2238</td>
<td>2431</td>
<td>2475</td>
</tr>
<tr>
<td>S.E./mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>142.7</td>
</tr>
</tbody>
</table>

Crop :- Paddy (Samba).
Site :- Rice Res. Stn., Tirur.
Ref :- M. 59(27).
Type :- 'M'.

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

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 30 lb./ac. of $P_2O_5$ as Super. (ii) (a) Light clayey soil. (b) Refer soil analysis, Tirur. (iii) 17.9.1959/17.10.1959. (iv) (a) 3 to 4 ploughings. (b) Transplanted. (c) $2\times 3$ lb./ac. (d) $6'' \times 6''$. (e) 2. (v) 5000 lb./ac. of G.L. + 30 lb./ac. of $P_2O_5$ as Super. (vi) CO. 25 (late). (vii) Irrigated. (viii) Weeding twice and intercultivation one month after planting. (ix) 23.01'. (x) 1.3.1959.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 58(37) on page 62.

5. RESULTS:
(i) 2276 lb./ac. (ii) 189.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$T_1$</th>
<th>$T_2$</th>
<th>$T_3$</th>
<th>$T_4$</th>
<th>$T_5$</th>
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<tbody>
<tr>
<td>Av. yield</td>
<td>2252</td>
<td>2326</td>
<td>2224</td>
<td>2310</td>
<td>2267</td>
</tr>
<tr>
<td>S.E./mean</td>
<td></td>
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<td></td>
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<td>77.4</td>
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</table>

Crop :- Paddy (Navarai).
Site :- Rice Res. Stn., Tirur.
Ref :- M. 59(28).
Type :- 'M'.

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

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 30 lb./ac. of $P_2O_5$ as Super. (ii) (a) Light clayey. (b) Refer soil analysis, Tirur. (iii) 31.12.1958/1.2.1960 (iv) (a) 3 ploughings. (b) Transplanted in lines. (c) $3\times 1$ lb./ac (d) $4'' \times 4''$. (e) 2. (v) 5000 lb./ac. of G.L. + 30 lb./ac. of $P_2O_5$ as Super. (vi) TKM-6. (medium) (vii) Irrigated. (viii) Weeding twice and intercultivation one month after planting and hand weeding as and when required. (ix) 1.21'. (x) 11.5.1960.
2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 58,35, on page 62.

5. RESULTS:
(i) 2.34 lb. ac.  (ii) 130.3 lb. ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of grain in lb. ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>T₄</th>
<th>T₅</th>
</tr>
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<tr>
<td>Av. yield</td>
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<td>2318</td>
<td>2333</td>
<td>2325</td>
<td>2335</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>53.2 lb./ac.</td>
<td></td>
<td></td>
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</table>

CROP: Paddy (Samba).
Site: Rice Res. Sta., Tirur.
Object: To find out the effect of different sources of P applied directly to Paddy crop and indirectly through different G.M. crops preceding Paddy.

1. BASAL CONDITIONS:
(i) (a) to (e) As per treatments.  (ii) (a) Sandy loam.  (b) Refer soil analysis, Tirur.  (iii) 26.9.1958; 19.11.1958.  (iv) 4 ploughings.  (b) Transplanting.  (c) 30 lb./ac.  (d) 6'x6".  (e) 2.  (vi) As per treatments.  (vii) ASD-5.  (viii) Irrigated.  (ix) 2 weedings.  (ix) N.A.  (x) 5.3.1959.

2. TREATMENTS:
Strips in one direction:
4 G.M crops preceding paddy: G₀=Nil, G₁=Sesbania, G₂=Dhaincha and G₃=Sannhemp.
Strips in orthogonal direction:
6 sources of 45 lb./ac. of P₂O₅: S₀=Nil, S₁=Dical. Phos., S₂=Rock Phos., S₃=Super, S₄=Hyper Phos. and S₅=B.M.
P₂O₅ was given to G₂ and G₃ and in the case of G₀ it was given to Paddy crop.

3. DESIGN:
(i) Strip-plot.  (ii) 24.  (b) N.A.  (iii) 5.  (iv) 51'x8'.  (b) 48'x5'.  (v) 1' left alround.  (b) Yes.

4. GENERAL:
(i) Not satisfactory.  (ii) Nil.  (iii) Yield of grain.  (iv) 1958-1960.  (b) No.  (c) Nil.  (v) 'a', Aduthurai and Coimbatore.  (b) Nil.  (vi) Nil.  (vii) Expt. conducted by Agronomist, Coimbatore.

5. RESULTS:
(i) 884 lb./ac.  (ii) 158.3 lb./ac.  (b) 145.2 lb./ac.  (c) 77.0 lb./ac.  (iii) Main effect of S alone is highly significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>S₀</th>
<th>S₁</th>
<th>S₂</th>
<th>S₃</th>
<th>S₄</th>
<th>S₅</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>795</td>
<td>1009</td>
<td>886</td>
<td>1060</td>
<td>810</td>
<td>791</td>
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<td>800</td>
<td>995</td>
<td>873</td>
<td>982</td>
<td>841</td>
<td>820</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. G marginal means = 40.87 lb./ac.
2. S marginal means = 45.91 lb./ac.
3. S means at the same level of G = 62.35 lb./ac.
4. G means at the same level of S = 60.39 lb./ac.
Crop: Paddy (Samba).
Site: Rice Res. Stn., Tirur.
Object: To find out the effect of different sources of P applied directly to Paddy crop and indirectly through different G.M. crops preceding Paddy.

1. BASAL CONDITIONS:
(i) (a) to (c) As per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 7.8.1959/10.1.1959. (iv) (a) 4 ploughings. (b) Transplanting. (c) 6'x6'. (d) 30 lb./ac. (e) 2. (v) As per treatments. (vi) ASD. 5. (vii) Irrigated. (vii) 2 weedings. (ix) N.A. (x) 22 to 24.1.1960.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 58(149) on page 64.

3. RESULTS:
(i) 2267 lb./ac. (ii) (a) 303.8 lb./ac. (b) 443.4 lb./ac. (c) 185.1 lb./ac. (iii) Main effect of G alone is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S0</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S5</th>
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<td>1730</td>
<td>1869</td>
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<td>G3</td>
<td>2378</td>
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<td>2486</td>
<td>2755</td>
<td>2705</td>
<td>2601</td>
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<td>Mean</td>
<td>2100</td>
<td>2314</td>
<td>2261</td>
<td>2352</td>
<td>2332</td>
<td>2241</td>
<td>2267</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. G marginal means = 78.4 lb./ac.
2. S marginal means = 140.2 lb./ac.
3. S means at the same level of G = 173.2 lb./ac.
4. G means at the same level of S = 132.6 lb./ac.

Crop: Paddy (Navarai).
Site: Rice Res. Stn., Tirur.
Object: To find out the effect of application of P directly to paddy crop and through the G.M. crop preceding Paddy.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 8.10.1954/19.11.1954. (iv) (a) 4 ploughings. (b) Transplanted. (c) 30 lb./ac. (d) 6'x6'. (e) 2. (v) Nil. (vi) CO-2 (medium). (vii) Irrigated. (viii) 1 weeding. (ix) 30.83'. (x) 24.1.1955.

2. TREATMENTS:
Main-plot treatments: 3 G.M. crops preceding paddy crops: G1=Sannhemp, G2=Dhaincha, and G3=Sesbania.
Sub-plot treatments: 3 applications of P2O5: P0=0, P1=applied to G.M. and P2=applied to Paddy.
P2O5 applied as Super at 45 lb./ac.

3. DESIGN:
(i) Split-plot. (ii) (a) 3 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 75'x14'. (v) 6'x around. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953-1958. (b) and (c) Yes. (v) (a) Palur and Aduthurai. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 1191 lb./ac. (ii) (a) 404.7 lb./ac. (b) 247.9 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.
Crop :- Paddy (Navaral).
Site :- Rice Res. Stn., Tirur.

<table>
<thead>
<tr>
<th></th>
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<tr>
<td>$P_2$</td>
<td>1121</td>
<td>1256</td>
<td>1246</td>
<td>1210</td>
</tr>
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</table>

Mean 1018 1206 1348 1191
S.E. of difference of two
1. $G$ marginal means = 165.2 lb./ac.
2. $P$ marginal means = 101.2 lb./ac.
3. $P$ means at the same level of $G$ = 175.3 lb./ac.
4. $G$ means at the same level of $P$ = 218.6 lb./ac.

Ref :- M. 55(15).
Type :- 'M'.

Crop :- Paddy (Navaral).
Site :- Rice Res. Stn., Tirur.

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

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 11.9.1955/10.10.1955. (iv) (a) Ploughed twice with iron plough and thrice with country plough. (b) N.A. (c) 30 lb./ac. (d) 6" x 6". (e) 2. (v) Nil. (vi) CO$_2$—2 (medium). (vii) Irrigated. (viii) Weeded twice after planting. (ix) 21.65°. (x) 27.1.1956.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 54(33) on page 65.

5. RESULTS:
   (i) 2849 lb./ac. (ii) (a) 207.5 lb./ac. (b) 138.2 lb./ac. (iii) Main effect of $G$ alone is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
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<th>$G_3$</th>
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<tr>
<td>$P_2$</td>
<td>2528</td>
<td>2869</td>
<td>3229</td>
<td>2875</td>
</tr>
</tbody>
</table>

Mean 2553 2885 3111 2849
S.E. of difference of two
1. $G$ marginal means = 84.7 lb./ac.
2. $P$ marginal means = 56.4 lb./ac.
3. $P$ means at the same level of $G$ = 97.7 lb./ac.
4. $G$ means at the same level of $P$ = 116.4 lb./ac.

Crop :- Paddy (Navaral).
Site :- Rice Res. Stn., Tirur.

Ref :- M. 56(10).
Type :- 'M'.

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

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 13.9.1956/27.10.1956. (iv) (a) Ploughed twice with iron plough and thrice with country plough. (b) N.A. (c) 30 lb./ac.
(d) 6' x 6'. (e) 2. (v) Nil. (vi) CO-2 (medium). (vii) Irrigated. (viii) Weeded once after planting. (ix) 39.69°. (x) 8.2.1957.

2. TREATMENTS to 4. GENERAL:
Saine as in expt. no. 54(33) on page 65.

5. RESULTS:
(i) 2242 lb/ac.  (ii) (a) 189 lb/ac.  (b) 131 lb/ac.  (iii) Main effect of G is highly significant. Main effect of P is significant.  (iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th></th>
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<th>G₃</th>
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</tr>
<tr>
<td>Mean</td>
<td>1983</td>
<td>2505</td>
<td>2239</td>
<td>2242</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. G marginal means = 77.1 lb/ac.
2. P marginal means = 53.4 lb/ac.
3. P means at the same level of G = 92.6 lb/ac.
4. G means at the same level of P = 108.0 lb/ac.

---

Crop: Paddy (Navarai).
Site: Rice Res. Stn., Tirur.

Ref: M. 58(29).
Type: 'M'.

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

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy.  (b) Fallow.  (c) Nil.  (ii) (a) Light clayey.  (b) Refer soil analysis, Tirur.  (iii) 10.12.1958/11, 12.1.1959.  (iv) (a) 3 ploughings.  (b) N.A.  (c) 3 lb/ac.  (d) 6' x 6'.  (e) 2.  (v) As per treatments.  (vi) TKM, 6 (medium).  (vii) Irrigated.  (viii) Intercultivation one month after planting, and hand weeding as and when required.  (ix) 0.81°.  (x) 1 to 3.4.1959.

2. TREATMENTS and 3. DESIGN:
   Same and as in expt. no. 54(33) on page 65.

4. GENERAL:
   (i) to (vi) Same as in expt. no. 54(33) on page 65.  (vii) Expt. failed during 1957.

5. RESULTS:
   (i) 1742 lb/ac.  (ii) (a) 245.9 lb/ac.  (b) 194.3 lb/ac.  (iii) None of the effects is significant.  (iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th></th>
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<th>G₃</th>
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<td>Mean</td>
<td>1732</td>
<td>1791</td>
<td>1704</td>
<td>1742</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. G marginal means = 100.4 lb/ac.
2. P marginal means = 79.3 lb/ac.
3. P means at the same level of G = 137.4 lb/ac.
4. G means at the same level of P = 150.5 lb/ac.
Crop : Paddy (Nararai).
Site : Rice Res. Stn., Tirur.
Ref : M. 56(4).
Type : ‘M’.

Object :—To find out the effect of first manure on Paddy.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 25.9.1956/15.11.1956. (iv) (a) Ploughing twice with iron plough and 3 times with country plough. (b) Transplanting. (c) to (e) N.A. (vi) Nil. (vii) CO—25 (late). (viii) Irrigated. (ix) 2.4.1957.

2. TREATMENTS :
   6 manurial treatments : M₁=Nil, M₂=F.M. to supply 30 lb./ac. of N+42.5 lb./ac. of P₂O₅, M₃=G.L. at 5000 lb./ac., M₄=M₁+M₂, M₅=M₂+30 lb./ac. of N as A/S+42.5 lb./ac. of P₂O₅ as Super and M₆=1/₄(M₂+M₄).

3. DESIGN :
   (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 35‘×10’. (b) 34‘×9’. (v) 6’ around. (vi) Yes.

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

5. RESULTS :
   (i) 1599 lb./ac. (ii) 211.4 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb. ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M₀</th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
<th>M₄</th>
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<td>1556</td>
<td>1872</td>
<td>1717</td>
<td>1639</td>
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<tr>
<td>S.E./mean</td>
<td>86.3 lb./ac.</td>
<td></td>
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Crop : Paddy.
Site : M.A.E. Farm, Aduthurai.
Ref : M. 54(TCM).
Type : ‘M’.

Object :—Type I (a)—To find out the effect of levels and types of N and P on Paddy.

1. BASAL CONDITIONS :
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Clayey loam. (b) N.A. (iii) 23.6.1954/20.7.1954. (iv) (a) 3 ploughings. (b) Transplanting. (c) 50 lb./ac. (d) 4’×4’. (e) 2 to 3. (v) 4000 lb./ac. of G.L. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 27”. (x) 3.10.1954.

2. TREATMENTS :
   All combinations of (1), (2) and (3)+3 extra treatments per block.
   (1) 3 levels of N : N₀=0, N₁=20 and N₂=40 lb./ac.
   (2) 3 sources of N : S₁=A/S, S₂=A/N and S₃=Urea.
   (3) 3 levels of P₂O₅ : P₀=0, P₁=20 and P₂=40 lb./ac.
   Extra treatments : T₁=60 lb. of N as A/S+40 lb. of P₂O₅ as Triple Super. T₂=40 lb. of N as A/S+80 lb. of P₂O₅ as Triple Super. T₃=60 lb. of N as A/S+80 lb. of P₂O₅ as Triple Super.

3. DESIGN :
   (i) 33 confd. (ii) (a) 12. (b) N.A. (iii) 1. (iv) (a) 32‘×14’. (b) 30‘×12’. (v) 1‘×1’. (vi) Yes.

4. GENERAL :
   (i) Satisfactory. (ii) Nil. (iii) Grain yield and biometric observations. (iv) (a) 1954—1955. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :
   (i) 3479 lb./ac. (ii) 229.9 lb./ac. (iii) Main effect of N is highly significant. Others are not significant. (iv) Av. yield of grain in lb./ac.
\[
T_1 = 3629, \; T_2 = 3781 \; \text{and} \; T_3 = 3196 \; \text{lb./ac.}
\]

<table>
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<th>(N_1)</th>
<th>(N_2)</th>
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<th>(S_2)</th>
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</table>

S.E. of any marginal mean = 76.6 lb./ac.
S.E. of body of N\(\times\)P or S\(\times\)P table = 132.7 lb./ac.

---

Crop :- Paddy.
Site :- M.A.E. Farm, Aduthurai.
Ref :- M. 54(TCM).
Type :- 'M'.

Object :- Type II—To study the best time of application of N to Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Clayey loam. (b) N.A. (iii) 21.6.1954/17.7.1954. (iv) (a) 4 ploughings and 2 weeding. (b) Transplanting. (c) (to (e) N.A. (v) 4000 lb./ac. of G.L.+20 lb./ac. of P\(2\)O\(5\) as Triple Super applied before laying out plots. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weeding. (ix) 27.00". (x) 1.10.1954.

2. TREATMENTS:
   All combinations of (1) and (2) + a control.
   (1) 2 sources of 30 lb./ac. of N : \(S_1\)=A/S and \(S_2\)=Urea.
   (2) 7 times of applying N : \(T_1\)=before planting, \(T_2\)=at planting, \(T_3\)=at tillering, \(T_4\)=at before planting +\(\frac{1}{2}\) at tillering, \(T_5\)=at planting +\(\frac{1}{2}\) at tillering, \(T_6\)=at before planting +\(\frac{1}{2}\) at tillering +\(\frac{1}{2}\) a week before flowering and \(T_7\)=at planting +\(\frac{1}{2}\) at tillering +\(\frac{1}{2}\) a week before flowering.

3. DESIGN:
   (i) R.B.D. (ii) (a) 15. (b) N.A. (iii) 3. (iv) (a) 30'\times26'. (b) 28'\times24'. (v) 1'\times1'. (vi) Yes.

4. GENERAL:
   (i) No lodging. (ii) Incidence of stem-rot disease was in one of the replications. (iii) Grain yield. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2881 lb./ac. (ii) 191.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>(T_1)</th>
<th>(T_2)</th>
<th>(T_3)</th>
<th>(T_4)</th>
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<td>2932</td>
<td>2846</td>
<td>2862</td>
<td>2876</td>
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</table>
S.E. of T marginal mean = 78.1 lb./ac.
S.E. of S marginal mean = 41.7 lb./ac.
S.E. of body of table or control mean = 110.4 lb./ac.

Crop :- Paddy (Kharif).
Site :- M.A.E. Farm, Aduthurai.

Object :- Type VI—To find out the residual effect of P on the yield of Paddy.

1. BASAL CONDITIONS :
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5 C.L./ac. of F.V.M. (d) (a) Clayey loam. (b) N.A. (ii) 23.6.1954/19.7.1954. (iv) (a) 4 ploughings. (b) Transplanting. (c) 50 lb./ac. (d) 4”x4”. (e) 2 to 3. (f) 3000 lb./ac. of G.M.+20 lb./ac. of N as A/S excepting control plots. (vi) Adj. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 27 00°. (x) 3.10.1954.

2. TREATMENTS :
   Treatment
   1 2 3 4 5 6 7 8 9 10 11 12
   First year 0 c c p1 p2 0 0 0 0 p1 p1
   Second year 0 c c 0 0 0 p1 p2 0 0 p1 p1
   Third year 0 c c 0 0 0 0 p1 p2 p1 p2

Treatments are three-course rotations with 11 distinct treatments. Plots under one treatment do not receive any fertilizer N or P. Plots under the other 10 treatments receive a basal application of N. One of the ten treatments consists of the application of basal dose of N only. This treatment serves as control and is applied to two plots in each block. Various symbols denote: p1 = 10 lb./ac., p2 = 20 lb./ac. and p3 = 40 lb./ac. of P2O5.

3. DESIGN :
   (i) R.B.D. (ii) 12. (b) N.A. (iii) 4. (iv) ‘a’ 54’x10’. (b) 52’x8’. (v) 1’x1’. (vi) Yes.

4. GENERAL :
   (i) Satisfactory. (ii) Nil. (iii) Grain yield and biometric observations. (iv) (a) 1954—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :
   (i) 3307 lb./ac. (ii) 407.4 lb./ac. (iii) Treatment difference are not significant. (iv) Av. yield of grain in lb./ac.

   Treatment
   00 cc p1c p2c cp1 cp2 pp1 pp2
   Av. yield 3278 3338 3541 3109 3344 3174 3082 3399 3299
   S.E./mean (cc) = 101.9 lb./ac.
   S.E./mean (others) = 203.7 lb./ac.

Crop :- Paddy (Rabi).
Site :- M.A.E. Farm, Aduthurai.

Object :- Type VI—To find out the residual effect of P on the yield of Paddy.

1. BASAL CONDITIONS :
   (i) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) N.A. (iii) 12.9.1954/29.10.1954. (iv) (a) 3 diggings. (b) Transplanting. (c) 50 lb./ac. (d) N.A. (e) 2 to 3. (v) 4000 lb./ac. of G.L. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 28.5°. (x) 2.3.1955.

2. TREATMENTS to 4. GENERAL :
   Same as in expt. no. 54(TCM) Type VI above.
5. RESULTS:

(i) 3593 lb./ac.
(ii) 91.09 lb./ac.
(iii) Treatment differences are highly significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
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<tbody>
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<tr>
<td>cp2cc</td>
<td>3583</td>
</tr>
</tbody>
</table>

S.E./mean (cc) = 32.20 lb./ac.
S.E./mean (others) = 45.55 lb./ac.

Crop :- Paddy.
Site :- M.A.E. Farm, Aduthurai.
Ref :- M. 54(TCM).
Type :- 'M'.

Object :- Type IX — To study the effect of N, P and organic manures on the yield of Paddy.

1. BASAL CONDITIONS:

(i) (a) Paddy—Paddy. (b) Paddy. (c) 3000 lb./ac. of G.L. (ii) (a) Clayey loam. (b) N.A. (iii) 23.6.1954/22.7.1954. (iv) (a) 4 ploughings. (b) Transplanting. (c) 50 lb./ac. (d) 4"×4". (e) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) Weeding twice. (ix) 27°. (x) 5.10.1954.

2. TREATMENTS:

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

1. 3 levels of N as A/S : N0=0, N1=20 and N2=40 lb./ac.
2. 3 levels of P2O5 as triple Super : P0=0, P1=20 and P2=40 lb./ac.
3. 3 levels of compost : F0=0, F1=10 and F2=20 C.L./ac.

3. DESIGN:

(i) 3^2 confd. (ii) (a) 9 plots/block and 3 blocks/replication. (b) N.A. (iii) 1. (iv) (a) 40'×16'. (b) 38'×14'. (v) 1'×1'. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:

(i) 2992 lb./ac.
(ii) 325.9 lb./ac.
(iii) None of the effects is significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>P0</th>
<th>P1</th>
<th>P2</th>
<th>N0</th>
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<td>2688</td>
<td>2975</td>
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<td>3200</td>
<td>2992</td>
<td>2948</td>
<td>2923</td>
<td>3105</td>
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<td></td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 108.6 lb./ac.
S.E. of body of any table = 188.2 lb./ac.
Crop :- Paddy.  
Ref :- M. 54(TCM).  

Site :- M.A.E. Farm, Aduthurai.  
Type :- 'M'.  

Object :- Type X—To test the efficiency of different nitrogenous fertilizers.

1. BASAL CONDITIONS : 
   (i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) 3000 lb./ac. of G.L. (ii) (a) Clayey loam. (b) N.A. (iii) 21.6.1954/16.7.1954. (iv) (a) 4 ploughings. (b) Transplanting. (c) to (e) N.A. (v) 20 lb./ac. of P2O5 as Triple Super. (vi) Adt. 3 (early). (vii) Irrigated. (viii) Two weedings. (ix) 27'. (x) 30.9.1954.

2. TREATMENTS : 
   All combinations of (1) and (2)+a control. 
   (1) 3 levels of N : N1=20, N2=40 and N3=60 lb./ac. 
   (2) 3 sources of N : S1=A/S, S2=A/C and S3=A/S/N.

3. DESIGN : 
   (i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 3'X12'. (b) 34'X10'. (v) 1'X1'. (vi) Yes.

4. GENERAL : 
   (i) Slight lodging but no serious damage done. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS : 
   (i) 3078 lb./ac. (ii) 180 lb./ac. (iii) Main effect of S alone is significant. (iv) Av. yield of grain in lb./ac
   Control = 2976 lb./ac.

<table>
<thead>
<tr>
<th>S1</th>
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<th>S3</th>
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<tr>
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</tr>
<tr>
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<td>3024</td>
</tr>
<tr>
<td>N3</td>
<td>2912</td>
<td>3120</td>
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</tbody>
</table>

   Mean = 3032 3200 3035 3059

   S.E. of any marginal mean = 51.9 lb./ac.
   S.E. of body of table or control mean = 90.0 lb./ac.

---

Crop :- Paddy.  
Ref :- M. 55(TCM).  

Site :- M.A.E. Farm, Aduthurai.  
Type :- 'M'.  

Object :-Type I(a)—To find out the effect of levels and types of N and P on Paddy.

1. BASAL CONDITIONS : 
   (i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) 3000 lb./ac. of G.L. (ii) (a) Coastal alluvium—clayey loam. (b) N.A. (iii) 56.6.1955/23.7.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) to (e) N.A. (v) 3000 lb./ac. of Sesbania leaf incorporated by ploughing. (vi) Adt. 3 (early). (vii) Irrigated. (viii) Two weedings. (ix) 19.68'. (x) 3.10.1955.

2. TREATMENTS : 
   Same as in expt. no. 54(TCM) Type I a on page 68.

3. DESIGN : 
   (i) 33 confd. (ii) (a) 12 plots/block and 3 blocks/replication. (b) N.A. (iii) 1. (iv) (a) 30'X17'. (b) 23'X15'. (v) 1'X1'. (vi) Yes.

4. GENERAL : 
   (i) Plots with higher levels of N had good growth. (ii) Slight rat attack—baiting with zinc phosphate. (iii) Grain yield. (iv) (a) 1954—contd. (b) No. (c) N.A. (v) N.A. (vi) and (vii) Nil.
5. RESULTS:
(i) 3079 lb./ac. (ii) 182.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

\[
T_1 = 3381 \text{ lb./ac., } T_2 = 3288 \text{ lb./ac. and } T_3 = 3211 \text{ lb./ac.}
\]

<table>
<thead>
<tr>
<th></th>
<th>(N_0)</th>
<th>(N_1)</th>
<th>(N_2)</th>
<th>Mean</th>
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<td>3183</td>
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<td>3164</td>
<td>3007</td>
<td>2994</td>
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</tbody>
</table>

S.E. of any marginal mean = 60.7 lb./ac.
S.E. of body of \(N \times P\) or \(S \times P\) table = 105.1 lb./ac.

---

Crop: Paddy.
Site: M.A.E. Farm, Aduthurai.
Object: Type II—To study the best time of application of \(N\) to Paddy.

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) 5 C.L. of F.Y.M. (ii) (a) Coastal alluvium, Clayey loam. (b) N.A. (iii) 22.6.1955/20.7.1955. (iv) (a) N.A. (b) Transplanting. (c) to (e) N.A. (v) 3000 lb./ac. of G.L. and 20 lb./ac. of \(P_2O_5\) as Triple Super incorporated at ploughing. (vi) Adt. 3 (early). (vii) Irrigated. (viii) Two weedings. (ix) 19.68". (x) 29.9.1955.

2. TREATMENTS:
Same as in exp. no. 54(TCM) Type II on page 69.

3. DESIGN:
(i) R.B.D. (ii) (a) 15. (b) N.A. (iii) 3. (iv) (a) 18'×15'. (b) 16'×13'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—contd. (b) No. (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 3.40 lb./ac. (ii) 167.0 lb./ac. (iii) T effect alone is highly significant. (iv) Av. yield of grain in lb./ac.

\[
\text{Control} = 2320 \text{ lb./ac.}
\]

<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>(T_6)</th>
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<td>3194</td>
<td>3570</td>
<td>3072</td>
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<td>3133</td>
<td>3133</td>
<td>3171</td>
<td>3063</td>
<td>3195</td>
</tr>
<tr>
<td>Mean</td>
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<td>3168</td>
<td>3502</td>
<td>3103</td>
<td>3083</td>
<td>3208</td>
<td>3101</td>
<td>3199</td>
</tr>
</tbody>
</table>

S.E. of \(S\) marginal mean = 36.4 lb./ac.
S.E. of \(T\) marginal mean = 68.2 lb./ac.
S.E. of body of table or control mean = 96.4 lb./ac.

---

Ref: M. 55(TCM).
Type: ‘M’.
Crop : Paddy.  
Site : M.A.E. Farm, Aduthurai.  
Object :—Type IV—To study the effect of different sources of P and methods of placement on Paddy.  

1. BASAL CONDITIONS :  
(i) (a) Paddy—Fallow. (b) Paddy. (c) 5 C.L. of F.Y.M. (ii) (a) Coastal alluvium. Clayey loam. (b) N.A. (iii) 6.7.1955/5.8.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) to e, N.A. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) Two weedings. (ix) 19.68°. (x) 11.10.1955.  

2. TREATMENTS :  
All combinations of (1), (2), and (3)+2 controls without P₂O₅.  
(1) 2 sources of P₂O₅ : S₁=Triple Super and S₂=Ammo. Phos.  
(2) 2 levels of P₂O₅ : P₁=25 lb./ac. and P₂=40 lb./ac.  
(3) 3 methods of placement: M₁=Broadcast at puddling, M₂=Dipping the seedlings in mud slush and M₃=Application in pellet form. N equalised to 30 lb./ac. applied at planting.  

3. DESIGN :  
(i) R.B.D. (ii) (a) 14. (b) N.A. (iii) 3. (iv) (a) 3'×14'. (b) 29'×12'. (v) 1'×1'. (vi) Yes.  

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

5. RESULTS :  
(i) 2711 lb./ac. (ii) 166.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.  

<table>
<thead>
<tr>
<th></th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
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<td>2816</td>
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<tr>
<td>S₂</td>
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<td>2893</td>
<td>2825</td>
<td>2776</td>
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<td>2595</td>
<td>2855</td>
<td>2790</td>
<td>2758</td>
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<tr>
<td>P₁</td>
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<td>P₂</td>
<td>2585</td>
<td>2879</td>
<td>2861</td>
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</tbody>
</table>

S.E. of M marginal mean = 47.92 lb./ac.  
S.E. of P or S marginal mean = 39.13 lb./ac.  
S.E. of body of P×S table = 55.33 lb./ac.  
S.E. of body of M×S or M×P table or control mean = 67.77 lb./ac.  

Crop : Paddy.  
Site : M.A.E. Farm, Aduthurai.  
Object :—Type VI—To find out the residual effect of P on the yield of Paddy.  

1. BASAL CONDITIONS :  
(i) (a) Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Coastal alluvium. Clayey loam. (b) N.A. (iii) 11.7.1955/8.8.1955. (iv) (a) 3 diggings. (b) Transplanting. (c) to (e) N.A. (v) 3000 lb./ac. of G.L. incorporated by digging and 20 lb./ac. of N top-dressed 3 weeks after planting. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 19.68°. (x) 15.10.1955.  

2. TREATMENTS to 4. GENERAL :  
Same as in expt. no. 54(TCM) Type VI on page 70.  

5. RESULTS :  
(i) 2669 lb./ac. (ii) 209.4 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.  

Ref. : M. 55(TCM).  
Type : 'M'.
Crop : Paddy (Rabi).
Site : M.A.E. Farm, Aduthurai.
Ref : M. 55(TCM).

Object :- Type VI—To find out the residual effect of P on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) N.A. (iii) 25.9.1955/5.11.1955. (iv) (a) 3 diggings. (b) Transplanting. (c) 50 lb./ac. (d) 6' x 6'. (e) 2 to 3. (v) 3000 lb./ac. of G.L. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 28.25'. (x) 13.3.1956.

2. TREATMENTS:
Same as in expt. no. 54(TCM) Type VI on page 70.

5. RESULTS:
(i) 5269 lb./ac. (ii) 314.5 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

Crop :- Paddy.
Site :- M.A.E. Farm, Aduthurai.
Ref :- M. 55(TCM).
Type :- ‘M’.

Object :- Type IX—To study the effect of N, P and organic manures on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) N.A. (iii) 25.9.1955/23.7.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) 50 lb./ac. (d) 4' x 4'. (e) 2. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) N.A. (ix) 19.68'. (x) 4.10.1955.

2. TREATMENTS:
Same as in expt. no. 54(TCM) Type IX on page 71.

3. DESIGN:
(i) 33 confd. (ii) 9 plots/block ; 3 blocks/replications. (b) N.A. (iii) 1. (iv) (a) 26' x 17'. (b) 24' x 15'. (v) 1' x 1'. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—contd. (b) No. (c) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 2703 lb./ac. (ii) 157.2 lb./ac. (iii) N effect alone is significant. (iv) Av. yield of grain in lb./ac.
Object: Type X—To study the efficiency of different nitrogenous fertilizers.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Clayey loam. (b) N.A. (iii) 26.6.1955/24.7.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) 50 lb./ac. (d) 4'×4'. (e) 2. (v) 20 lb./ac. of \( \text{P}_2\text{O}_5 \) as Triple Super. (vi) Adt. 3 (early). (vii) Irrigated. (viii) Weeding twice. (ix) 19.68°. (x) 4.10.1955.

2. TREATMENTS:
   All combinations of (1) and (2) 1+1 controls (No N).
   (1) 3 levels of N: \( N_1 = 20 \) lb./ac. of N, \( N_2 = 40 \) lb./ac. and \( N_3 = 60 \) lb./ac.
   (2) 4 sources of N: \( S_1 = \text{A/S}, S_2 = \text{A/C}, S_3 = \text{A/S/N} \) and \( S_4 = \text{Nitro-chalk} \).

3. DESIGN:
   (i) R.B.D. (ii) 14. (b) N.A. (iii) 4. (iv) (a) 46'×10'. (b) 44'×8'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1954—20std. 'b) No. 'c) Nil. (v) to 'vii) N.L.

5. RESULTS:
   (i) 2656 lb./ac. (ii) 141.5 lb./ac. (iii) N effect and control vs. others are highly significant. Others are not significant. (iv) Av. yield of grain in lb./ac.

\[
\begin{array}{cccc|cc|ccc}
\hline
& \text{S}_1 & \text{S}_2 & \text{S}_3 & \text{S}_4 & \text{Mean} & \text{F}_0 & \text{F}_1 & \text{F}_2 \\
\hline
\text{N}_0 & 2645 & 2674 & 2678 & 2581 & 2645 \\
\text{N}_1 & 2682 & 2842 & 2845 & 2865 & 2809 \\
\text{N}_2 & 2666 & 2769 & 2783 & 2614 & 2708 \\
\hline
\text{Mean} & 2664 & 2762 & 2769 & 2687 & 2721 \\
\hline
\end{array}
\]

S.E. of N marginal mean = 35.4 lb./ac.
S.E. of S marginal mean = 40.8 lb./ac.
S.E. of body of table = 70.8 lb./ac.
S.E. of control mean = 50.1 lb./ac.
Crop: Paddy.
Site: M.A.E. Farm, Aduthurai.

Ref: M. 56(MAE).
Type: ‘M’.

Object: Type II—To study the manurial requirements of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) 3000 lb./ac. of G.L. (d) (a) Coastal alluvium-clayey loam. (b) N.A. (iii) 25.7.1956/17.8.1956. (iv) (a) 4 ploughings. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) Two weedings. (ix) 27.71’. (x) 3.11.56.

2. TREATMENTS:
All combinations of (1), (2), (3) and (4).
(1) 3 levels of N as A/S: No=0, N1=30 and N2=60 lb./ac.
(2) 3 levels of P2O5 as Triple Super: P0=0, P1=30 and P2=60 lb./ac.
(3) 3 levels of K2O as Mur. Pot.: K0=0, K1=30 and K2=60 lb./ac.
(4) 2 levels of organic manure: Fo=O and F1=5000 lb./ac.

Treatments applied in three phases:
X—manuring every year; Y—manuring in alternate years starting from 1st year and Z—manuring in alternate years starting from 2nd year.

Nutrient contents of organic manure are N=0.65%, P2O5=0.50% and K2O=1.20%.

3. DESIGN:
(i) 3×2 confd. (ii) (a) 9 plots/block (each plot split for three phases of manuring). (b) N.A. (iii) 1. (iv) (a) 18’×16’. (b) 16’×14’. (v) 2’×2’. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) to (c) —. (v) to (vii) Nil.

5. RESULTS:
(i) 2810 lb./ac. (ii) 76.53 lb./ac. (iii) Effect of N, P and N×K are highly significant. P×K and F×P effects are significant, while other effects are not significant. (iv) Av. yield of grain in lb./ac.

Crop: Paddy.
Site: M.A.E. Farm, Aduthurai.

Ref: M. 56(MAE).
Type: ‘M’.

Object: Type V—To study the effect of time of application of N on Paddy.
1. BASAL CONDITIONS:
   (i) Paddy—Paddy—Fallow.  (b) Paddy.  (c) Coastal alluvium—clayey loam.  (b) N.A.  (iii) 25.7.1956/17.8.1956.  (iv) (a) 4 diggings.  (b) Transplanting.  (c) to (e) N.A.  (v) 5000 lb./ac. of F.Y.M. and 20 lb./ac. of P_{2}O_{5} as Triple Super.  (vi) Adt. 3 (early).  (vii) Irrigated.  (viii) 2 weedings.  (ix) 27.71°.  (x) 30.10.1956.

2. TREATMENTS:
   All combinations of (1) and (2) + a control
   (1) 2 sources of 40 lb./ac. of N : S_{1}=Urea and S_{2}=A/S.
   (2) 7 times of application of N : T_{1}=before planting, T_{2}=at planting, T_{3}=at tillering, T_{4}=\frac{1}{2} before planting+\frac{1}{2} at tillering, T_{5}=\frac{1}{2} at planting+\frac{1}{2} at tillering, T_{6}=\frac{1}{2} before planting+\frac{1}{2} at tillering+\frac{1}{2} a week before flowering and T_{7}=\frac{1}{2} at planting+\frac{1}{2} at tillering+\frac{1}{2} a week before flowering.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 15.  (b) N.A.  (iii) 3.  (iv) (a) 30'x15'.  (b) 28'x13'.  (v) 1'x1'.  (vi) Yes.

4. GENERAL:
   (i) No lodging.  (ii) Nil.  (iii) Grain yield.  (iv) (a) 1956—contd.  (b) and (c) —.  (v) to (vii) Nil.

5. RESULTS:
   (i) 2962 lb./ac.  (ii) 66.98 lb./ac.  (iii) 'Control vs. others' effect is highly significant. T effect is significant. Other effects are not significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>T_{1}</th>
<th>T_{2}</th>
<th>T_{3}</th>
<th>T_{4}</th>
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<td>2907</td>
<td>3026</td>
<td>2936</td>
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</table>

S.E. of T marginal mean = 62.4 lb./ac.
S.E. of S marginal mean = 33.3 lb./ac.
S.E. of body of table or control mean = 88.2 lb./ac.

---

Crop: Paddy.  
Site: M.A.E. Farm, Aduthurai.  
Object: Type VI (TCM)—To find out the residual value of P on Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy—Fallow.  (b) Paddy.  (c) As per treatments.  (ii) (a) Coastal alluvium—clayey loam.  (b) N.A.  (iii) 27.7.1956/17.8.1956.  (iv) (a) 3 diggings.  (b) Transplanting.  (c) to (e) N.A.  (v) 3000 lb./ac. of G.L. incorporated by digging and 20 lb./ac. of N as A/S.  (vi) Adt. 3 (early).  (vii) Irrigated.  (viii) 2 weedings.  (ix) 27.71°.  (x) 4.11.1956.

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 54(TCM) Type VI on page 70.

5. RESULTS:
   (i) 2888 lb./ac.  (ii) 66.98 lb./ac.  (iii) Treatment differences are highly significant.  (iv) Av. yield of grain in lb./ac.
### Treatment

<table>
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<tr>
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<th>ccc</th>
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<th>ccp₂</th>
<th>ccp₃c</th>
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<tr>
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<td>2839</td>
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<td>3231</td>
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</tbody>
</table>

S.E./mean (ccc) = 33.5 lb./ac.
S.E./mean (others) = 47.4 lb./ac.

---

**Crop:** Paddy.

**Site:** M.A.E. Farm, Aduthurai.

Ref: M. 56(MAE).

Type: 'M'.

Object:—Type VI TCM—To find out the residual value of P on the yield of Paddy.

1. **BASAL CONDITIONS**:
   - (i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Coastal alluvium—clayey loam. 
   - (b) N.A. (iii) 30.9.1956/15.11.1956. (iv) (a) 3 diggings. (b) Transplanting (c) to (e) N.A. (v) 3000 lb./ac. of C.L. and 20 lb./ac. of N as A/S. (vi) CO—25 (late). (vii) Irrigated. (viii) Two weedings. (ix) 30.11°. (x) 22.3.1957.

2. **TREATMENTS** to 4. GENERAL:
   - Same as in exp. no. 54(TCM) Type VI on page 70.

5. **RESULTS**:
   - (i) 4460 lb./ac. (ii) 107.7 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>ccc</th>
<th>ccp₁</th>
<th>ccp₂</th>
<th>ccp₃c</th>
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<tr>
<td>Av. yield</td>
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<table>
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<th>p₁cc</th>
<th>p₁p₁p₁</th>
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<tr>
<td>Av. yield</td>
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<td>4323</td>
<td>4666</td>
<td>4892</td>
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</tbody>
</table>

S.E./mean (ccc) = 53.8 lb./ac.
S.E./mean (others) = 76.2 lb./ac.

---

**Crop:** Paddy.

**Site:** M.A.E. Farm, Aduthurai.

Ref: M. 56(MAE).

Type: 'M'.

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

1. **BASAL CONDITIONS**:
   - (i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Coastal alluvium—clayey loam.
   - (b) N.A. (iii) 27.7.1956/18.8.1956. (iv) (a) 4 ploughings. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 27.71°. (x) 4.11.1956.

2. **TREATMENTS**:
   - All combinations of (1), (2) and (3)+a control
   - (1) 2 levels of P₂O₅: P₁=20 and P₂=40 lb./ac.
   - (2) 3 sources of P₂O₅: S₁=Triple Super, S₂=Amm. Phos. and S₃=Dical. Phos.
   - (3) 3 methods of application: M₁—Broadcasting at puddling, M₂—Dipping the seedlings in mud slush mixed with fertilizer before transplanting and M₃—Applying in pellet form.

3. **DESIGN**:
   - (i) 3²x2 confd. (ii) (a) 7 plots/block; 3 blocks/replication. (b) N.A. (iii) 4. (iv) (a) 22'X10'. (b) 20'X8'.
   - (v) 1'X1'. (vi) Yes.
4. GENERAL:
(i) Better response to $M_3$ treatment. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—contd. (b) and (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 3782 lb./ac. (ii) 183.7 lb./ac. (iii) Modified is highly significant. S effect is significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

Control $= 2859$ lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$M_1$</th>
<th>$M_2$</th>
<th>$M_3$</th>
<th>Mean</th>
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S.E. of M or T marginal mean $= 37.5$ lb./ac.
S.E. of P marginal mean $= 30.6$ lb./ac.
S E. of body of $T \times M$ table $= 64.9$ lb./ac.
S.E. of body of $T \times P$ or $M \times P$ table $= 53.0$ lb./ac.

Crop: Paddy (Kharif).
Site: M.A.E. Farm, Aduthurai.
Object: Type II—To find out the manural requirements of Paddy under irrigated condition.

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) 3000 lb./ac. of G.L. (ii) (a) Coastal alluvium—clayey loam. (b) N.A. (iii) 5.7.1957-29.7.1957. (iv) (a) 3 ploughings. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) Adt. 3 [early]. (vii) Irrigated. (viii) 2 weedings. (ix) 29'. (x) 12.10.1957.

2. TREATMENTS:
All combinations of (1'), (2', 3) and (4)
(1) 3 levels of N as A'S: $N_0=0, N_1=30$ and $N_2=60$ lb./ac.
(2) 3 levels of $P_2O_5$ as Triple Super: $P_0=0, P_1=30$ and $P_2=60$ lb./ac.
(3) 3 levels of $K_2O$ as Mur. Pot.: $K_0=0, K_1=30$ and $K_2=60$ lb./ac.
(4) 2 levels of organic manure: $F_0=0$ and $F_1=5000$ lb./ac.
Contents of organic manure are: $N=1.5\%$, $P_2O_5=0.84\%$ and $K_2O=3.28\%$.

3. DESIGN:
(i) $3^2 \times 2$ confd. (ii) 9 plots/block; 6 blocks/replication. (b) N.A. (iii) 1. (iv) (a) $32' \times 16'$. (b) $30' \times 14'$. (v) $1' \times 1'$. (vi) Yes.

4. GENERAL:
(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—contd. (b) and (c) N.A. (v) to (vii) Nil.

5. RESULTS:
(i) 2095 lb./ac. (ii) 62.5 lb./ac. (iii) $N, P, K$ and $N \times P$ effects are highly significant. $P \times K$ effect is significant. Other effects 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>K_0</th>
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<td>2191</td>
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</table>

- S.E. of N, P or K marginal means = 14.73 lb./ac.
- S.E. of F marginal means = 12.03 lb./ac.
- S.E. of body of N×P, N×K or P×K table = 25.51 lb./ac.
- S.E. of body of F×P, F×N or F×K table = 20.50 lb./ac.

Crop: Paddy.
Site: M.A.E. Farm, Aduthurai.
Ref: M. 57(MAE)
Type: ‘M’.

Object: To find out the manurial requirements of Paddy under irrigated condition.

1. BASAL CONDITIONS:
   (i) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments.
   (ii) (a) Coastal alluvium. Clayey loam. (b) N.A.
   (iii) 7.9.1957/3.11.1957. (iv) (a) 3 diggings. (b) Transplanting. (c) CO—25 (late).

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 57(MAE) Type II on page 80.
Manures applied to previous crop. Only residual effect is studied on the present crop.

3. RESULTS:
   (i) 2700 lb./ac. (ii) 149.5 lb./ac. (iii) N,P,K, N×K and P×K effects are highly significant while other effects are not significant.
   (iv) Av. yield of grain in lb./ac.

<table>
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<tr>
<th></th>
<th>N_0</th>
<th>N_1</th>
<th>N_2</th>
<th>K_0</th>
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<th>K_2</th>
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</table>
Crop : Paddy.  
Site: M.A.E. Farm, Aduthurai. 

Object: Type IV—To find out the residual effect of P applied to previous legume crop on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Clayey loam. (b) N.A. (iii) 24.6.1957/17.7.1957 legumes sown on 8.3.1957. (iv) (a) 4 ploughings. (b) Transplanting. (c) 50 lb./ac. (d) 6'x6'. (e) 2. (f) 50 Jb./ac. (g) 29.5.1957.

2. TREATMENTS:
   Main-plot treatments:
   All combinations of (1) and (2) + a control (no G.M.).
   (1) 2 legume crops preceding Paddy: L<sub>1</sub> = Kolinji and L<sub>2</sub> = Pillipesara.
   (2) 3 levels of P<sub>205</sub> applied to legumes: P<sub>0</sub> = 0, P<sub>1</sub> = 40 and P<sub>2</sub> = 80 lb./ac.
   Sub-plot treatments:
   3 levels of N: N<sub>0</sub> = 0, N<sub>1</sub> = 15 and N<sub>2</sub> = 30 lb./ac.
   N applied as 4'S and P<sub>205</sub> as Triple Super.

3. DESIGN:
   (i) Split-plot. (ii) 'a' 7 main-plots/block; 3 sub-plots/main-plots. (b) N.A. (iii) 3. (iv) (a) 30’x15’. (b) 28’x13’. (v) 2’x2’. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 2053 lb./ac. (ii) (a) 111.7 lb./ac. (b) 67.3 lb./ac. (iii) P, 'control vs. others' N, N<sub>1</sub>xL, N<sub>2</sub>xLxP and Nx 'control vs. others' effects are highly significant. L and LP effects are significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

\[
\begin{array}{ccc|ccc}
N_0 & N_1 & N_2 & Mean & P_0 & P_1 & P_2 \\
\hline
L_1 & 1912 & 2081 & 2141 & 2045 & 1902 & 2009 & 2223 \\
L_2 & 1919 & 2128 & 2305 & 2117 & 1874 & 2228 & 2250 \\
\hline
Mean & 1915 & 2105 & 2223 & 2081 & 1888 & 2119 & 2236 \\
\hline
P_0 & 1744 & 1912 & 2009 \\
P_1 & 1957 & 2162 & 2236 \\
P_2 & 2045 & 2240 & 2424 \\
\end{array}
\]

S.E. of difference of two
1. LP marginal means = 52.7 lb./ac.
2. N marginal means = 20.8 lb./ac.
3. N means at the same level of LP = 54.9 lb./ac.
4. LP means at the same level of N = 69.2 lb./ac.
Crop: Paddy (Kharif).
Site: M.A.E. Farm, Aduthurai.
Object: To study the effect of time of application of N to Paddy.

1. BASAL CONDITIONS:
   (i) Paddy—Paddy. (b) Paddy. (c) 3000 lb./ac. of G.L. (d) Clayey loam. (b) N.A. (iii) 26.6.1957/19.7.1957. (iv) 4 ploughings. (b) Transplanting. (c) 50 lb./ac. (d) 4'×4'. (a) 2. (v) 5000 lb./ac. of G.L. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 5.10.1957.

2. TREATMENTS:
   Same as in expt. no. 56(MAE) Type V on page 77.

3. DESIGN:
   (i) R.B.D. (ii) (a) 15. (b) N.A. (iii) 3. (iv) (a) 28'×14'. (b) 26'×12'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 2230 lb./ac. (ii) 119.8 lb./ac. (iii) 'Control vs. others' effect is highly significant. T effect is significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

   Control = 1576 lb./ac.

<table>
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<th></th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
<th>T6</th>
<th>T7</th>
<th>Mean</th>
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<tr>
<td>S1</td>
<td>2353</td>
<td>2318</td>
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<td>2259</td>
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<td>S2</td>
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<td>2337</td>
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<td>2315</td>
<td>2169</td>
<td>2054</td>
<td>2280</td>
<td>2268</td>
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<tr>
<td>Mean</td>
<td>2344</td>
<td>2278</td>
<td>2413</td>
<td>2287</td>
<td>2198</td>
<td>2143</td>
<td>2276</td>
<td>2277</td>
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</tbody>
</table>

   S.E. of S marginal mean = 26.14 lb./ac.
   S.E. of T marginal mean = 48.91 lb./ac.
   S.E. of body of table = 69.17 lb./ac.

Crop: Paddy.
Site: M.A.E. Farm, Aduthurai.
Object: To find out the residual value of P on the yield of Paddy.

11. BASAL CONDITIONS:
   (i) (a) Paddy—Fallow. (b) Paddy. (c) As per treatments. (i) (a) Coastal alluvium—clayey loam. (b) N.A. (iii) 5.7.1957/30.7.1957. (iv) (a) 3 diggings. (b) Transplanting. (c) (e) 3000 lb./ac. of G.L.+20 lb./ac. of P₂O₅ as Triple Super. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 13.10.1957.

2. TREATMENTS:
   Same as in expt. no. 54(TCM) Type VI on page 70.

5. RESULTS:
   (i) 1678 lb./ac. (ii) 91.65 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

   Treatment 000 ccc cpC cpC ccP cC PCC pCC PIpP1 PIP2 P2P2
   Av. yield 1440 1522 1588 1637 1761 1884 1654 1613 1679 1818 1868
   S.E./mean (ccc) = 45.83 lb./ac.
   S.E./mean (others) = 64.81 lb./ac.
Crop :- Paddy (Rabi).
Site :- M.A.E. Farm, Aduthurai.

Object :-Type VI (TCM)—To find out the residual value of P on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) N.A. (iii) 7.9.1957/5.11.1957. (iv) (a) 3 diggings. (b) Transplanting. (c) 50 lb./ac. (d) 6'×6'. (e) 2. (v) 300 lb./ac. of G.L. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 37.9°. (x) 28.2.1958.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 54(TCM) Type VI on page 70.

5. RESULTS:
(i) 3090 lb./ac. (ii) 168.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>000</th>
<th>ccc</th>
<th>ccPc</th>
<th>ccPc2</th>
<th>ccPC3</th>
<th>ccPC4</th>
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<tr>
<td>Av. yield</td>
<td>2182</td>
<td>3130</td>
<td>3409</td>
<td>3495</td>
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<table>
<thead>
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<th>pcc</th>
<th>Pcc</th>
<th>p1Pp1P</th>
<th>P2P2P2</th>
<th>p1P1P</th>
<th>P2P2P2</th>
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<tbody>
<tr>
<td>Av. yield</td>
<td>2994</td>
<td>2984</td>
<td>3134</td>
<td>3305</td>
<td>3429</td>
<td></td>
</tr>
</tbody>
</table>

S.E./mean (ccc) = 84.0 lb./ac.
S.E./mean (others) = 118.8 lb./ac.

---

Crop :- Paddy.
Site :- M.A.E. Farm, Aduthurai.

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

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) Coastal alluvium. Clayey loam. (b) N.A. (ii) 24.6.1957/18.7.1957. (iv) (a) 4 ploughings. (b) Transplanting. (c) N.A. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 29°. (x) 4.10.1957.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 56(MAE) Type VI on page 79.

N equalised to 30 lb./ac. by applying A/S at planting.

4. GENERAL:
(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—contd. (b) No. (c) N.A. (v) to (vii) Nil.

5. RESULTS:
(i) 2526 lb./ac. (ii) 155.7 lb./ac. (iii) M, P and ‘control vs. others’ effects are highly significant. S effect is significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>Mean</th>
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<th>M2</th>
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<tr>
<td>P1</td>
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<td>2382</td>
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<td>2605</td>
<td>2518</td>
<td>2601</td>
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Mean 2592 2507 2480 2526 2456 2523 2600

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<td>2489</td>
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<tr>
<td>2710</td>
<td>2550</td>
<td>2540</td>
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</tbody>
</table>
Crop :- Paddy (Kharif).  Ref :- M. 58(MAE).
Site :- M.A.E. Farm, Aduthurai. Type :- 'M'.

Object :- Type II—To find out the direct, residual and cumulative effect of N, P, K and F.Y.M. on Paddy

1. BASAL CONDITIONS :
(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) N.A. (iii) 8.7.1958 to 30.7.1958. (iv) (a) 3 diggings. (b) Transplanting. (c) 50 lb./ac. (d) 4" × 4". (e) 2 to 3. (v) Nil. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 5.30". (x) 11.10.1958.

2. TREATMENTS : Same as in expt. no. 56(MAE) Type II on page 77.

3. RESULTS :
(i) 3056 lb./ac. (ii) 131.2 lb./ac. (iii) Main effect of N, P and K are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N0</th>
<th>N1</th>
<th>N2</th>
<th>K0</th>
<th>K1</th>
<th>K2</th>
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<td>3104</td>
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</tr>
<tr>
<td>Mean</td>
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</table>

S.E. of the marginal mean of N, P and K = 30.9 b./ac.
S.E. of body of table = 53.6 lb. ac.

Crop :- Paddy (Rabi).  Ref :- M. 58(MAE).
Site :- M.A.E. Farm, Aduthurai. Type :- 'M'.

Object :- Type II—To find out the residual and cumulative effect of N, P, K and F.Y.M. on Paddy

1. BASAL CONDITIONS : 
(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) N.A. (iii) 8.9.1958 to 18.10.1958. (iv) (a) 3 diggings. (b) Transplanting. (c) 50 lb./ac. (d) 5" × 5". (e) 2 to 3. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 18.9". (x) 1.3.1959.

2. TREATMENTS : Same as in expt. no. 57(MAE) Type II on page 80.
3. DESIGN:
(i) 3²×2 confd. (ii) (a) 9 plots/blocks, 6 block/replication. (b) 104'×56'. (iii) 1. (iv) (a) 32'×16'. (b) 30'×14'. (v) 3 rows on all sides. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Slight incidence of stem-borer—controlled by Folidol spray. (iii) Yield, tillers and height of plants. (iv) (a) 1956—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 2291 lb./ac. (ii) 93.5 lb./ac. (iii) N, P, N×P×K and F×N effects are highly significant. P×K effect is significant while other effects are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>K₀</th>
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<th>F₀</th>
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<td>2406</td>
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<tr>
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<td>2328</td>
<td>2304</td>
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</tbody>
</table>

S.E. of marginal mean of N, P and K = 22.03 lb./ac.
S.E. of body of N×P or P×K or N×K table = 38.18 lb./ac.
S.E. of body of F×N or P×K table = 31.16 lb./ac.
S.E. of F marginal mean = 27.01 lb./ac.

Crop :— Paddy.
Site :— M.A.E. Farm, Aduthurai.

Ref. :— M. 58(MAE).

Object :— Type IV—To find out the effect of application of P to legume on the succeeding Paddy crop.

1. BASAL CONDITIONS:
(i) (a) G.M.—Paddy—Paddy. (b) Paddy. (c) N.A. (ii) (a) Clayey loam. (b) N.A. (iii) 23.7.1958/15.8.1958.
(iv) (a) 2 ploughings and puddling. (b) Transplanted. (c) 50 lb./ac. (d) 4'×4'. (e) 2 to 3. (v) As per treatments. (vi) Adt. 3 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 13.5'. (x) 29.10.1958.

2. TREATMENTS:
Same as in exp. no. 57(MAE) Type IV on page 82.

3. DESIGN:
(i) Split-plot. (ii) (a) 7 main-plots/replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) (a) 28'×14'; (b) 26'×12'. (v) 3 rows on all sides. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 1731 lb./ac. (ii) (a) 199.7 lb./ac. (b) 138.7 lb./ac. (iii) P, ‘control vs. LP’ and N effects are highly significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.
Crop :- Paddy (Rabi).

Site :- M.A.E. Farm, Aduthurai.

Ref :- M. 58(MAE)

Type :- 'M'.

Object :- Type V—To find out the best time of application of N to Paddy.

1. BASAL CONDITIONS:
   (iv) (a) 4 ploughings. (b) Transplanting. (c) 50 lb./ac. (d) 5"x5". (e) 2 to 3. (v) 5000 lb./ac. of F.Y.M.
   +20 lb./ac. of P₂O₅. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 18.9". (x) 21.2.1959.

2. TREATMENTS:
   Same as in expt. no. 56(MAE) Type V on page 77.

3. DESIGN :
   (i) R.B.D. (ii) (a) 15. (b) N.A. (iii) 3. (iv) (a) 30'x15'. (b) 28'x13'. (v) 3 rows on all sides. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 2011 lb./ac. (ii) 74.72 lb./ac. (iii) S, T and control vs. other effects are highly significant. Interaction
   is not significant. (iv) Av. yield of grain in lb./ac.

                   \[
                   \begin{array}{cccccccc}
                   T_1 & T_2 & T_3 & T_4 & T_5 & T_6 & T_7 & \text{Mean} \\
                   S_1 & 1967 & 2049 & 2369 & 1950 & 2073 & 2032 & 2107 \\
                   S_2 & 1967 & 1917 & 2411 & 1867 & 1967 & 1901 & 1941 \\
                   \end{array}
                   \]

   S.E. of S marginal mean = 14.65 lb./ac.
   S.E. of T marginal mean = 30.50 lb./ac.
   S.E. of body of table or control mean = 43.14 lb./ac.

Crop :- Paddy (Kharif).

Site :- M.A.E. Farm, Aduthurai.

Ref :- M. 58(MAE).

Type :- 'M'.

Object :- Type VI(TCM)—To find out the residual value of P on the yield of Paddy crop.
88

BASAL CONDITIONS:
(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) N.A. (iii) 14.7.1958; 7.8.1958. (iv) (a) 3 diggings. (b) Transplanted. (c) 50 lb./ac. (d) 4 × 4'. (e) 2 to 3. (v) Nil. (vi) Adt. 3 (early). (vii) 2 weedings. (ix) 9.0'. (x) 19.10.1958.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 54(TCM) Type VI on page 70.

5. RESULTS:

(i) 2853 lb./ac. (ii) 116.5 lb./ac. (i) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>000</th>
<th>ccp1</th>
<th>ccp2</th>
<th>ccp3</th>
<th>cc</th>
<th>pcc</th>
<th>pcc</th>
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<tbody>
<tr>
<td>Av. yield</td>
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<td>3033</td>
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<td>2605</td>
<td>2673</td>
<td>2840</td>
<td>2810</td>
<td>3265</td>
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</tbody>
</table>

S.E./mean (ccc) = 58.3 lb./ac.
S.E./mean (others) = 82.4 lb./ac.

Crop :- Paddy (Rabi).
Site :- M.A.E. Farm, Aduthurai.
Ref :- M. 50(MAE).
Type :- 'M'.

Object :- Type VI (TCM)—To find out the residual value of P on the yield of Paddy crop.
1 BASAL CONDITIONS:
(i) (a) G.M.—Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) N.A. (i) 25.9.1958/5.11.1958. (iv) (a) 3 diggings. (b) Transplanted. (c) 50 lb./ac. (d) Spacing bulk planting. (e) 2 to 3. (x) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 10.4'. (x) 7.3.1959.

2 TREATMENTS to 4. GENERAL:
Same as in expt. no. 54(TCM) Type VI on page 70.

5. RESULTS:

(i) 3459 lb./ac. (ii) 107.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>000</th>
<th>ccp1</th>
<th>ccp2</th>
<th>ccp3</th>
<th>cc</th>
<th>pcc</th>
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<td>3485</td>
<td>3940</td>
<td>3632</td>
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<td>3671</td>
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</table>

S.E./mean (ccc) = 53.9 lb./ac.
S.E./mean (others) = 76.3 lb./ac.

Crop :- Paddy (Rabi).
Site :- M.A.E. Farm, Aduthurai.
Ref :- M. 58(MAE).
Type :- 'M'.

Object :-Type VI—To find out the residual effect of P applied to previous legume crops on the yield of Paddy.

BASAL CONDITIONS:
(i) (a) Paddy—Paddy. (b) Paddy. (c) N.A. (ii) (a) Clayey loam. (b) N.A. (iii) 30.8.1958/12.10 1958. (iv) ≥ 4 ploughings. (b) Transplanted. (c) 50 lb./ac. (d) 5' × 5'. (e) 2 to 3. (v) N.I. (vi) CO—25 late. (vii) Irrigated. (viii) 2 weedings. (ix) 18.9'. (x) 20.2.1959.

2 TREATMENTS and 3. DESIGN:
Same as in expt. no. 56(MAE) Type VI on page 79.

4. GENERAL:
(i) Satisfactory. (ii) Severe incidence of Helminthosporium in early stages and stem-borer in the flowering stage. Spraying Micop and 'olidol. (iii) Grain yield. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) to (xi) Nil.
5. RESULTS:

(i) 2060 lb./ac.  (ii) 495.7 lb./ac.  (iii) 'Control vs. others' effect is highly significant. P effect is significant. Other effects are not significant. (iv) Av. yield of grain in lb/ac.

Control = 1753 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S_1</th>
<th>S_2</th>
<th>S_3</th>
<th>Mean</th>
<th>M_1</th>
<th>M_2</th>
<th>M_3</th>
</tr>
</thead>
<tbody>
<tr>
<td>P_1</td>
<td>2021</td>
<td>2043</td>
<td>2085</td>
<td>2050</td>
<td>1928</td>
<td>2079</td>
<td>2142</td>
</tr>
<tr>
<td>P_2</td>
<td>2120</td>
<td>2233</td>
<td>2164</td>
<td>2172</td>
<td>2244</td>
<td>2052</td>
<td>2222</td>
</tr>
<tr>
<td>Mean</td>
<td>2071</td>
<td>2138</td>
<td>2124</td>
<td>2111</td>
<td>2086</td>
<td>2065</td>
<td>2182</td>
</tr>
</tbody>
</table>

S.E. of S or M marginal means = 101.2 lb./ac.
S.E. of P marginal means = 82.6 lb./ac.
S.E. of body of P x S or P x M table or control mean = 143.1 lb./ac.
S.E. of body of S x M table = 175.3 lb./ac.

Crop :- Paddy (Kharif).
Site :- M.A.E. Farm, Aduthurai.

Object :- Type II—To find out the direct, residual and cumulative effects of N, P and K and F.Y.M. on Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy.  (b) Paddy.  (c) As per treatments. (ii) (a) Clayey loam. (b) N.A. (iii) Kharif: 29.6.1959/19.7.1959.  (iv) (a) 3 diggings. (b) Transplanting. (c) 50 lb./ac.  (d) Kharif: 4" x 4", Rabi: 5" x 5".  (e) 2 to 3.  (v) Nil.  (vi) Adt. 3 (early). (vii) Irrigated.  (viii) 2 weedings.

2. TREATMENTS and 3. DESIGN:
   Same as in exp. no. 56 (MAE) Type II on page 70.

3. GENERAL:
   (i) Satisfactory. During Kharif lodging in all plots except control plot due to heavy rains at the time of ripening. (ii) Nil. (iii) Yield of grain.  (iv) (a) 1956. (b) Yes. (c) Nil. (v) Nil. (vi) Heavy rains at the time of harvest. (vii) The expt. was conducted by Agronomist.

5. RESULTS:

(i) 3175 lb./ac.  (ii) 111.0 lb./ac.  (iii) N and P effects are highly significant. Interactions N x P and P x K are significant. Other effects 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>K_0</th>
<th>K_1</th>
<th>K_2</th>
<th>F_0</th>
<th>F_1</th>
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<td>3099</td>
<td>3262</td>
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<tr>
<td>P_2</td>
<td>3083</td>
<td>3492</td>
<td>3441</td>
<td>3383</td>
<td>3276</td>
<td>3356</td>
<td>3257</td>
<td>3420</td>
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<tr>
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<td>3255</td>
<td>3175</td>
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<tr>
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<td>3282</td>
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<tr>
<td>K_0</td>
<td>2750</td>
<td>3368</td>
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<tr>
<td>K_1</td>
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<td>3387</td>
<td>3260</td>
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<tr>
<td>K_2</td>
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<td>3357</td>
<td>3338</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
S.E. of marginal mean of N, P or K = 26.06 lb./ac.
S.E. of body of N×P, N×K or P×K table = 37.65 lb./ac.

Residual effect (Rabi)

(i) 2415 lb./ac. (ii) 113.4 lb./ac. (iii) P effect is highly significant. K effect and interaction N×P are significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

\[
\begin{array}{cccccc}
 & N_0 & N_1 & N_2 & & \\
K_0 & 2214 & 2465 & 2379 & & \\
K_1 & 2396 & 2384 & 2420 & & \\
K_2 & 2503 & 2542 & 2432 & & \\
\text{Mean} & 2371 & 2464 & 2410 & & \\
\end{array}
\]

\[
\begin{array}{cccccc}
 & F_0 & F_1 & & & \\
K_0 & 2306 & 2364 & 2387 & & \\
K_1 & 2436 & 2564 & 2433 & & \\
K_2 & 2410 & 2540 & 2409 & & \\
\text{Mean} & 2354 & 2438 & 2453 & & \\
\end{array}
\]

S.E. of marginal mean of N, P or K = 26.73 lb./ac.
S.E. of body of N×P, N×K or P×K table = 46.30 lb./ac.

Crop :- Paddy (Kharif).
Site :- M.A.E. Farm, Aduthurai.

Object :- Type IV-To find out the effect of application of phosphates to Paddy through legumes.

1. BASAL CONDITIONS :
   (i) (a) G.M.—Paddy—Paddy. (b) Paddy. (c) N.A. (ii) (a) Clayey loam. (b) N.A. (iii) 6.7.1959/30.7.1959.
   (iv) (a) 3 diggings. (b) Transplanting. (c) 50 lb./ac. (d) 4"×4". (e) 2 to 3. (v) Nil. (vi) Adt. 3 (early).
   (vii) Irrigated. (viii) 2 weedings. (ix) 3.85. (x) 16.10.1959.

2. TREATMENTS :
   Same as in expt. no. 57 (MAE) Type IV on page 82.

3. DESIGN :
   (i) Split-plot. (ii) (a) 7 main-plots/block ; 3 sub-plots/main-plot. (b) 28'×44'. (iii) 3. (iv) (a) 24'×12'.
   (b) 22'×10'. (v) 3 rows on all sides. (vi) yes.

4. GENERAL :
   (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) to (vii) Nil

5. RESULTS :
   (i) 2799 lb./ac. (ii) (a) 163.5 lb./ac. (b) 139.4 lb./ac. (iii) 'Control vs. L.P.' P and N effects are highly significant. Interaction L×P is significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.
Crop: Paddy (Kharif).

Site: M.A.E. Farm, Aduthurai.

Object: To find out the best time of application of 'N' to Paddy and the comparative efficacy of different nitrogenous fertilizers either in single or split doses.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) N.A. (ii) (a) Clayey loam. (b) N.A. (iii) 8.9.1959/23.10.1959.
   (iv) (a) 3 ploughings. (b) 50 lb./ac. (c) 2 to 3. (d) 5" x 3". (e) --. (v) 3000 lb./ac. of F.Y.M. + 20 lb./ac. of P₂O₅.

2. TREATMENTS:
   Same as in expt. no. 56(MAE) Type V on page 77.

3. DESIGN and 4. GENERAL:
   Same as in expt. no. 58 (MAE) Type V on page 87.

5. RESULTS:
   (i) 2934 lb./ac. (ii) 246.4 lb./ac. (iii) Only 'control vs. others' effect is highly significant. (iv) Av. yield of grain in lb./ac.

   Control = 2356 lb./ac.

   \[
   \begin{array}{cccccccc}
   & T_1 & T_2 & T_3 & T_4 & T_5 & T_6 & T_7 & \text{Mean} \\
   S_1 & 2736 & 2798 & 3094 & 3131 & 3088 & 2855 & 3019 & 2960 \\
   S_2 & 2748 & 2911 & 3238 & 3081 & 2880 & 3175 & 2893 & 2989 \\
   \text{Mean} & 2742 & 2854 & 3166 & 3106 & 2984 & 3015 & 2956 & 2975 \\
   \end{array}
   \]

   S.E. of marginal mean of S = 53.8 lb./ac.
   S.E. of marginal mean of T = 100.6 lb./ac.
   S.E. of body of table or control mean = 142.3 lb./ac.
Crop :- Paddy (Rabi).
Site :- M.A.E. Farm, Aduthurai.
Object :- Type VI—To find out the best method of placement of phosphatic fertilizers to Paddy and to find out the comparative efficacy of different phosphates.

1. BASAL CONDITIONS:
   (i) Crop: Paddy—Paddy. (b) Paddy. (c) N.A. (ii) (a) Clayey loam. (b) N.A. (iii) 8.9.1959 24.10.1959. (iv) (a) 4 ploughings. (b) Transplanting. (c) 50 lb./ac. (d) 5' x 5'. (e) 2 to 3. (vi) Nil. (v) CO—25 late. (vi) Irrigated. (vii) 2 weedings. (ix) 20.5'. (x) 22.2.1960.

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 56 (MAE) Type VI on page 79.

5. RESULTS:
   (i) 35.44 lb./ac. (ii) 178.2 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>Mean</th>
<th>P1</th>
<th>P2</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>3476</td>
<td>3342</td>
<td>3458</td>
<td>3425</td>
<td>3327</td>
<td>3523</td>
</tr>
<tr>
<td>S2</td>
<td>3278</td>
<td>3150</td>
<td>3100</td>
<td>3276</td>
<td>3202</td>
<td>3351</td>
</tr>
<tr>
<td>S3</td>
<td>3408</td>
<td>3121</td>
<td>3367</td>
<td>3299</td>
<td>3360</td>
<td>3323</td>
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<tr>
<td>Mean</td>
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<td>3204</td>
<td>3408</td>
<td>3333</td>
<td>3296</td>
<td>3371</td>
</tr>
<tr>
<td>P1</td>
<td>3362</td>
<td>3167</td>
<td>3359</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>P2</td>
<td>3413</td>
<td>3241</td>
<td>3457</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

S.E. of M or S marginal mean = 43.7 lb./ac.
S.E. of P marginal mean = 35.7 lb./ac.
S.E. of body of M x S table = 75.6 lb./ac.
S.E. of body of M x P or S x P table = 61.8 lb./ac.
S.E. of control mean = 61.8 lb./ac.

---

Crop :- Paddy (Kharif and Rabi).
Site :- M.A.E. Farm, Aduthurai.
Object :- Type VI (TCM)—To find out the residual value of phosphate in the same site.

1. BASAL CONDITIONS:

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 54 (TCM) Type VI on page 70.

5. RESULTS:
   Kharif
   (i) 3544 lb./ac. (ii) 178.2 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>000</th>
<th>ccc</th>
<th>ccc</th>
<th>ccc</th>
<th>ccc</th>
<th>pcc</th>
<th>pcc</th>
<th>p[p][p]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2748</td>
<td>3481</td>
<td>3777</td>
<td>3818</td>
<td>3423</td>
<td>3472</td>
<td>3571</td>
<td>3505</td>
</tr>
<tr>
<td></td>
<td>3489</td>
<td>3974</td>
<td>3785</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E./mean other than ccc = 126.0 lb./ac.; S.E./mean for ccc = 89.1 lb./ac.
Rabi
(i) 3144 lb./ac. (ii) 181.1 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>000</th>
<th>ccc</th>
<th>p0cc</th>
<th>p1cc</th>
<th>c</th>
<th>p0c</th>
<th>ccp1</th>
<th>cpc</th>
<th>ccp2</th>
<th>p1p1</th>
<th>p1pdp1</th>
<th>dpdp2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
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<td>3230</td>
<td>3082</td>
<td>3194</td>
<td>3216</td>
<td>3226</td>
<td>2971</td>
<td>3308</td>
<td>3446</td>
<td>3033</td>
<td>3606</td>
<td></td>
</tr>
</tbody>
</table>

S.E./mean other than ccc = 128.1 lb./ac. and S.E./mean for ccc = 90.6 lb./ac.

Crop : Paddy (Kharif).
Centre : Coimbatore (c.f.).

Object : Type A—To study the response of Paddy to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS :
   (i) (a) to (c) N.A. (ii) Red and medium black. (iii) Nil. (iv) Sept to Oct. 1959. (v) (a) 3 to 6 ploughings.
   (b) Transplanting. (c) —. (d) and (e) N.A. (vi) Different varieties in each trial. (vii) Irrigated. (viii) N.A.

2. TREATMENTS :
   0 = Control (no manure).
   n = 20 lb./ac. of N as AJS.
   p = 20 lb./ac. of P2O5 as Super.
   np = 20 lb./ac. of N as A/S + 20 lb./ac. of P2O5 as Super.
   k = 20 lb./ac. of K2O as Pot. Sul.
   nk = 20 lb./ac. of N as A/S + 20 lb./ac. of K2O as Pot. Sul.
   pk = 20 lb./ac. of P2O5 as Super + 20 lb./ac. of K2O as Pot. Sul.
   npk = 20 lb./ac. of N as A/S + 20 lb./ac. of P2O5 as Super + 20 lb./ac. of K2O as Pot. Sul.

3. DESIGN :
   (i) and (ii) The district has been divided into four agriculturally homogeneous zones and one field assistant
   posted in each zone. The field assistant conducts the trials in one Revenue circle or thana in the zone and
   the circle/ thana is changed once in two years within the same zone. Each field assistant is required to
   conduct 31 trials in a year on a kharif cereal, 8 on a rabi cereal, 8 on a cash crop, 4 on an oilseed crop and
   3 on a leguminous crop. Half the number of trials conducted are of type A and the other half of type B
   on crops other than the legumes. The three trials on legumes are of type C. Residual effects of phosphate
   application are studied on type C trials in two out of the four zones in each district every year. The above
   experiments are laid out in randomly located fields in randomly selected villages in each of the 4 zones at
   the rate of one experiment per village. (iii) (a) 1/40 ac. (b) 1/80 ac. (iv) Yes.

4. GENERAL :
   (i) Normal. (ii) N.A. (iii) Grain yield. (iv) (a) 1959—contd. (b) No. (c) Nil. (v) (a) and (b) As per
   design. (vi) and (vii) Nil.

5. RESULTS :

   Treatment | 0  | n  | p  | np | k  | nk | pk | npk
   Av. yield  | 2080 | 2552 | 2384 | 2432 | 2336 | 2520 | 2400 | 2512

   G.M. = 2402 lb./ac.; S.E./mean = 84.7 lb./ac. and no. of trials = 5.

Crop : Paddy.
Centre : Salem (c.f.).

Object : Type A—To study the response of Paddy to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS :
   (i) (a) to (c) N.A. (ii) Red soil. (iii) N.A. (iv) Oct. 1959. (v) (a) 4 to 7 ploughings and plankings.
   (b) Transplanting. (c), (d) and (e) N.A. (vi) Different varieties in each soil. (vii) Irrigated. (viii) 2 to
2. TREATMENTS to 4. GENERAL:
Same as in exp. no. 59 (SFT) Type A on page 93 conducted at Coimbatore.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 n p np k nk pk npk</td>
<td>3014 3188 3172 3132 3330 3224 3353 3606</td>
</tr>
</tbody>
</table>

G.M.=3275 lb./ac.; S.E./mean=174.0 lb./ac. and no. of trials=4.

---

Crop: Paddy (Kharif and Rabi).
Centre: South Arcot (c.f.).
Ref: M. 59 (SFT).
Type: M. 59 (SFT).

Object: Type A- To study the response of Paddy to levels of N, P and K, applied individually and in combinations.

1. BASAL CONDITIONS:
   (i) (a) to (e) N.A. (ii) Red soil and coastal alluvium. (iii) N.A. (iv) Kharif: Oct. 1959 and Rabi April 1960. (v) (a) 3 to 6 ploughings and planking. (b) Transplanting. (c), (d) and (e) N.A. (vi) Different varieties in each trial. (vii) Irrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) Kharif: Jan.-Feb. 1960 and Rabi: July 1960.

2. TREATMENTS to 4. GENERAL:
Same as in exp. no. 59 (SFT) Type A on page 93 conducted at Coimbatore.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 n p np k nk pk npk</td>
<td>2285 2795 2612 2930 2460 2817 2565 2970</td>
</tr>
</tbody>
</table>

G.M.=2679 lb./ac.; S.E./mean=116.55 lb./ac. and no. of trials=8.

---

Crop: Paddy.
Centre: Tanjore (c.f.).
Ref: M. 59 (SFT).
Type: M. 59 (SFT).

Object: Type A- To study the response of Paddy to levels of N, P and K, applied individually and in combinations.

1. BASAL CONDITIONS:
   (i) (a) to (e) N.A. (ii) Red soil and coastal alluvium. (iii) N.A. (iv) Oct.-Nov., 1959. (v) (a) 4 to 7 ploughings. (b) Transplanting. (c), (d) and (e) N.A. (vi) Different varieties in each trial. (vii) Irrigated. (viii) N.A. (ix) N.A. (x) Feb. 1960.

2. TREATMENTS to 4. GENERAL:
Same as in exp. no. 59 (SFT) Type A on page 93 conducted at Coimbatore.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 n p np k nk pk npk</td>
<td>1800 1912 1888 2112 1768 1936 1944 2096</td>
</tr>
</tbody>
</table>

G.M.=1932 lb./ac.; S.E./mean=47.4 lb./ac. and no. of trials=16.
Crop :- Paddy.  
Centre :- Trichirapalli (c.f.).  

Object :- Type A—To study the response of Paddy to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS :
   (i) (a) to (c) N.A.  
   (ii) Red soil.  
   (iii) N.A.  
   (iv) Oct.—Nov. 1959.  
   (v) (a) 4 to 8 ploughings.  
   (b) Transplanting.  
   (c) to (e) N.A.  
   (vi) Different varieties in each trial.  
   (vii) Irrigated.  
   (viii) Nil.  
   (ix) N.A.  

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 59 (SFT) Type A on page 93 conducted at Coimbatore.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>n1</th>
<th>n2</th>
<th>np</th>
<th>k</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
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<tbody>
<tr>
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<td>2456</td>
<td>2320</td>
<td>2496</td>
<td>2488</td>
<td>2632</td>
</tr>
</tbody>
</table>

G.M. = 2399 lb./ac.; S.E. = mean = 47.64 lb./ac. and no. of trials = 15.

Crop :- Paddy (Kharif).  
Centre :- Coimbatore (c.f.).  

Object :- Type B—To investigate the relative efficiency of different nitrogenous fertilizers applied at different doses.

1. BASAL CONDITIONS :
   (i) (a) to (c) N.A.  
   (ii) Red and black.  
   (iii) Nil.  
   (iv) Early Nov. 1959.  
   (v) (a) 4 to 8 ploughings with desi plough.  
   (b) Transplanting.  
   (c) to (e) N.A.  
   (vi) N.A.  
   (vii) Irrigated.  
   (viii) N.A.  
   (ix) N.A.  

2. TREATMENTS:
   0 = Control.  
   n1 = 20 lb./a. of N as A/S.  
   n2 = 40 lb./a. of N as A/S.  
   n1' = 20 lb./a. of N as Urea.  
   n2' = 40 lb./a. of N as Urea.  
   n1'" = 20 lb./a. of N as C/A/N.  
   n2" = 40 lb./a. of N as C/A/N.

3. DESIGN:
   (i) and (ii) The district has been divided into four agriculturally homogeneous zones and one field assistant posted in each zone. The field assistant conducts the trials in one Revenue circle or thana in the zone and the circle/thana is changed once in two years with in the same zone. Each field assistant is required to conduct 31 trials in a year 8 on a kharif cereal, 8 on a rabi cereal, 8 on cash crop, 4 on an oilseed crop and 3 on a leguminous crop. Half the number of trials conducted are of type A and the other half of type B on crops other than the legumes. The three trials on legumes are of type C. Residual effects of phosphate application are studied on type C trials in two out of the four zones in each district every year. The above experiments are laid out in randomly located fields in randomly selected villages in each of the 4 zones at the rate of one experiment per village.  
   (iii) (a) and (b) N.A.  
   (iv) Yes.

4. GENERAL:
   (i) Normal.  
   (ii) N.A.  
   (iii) Grain yield.  
   (iv) (a) 1959—contd.  
   (b) and (c) No.  
   (v) (a) and (b) As per design.  
   (vi) and (vii) N.A.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>n1</th>
<th>n2</th>
<th>n1'</th>
<th>n2'</th>
<th>n1''</th>
<th>n2''</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2304</td>
<td>2921</td>
<td>3563</td>
<td>2946</td>
<td>2905</td>
<td>2962</td>
<td>3365</td>
</tr>
</tbody>
</table>

G.M. = 2995 lb./ac.; S.E. = mean = 187.9 lb./ac. and no. of trials = 8.
Crop :- Paddy (Kharif and Rabi).
Centre :- Salem (c.f.).

Object :- Type B—To investigate the relative efficiency of different nitrogenous fertilizers applied at different doses.

1. BASAL CONDITIONS :

2. TREATMENTS to 4. GENERAL :
Same as in exp. no. 59(SFT) Type B on page 95 conducted at Coimbatore.

5. RESULTS :

| Treatment | 0 | n₁ | n₂ | n₁' | n₂' | n₁''' | n₂'''
|-----------|---|----|----|-----|-----|-------|-------
| Kharif Av. yield | 2748 | 2872 | 2913 | 3094 | 2896 | 2995 | 3028 |
| G.M. =2935 lb./ac. ; S.E./mean = 150.43 lb./ac. and no. of trials = 5. |
| Rabi Av. yield | 2979 | 3653 | 3555 | 3119 | 3374 | 3349 | 3670 |
| G.M. =3386 lb./ac. ; S.E./mean = 101.7 lb./ac. and no. of trials = 4. |

Crop :- Paddy (Kharif).
Centre :- South Arcot (c.f.).

Object :- Type B—To investigate the relative efficiency of different nitrogenous fertilizers applied at different doses.

1. BASAL CONDITIONS :
(i) (a) to (c) N.A. (ii) Red. (iii) N.A. (iv) Oct.-Nov. 59. (v) (a) 4 to 6 ploughings. (b) Transplanting. (c) to (e) N.A. (vi) N.A. (vii) Irrigated. (viii) N.A. (ix) N.A. (x) Feb.-March '60.

2. TREATMENTS to 4. GENERAL :
Same as in exp. no. 59(SFT) Type B on page 95 conducted at Coimbatore.

5. RESULTS :

| Treatment | 0 | n₁ | n₂ | n₁' | n₂' | n₁''' | n₂'''
|-----------|---|----|----|-----|-----|-------|-------
| Av. yield | 2304 | 2839 | 3003 | 3127 | 3259 | 2518 | 2650 |
| G.M. =2814 lb./ac. ; S.E./mean = 103.0 lb./ac. and no. of trials = 6. |

Crop :- Paddy (Kharif).
Centre :- Tanjore (c.f.).

Object :- Type B—To investigate the relative efficiency of different nitrogenous fertilizers applied at different doses.

1. BASAL CONDITIONS :
(i) (a) to (c) N.A. (ii) Red. (iii) Nil. (iv) Oct.-Nov. 59. (v) (a) 4 to 7 ploughings and planking. (b) Transplanting. (c) to (e) N.A. (vi) Different varieties in each trial. (vii) Irrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) Feb.-March '60.
2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 59 (SFT) Type B on page 95 conducted at Coimbatore.

5. RESULTS:

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<tr>
<th>Treatment</th>
<th>0</th>
<th>n₁</th>
<th>n₂</th>
<th>n₁'</th>
<th>n₂'</th>
<th>n₁''</th>
<th>n₂''</th>
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<tbody>
<tr>
<td>Av. yield</td>
<td>1605</td>
<td>1827</td>
<td>2065</td>
<td>1868</td>
<td>2189</td>
<td>1777</td>
<td>1991</td>
</tr>
</tbody>
</table>

G.M. = 1903 lb./ac.; S.E./mean = 48.49 lb./ac. and no. of trials = 19.

Crop :- Paddy (Kharif).
Centre :- Tirunelvelly (c.f.).
Ref :- M. 59(SFT).

Type :- ‘M’.

Object:—Type B—To investigate the relative efficiency of different nitrogenous fertilizers applied at different doses.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) Red. (iii) N.A. (iv) Oct. 1959. (v) (a) 4 to 7 ploughings and plankings. (b) Transplanting. (c) to (e) N.A. (vi) Different variety in each field. (vii) Irrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) March 1960.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 59 (SFT) Type B on page 95 conducted at Coimbatore.

RESULTS:

<table>
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<tr>
<th>Treatment</th>
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<th>n₂</th>
<th>n₁'</th>
<th>n₂'</th>
<th>n₁''</th>
<th>n₂''</th>
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</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1605</td>
<td>1827</td>
<td>2065</td>
<td>1868</td>
<td>2189</td>
<td>1777</td>
<td>1991</td>
</tr>
</tbody>
</table>

G.M. = 1903 lb./ac.; S.E./mean = 48.49 lb./ac. and no. of trials = 19.

Crop :- Paddy (Kharif).
Centre :- Trichirapalli (c.f.).
Ref :- M. 59(SFT).

Type :- ‘M’.

Object:—Type B—To investigate the relative efficiency of different nitrogenous fertilizers applied at different doses.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) Red. (iii) N.A. (iv) Oct. 1959. (v) (a) 3 to 7 ploughings and plankings. (b) Transplanting. (c) to (e) N.A. (vi) Different variety in each trial. (vii) Irrigated. (viii) 2 to 3 weedings in some trials. (ix) N.A. (x) March 1960.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 59 (SFT) Type B on page 95 conducted at Coimbatore.

5. RESULTS:

<table>
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<tr>
<th>Treatment</th>
<th>0</th>
<th>n₁</th>
<th>n₂</th>
<th>n₁'</th>
<th>n₂'</th>
<th>n₁''</th>
<th>n₂''</th>
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<tr>
<td>Av. yield</td>
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<td>2082</td>
<td>2403</td>
<td>2131</td>
<td>2452</td>
<td>2098</td>
<td>2395</td>
</tr>
</tbody>
</table>

G.M. = 2223 lb./ac.; S.E./mean = 71.28 lb./ac. and no. of trials = 18.

Crop :- Paddy.
Ref :- M. 54 (76).

Type :- ‘M’.

Object:—To find out the suitable combination of A/S and Super for different varieties of Paddy.
1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 12.6.1954/4.7.1954. (iv) (a) Mummatty digging after wetting the plots. (b) Transplanting to get the required puddle. (c) 30 lb./ac. (d) 6’×6’. (e) N.A. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 13.03”. (x) 27.9.1954.

2. TREATMENTS:
Main-plot treatments:
- 2 varieties: V₁ = Adt. 3 and V₂ = Adt. 20.
Sub-plot treatments:
- All combinations of (1) and (2)
  (1) 4 levels of N as A/S: N₀ = 0, N₁ = 30, N₂ = 45 and N₃ = 60 lb./ac.
  (2) 4 levels of P₂₅ as Super: P₀ = 0, P₁ = 30, P₂ = 45 and P₃ = 60 lb./ac.
Super applied as B.D. before transplanting and A/S top-dressed 3 weeks after transplanting.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 16 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 22’×9’. (b) 21’×8’.
(v) N.A. (vi) Yes.

4. GENERAL:
(i) Crop lodged a fortnight before harvest. (ii) There was a mild attack of Fulgorids and jassids and controlled by dusting with BHC 10%. (iii) Height measurement, tiller count and grain yield. (iv) ‘a’ 1952–1957. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 2563 lb./ac. (ii) (a) 147.0 lb./ac. (b) 174.9 lb./ac. (iii) Main effects of V, N and P are highly significant. Interaction N×P is significant. Others are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
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<th>P₀</th>
<th>P₁</th>
<th>P₂</th>
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<tr>
<td>V₂</td>
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<td>2707</td>
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<td>2804</td>
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<td>2595</td>
<td>2377</td>
<td>2694</td>
<td>2733</td>
<td>2700</td>
</tr>
</tbody>
</table>

S.E. of difference of two.
1. V marginal means = 26.0 lb./ac.
2. N or P marginal means = 43.7 lb./ac.
3. N or P means at the same level of V = 61.8 lb./ac.
4. V means at the same level of N or P = 59.5 lb./ac.
S.E. of body of N×P table = 61.8 lb./ac.

Crop: Paddy. (Karuvai).
Object: To find out the suitable combination of A/S and Super for different varieties of Paddy.

1. BASAL CONDITIONS.
(i) (a) Fallow—Paddy—Paddy. (b) Fallow. (c) Nil. (ii) (a) Clay sy. (b) Refer soil analysis, Aduthurai. (iii) 1.7.1955/31.7.1955. (iv) (a) Digging with mummatty and preparing land. (b) Transplanting.
2. TREATMENTS:
Same as in expt. no. 54(76) on page 97.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 16 sub-plots/main-plot. (b) 40' x 160'. (iii) 4. (iv) (a) 10' x 20'.
(b) 9' x 19'. (v) One row of 6' left as border. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1952−1957. (b) Yes. (c) Nil. (v) (a) and
(b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 2491 lb./ac. (ii) (a) 544.8 lb./ac. (b) 449.7 lb./ac. (iii) Interaction N x V alone is highly significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>V1</th>
<th>N0</th>
<th>N1</th>
<th>N2</th>
<th>N3</th>
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<td>V2</td>
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<tr>
<td>Mean</td>
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<td>2650</td>
<td>2220</td>
<td>2558</td>
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</tr>
</tbody>
</table>

S.E. of difference of two
1. V marginal means = 96.3 lb./ac.
2. N or P marginal means = 112.4 lb./ac.
3. N or P means at the same level of V = 159.0 lb./ac.
4. V means at the same level of N or P = 168.0 lb./ac.
S.E. of body of N x P table = 159.0 lb./ac.

Crop: Paddy (Kuruvai).
Type: 'MV'.

Object: To find out the suitable combination of A/S and Super for different varieties of Paddy.

1. BASAL CONDITIONS:
(i) (a) Fallow−Paddy−Paddy. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai.
(iii) 15.7.1956/5.8.1956. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6' x 6'.
(e) 2. (v) 5000 lb./ac. of G.L. (vi) As per treatments. (vii) Irrigated. (viii) Two weedings. (ix) 18.38'.
(x) 27 and 28.10.1956.

2. TREATMENTS:
Same as in expt. no 55(41) on page 98.

3. RESULTS:
(i) 4096 lb./ac. (ii) (a) 272.4 lb./ac. (b) 296.0 lb./ac. (iii) Main effect of V alone is highly significant.
(iv) Av. yield of grain in lb./ac.
Crop :- Paddy (Kurucai).  

Object :- To find out the suitable combination of A/S and Super for different varieties of Paddy.

1. BASAL CONDITIONS :
(i) (a) Fallow—Paddy—Paddy. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) N.A. (iii) 22.6.1957/12.7.1957. (iv) (a) Digging with mummatty and preparing the plot. (b) Transplanting. (c) 30 lb./ac. (d) 6’x6’. (e) (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (x) 5.10.1957.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 55(41) on page 98.

5. RESULTS:
(i) 3344 lb./ac. (ii) 224.8 lb./ac. (b) 472.3 lb./ac. (iii) None of the effects is significant. (iv) As1. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>N0</th>
<th>N1</th>
<th>N2</th>
<th>N3</th>
<th>Mean</th>
<th>P0</th>
<th>P1</th>
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S.E. of difference of two
1. V marginal means = 39.7 lb./ac.
2. N or P marginal means = 118.1 lb./ac.
3. N or P means at the same level of V = 167.0 lb./ac.
4. V means at the same level of N or P = 150.0 lb./ac.
S.E. of body of N x P table = 167.0 lb./ac.
Crop: Paddy ('Thaladi').

Object: To find out the relative response of two varieties of Paddy to different doses of N and P.

1. BASAL CONDITIONS:
(i) (a) Fallow—Paddy—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 21.9.1955/12.11.1955. (iv) (a) Digging with "mammy" and preparing the plots. (b) Transplanting. (c) 30 lb/ac. (d) 6"x6". (e) 2. (v) 5000 lb/ac. of G.L. applied about 10 days before planting. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 26.87°. (x) 16.3.1956.

2. TREATMENTS:
Main-plot treatments:
2 long duration varieties: V1=CO—25 and V2=Adt. 25.
Sub-plot treatments:
Same as in expt. no. 54(76) on page 97.

3. DESIGN and 4. GENERAL:
Same as in expt. no. 55(41) on page 98.

5. RESULTS:
(i) 2900 lb/ac. (ii) (a) 604.8 lb/ac. (b) 452.2 lb/ac. (iii) Effect of V is significant and effect of N is highly significant. (iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th>V1</th>
<th>N0</th>
<th>N1</th>
<th>N2</th>
<th>N3</th>
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S.E. of difference of two
1. V marginal means = 106.9 lb/ac.
2. N or P marginal means = 113.0 lb/ac.
3. N or P means at the same level of V = 159.9 lb/ac.
4. V means at the same level of N or P = 174.9 lb/ac.
S.E. of body of N x P table = 159.9 lb/ac.

Crop: Paddy ('Thaladi').

Object: To find out the relative response of two varieties of Paddy to different doses of N and P.

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 24.9.1956/16.11.1956. (iv) (a) Digging with "mammy" and preparing the plot. (b) Transplanting. (c) 30 lb/ac. (d) 6"x6". (e) 2. (v) 5000 lb/ac. of G.L. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 29-24. (x) 16.3.1957.

2. TREATMENTS:
Same as in expt. no. 55(42) above.
5. RESULTS:
(i) 3279 lb./ac. (ii) (a) 812.5 lb./ac. (b) 278.3 lb./ac. (iii) Main effect of N only is highly significant. (iv) Av. yield of grain in lb./ac.

### Table 1: Crop - Paddy (Thaladi).

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S.E. of difference of two
1. V marginal means
2. N or P marginal means
3. N or P means at the same level of V
4. V means at the same level of N or P
S.E. of body of N×P table

Object: To study the relative response of two varieties of Paddy to different doses of N and P.

1. BASAL CONDITIONS:
(i) (a) Fallow—Paddy—Paddy. (c) As per treatments. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 1.9.1957/11, 12.11.1957. (iv) (a) Digging with mummatty and preparing plots. (b) Transplanting. (c) 30 lb./ac. (d) 6'x6'. (e) 2. (v) 5000 lb./ac. of G.L. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 28.78". (x) 4.3.1958.

2. TREATMENTS to 4. GENERAL:
Same as in exp. no. 55(42) on page 101.

5. RESULTS:
(i) 1665 lb./ac. (ii) (a) 742.4 lb./ac. (b) 379.5 lb./ac. (iii) Main effects of N and P are highly significant and effect of V is significant. (iv) Av. yield of grain in lb./ac.

### Table 2: Crop - Paddy (Thaladi).

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S.E. of difference of two
1. V marginal means = 131.2 lb./ac.
2. N or P marginal means = 94.9 lb./ac.
3. N or P means at the same level of V = 134.2 lb./ac.
4. V means at the same level of N or P = 175.3 lb./ac.
S.E. of body of N x P table = 134.2 lb./ac.

Crop: Paddy (Kuruvai).
Type: 'MV'.

Object: To find out the relative response of different varieties of Paddy to application of N and K.

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 27.6.1958 to 8.8.1958. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10' x 4'. (e) 3. (v) 9500 lb./ac. of G.L.+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 18.5'. (x) For V1 and V5: 14.10.1958; for others: 2.11.1958.

2. TREATMENTS:
Strips in one direction:
6 varieties: V1=Adt. 3, V2=Adt. 9, V3=Adt. 16, V4=Adt. 18, V5=Adt. 20 and V6=Adt. 23.

Strips in perpendicular direction:
All combinations of (1) and (2)
(1) 5 levels of N as A/S: N0=0, N1=15, N2=30, N3=45 and N4=60 lb./ac.
(2) 2 levels of K2O as Pot. Sul.: K0=0 and K1=30 lb./ac.

3. DF SIGN:
(i) Strip-plot. (ii) (a) 60. (b) N.A. (iii) 4. (iv) (a) 15' x 15'. (b) 14'2" x 14'8". (v) One row left as border. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) (a) Tirur, Palur, Coimbatore and Ambasamudram. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 2111 lb./ac. (ii) (a) 513.8 lb./ac. (b) 352.7 lb./ac. (c) 259.2 lb./ac. (iii) Main effect of V and interaction V x N are highly significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two
1. V marginal means = 114.9 lb./ac. 5. V means at the same level of N = 163.2 lb./ac. 2. N marginal means = 72.0 lb./ac. 6. K means at the same level of V = 87.6 lb./ac. 3. K marginal means = 45.5 lb./ac. 7. V means at the same level of K = 128.7 lb./ac. 4. N means at the same level of V = 138.4 lb./ac. S.E. of body of N x K table = 72.0 lb./ac.
Crop: Paddy (Kuruzai).  
Ref: M. 59(75).
Type: 'MV'.

Object: To find out the relative response of different varieties of Paddy to application of N and K.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy—Fallow. (b) Fallow. (c) Nil.  (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai.  (iii) 14, 17 and 21.7.1959/16 to 21.8.1959. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10* x 4'. (e) 3. (v) 5000 lb./ac of G.L. + 150 lb./ac of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 17.55'. (x) 5, 14, 17 and 20.11.1959.

2. TREATMENTS:
   (General) Same as in expt. no. 58 on page 103.

3. RESULTS:
   (i) 1838 lb./ac. (ii) (a) 530.4 lb./ac. (b) 353.2 lb./ac. (c) 231.4 lb./ac. (iii) Main effects of V and N and interaction V x N are highly significant. Interactions V x K and V x N x K are significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two
1. V marginal means = 118.6 lb./ac. 5. V means at the same level of N = 157.4 lb./ac.
2. N marginal means = 72.1 lb./ac. 6. K means at the same level of V = 78.7 lb./ac.
3. K marginal means = 45.6 lb./ac. 7. V means at the same level of K = 74.7 lb./ac.
4. N means at the same level of V = 127.9 lb./ac. S.E. of body of N x K table = 72.0 lb./ac.

Crop: Paddy (Samba).  
Ref: M. 58(101).
Type: 'MV'.

Object: To find out the relative response of different varieties of Paddy to application of N and K.

1. BASAL CONDITIONS:
   (i) (a) Paddy after Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Alluvial loam. (b) Refer soil analysis, Aduthurai. (iii) 1.8.1958/11 to 14.9.1958. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10* x 5'. (e) 3. (v) 5000 lb./ac. of G.L. + 150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 28.95'. (x) 28, 29.1.1959.

2. TREATMENTS:
   (i) 4 varieties: V1=Adt. 1, V2=Adt. 2, V3=Adt. 10 and V4=Adt.25.
   (ii) All combinations of (i) and (2).
   (1) 5 levels of N as A/S: N0=0, N1=15, N2=30, N3=45 and N4=60 lb./ac.
   (2) 2 level 1s of K2O as Pot. Sul.: K0=0 and K1=30 lb./ac.
3. DESIGN:

(i) Strip-plot. (ii) A. N.A. (iii) 6. (iv) A 15" X 15". (b) 14" 2' X 14' 7". (v) one row left as border. (vi) yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) A 1958—contd. (b) yes. (c) Nil. (v) (a) Tirur, Coimbatore, Palur, and Ambasamudram. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

(i) 2870 lb./ac. (ii) A 309.4 lb./ac. (b) 272.5 lb./ac. (c) 166.7 lb./ac. (iii) Effect of V and N and interaction V X N are highly significant. Interaction V X N X K is significant. (iv) Av. yield of grain in lb./ac.

<table>
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<tr>
<th></th>
<th>V1</th>
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<th>V3</th>
<th>V4</th>
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S.E. of difference of two.

1. V marginal means = 56.5 lb./ac.  5. V means at the same level of N = 83.0 lb./ac.
2. N marginal means = 55.6 lb./ac.  6. K means at the same level of V = 51.3 lb./ac.
3. K marginal means = 35.2 lb./ac.  7. V means at the same level of K = 64.2 lb./ac.
4. N means at the same level of V = 81.0 lb./ac. S.E. of body of N X K table = 55.6 lb./ac.

Crop: Paddy (Thaladi).
Type: 'MY'.

Object: To find out the relative response of different varieties of Paddy to applications of N and K.

1. BASAL CONDITIONS:

(a) Paddy—Fallow. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of Super. (ii) (a) Alluvial loam. (b) Refer soil analysis, Aduthurai. (iii) 24.9.1958 to 6.11.1958. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10" X 5". (e) 2. (v) 5000 lb./ac. of G.L. + 150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 26.32". (x) 5, 6.3.1959.

2. TREATMENTS:

Strips in one direction:
6 varieties: V1=Adt. 8, V2=Adt. 21, V3=Adt. 22, V4=Adt. 24, V5=Adt. 25 and V6=Culture 6538.

Strips in perpendicular direction:
All combinations of (1) and (2)
(1) 5 levels of N as A/S: N0=0, N1=15, N2=30, N3=45 and N4=60 lb./ac.
(2) 2 levels of K as Pot. Sul.: K0=0 and K1=30 lb./ac.

3. DESIGN:

(i) Strip-plot. (ii) A. N.A. (iii) 4. (iv) A 15" X 15". (b) 14" 2' X 14' 7". (v) One row left. (vi) yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) A 1958—contd. (b) yes. (c) Nil. (v) (a) Tirur, Palur, Coimbatore and Ambasamudram. (b) N.A. (vi) and (vii) Nil.
5. RESULTS:

(i) 1503 lb./ac.  (ii) (a) 471.8 lb./ac.   (b) 226.8 lb./ac.   (c) 200.8 lb./ac.   (iii) Main effects of V and N are highly significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>V1</th>
<th>V2</th>
<th>V3</th>
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Mean: 1134  1363  1314  2100  1382  1727

K0:  1150  1351  1307  2076  1425  1755
K1:  1118  1375  1321  2124  1332  1699

S.E. of difference of two.

1. V marginal means = 105.5 lb./ac.  5. V means at the same level of N = 138.7 lb./ac.
2. N marginal means = 46.3 lb./ac.  6. K means at the same level of V = 65.1 lb./ac.
3. K marginal means = 29.3 lb./ac.  7. V means at the same level of K = 114.7 lb./ac.
4. N means at the same level of V = 102.9 lb./ac.  S.E. of body of N × K table, = 46.4 lb./ac.

Crop: Paddy ('Tholadi').
Ref. M. 59(74).
Type: 'MV'.

Object: To find out the relative response of different varieties of Paddy to application of 'N' and 'K'.

1. BASAL CONDITIONS:

(i) (a) Paddy—Paddy—Fallow.  (b) Paddy.  (c) As per treatments.  (ii) (a) Alluvial clay.  (b) Refer soil analysis, Aduthurai.  (iii) 8.10.1959 to 30.11.1959.  (iv) (a) 4 ploughings.  (b) Transplanting.  (c) 215 lb./ac.  (d) 10" X 5".  (e) 2.  (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super.  (vi) As per treatments.  (vii) Irrigated.  (viii) Weeding twice.  (ix) 22.75".  (x) 22 to 24.3.1960.

2. TREATMENTS to 4. GENERAL:

Same as in exp. no. 58(102) on page 105.

5. RESULTS:

(i) 2795 lb./ac.  (ii) (a) 298.3 lb./ac.  (b) 301.6 lb./ac.  (c) 270.9 lb./ac.  (iii) Main effects of V and N and interactions V × K and V × N × K are highly significant.  (iv) Av. yield of grain in lb./ac.

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Mean: 3115  2393  2509  3378  3115  2562

K0:  2989  2393  2562  3179  3099  2551
K1:  3241  2393  2456  2977  3131  2573

Ref: M. 59(74).
Crop.: Paddy (Samba).

Object: To find out the relative response of different varieties of Paddy to application of N and K.

1. BASAL CONDITIONS:

(i) (a) Paddy after Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 6.8.1959 to 17.9.1959. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10" x 5". (e) 2. (v) 5000 lb./ac. of G.L. + 150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 15' x 15'. (x) 4 ploughings.

2. TREATMENTS:

Strip in one direction:

Strip in perpendicular direction:
All combinations of (1) and (2).
(1) 5 levels of N as A/S: N0=0, N1=15, N2=30, N3=45 and N4=60 lb./ac.
(2) 2 levels of K2O as Pot. Sul.: K0=0 and K1=30 lb./ac.

3. DESIGN:

(i) Strip-plot. (ii) (a) 60. (b) N.A. (iii) Av. (iv) (a) 15'x15'. (b) 14'2"x14'7". (v) One row left as border. (vi) Yes.

4. GENERAL:

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

5. RESULTS:

(i) 3906 lb./ac. (ii) (a) 409.6 lb./ac. (b) 512.4 lb./ac. (c) 323.4 lb./ac. (iii) Main effect of V and N are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>V1</th>
<th>V2</th>
<th>V3</th>
<th>V4</th>
<th>V5</th>
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</table>

S.E. of marginal means (V) = 91.6 lb./ac. (N) = 104.6 lb./ac. (K) = 66.2 lb./ac. (VxK) = 180.9 lb./ac. (S.E. body of NxK table) = 104.6 lb./ac.
Crop :- Paddy (Kar).
Ref :- M. 59(76).
Site :- Rice Res. Stn., Ambasamudram.
Type :- 'MV'.

Object :- To find out the relative response of different varieties of Paddy to application of N and K.

1. BASAL CONDITIONS:
   (i) [a] Paddy—Paddy—Fallow. (b) Fallow. (c) Nil. (ii) [a] Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 10.6.1959/12 to 15.7.1959. (iv) [a] 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10"x4". (e) Doubles. (f) 5000 lb./ac. of G.L. + 150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 15.10.1959.

2. TREATMENTS:
   Strips in one direction:
   - 6 varieties: V1 = ASD. 1, V2 = ASD. 2, V3 = ASD. 7, V4 = ASD. 8, V5 = ASD. 9 and V6 = TKM. 6.
   Strips in perpendicular direction:
   - All combinations of (1) and (2)
     (1) 5 levels of N as A/S: N0 = 0, N1 = 15, N2 = 30, N3 = 45 and N4 = 60 lb./ac.
     (2) 2 levels of K2O as Pot. Sul.: K0 = 0 and K1 = 30 lb./ac.

3. DESIGN:
   (i) Strip-plot. (ii) (a) 60. (b) N.A. (iii) 4. (iv) (a) and (b) 20'x11'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) (a) Tirur, Palur, Coimbatore and Ambasamudram. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2517 lb./ac. (ii) (a) 887.7 lb./ac. (b) 574.2 lb./ac. (c) 234.4 lb./ac. (iii) Main effects of V and N are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>V1</th>
<th>V2</th>
<th>V3</th>
<th>V4</th>
<th>V5</th>
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</tbody>
</table>

S.E. of difference of two
1. V marginal means = 198.3 lb./ac. 5. V means at the same level of N = 224.6 lb./ac.
2. N marginal means = 117.2 lb./ac. 6. K means at the same level of V = 100.4 lb./ac.
3. K marginal means = 74.1 lb./ac. 7. V means at the same level of K = 205.3 lb./ac.
4. N means at the same level of V = 158.8 lb./ac. S.E. of body of N x K table = 117.2 lb./ac.
2. TREATMENTS:

Strips in one direction:
6 varieties: \( V_1 = \text{ASD. 5} \), \( V_2 = \text{ASD. 6} \), \( V_3 = \text{ASD. 11} \), \( V_4 = \text{CO-2} \), \( V_5 = \text{CO-19} \), and \( V_6 = \text{CO-25} \).

Strips in perpendicular direction:
All combinations of (1) and (2)

\begin{align*}
(1) & \text{ 5 levels of } N \text{ as } \frac{A}{S} : N_1 = 0, \ N_1 = 15, \ N_2 = 30, \ N_3 = 45 \text{ and } N_4 = 60 \text{ lb./ac.} \\
(2) & \text{ 2 levels of } K_2O \text{ as Pot. Sui. : } K_0 = 0 \text{ and } K_1 = 30 \text{ lb./ac.}
\end{align*}

3. DESIGN:

(i) Strip-plot. (ii) (a) 60. (b) N.A. (iii) 4. (iv) (a) and (b) \( 20' \times 11' \). (v) Nil. (vi) Yes.

4. GENERAL:

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

5. RESULTS:

\begin{align*}
\text{Site: Paddy (Pishanam).} \\
\text{Ref: M. 59(77).} \\
\text{Type: MV'.}
\end{align*}

Object: To find out the relative response of different varieties of Paddy to applications of \( N \) and \( K \).

1. BASAL CONDITIONS:

(i) (a) Paddy—Fallow. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 8.9.1959 30.10.1959. (iv) (a) 4 p.cughings. (b) Transplanting (c) 3\text{u lb./ac.} (d) \( 6'' \times 6'' \). (e) 2. (v) 5000 lb./ac. of G.I.+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 24.56’. (x) 8.3.1960.

2. TREATMENTS to 4. GENERAL:

Same as in exp. no. 58(104) on page 108.

5. RESULTS:

(i) 1563 lb./ac. (ii) (a) 471.8 lb./ac. (b) 435.5 lb./ac. (c) 203.6 lb./ac. (iii) Main effects of \( V \) and \( N \) and interactions \( V \times N \times K \) are highly significant. Interactions \( V \times N \) is significant. (iv) Av. yield of grain in lb./ac.
Object:—To find out the relative response of different varieties of Paddy to applications of N and K.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Clayey loam. (b) Refer soil analysis. Ambasamudram. (iii) 8.6.1958 to 14.7.1958. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. d \( \times \) \( \times \) \( \times \) \( \times \). (v) Doubles. (vi) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vii) As per treatments. (viii) Irrigated. (ix) Weedings twice. (x) 4.06'.

2. TREATMENTS:
   Strips in one direction:
   6 varieties: \( V_1 = \text{ASD.2}, V_2 = \text{Asd. 6}, V_3 = \text{ASD. 7}, V_4 = \text{ASD. 8}, V_5 = \text{ASD. 9} \) and \( V_6 = \text{TKM. 6} \).
   Strips in perpendicular direction:
   All combinations of (1) and (2):
   (1) 5 levels of N as \( A/S: N_0 = 0, N_1 = 15, N_2 = 30, N_3 = 45 \) and \( N_4 = 60 \) lb./ac.
   (2) 2 levels of \( K_0 = 0 \) and \( K_1 = 30 \) lb./ac.

3. DESIGN:
   (i) Strip-plot. (ii) (a) 60. (b) N.A. (iii) 4. (iv) (a) and (b) \( 20' \times 11' \). (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield. (iv) (a) 1958—ccmd. (b) Yes. (c) Nil. (v) (a) Tirur, Palur, Coimbatore and Ambasamudram. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 3026 lb./ac. (ii) (a) 825.1 lb./ac. (b) 627.6 lb./ac. (c) 334.7 lb./ac. (iii) Main effects of \( V \) and \( N \) and interaction \( V \times K \) are highly significant. Interaction \( V \times N \times K \) is significant. (iv) Av. yield of gran' in lb./ac.

<table>
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<th>V_2</th>
<th>V_3</th>
<th>V_4</th>
<th>V_5</th>
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Crop :- Paddy (Samba).
Site :- Agri. College and Res. Instt., Coimbatore.

Ref. :- M. 58(147).
Type :- 'MV'.

Object :- To study the effect of different levels of N and K on resistance and susceptible varieties of Paddy to blast.

1. BASAL CONDITIONS :
(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) N.A./19.9.1958. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10"x6". (e) 2. (v) 5000 lb./ac. of G.L.+45 lb./ac. of P$_2$O$_5$ as Super. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 11.49". (x) 7.2.1959.

2. TREATMENTS :
Main-plot treatments :
2 varieties : $V_1$=Adt. 10 (Blast susceptible) and $V_2$=CO—4 (Blast resistant).

Sub-plot treatments :
All combinations of (1) and (2).
(1) 3 levels of N as A/s : $N_0=0, N_1=30$ and $N_2=60$ lb./ac.
(2) 3 levels of K as Pot. Sul. : $K_0=0, K_1=30$ and $K_2=60$ lb./ac.

3. DESIGN :
(i) Split-plot. (ii) (a) 2 main-plots/block ; 9 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) (a) and (b) 42'x10'.
(v) Nil. (vi) Yes.

4. GENERAL :
(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) and (vi) Nil,
(vii) Exp. was conducted by Agri. Chemist, Coimbatore.

5. RESULTS :
(i) 3531 lb./ac. (ii) (a) 356.0 lb./ac. (b) 521.5 lb./ac. (iii) N effect alone is highly significant. (iv) Av. yield of grain in lb./ac.

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<th>$N_2$</th>
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</table>

S.E. of difference of two
1. V marginal means = 96.9 lb./ac.
2. N or K marginal means = 173.8 lb./ac.
3. 'N or K means as the same level of V = 245.8 lb./ac.
4. V means as the same level of N or K = 219.0 lb./ac.
Crop: Paddy (Samba).

Object: To study the effect of different levels of N and K on varieties of Paddy resistant and susceptible to blast.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb/ac. of G.L.+150 lb/ac. of Super+150 lb. ac. of A/S. (ii) a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) N.A./15.9.1959. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb/ac. (d) 10'x6'. (e) 2. (v) 5000 lb/ac. of G.L.+45 lb/ac. of P₂O₅ as Super. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 14.4". (x) 7.2.1960.

2. TREATMENTS: 4.
   GENERAL:
   Same as in expt. no. 58(18); on page 111.

5. RESULTS:
   (i) 3563 lb/ac. (ii) (a) 0 lb/ac. (b) 343.0 lb/ac. (iii) V and N effects are highly significant.

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<th>N₂</th>
<th>Mean</th>
</tr>
</thead>
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<tr>
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</tbody>
</table>

Mean 3228 3606 3856 3539 3461 3689 3563

S.E. of difference of two:
1. V marginal means = 0 lb/ac.
2. N or K marginal means = 114.3 lb/ac.
3. N or K means of the same level of V = 161.6 lb/ac.
4. V means at the same level of N or K = 132.0 lb/ac.

Crop: Paddy (Samba).

Object: To study the effect of different sources of N on varieties of Paddy resistant and susceptible to blast.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb/ac. of G.L.+150 lb/ac. of A/S+150 lb. ac. of Super, (d) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) August 1958/25.9.1958. (iv) a) 4 ploughings. (b) Transplanting. (c) 30 lb/ac. (d) 10'x6'. (e) 2. (v) 5000 lb/ac. of G.L.+45 lb/ac. of P₂O₅ as Super. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 14.4". (x) 7.2.1959.

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

(1) 7 sources of N at 45 lb/ac.: S₈=No Nitrogen, S₁=A/S, S₂=A/N, S₃=A, S₄=A/S, S₅=A, S₆=L'tea and S₇=Sodium Nitrute.

(2) 2 varieties: V₁=Adt. 10 (blast susceptible) and V₂=CO—4 (blast resistant).

3. DESIGN:
   (i) R.B.D. (ii) (a) 14. (b) N.A. (iii) 5. (iv) (a) and (b) 42'x10'. (v) Nil. (vi) Nil. (vii) Expt. was conducted by Agri. chemist, Coimbatore.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yeld of grain. (iv) (a) 1858—contd. (b) No. (c) Nil. (v) and (vi) Nil. (vii) Expt. was conducted by Agri. chemist, Coimbatore.
5. RESULTS:

(i) 3686 lb./ac. (ii) 594 lb./ac. (iii) No main effect or interaction is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S₀</th>
<th>S₁</th>
<th>S₂</th>
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S.E. of S marginal mean = 188.0 lb./ac.
S.E. of V marginal mean = 100.4 lb./ac.
S.E. of body of table = 266.0 lb./ac.

Crop: Paddy (Samba).
Site: Agri. college and Res. Instt., Coimbatore.

Ref: M. 59(106).
Type: 'MV'.

Object: To study the effect of different sources of N on varieties of Paddy resistant and susceptible to blast.

1. BASAL CONDITIONS:

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) N.A/August 1959. (iv) (a) 4 ploughings (b) Transplanting. (c) 30 lb./ac. (d) 10" X 6". (e) 2. (v) 5000 lb./ac. of G.L.+45 lb./ac. of P₂O₅ as Super+45 lb./ac. of K₂O as Pot. Sul. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 14.40°. (x) Feb. 1960.

2. TREATMENTS to 4. GENERAL:

Same as in the expt. no. 58(148) on page 112.

5. RESULTS:

(i) 3477 lb./ac. (ii) 335.4 lb./ac. (iii) No main effect or interaction is significant. (iv) Av. yield of grain in lb./ac.

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S.E. of V marginal mean = 56.8 lb./ac.
S.E. of S marginal mean = 106.0 lb./ac.
S.E. of body of table = 150.1 lb./ac.

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

Ref: M. 54(95).
Type: 'MV'.

Object: To find out the response of different varieties of Paddy to varying doses of A/S and Super.

1. BASAL CONDITIONS:

(i) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clayey. (b) N.A. (iii) 13.9.1954/1.2.11.1954. (iv) (a) 3 ploughings (b) Transplanting. (c) 30 lb./ac. (d) 6" X 6". (e) N.A. (v) 5000 lb./ac. of Sesbania as G.L. (vi) As per treatments. (vii) Irrigated. (viii) 1 weeding. (ix) 11.62°. (x) 14, 24.2.1955.
2. TREATMENTS:

Main-plot treatments:

Sub-plot treatments:
- All combinations of (1) and (2)
  - (1) 4 levels of N as A/S: N₀ = 0, N₁ = 30, N₂ = 45 and N₃ = 60 lb./ac.
  - (2) 4 levels of P₂O₅ as Super: P₀ = 0, P₁ = 30, P₂ = 45 and P₃ = 60 lb./ac.

3. DESIGN:
   - (i) Split-plot.
   - (ii) (a) 2 main-plots/block; 16 sub-plots/main-plot.
   - (b) N.A.
   - (iii) 4.
   - (iv) 'a) 12'x 11'.
   - (b) 11'x 10'.
   - (v) 1 row left as border.
   - (vi) Yes.

4. GENERAL:
   - (i) Normal.
   - (ii) Nil.
   - (iii) Height measurement, tiller count and yield of grain.
   - (iv) (a) 1953-contd. (b) Yes. (c) N.A. (v) (a) Aduthurai. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   - (i) 2231 lb./ac.
   - (ii) (a) 793.7 lb./ac. (b) 222.5 lb./ac.
   - (iii) Main effects of N and P and interaction N × V are highly significant. Interaction P × V is significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two
1. V marginal means = 140.3 lb./ac.
2. N or P marginal means = 55.6 lb./ac.
3. N or P means at the same level of V = 78.7 lb./ac.
4. V means at the same level of N or P = 156.0 lb./ac.
S.E. of body of N × P table = 78.7 lb./ac.

Crop :- Paddy.

Site :- Paddy Breeding Stn, Coimbatore.

Ref :- M. 55(45).

Type :- 'MV'.

Object :- To find out the response of different varieties of Paddy to varying doses of A/S and Super.

1. BASAL CONDITIONS:
   - (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii)
   - (a) Clay loam. (b) N.A. (iii) 31.7.1955; 21.8.1955. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c)
   - 30 lb./ac. (d) 6'x6'. (e) 2. (v) 5000 lb./ac. of G.L. (vi) As per treatments. (vii) Irrigated. "(viii) Weeding twice.
   - (ix) 9.68'. (x) 10.1.1956.

2. TREATMENTS and 3. DESIGN:
   - Same as in expt. no. 54(95) on page 113.

4. GENERAL:
   - (i) Fair. (ii) Nil. (iii) Grain yield. (iv) (a) 1953—1956. (b) No. (c) Nil. (v) (a) Aduthurai, Ambasamudram,
   - Pattukottai and Palur. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   - (i) 2384 lb./ac. (ii) (a) 872.8 lb./ac. (b) 248.3 lb./ac. (iii) Main effects of V, N and P are highly significant.
   - Interactions N × P, V × N and V × P are significant. (iv) Av. yield of grain in lb./ac.
Crop: Paddy.
Site: Paddy Breeding Stn., Coimbatore.

Object: To find out the response of different varieties of Paddy to varying doses of A/S and Super.

BASAL CONDITION:
(i) (a) Paddy—Paddy, (b) Paddy, (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac of A/S.
(ii) (a) Clay loam. (b) N.A. (iii) 20.7.1956/11.9.1956. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6"x6". (e) 2. (v) 5000 lb./ac. G.L. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 15.05". (x) 4.1.1957.

2. TREATMENTS and 3. DESIGN:
Same as in exp. no. 54(95) on page 113.

4. GENERAL:
Same as in exp. no. 55 (45) on page 114.

5. RESULTS:
(i) 5006 lb./ac. (ii) (a) 602 lb./ac. (b) 251.3 lb./ac. (iii) Main effects of V, N and P and interaction N×P are significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two
1. V marginal means = 154.3 lb./ac.
2. N or P marginal means = 62.1 lb./ac.
3. N or P means at the same level of V = 87.8 lb./ac.
4. V means at the same level of N or P = 172.0 lb./ac.
S.E. of body of N×P table = 87.8 lb./ac.
S.E. of difference of two
1. V marginal means = 106.4 lb./ac.
2. N or P marginal means = 62.8 lb./ac.
3. N or P means at the same level of V = 88.8 lb./ac.
4. V means at the same level of N or P = 131.3 lb./ac.
S.E. of body of N x P table = 88.8 lb./ac.

Crop :- Paddy.
Site :- Paddy Breeding Stn., Coimbatore.
Object :- To study the effect of N and K on different varieties of Paddy.

1. BASAL CONDITIONS :
(a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) Clay loam. (b) N.A. (iii) 23.8.1958/16, 17.10.1958. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10" x 6". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated.
(viii) Weeding twice. (ix) 22.4". (x) 2 to 4.3.1959.

2. TREATMENTS :
Strips in one direction :
4 varieties : \(V_1=\text{CO}=4, V_2=\text{CO}=12, V_3=\text{CO}=19\) and \(V_4=\text{CO}=25\).

Strips in perpendicular direction :
All combinations of (1) and (2)
(1) 5 levels of N : \(N_0=0, N_1=15, N_2=30, N_3=45\) and \(N_4=60\) lb./ac.
(2) 2 levels of \(K_0=0\) and \(K_1=60\) lb./ac.

3. DESIGN :
(i) Strip-plot. (ii) 40. (b) N.A. (iii) 6. (iv) (a) 17’6" x 6’6". (b) 15’10" x 5’6". (c) 10’ x 6’.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Yield of paddy. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :
(i) 2386 lb./ac. (ii) (a) 373.2 lb./ac. (b) 515.0 lb./ac. (c) 375.2 lb./ac. (iii) Main effects of V and N are highly significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two
1. V marginal means = 68.1 lb./ac.
2. N marginal means = 105.1 lb./ac.
3. K marginal means = 66.5 lb./ac.
4. N means at the same level of V = 169.3 lb./ac. S.E. of body of N x K table = 105.1 lb./ac.
Crop: Paddy.

Site: Paddy Breeding Stn., Coimbatore.

Object: To study the effect of N and K on different varieties of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy — Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S + 150 lb./ac. of Super.
   (ii) (a) Clay loam. (b) N.A. (iii) 1.10.1959/26.11.1959. (iv) (a) 4 ploughings. (b) Transplanting.
   (c) 30 lb./ac. (d) 10" x 6". (e) 2. (v) 5000 lb./ac. of G.L. + 150 lb./ac. of Super. (vi) As per treatments.

2. TREATMENTS:
   Strips in one direction:

   Strips in perpendicular direction:
   All combinations of (1) and (2)
   (1) 5 levels of N: N₀ = 0, N₁ = 15, N₂ = 30, N₃ = 45 and N₄ = 60 lb./ac.
   (2) 2 levels of K₀: K₀ = 0 and K₁ = 30 lb./ac.

3. DESIGN:
   (i) Strip-plot. (ii) (a) 40. (b) N.A. (iii) 6. (iv) (a) 18'4" x 6'6". (b) 16'8" x 5'6". (v) 10" x 6" left as border. (vi) Yes.

4. GENERAL:
   (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1750 lb./ac. (ii) (a) 885.4 lb./ac. (b) 827.9 lb./ac. (c) N.A. (iii) Main effects of V and N are highly significant. Others are not significant. (iv) Av. yield of grain in lb./ac.

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S.E. of V marginal mean = 114.2 lb./ac.
S.E. of N marginal mean = 119.5 lb./ac.
S.E. of K marginal mean = 75.6 lb./ac.

Crop: Paddy.

Site: Paddy Breeding Stn., Coimbatore.

Object: To find out the response of different varieties to application of N and K.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S + 150 lb./ac. of Super. (ii) (a) Clay loam. (b) N.A. (iii) 3.8.1958/17 to 23.9.1958. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10" x 4". (e) 2. (v) 5000 lb./ac. of G.L. + 150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding once. (ix) 22.4" (x) 3 to 5.1.1959.
2. TREATMENTS:

Strips in one direction:
6 varieties: $V_1 = CO - 10$, $V_2 = CO - 13$, $V_3 = CO - 18$, $V_4 = CO - 23$, $V_5 = TKM - 6$ and $V_6 = Culture - 6522$.

Strips in perpendicular direction:
All combinations of (1) and (2).
(1) 5 levels of $N$ as A/S: $N_0 = 0$, $N_1 = 15$, $N_2 = 30$, $N_3 = 45$ and $N_4 = 60$ lb./ac.
(2) 2 levels of $K_2O$ as Pot. Sul.: $K_4O = 0$ and $K_1 = 60$ lb./ac.

3. DESIGN:
(i) Strip-plot. (ii) (a) 60. (b) N.A. (iii) 4. (iv) (a) 19’x11’. (b) 17’4”x9’8”. (v) 9’10” left as border. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) (a) Aduthurai and Palur. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 1925 lb./ac. (ii) (a) 738.8 lb./ac. (b) 553.4 lb./ac. (c) 319.9 lb./ac. (iii) N and $N \times V$ effects are highly significant while effect of $V$ is significant. (iv) Av. yield of grain in lb./ac.

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</table>

Mean: 1554 1783 2152 2227 1882 1951 1925 1927 1923

S E. of difference of two
1. V marginal means = 165.2 lb./ac. 5. V means at the same level of N = 180.0 lb./ac.
2. N marginal means = 113.0 lb./ac. 6. K means at the same level of V = 116.8 lb./ac.
3. K marginal means = 71.4 lb./ac. 7. V means at the same level of K = 218.5 lb./ac.
4. N means at the same level of V = 184.6 lb./ac. S.E. of body of N $\times$ K table = 113.0 lb./ac.

Crop :- Paddy.
Site :- Paddy Breeding Stn., Coimbatore.
Ref :- M. 59(3).
Type :- ‘MV’.

Object :- To find out the response of different varieties to application of $N$ and $K$.

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super.
(ii) (a) Clay loam. (b) N.A. (iii) 22.7.1959/30, 31.8.1959. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10”x8”. (v) 2. (vi) 30 lb./ac. of G.L.+150 lb./ac. of Super. (vii) As per treatments. (viii) Irrigated. (ix) Weeding once. (x) 18 to 21.12.1959.

2. TREATMENTS:
Strips in one direction:
6 varieties: $V_1 = CO - 10$, $V_2 = CO - 13$, $V_3 = CO - 18$, $V_4 = CO - 23$, $V_5 = TKM 6$ and $V_6 = Culture - 6522$.

Strips in perpendicular direction:
(1) 5 levels of $N$ : $N_0 = 0$, $N_1 = 15$, $N_2 = 30$, $N_3 = 45$ and $N_4 = 60$ lb./ac.
(2) 2 levels of $K_2O$: $K_0 = 0$ and $K_1 = 30$ lb./ac.
3. DESIGN:
(i) Strip-plot. (ii) (a) 60. (b) N.A. (iii) 4. (iv) (a) 16'2"×9'6". (b) 14'6"×8'10". (v) 10'×4' left as border. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—contd. (modified in 1959). (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 1623 lb./ac. (ii) (a) 283.9 lb./jac. (b) 477.3 lb./jac. 

<table>
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<tr>
<th></th>
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S.E. of V marginal mean = 44.9 lb./ac.
S.E. of N marginal mean = 68.9 lb./ac.
S.E. of K marginal mean = 43.6 lb./ac.

- Crop :- Paddy.
- Site :- Paddy Breeding Stn., Coimbatore.
- Ref :- M. 58(139).
- Type :- 'MV'.

Object :- To find out the response of different varieties to application of N and K.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clayey loam. (b) N.A. (iii) 22.8.1958/7 to 10.10.1958.
(iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 10"×5". (e) 2. (f) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) N.A. (ix) 22.4". (x) 19 to 22.2.1959.

2. TREATMENTS:
Strip is one direction:
6 varieties: V1=GEB.24, V2=CO—1, V3=CO—2, V4=ASD.5, V5=ASD.11 and V6=Culture—6538.
Strip in perpendicular direction:
All combinations of (1) and (2)
(1) 5 levels of N : N0=0, N1=15, N2=30, N3=45 and N4=60 lb./ac.
(2) 2 levels of K1O: K0=0 and K1=60 lb./ac.

3. DESIGN:
(i) Strip-plot. (ii) (a) 60. (b) N.A. (iii) 4. (iv) (a) 17'6"×10'6". (b) 15'10"×9'8". (v) One row left as border. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.
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<th>( V_4 )</th>
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Mean

\[
\begin{array}{cccccc}
2711 & 2707 & 2539 & 2617 & 2676 & 3025 & 2712 & 2699 & 2726 \\
\end{array}
\]

S.E. of difference of two
1. V marginal means = 189.3 lb./ac. 5. V means at the same level of \( N \) = 292.0 lb./ac.
2. N marginal means = 69.7 lb./ac. 6. K means at the same level of V = 150.2 lb./ac.
3. K marginal means = 44.1 lb./ac. 7. V means at the same level of K = 219.5 lb./ac.
4. N means at the same level of V = 237.4 lb./ac. S.E. of body of \( N \times K \) table = 69.7 lb./ac.

**Crop :- Paddy (Samba).**

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

**Ref :- M. 58(126).**

**Type :- 'MV'.**

Object :- To study the effect of N and K on different varieties of Paddy.

1. **BASAL CONDITIONS :**
   (iv) (a) 4 ploughings. (b) Transplanting. (c) 25 lb./ac. (d) 10" x 5". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) N.A. (x) 23.1.1959 to 5.2.1959.

2. **TREATMENTS :**
   Strips in one direction : 4 Varieties : \( V_1 = \) Adt. 1, \( V_2 = \) Adt. 2, \( V_3 = \) Adt. 10 and \( V_4 = \) Adt. 25.
   Strips in perpendicular direction :
   All combinations of (1) and (2)
   (1) 5 levels of N as A/S: \( N_0 = 0 \), \( N_1 = 15 \), \( N_2 = 30 \), \( N_3 = 45 \) and \( N_4 = 60 \) lb./ac.
   (2) 2 levels of \( K_0 \) as Pot. Sul.: \( K_0 = 0 \) and \( K_1 = 60 \) lb./ac.

3. **DESIGN :**
   (i) Strip-plot. (ii) (a) 40. (b) N.A. (iii) 6. (iv) (a) and (b) 6'/8" x 14'. (v) Nil. (vi) Yes.

4. **GENERAL :**
   (i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) (a) Coimbatore, Aduthurai, Palur, Tirur, and Ambasamudram. (b) Nil. (vi) and (vii) Nil.

5. **RESULTS :**
   (i) 2533 lb./ac. (ii) (a) 609.1 lb./ac. (b) 488.0 lb./ac. (c) 342.2 lb./ac. (iii) Main effect of V is highly significant. Effect of N and interaction N x V are significant. (iv) Av. yield of grain in lb./ac.

\[
\begin{array}{cccccc}
\text{V} & \text{V}_1 & \text{V}_2 & \text{V}_3 & \text{V}_4 & \text{Mean} & \text{K}_0 & \text{K}_1 \\
\hline
\text{V}_0 & 2382 & 2655 & 2805 & 2878 & 2795 & 2703 & 2730 & 2672 \\
\text{V}_1 & 2062 & 2227 & 2090 & 2406 & 1940 & 2145 & 2145 & 2145 \\
\text{V}_2 & 2810 & 2772 & 2966 & 2874 & 3048 & 2894 & 2964 & 2824 \\
\text{V}_3 & 2134 & 2202 & 2534 & 2634 & 2456 & 2392 & 2425 & 2359 \\
\text{Mean} & 2347 & 2464 & 2598 & 2698 & 2560 & 2533 & 2566 & 2500 \\
\text{K}_0 & 2280 & 2422 & 2691 & 2727 & 2710 & 2280 & 2422 & 2691 \\
\text{K}_1 & 2414 & 2506 & 2504 & 2668 & 2410 & 2414 & 2506 & 2410 \\
\end{array}
\]
S.E. of difference of two

1. V marginal means = 111.2 lb./ac. 5. V means at the same level of N = 167.3 lb./ac.
2. N marginal means = 99.6 lb./ac. 6. K means at the same level of V = 59.1 lb./ac.
3. K marginal means = 63.0 lb./ac. 7. V means at the same level of K = 127.6 lb./ac.
4. N means at the same level of V = 156.7 lb./ac. S.E. of body of N×K table = 99.6 lb./ac.

Crop :- Paddy (Samba).

Object :- To study the effect of N and K on different varieties of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) N.A. (iii) 15.8:1959/7, 8.9.1959.
   (iv) (a) 4 Ploughings. (b) Transplanting. (c) 25 lb./ac. (d) 6"×6". (e) 2. (v) 5000 lb./ac. of G.L. +150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) N.A. (x) 7 to 10.2.1960.

2. TREATMENTS:
   Strips in one direction :
   4 varieties : V1 = Adt. 1, V2 = Adt. 2, V3 = Adt. 10 and V4 = Adt. 25.
   Strips in perpendicular direction :
   All combinations of (i) and (2) :
   (1) 5 levels of N : N0 =0, N1 =15, N2 =30, N3 =45 and N4 =60 lb./ac.
   (2) 2 levels of K0 : K0 =0 and K1 =30 lb./ac.

3. DESIGN:
   (i) Strip-plot. (ii) (a) 40. (b) N.A. (iii) 6. (iv) (a) and (b) 7'×14', (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) (a) Coimbatore, Aduthurai, Tirur, Ambasamudram and Palur. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1934 lb./ac., (ii) (a) 566.9 lb./ac. (b) 261.1 lb./ac. (c) 200.5 lb./ac. (iii) Main effect of V and interaction V×N are highly significant. Interaction V×K is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>V1</th>
<th>V2</th>
<th>V3</th>
<th>V4</th>
<th>Mean</th>
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</table>

S.E. of difference of two

1. V marginal means = 103.5 lb./ac. 5. V means at the same level of K = 126.8 lb./ac.
2. N marginal means = 53.3 lb./ac. 6. K means at the same level of V = 56.1 lb./ac.
3. K marginal means = 33.7 lb./ac. 7. V means at the same level of N = 109.8 lb./ac.
4. N means at the same level of V = 88.7 lb./ac. S.E. of body of N×K table = 53.3 lb./ac.
**Crop:** Paddy *(Thaladi)*.  
**Site:** Agri. Res. Stn., Pattukkottai.  
**Ref:** M. 58(106).  
**Type:** ‘MV’.

Object:—To study the effect of N and K on different varieties of Paddy.

1. **BASAL CONDITIONS:**

   (i) (a) Paddy—Paddy—Fallow.  
   (b) Paddy.  
   (c) As per treatments.  

   (ii) (a) Sandy loam.  
   (b) N.A.  


   (iv) (a) 4 ploughings.  
   (b) Transplanting.  
   (c) 25 lb./ac.  

   (d) 10’x5’.  

   (e) 2.  

   (f) 5000 lb./ac. of G.L.+150 lb./ac. of Super.  

   (vi) As per treatments.  

   (vii) Irrigated.  

   (viii) Weeding twice.  

   (ix) N.A.  

   (x) 12 to 15.3.1959.

2. **TREATMENTS:**

   **Strips in one direction:**

   6 varieties: V_1, V_2, V_3, V_4, V_5, V_6.  

   V_1 = Adt. 8, V_2 = Adt. 21, V_3 = Adt. 22, V_4 = Adt. 24 and V_5 = Adt. 25.  

   **Strips in perpendicular direction:**

   All combinations of (1) and (2)

   (1) 5 levels of N: N_0 = 0, N_1 = 15, N_2 = 30, N_3 = 45 and N_4 = 60 lb./ac.

   (2) 2 levels of K: K_0 = 0 and K_1 = 30 lb./ac.

3. **DESIGN:**

   (i) Strip-plot.  

   (ii) 60.  

   (iii) N.A.  

   (iv) (a) and (b) 10’x10’.  

   (v) Nil.  

   (vi) Yes.

4. **GENERAL:**

   (i) Satisfactory.  

   (ii) Nil.  

   (iii) Grain yield.  

   (iv) (a) 1953—contd.  

   (b) Yes.  

   (c) Nil.  

   (v) (a) Coimbatore, Aduthurai, Tirur, Palur and Ambasamudram.  

   (b) N.A.  

   (vii) and (vii) Nil.

### RESULTS:

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S.E. of difference of two

1. V marginal means = 116.8 lb./ac.  
2. N marginal means = 63.3 lb./ac.  
3. K marginal means = 40.0 lb./ac.  
4. N means at the same level of V = 107.8 lb./ac.  

S.E. of body of N×K table = 63.3 lb./ac.

---

**Crop:** Paddy *(Thaladi)*.  
**Site:** Agri. Res. Stn., Pattukkottai.  
**Ref:** M. 59(79).  
**Type:** ‘MV’.

Object:—To study the effect of N and K on different varieties of Paddy.

1. **BASAL CONDITIONS:**

   (i) (a) Paddy—Paddy—Fallow.  
   (b) Paddy.  
   (c) As per treatments.  

   (ii) (a) Sandy loam.  
   (b) N.A.  

   (iii) 12.10.1959/19.11.1959.  

   (iv) (a) 4 ploughings.  
   (b) Transplanting.  
   (c) 25 lb./ac.  

   (d) 6’x6’.  

   (e) 2.  

   (f) 5000 lb./ac. of G.L.+150 lb./ac. of Super.  

   (vi) As per treatments.  

   (vii) Irrigated.  

   (viii) Weeding twice.  

   (ix) N.A.  

   (x) 11 to 14.3.1960.
2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 58(106) on page 126.

5. RESULTS:
(i) 5631 lb/ac. (ii) (a) 3815 lb/ac. (b) 1546 lb/ac. (c) 1027 lb/ac. (iii) Main effect of N is highly significant and effect of V and interaction VxK are significant. (iv) Av. yield of grain in lb/ac.

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<th>V₃</th>
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Means

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S.E. of difference of two
1. V marginal means = 853 lb/ac. 5. V means at the same level of N = 969 lb/ac.
4. N means at the same level of V = 565 lb/ac. S.E. of body of NxK table = 316.0 lb/ac.

Crops:- Paddy (Samba).
Site:- Rice Res. Stn., Tirur.
Ref:- M. 58(38).
Type:- 'MV'.

Object:-To study the effect of N and K on different varieties of Paddy.

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb/ac. of G.L.+150 lb/ac. of Super. (ii) (a) Light clayey. (b) Refer soil analysis, Tirur. (iii) 1.9.1958/1, 2.11.1958. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) 2) to 3 lb/ac. (d) 10'x5'. (e) 3. (v) 5000 lb/ac. of G.L.+150 lb/ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice and intercultivation one month after planting. (ix) 32'-17'. (x) 20.1.1959 and 2, 13, 17.2.1959.

2. TREATMENTS:
Strips in one direction:
Strips in perpendicular direction.
All combinations of (1) and (2).
(1) 5 levels of N: N₀=0, N₁=15, N₂=30, N₃=45 and N₄=60 lb/ac.
(2) 2 levels of K₀: K₀=0 and K₁=30 lb/ac.

3. DESIGN:
(i) Strip-plot. (ii) (a) 60. (b) N.A. (iii) 4. (iv) (a) 23'X6'. (b) 21'X5'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) No. (iii) Grain yield. (iv) 1958—contd. (b) Yes. (c) Nil. (v) (a) Aduthurai, and Ambasamudram. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 3282 lb/ac. (ii) (a) 521.4 lb/ac. (b) 273.3 lb/ac. (c) 299.9 lb/ac. (iii) Main effects of V and N are highly significant. (iv) Av. yield of grain in lb/ac.
Object:—To study the effect of N and K on different varieties of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (ii) (a) Light clayey soil. (b) Refer soil analysis, Tirur. (iii) 15.7.1959/26, 28.8.1959. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) 21 to 3 lb./ac. (d) 10"x5". (e) 2. (v) 5000 lb./ac. of G.L.+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) Weedings and intercultivation one month after planting. (ix) 39.40'. (x) 2, 30.12.1959 and 18.1.1960.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 58(38) on page 127.

5. RESULTS:
   (i) 1442 lb./ac. (ii) (a) 642.2 lb./ac. (b) 294.8 lb./ac. (c) 330.9 lb./ac. (iii) Main effect of V is highly significant and effect of N is significant. (iv) Av. yield of grain in lb./ac.

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<th>V₂</th>
<th>V₃</th>
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<td>1218</td>
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S.E. of difference of two
1. V marginal means  = 143.6 lb./ac.  5. V means at the same level of N  = 206.2 lb./ac.
2. N marginal means  = 60.2 lb./ac.  6. K means at the same level of V  = 102.8 lb./ac.
3. K marginal means  = 38.1 lb./ac.  7. V means at the same level of K  = 161.5 lb./ac.
4. N means at the same level of V  = 162.6 lb./ac.  S.E. of body of NXK table  = 60.2 lb./ac.
Object:—Type VIII—To study the response of different varieties of Paddy to N and P.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 3000 lb./ac. of G.L. (ii) (a) Clayey loam. (b) N.A. (iii) 19.6.1954 15.7.1954. (iv) (a) 4 ploughings. (b) Transplanting. (c) 50 lb./ac. (d) 4'×4'. (e) 2. (v) 3000 lb./ac. of G.L. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 27.00'. (x) 30.9.1954.

2. TREATMENTS:
   All combinations of (1), (2) and (3).
   (i) 3 levels of N as A/S: N₀ = 0, N₁ = 20 and N₂ = 40 lb./ac.
   (ii) 3 levels of P as Triple Super: P₀ = 0, P₁ = 20 and P₂ = 40 lb./ac.
   (iii) 3 varieties: V₁ = Adit. 3, V₂ = Adit. 4 and V₃ = Adit. 20.

3. DESIGN:
   (i) 3³ confd. (ii) (a) 9 plots/block; 3 blocks/replication. (b) N.A. (iii) 1. (iv) (a) 36'×18'. (b) 34'×16'. (v) 2'×2'. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain yield and other biometric observations. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 357.0 lb./ac. (ii) 121.0 lb./ac. (iii) Main effect of N, P and V and interactions N×V and P×V are significant. Interaction N×P is not significant. (iv) Av. yield of grain in lb./ac.

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<th>N₂</th>
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<td>3492</td>
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</table>

S.E. of any marginal mean = 40.3 lb./ac.
S.E. of body of any table = 70.0 lb./ac.
4. GENERAL:
   Same as in expt. no. 54 (TCM) on page 129.

5. RESULTS:
   (i) 2853 lb./ac.  (ii) 190.6 lb./ac.  (iii) Main effects of N, P and V are significant and others are not significant.  (iv) Av. yield of grain in lb./ac.

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<tr>
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<th>$N_2$</th>
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<td>2853</td>
<td>2802</td>
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S.E. of any marginal mean = 50.2 lb./ac.
S.E. of body of any table = 86.9 lb./ac.

Crop: Paddy (Samba).
Ref: M. 56(37).
Type: 'C'.

Object: To compare the wave shaped method of rice cultivation with the Japanese and farm methods.

1. BASAL CONDITIONS:
   (i) (a) Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 10.8.1956/29.9.1956. (iv) (a) 4 ploughings. (b) As per treatments. (c) 30 lb./ac.  (d) As per treatments.
   (e) N.A.  (v) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super.  (vi) Act. 1 (late).  (vii) Irrigated.  (viii) 2 weedings, 4 intercultivations and earthing up. (ix) 29.24".  (x) 28.1.1957.

2. TREATMENTS:
   6 methods of planting: $M_1$=Farm method; $M_2$=Local method; $M_3$=Wave-shape method of planting with $16''x4''$ spacing, $M_4$=Wave-shape method of planting with $2''-6''x2''$ spacing, $M_5$=Wave-shape method of planting with $10''x5''$ spacing, and $M_6$=Japanese method of planting with $10''x5''$ spacing.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 6.  (b) N.A.  (iii) 8.  (iv) (a) $40'x7'$.  (b) $39'6''x7'$, $39'8''x6'$, $39'9''x5'$ and $39'7''x6''$ for treatments $M_1$, $M_2$, $M_3$, $M_4$, $M_5$ and $M_6$ respectively.  (v) One row left.  (vi) Yes.

4. GENERAL:
   (i) Satisfactory.  (ii) Nil.  (iii) Yield of grain.  (iv) (a) 1956—1958.  (b) No.  (c) Nil.  (v) 'a Coimbatore and Ambasamudram.  (b) N.A.  (vi) and (vii) Nil.

5. RESULTS:
   (i) 3180 lb./ac.  (ii) 279.4 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
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<th>$M_2$</th>
<th>$M_3$</th>
<th>$M_4$</th>
<th>$M_5$</th>
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<td>3954</td>
<td>3667</td>
<td>3668</td>
<td>3917</td>
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S.E./mean = 98.8 lb./ac.

Crop: Paddy (Samba).
Ref: M. 57(30).
Type: 'C'.

Object: To compare the wave-shape method of rice cultivation with the Japanese and farm method.
1. BASAL CONDITIONS:
   (i) (a) Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 10.8.1957/21.9.1957. (iv) (a) 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) As per treatments. (e) —. (v) G.L. at 5000 lb./ac. + 150 lb./ac. of Super as basal dressing + 150 lb./ac. of A/S as top-dressing one month after planting. (vi) Adt. 1 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 28.78". (x) 2.2.1958.

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 56(37) on page 130.

5. RESULTS:
   (i) 1781 lb./ac. (ii) 261.9 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

   Treatment | M1 | M2 | M3 | M4 | M5 | M6
   Av. yield  | 1836 | 1714 | 1867 | 2067 | 1646 | 1558
   S.E./mean  | 92.6 lb./ac.

   Crop :- Paddy (*Karuvai*).
   Ref :- M. 58(89).
   Type :- 'C'.

Object :- To compare the wave shaped method of rice cultivation with the Japanese and farm methods.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S + 150 lb./ac. of Super. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 14.7.1958/11.8.1958. (iv) (a) 3 to 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) As per treatments. (e) N.A. (v) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S + 150 lb./ac. of Super. (vi) Adt. 3. (early). (vii) Irrigated. (viii) One weeding. (ix) 20.25". (x) 23.10.1958.

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 56(37) on page 130.

5. RESULTS:
   (i) 1618 lb./ac. (ii) 149.1 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

   Treatment | M1 | M2 | M3 | M4 | M5
   Av. yield  | 1524 | 1539 | 1853 | 1308 | 1759 | 1725
   S.E./mean  | 52.71 lb./ac.

   Crop :- Paddy (*Samba*).
   Ref :- M. 58(90).
   Type :- 'C'.

Object :- To compare the wave-shape method of rice cultivation with the Japanese and farm methods.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S + 150 lb./ac. of Super. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 26.7.1958/6.9.1958. (iv) (a) 3 to 4 ploughings. (b) As per treatments. (c) 25 lb./ac. (d) As per treatments. (e) N.A. (v) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S + 150 lb./ac. of Super. (vi) CO—25. (vii) Irrigated. (viii) 2 weedings. (ix) 26.57". (x) 5.2 1959.

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 56(37) on page 130.

5. RESULTS:
   (i) 3539 lb./ac. (ii) 206.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.
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<tr>
<th>Treatment</th>
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S.E./mean = 73.0 lb./ac.

Crop: Paddy (Kar).

Site: Rice Res. Stn., Ambasamudram.

Object: To find the effect of different methods of Paddy cultivation.

1. BASAL CONDITIONS:

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (jii) (a) Clay loam. (b) Refer soil analysis, Ambasamudram. (iii) 25.6.1956/28.7.1956. (iv) (a): 4 ploughings.

(b) As per treatments. (c) 30 lb./ac. (d) As per treatments. (e) N.A. (v) As under (i), (c) above. (vi) ASD.1 (vii) Irrigated. (viii) One weeding. (ix) 2.28". (x) 25.10.1956.

2. TREATMENTS:


3. DESIGN:

(i) R.B.D. (ii) (a) 6. (b) 30'×45'. (iii) 8. (iv) (a) 30'×71'. (b) Varies as per treatments. (v) One row left as border. (vi) Yes.

4. GENERAL:

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

5. RESULTS:

(i) 4744 lb./ac. (ii) 192.3 lb./ac. (iii) Treatments are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
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<th>M3</th>
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S.E./mean = 68.0 lb./ac.
Crop :— Paddy \((\text{Kar})\).

Site :— Rice Res. Stn., Ambasamudram.

Object :— To find out the effect of different methods of Paddy cultivation.

1. BASAL CONDITIONS :
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 19.6.1958/22.7.1958. (vi) (a) 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) As per treatments. (e) —. (v) As under (i) (c) above. (vi) ASD. 1. (vii) Irrigated. (viii) Weeding once. (ix) 4.02°. (x) 14.10.1958.

2. TREATMENTS to 4. GENERAL :
   Same as in expt. no. 56(66) on page 132.

5. RESULTS :
   (i) 3715 lb./ac. (ii) 186.1 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
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<tr>
<th>Treatment</th>
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<th>M₃</th>
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<tr>
<td>Av. yield</td>
<td>4124</td>
<td>3749</td>
<td>3715</td>
<td>3196</td>
<td>3945</td>
<td>3560</td>
</tr>
</tbody>
</table>

S.E./mean = 65.8 lb./ac.

Crop :— Paddy \((\text{Pishanam})\).

Site :— Rice Res. Stn., Ambasamudram.

Object :— To find the effect of different methods of Paddy cultivation.

1. BASAL CONDITIONS :
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 16.9.1958/11.11.1958. (iv) (a) 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) As per treatments. (e) N.A. (v) As under (i) (c) above. (vi) CO—19. (vii) Irrigated. (viii) 2 weedings. (ix) 18.33°. (x) 3.3.1959.

2. TREATMENTS :
   6 methods of planting: M₁=Farm method of planting with \(6\times6\)" spacing, M₂=Local method of planting (Bulk), M₃=Wave-shape method of planting with \(1\frac{1}{2}\times4\)" spacing, M₄=Wave-shape method of planting with \(2\frac{1}{2}\times2\frac{1}{2}\)" spacing, M₅=Wave shaped method of planting with \(10\times6\)" spacing and M₆=Japanese method of planting with \(10\times6\)" spacing.

3. DESIGN :
   (i) R.B.D. (ii) (a) 6. (b) \(30\times45\)°. (iii) 8. (iv) (a) \(30\times7\frac{1}{2}\)°. (b) Varying as per treatments. (v) One row left. (vi) Yes.

4. GENERAL :
   (i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :
   (i) 5520 lb./ac. (ii) 505.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.
Crop : Paddy (Samba).
Site : Paddy Breeding Stn., Coimbatore.
Ref : M. 56(55).
Type : 'C'.

Object :—To compare the wave-shape method of Paddy cultivation with the modified Japanese and local methods.

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) N.A. (iii) 1.9.1956:15.10.1956. (iv) (a) 3 to 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) As per treatments. (e) N.A. (f) As under (i) (c) above. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) 15.05”. (x) 3.3.1957.

2. TREATMENTS:
6 methods of planting : M_1=Modified Japanese method (farm method) with 10’x5’ spacing, M_2=Local method bulk planting) with 10’x5’ spacing, M_3=Wave-shape method of planting with 18’x4’ spacing, M_4=Wave-shape method of planting with 30’x21’ spacing, M_5=Wave-shape method of planting with 10’x5’ spacing and M_6=Japanese method of planting with 10’x5’ spacing.

3. DESIGN:
(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 8. (iv) (a) Nil. (b) 2’x25’. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—contd. (b) Yes. (c) Nil. (v) (a) Pattukkottai, Ambasamudram and Palur. (b) Nil. (vi) and (vii) Nil.

5 RESULTS:
(i) 2988 lb./ac. (ii) 236.7 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M_1</th>
<th>M_2</th>
<th>M_3</th>
<th>M_4</th>
<th>M_5</th>
<th>M_6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3258</td>
<td>2999</td>
<td>2961</td>
<td>2706</td>
<td>3114</td>
<td>2889</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>83.7 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop : Paddy (Samba)
Site : Paddy Breeding Stn., Coimbatore.
Ref : M. 57 (45).
Type : ‘C’

Object :—To compare the wave-shape method of Paddy cultivation with farm method and local method.

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) N.A. (iii) 5.8.1957:29.9.1957. (iv) (a) 3 to 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) As per treatments. (e) N.A. (f) As under (i) (c) above. (vi) CO—25 (late) (vii) Irrigated. (viii) 2 weedings. (ix) 18.75”. (x) 10.2.1958.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 56(55) above.

5. RESULTS:
(i) 6230 lb./ac. (ii) 329.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.
Crop: Paddy.  
Site: Paddy Breeding Stn., Coimbatore.  
Ref: M. 58(5).  
Type: 'C'.

Object: To find the effect of different methods of Paddy cultivation.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy.  (b) Paddy.  (c) 5000 lb./ac. of G.L. + 150 lb./ac. of Super + 150 lb./ac. of A/S.  (ii) (a) Clay loam.  (b) N.A.  (iii) 20.8.1958/21 and 22.10.1958.  (iv) (a) 4 ploughings  (b) to (d) As per treatments.  (c) N.A.  (v) As under (i) (c) above.  (vi) CO—25 (medium).  (vii) Irrigated: (viii) N.A.  (ix) N.A.  (x) 21.2.1959.

2. TREATMENTS and 3. DESIGN:
   Same as in exp. no. 56(55) on page 134.

4. GENERAL:
   (i) Satisfactory.  (ii) Nil.  (iii) Yield of grain.  (iv) (a) 1956—1958.  (b) No. (c) Nil.  (v) (a) and (b) Nil.  (vi) and (vii) Nil.

5. RESULTS:
   (i) 3740 lb./ac.  (ii) 201.3 lb./jac.  (iii) Treatment differences are highly significant.  (iv) Av. yield of grain in lb./jac.

Treatment

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
<th>M5</th>
<th>M6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>5910</td>
<td>3636</td>
<td>3827</td>
<td>3509</td>
<td>3779</td>
<td>3780</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>71.2 lb./jac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5. RESULTS:
(i) 4065 lb./ac.  (ii) (a) 2496 lb./ac.  (b) 321 lb./ac.  (iii) None of the effects is significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>R</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>4121</td>
<td>4121</td>
<td>3705</td>
<td>4197</td>
<td>4387</td>
<td>4046</td>
</tr>
<tr>
<td>R2</td>
<td>4387</td>
<td>4159</td>
<td>4311</td>
<td>3592</td>
<td>3932</td>
<td>3819</td>
</tr>
<tr>
<td>Mean</td>
<td>4254</td>
<td>4140</td>
<td>4008</td>
<td>3895</td>
<td>4159</td>
<td>3393</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. R marginal means = 720.5 lb./ac.
2. S marginal means = 160.5 lb./ac.
3. S means at the same level of R = 226.9 lb./ac.
4. R means at the same level of S = 749.7 lb./ac.

Crop :- Paddy.
Site :- Paddy Breeding Stn., Coimbatore.
Ref :- M. 54(59).
Type :- 'C'.

Object :- To test whether ridging has got any beneficial effect on the yield of Paddy crop.

1. BASAL CONDITIONS:
(i) (a) Nil.  (b) Paddy.  (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super.  (ii) (a) Clay loam.  (b) N.A.  (iii) 11.9.1954—30.10.1954.  (iv) (a) 3 to 4 ploughings.  (b) Transplanting.  (c) 30 lb./ac.
(d) As per treatments.  (e) 2.  (v) As under (i) (c) above.  (vi) CO—25 (medium).  (vii) Irrigated.  (viii) 2 weeding.
(ix) 15.43'.  (x) 15.3.1955.

2. TREATMENTS
All combinations of (1) and (2)
(1) R0—No ridging and R1=Ridging.
(2) 3 spacings: S1=6′×6′, S2=9′×4′ and S3=12′×4′.
Ridging was done 30 days after planting and rectified 3 times at an interval of 15 days.

3. DESIGN:
(i) R.B.D. Fact.  (ii) 6.  (b) N.A.  (iii) 6.  (iv) (a) and (b) 9′×20′.  (v) Nil.  (vi) Yes.

4. GENERAL:
(i) Fair.  (ii) Nil.  (iii) Yield of grain.  (iv) (a) 1954—1956.  (b) Yes.  (c) Nil.  (v) (a) and (b) Nil.  (vi)
and (vii) The details are received from the Res. Stn.

5. RESULTS:
(i) 3692 lb./ac.  (ii) 298.4 lb./ac.  (iii) Main effects and interaction are not significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>R0</td>
<td>5754</td>
<td>3660</td>
<td>3604</td>
</tr>
<tr>
<td>R1</td>
<td>3727</td>
<td>3751</td>
<td>3634</td>
</tr>
<tr>
<td>Mean</td>
<td>3741</td>
<td>3706</td>
<td>3629</td>
</tr>
</tbody>
</table>

S.E. of S marginal mean = 86.14 lb./ac.
S.E. of R marginal mean = 70.33 lb./ac.
S.E. of body of table = 121.82 lb./ac.
Crop :: Paddy.  
Site :: Paddy Breeding Stn., Coimbatore.  

Object :: To test whether ridging has got any beneficial effect on the yield of Paddy crop.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) Paddy.  (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super.
   (ii) (a) Clay loam.  (b) N.A.  (iii) 18.8.1955./28.10.1955.  (iv) (a) 4 ploughings.  (b) Transplanting.  (c) 30 lb./ac.  (d) As per treatments.
   (e) 2.  (v) As under (i) (c) above.  (vi) CO-25 (medium).  (vii) Irrigated.  (viii) Weeding twice.
   (ix) N.A.  (x) 6.3.1956.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 54(59) on page 136.

3. RESULTS:
   (i) 2775 lb./ac.  (ii) 254.3 lb./ac.  (iii) None of the effects is significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S₁</th>
<th>S₂</th>
<th>S₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>R₀</td>
<td>2636</td>
<td>2746</td>
<td>2943</td>
<td>2775</td>
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<td>R₁</td>
<td>2724</td>
<td>2749</td>
<td>2850</td>
<td>2774</td>
</tr>
<tr>
<td>Mean</td>
<td>2680</td>
<td>2748</td>
<td>2897</td>
<td>2775</td>
</tr>
</tbody>
</table>

   S.E. of S marginal mean = 73.4 lb./ac.
   S.E. of R marginal mean = 59.9 lb./ac.
   S.E. of body of table = 103.8 lb./ac.

---

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

Object :: To test whether ridging has got any beneficial effect on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) Paddy.  (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super.
   (ii) (a) Clay loam.  (b) N.A.  (iii) 25.8.1956!19.9.1956.  (iv) (a) 3 to 4 ploughings.  (b) Transplanting.  (c) 30 lb./ac.  (d) As per treatments.
   (e) 2.  (v) As under (i) (c) above.  (vi) CO-25 (medium).  (vii) Irrigated.  (viii) Weeding twice.  (ix) N.A.  (x) 17.2.1957.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 54(59) on page 136.

3. RESULTS:
   (i) 3369 lb./ac.  (ii) 369 lb./ac.  (iii) Effect of R is significant. Others are not significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S₁</th>
<th>S₂</th>
<th>S₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>R₀</td>
<td>3537</td>
<td>3489</td>
<td>3565</td>
<td>3530</td>
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<tr>
<td>R₁</td>
<td>3001</td>
<td>3370</td>
<td>3254</td>
<td>3208</td>
</tr>
<tr>
<td>Mean</td>
<td>3269</td>
<td>3429</td>
<td>3410</td>
<td>3369</td>
</tr>
</tbody>
</table>

   S.E. of S marginal mean = 106.5 lb./ac.
   S.E. of R marginal mean = 87.0 lb./ac.
   S.E. of body of table = 150.6 lb./ac.
Crop :- Paddy (Kharif).
Site :- Agri. Res. Stn., Nagercoil.

Object :- To compare transplanting with direct method of Paddy cultivation.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) 2000 lb./ac. of G.L. (ii) (a) Heavy clay—alkaline in reaction. (b) N.A. (iii) 30.8.1955/20.10.1955. (iv) (a) 6 ploughings. (b) and (c) As per treatments. (d) 10" apart. (e) 1. (v) 1200 lb./ac. of G.L. (vi) Valsiramurutan (late). (vii) Irrigated. (viii) 2 weedicings and 2 intercultures. (ix) 26.75". (x) T1 = 2.2.1956 and T2 = 17.2.1956.

2. TREATMENTS:
   2 cultural treatments: T1 = Dibbling in lines—1080 sprouted seeds/plot. T2 = Transplanting—1080 seedling/plot.

3. DESIGN:
   (i) L. Sq. (ii) 2. (b) N.A. (iii) 12. (iv) (a) 10" X 102". (b) 8" X 100". (v) 1" X 1". (vi) Yes.

4. GENERAL:
   (i) Standard good; lodged after setting grains. (ii) Nil. (iii) Grain and straw yield. (iv) A. N.A. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 3444 lb./ac. (ii) 374.1 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3767</td>
<td></td>
</tr>
</tbody>
</table>

S.E./mean = 108 lb./ac.

Crop :- Paddy.
Site :- Sugarcane Res. Stn., Gudiyatham.

Object :- To find out the merits of ridging and the optimum spacing required for ridging.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Sugarcane. (c) Sanhhemp at 2500 lb./ac. and A/S at 378 lb./ac. (ii) (a) Sandy loam. (b) N.A. (iii) 5.8.1955. (iv) (a) 2 ploughings. (b) Drilling. (c) 30 lb./ac. (d) As per treatments (e) 2. (v) 10 C.L. of F.Y.M. broadcast and ploughed a week before planting. (vi) Adt. 22 (medium). (vii) Irrigated. (viii) Hand hoeing and weeding. (ix) 21.45". (x) 11.1.1956.

2. TREATMENTS:
   All combinations of (1) and (2)
   (1) 2 methods of planting: R0 = No ridging and R1 = Ridging.
   2) 3 spacings: S1 = 6" X 6", S2 = 9" X 4" and S3 = 12" X 4".

3. DESIGN:
   (i) Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) and (b) 20" X 15". (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—contd. (b) No. (c) Nil. (v) Nil. (vi) (a) and (b) Nil. (vii) and (viii) Nil.

5. RESULTS:
   (i) 1066 lb./ac. (ii) 130.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb. ac.

<table>
<thead>
<tr>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>Mean</th>
</tr>
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<tbody>
<tr>
<td>1064</td>
<td>1083</td>
<td>948</td>
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<td>1119</td>
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</tr>
<tr>
<td>Mean</td>
<td>1092</td>
<td>1092</td>
<td>1015</td>
</tr>
</tbody>
</table>
Crop: Paddy (Sornavari).

Object: To compare the wave-shape method with the modified Japanese and local methods of Paddy cultivation.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S + 150 lb./ac. of Super.
   (ii) (a) Clayey loam. (b) Refer soil analysis, Palur.
   (iii) 12.7-1956/5.8.1956.
   (iv) (a) 4 ploughings. (b) As per treatments.
   (c) 30 lb./ac.
   (d) and (e) As per treatments.
   (v) As under (i) (c) above. (vi) TKM—6 (early). (vii) Irrigated.
   (viii) As per treatments. (ix) 25.65°. (x) 26.10.1956.

2. TREATMENTS:
   6 methods of planting: M1 = Farm method of planting with 4" X 4" spacing, M2 = Local method of planting in 6" X 6" spacing, M3 = Wave-shape method of planting in 18" X 4" spacing, M4 = Wave-shape method of planting in 30" X 2" spacing, M5 = Wave-shape method of planting in 10" X 5" spacing and M6 = Japanese method of planting in 10" X 5" spacing.
   Interculture operations: M1 and M2: One weeding on 30th day of planting, for M3 to M5: 4 intercultivations by rotary weeder on 5th, 10th, 15th, and 30th days and 2 ridgings on 15th and 30th day after planting, and for M6: 2 intercultivations on 15th and 30th day after planting. No. of seedlings/hole is 6 for M2 and 4 for other treatments.

3. DESIGN:
   (i) R.B.D. (ii) 6. (b) N.A. (iii) 8. (iv) (a) 28° X 8°. (b) 27° X 7°. (v) One row left. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Height, tiller count and grain yield. (iv) (a) 1956—1958. (b) No. (c) Nil.
   (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 342 lb./ac. (ii) 155.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
<th>M5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3643</td>
<td>3181</td>
<td>3629</td>
<td>2992</td>
<td>3550</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>55.1 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop: Paddy (Samba).

Object: To compare the wave-shape method with the modified Japanese and local methods of Paddy cultivation.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S + 150 lb./ac. of Super.
   (ii) (a) Clayey loam. (b) Refer soil analysis, Palur.
   (iv) (a) 4 ploughings. (b) As per treatments.
   (c) 30 lb./ac.
   (d) and (e) As per treatments.
   (v) As under (i) (c) above. (vi) CO—25 (late). (vii) Irrigated.
   (viii) As per treatments. (ix) 35.57°. (x) 27.2.1957.

2. TREATMENTS:
   6 methods of planting: M1 = Farm method of planting at 6" X 6" spacing, M2 = Local method of planting bulk at 6" X 6" spacing, M3 = Wave-shape method of planting in lines of 18" X 4" spacing, M4 = Wave-shape method of planting in lines of 30" X 2" spacing, M5 = Wave-shape method of planting in lines of 10" X 5" spacing and M6 = Japanese method of planting in lines of 10" X 5" spacing.
Intercultural Operations for M_1 and M_2: Weeding once on the 30th day, for M_3, M_4 and M_5: Intercultivations on 5th, 10th, 15th, 30th and 45th day and ridging on the 15th, 30th and 45th day after planting, and for M_6: 2 intercultivations on 15th and 30th day after planting. No. of seedlings, hole is 6 for M_2 and 4 for other treatments.

3. DESIGN:
Same as in expst. no. 56(49) on page 139.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Height, tiller count and grain yield. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 4548 lb./ac. (ii) and (iii) N.A. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M_1</th>
<th>M_2</th>
<th>M_3</th>
<th>M_4</th>
<th>M_5</th>
<th>M_6</th>
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<tbody>
<tr>
<td>Av. yield</td>
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<td>4463</td>
<td>4721</td>
<td>4083</td>
<td>4558</td>
<td>4638</td>
</tr>
</tbody>
</table>

**Crop :- Paddy (Sornavari).**

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

Object :- To find the effect of different methods of Paddy cultivation.

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. G.L.+150 lb./ac. of A/S+150 lb./ac. of Supr. (ii) a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 1.6.1957/3.7.1957. (iv) (a) 4 ploughings. (b) As treatments. (c) 30 lb./ac. (d) and (e) As per treatments. (v) As under (i), (c) above. (vi) TKM—6. (vii) Irrigated. (viii) 2 weedings. (ix) 15.50'. (x) 22.9.1957.

2. TREATMENNS:
6 methods of planting: M_2—Farm method of planting with 4'x4' spacing, M_3=Local methods of planting with 6"x4" spacing, M_4=Wave-shape method of plantimg with 18"x4" spacing, M_5=Wave-shape method of planting with 30"x2' spacing, M_6=Wave-shape method of planting with 10"x5' spacing and M_7=Japanese method of planting with 10"x5' spacing.

3. DESIGN:
(i) R.B.D. (ii) 6. (b) N.A. (iii) 8. (iv) (a) 30'x6'. (b) 29'4''x5', 29'4''x5', 29'4''x4', 29'10''x3', 29'7''x5'2', and 29'7''x5'2' for treatments M_1 to M_6 respectively. (v) One row left. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 354 lb./ac. (ii) 200.6 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M_1</th>
<th>M_2</th>
<th>M_3</th>
<th>M_4</th>
<th>M_5</th>
<th>M_6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3509</td>
<td>3845</td>
<td>3222</td>
<td>3486</td>
<td>3634</td>
<td>3630</td>
</tr>
</tbody>
</table>

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

---

**Crop :- Paddy (Sornavari).**

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

Object :- To find the effect of different methods of Paddy cultivation.
1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. +150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 28.5.1958/26.6.1958. (iv) (a) 4 ploughings. (b) As per treatments, (c) 30 lb./ac. (d) and (e) As per treatments. (v) As under (i) (c) above. (vi) TKM. 6 (short). (vii) Irrigated. (viii) 2 weedings. (ix) 16.5°. (x) 19.9.1958.

2. TREATMENTS:

   No. of seedlings/hole is 2 for treatment M₃, 6 for M₄ and 4 for others.

3. DESIGN:
   (i) R.B.D. (ii) 6. (b) N.A. (iii) 8. (iv) (a) 30'×71'. (b) 291/₄'×6', 291/₄'×7', 291/₄'×6', 29' 91/₄'×5', 29' 71/₄'×6' and 29' 7'×6' 8' for M₁ to M₆ respectively. (v) One row left. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) Colmbatore, Tirur, Adathurai, Ambasamudram and Pattukkottai. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2419 lb./ac. (ii) 201.3 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

   Treatment
   M₁    M₂    M₃    M₄    M₅    M₆
   Av. yield 2821 2494 2128 1817 2639 2617
   S E./mean = 71.2 lb./ac.

---

Crop :- Paddy (Thaladi).
Ref :- M. 58(124).
Type :- 'C'.

Object — To find the effect of different methods of Paddy cultivation.

1. BASAL CONDITIONS:
   (a) (i) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 16.8.1958/13, 14.9.1958. (iv) (a) 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) and (e) As per treatments. (v) As under (i) (c) above. (vi) CO—2 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 32.8°. (x) 20.1.1959.

2. TREATMENTS:

3. DESIGN:
   (i) R.B.D. (ii) 6. (b) N.A. (iii) 8. (iv) (a) 30'×71'. (b) 291/₄'×7', 291/₄'×6', 29' 91/₄'×5', 29' 71/₄'×6' and 29' 7'×6' 8' for M₁ to M₆ respectively. (v) One row left. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 2419 lb./ac. (ii) 201.3 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.
Treatment Av. yield
M1 M2 M3 M4 M5 M6
Av. yield 1916 1696 1958 1671 2192 2062
S.E./mean = 101.8 lb./ac.

**Crop :- Paddy (Samba).**
**Site :- Agri. Res. Sta., Palur.**
Ref :- M. 58(125).
Type :- 'C'.

Object :- To find the effect of different methods of Paddy cultivation.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clay loam. (b) Refer soil analysis, Palur. (iii) 2.9.1958; 31.10.1958. (iv) (a) 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) and (e) As per treatments. (v) As under (i) (c) above. (vi) CO—25. (vii) Irrigated. (viii) 2 weedings. (ix) 32.5 0. (x) 8.3.1959.

2. TREATMENTS to 4. GENERAL :
   Same as in expt. no. 58(124) on page 141.

5. RESULTS :
   (i) 2044 lb./ac. (ii) 459.3 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
<th>M5</th>
<th>M6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2316</td>
<td>2328</td>
<td>1942</td>
<td>1261</td>
<td>2149</td>
<td>2267</td>
</tr>
<tr>
<td>S.E./mean = 162.4 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Crop :- Paddy (Vazurai).**
**Site :- Agri. Res. Sta., Palur.**
Ref :- M. 59(94).
Type :- 'C'.

Object :- To find the effect of different methods of Paddy cultivation.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Cl., loam. (b) Refer soil analysis, Palur. (iii) 31.1.1959. (iv) (a) 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) and (e) As per treatments. (v) As under (i) (c) above. (vi) CO—2. (vii) Irrigated. (viii) 2 weedings. (ix) 7.8 0. (x) 29.4.1959.

2. TREATMENTS to 4. GENERAL :
   Same as in expt. no. 58(124) on page 141.

5. RESULTS :
   (i) 2360 lb./ac. (ii) 249.1 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
<th>M5</th>
<th>M6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2766</td>
<td>2523</td>
<td>2342</td>
<td>1338</td>
<td>2481</td>
<td>2708</td>
</tr>
<tr>
<td>S.E./mean = 88.1 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) G.L. at 5000 lb./ac.+Super at 100 lb./ac.+A/S at 100 lb./ac.
   (ii) (a) Sandy loam. (b) N.A. (iii) 27.6.1957/20, 21.7.1957. (iv) (a) 4 to 6 ploughings. (b) As per treatments.
   (c) 30 lb./ac. (d) As per treatments. (e) 2 seedlings/hole. (v) As under (i) (c) above. (vi) Adt. 20 (early). (vii) Irrigated. (viii) As per treatments. (ix) 5.01' (k) 13.10.1957.

2. TREATMENTS:
   6 Methods of planting: M1=Modified Japanese (farm) method, M2=Local ryot's method, M3=Wave method with 18"x4" spacing, M4=Wave method with 30"x2½" spacing, M5=Wave method with 10"x5" spacing and M6=Japanese method with 10"x5" spacing.
   Plots with wave method received two surface scrapings, one ridging after working with intercultivator. Plots with Japanese method received two interculture operations with the intercultivator.

3. DESIGN:
   (i) R.B.D. (ii) (a) 6. (b) 36'x45'. (iii) 4. (iv) (a) and (b) 36'x76'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—1958. (b) No. (e) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 3382 lb./ac. (ii) 240 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

   Treatment
<table>
<thead>
<tr>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
<th>M5</th>
<th>M6</th>
</tr>
</thead>
<tbody>
<tr>
<td>2485</td>
<td>2243</td>
<td>2439</td>
<td>1888</td>
<td>2509</td>
<td>2519</td>
</tr>
</tbody>
</table>

   S.E./mean = 120 lb./ac.

   Crop :- Paddy (Karuvai).
   Object :-To find the effect of different methods of Paddy cultivation.

   Ref :- M. 58(75). Type :- 'C'.

   -----

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. +150 lb./ac. of Super +150 lb./ac. of A/S. (ii) (a) Sandy loam. (b) N.A. (iii) 24.6.1958/21, 22.7.1958. (iv) (a) 3 to 4 ploughings. (b) As per treatments. (c) 30 lb./ac. (d) As per treatments. (e) 2. (v) 5000 lb./ac. of G.L. +150 lb./ac. of A/S +150 lb./ac. of Super. (vi) Adt. 20. (vii) Irrigated. (viii) 1 weeding. (ix) N.A. (x) 3.10.1958.

2. TREATMENTS:
   Same as in expt. no. 57(20) on page 142.

3. DESIGN:
   (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 8. (iv) (a) and (b) 15'x15'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 3382 lb./ac. (ii) 240 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

   Treatment
<table>
<thead>
<tr>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
<th>M5</th>
<th>M6</th>
</tr>
</thead>
<tbody>
<tr>
<td>3613</td>
<td>3193</td>
<td>3459</td>
<td>3119</td>
<td>3321</td>
<td>3584</td>
</tr>
</tbody>
</table>

   S.E./mean = 125 lb./ac.

   Crop :- Paddy (Thaladi).
   Object :-To find the effect of different methods of Paddy cultivation.

   Ref :- M. 58(76). Type :- 'C'.
1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of Super + 150 lb./ac. of A/S. (ii) (a) Sandy loam. (b) N.A. (iii) 9.9.1958, 16.10.1958. (iv) (a) 3 to 4 ploughings. (b) As per treatments. (c) 25 lb./ac. (d) As per treatments. (e) 2. (v) As under (i) (c) above. (vi) CO—25. (vii) Irrigated. (viii) 1 Weeding. (ix) N.A. (x) 15.2.1959.

2. TREATMENTS:
   6 methods of planting: $M_1$ = Farm method with 6' x 6' spacing, $M_2$ = Local method with 6' x 6' spacing, $M_3$ = Wave method with 18' x 4' spacing, $M_4$ = Wave method with 30' x 2' spacing, $M_5$ = Wave method with 10' x 5' spacing and $M_6$ = Japanese method with 10' x 5' spacing.

3. DESIGN:
   (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 8. (iv) (a) and (b) 15’ x 12’. (v) Nil. (vi) Yes.

4. GENERAL:
   Same as in expt. no. 58,75; on page 143.

5. RESULTS:
   (i) 3240 lb./ac. (ii) 389.8 lb.fac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$M_1$</th>
<th>$M_2$</th>
<th>$M_3$</th>
<th>$M_4$</th>
<th>$M_5$</th>
<th>$M_6$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3399</td>
<td>3501</td>
<td>3131</td>
<td>2798</td>
<td>3301</td>
<td>3312</td>
</tr>
</tbody>
</table>

   S.E./mean = 137.8 lb./ac.

Ref:—M. 56(3).
Type:—‘C’.

Object:—To find out the merits of ridging and the optimum spacing required for ridging.

1. BASAL CONDITIONS:
   (i) (a) No. (b) Sugarcane. (c) 500 lb./ac. of G.L.+A/S at 378 lb./ac. (ii) (a) Sandy loam. (b) Re’er soil analysis, Tirur. (iii) 10.9.1956. (iv) (a) 2 ploughings. (b) Drilling. (c) 30 lb./ac. (d) As per treatments. (e) 1. (v) F.Y.M. at 10 C.L./ac. broadcast and ploughed a week before sowing. (vi) Adr. 22 (medium). (vii) Irrigated. (viii) Hand hoeing and weeding. (ix) N.A. (x) 11.2.1957.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 55(16) on page 138.

4. GENERAL:
   (i) Normal; no lodging. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1442 lb./ac. (ii) 204.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$S_1$</th>
<th>$S_2$</th>
<th>$S_3$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$R_0$</td>
<td>1390</td>
<td>1348</td>
<td>1280</td>
<td>1339</td>
</tr>
<tr>
<td>$R_1$</td>
<td>1546</td>
<td>1570</td>
<td>1518</td>
<td>1545</td>
</tr>
<tr>
<td>Mean</td>
<td>1468</td>
<td>1459</td>
<td>1399</td>
<td>1442</td>
</tr>
</tbody>
</table>

   S.E. of R marginal mean = 48.3 lb./ac.
   S.E. of S marginal mean = 59.1 lb./ac.
   S.E. of body of table = 83.6 lb./ac.
Crop : Paddy.  
Site : Rice Res. Stn., Tirur.  
Object : To find out the merits of ridging and the optimum spacing required for ridging.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) Sugarcane.  (c) 200 lb./ac. of N as castorcake and A/S in 2 : 1 ratio + 10 tons/ac. of F.Y.M.
   (ii) (a) Sandy loam.  (b) Refer soil analysis, Tirur.  (iii) 18.8.1957.  (iv) (a) 5 ploughings.  (b) Drilling.
   (c) 30 lb./ac.  (d) As per treatments.  (e) I. (v) F.Y.M. at 10 C.L./ac.  (vi) Adt. 22 (medium).  (vii) Irrigated.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 55(16) on page 138.

4. GENERAL:
   (i) Yield is poor due to unfavourable seasonal conditions.  (ii) Nil.  (iii) Grain yield.  (iv) (a) 1955—contd.
   (b) No.  (c) Nil.  (v) (a) and (b) Nil.  (vi) and (vii) Nil.

5. RESULTS:
   (i) 662 lb./ac.  (ii) 187.4 lb./ac.  (iii) S effect is highly significant. No other effect is significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>R0</td>
<td>594</td>
<td>605</td>
<td>481</td>
</tr>
<tr>
<td>R1</td>
<td>733</td>
<td>780</td>
<td>778</td>
</tr>
<tr>
<td>Mean</td>
<td>663</td>
<td>693</td>
<td>630</td>
</tr>
</tbody>
</table>

S.E. of R marginal mean = 44.2 lb./ac.
S.E. of S marginal mean = 54.1 lb./ac.
S.E. of body of table = 76.5 lb./ac.

---

Crop : Paddy (Samba).  
Site : Rice Res. Stn., Tirur.  
Object : To find out the effect of ridging and the optimum spacing required for ridging.

1. BASAL CONDITIONS:
   (i) (a) Sugarcane—Paddy.  (b) Sugarcane.  (c) N.A.  (ii) (a) Light clayey.  (b) Refer soil analysis, Tirur.  (iii) 25.9.1958.
   (iv) (a) 4 ploughings.  (b) Drilling.  (c) 25 to 30 lb./ac.  (d) As per treatments.  (e) N.A.  (v) 10 C.L./ac. of F.Y.M.
   (vi) Adt. 22.  (vii) Irrigated.  (viii) 1 weeding and intercultivation one month after planting.  (ix) 30.75".  (x) 23.2.1959.

2. TREATMENTS:
   Same as in expt. no. 55(16) on page 138.

3. DESIGN:
   (i) Fact. in R.B.D.  (ii) (a) 6.  (b) N.A.  (iii) 6.  (iv) (a) N.A.  (b) 20' X 15'.  (v) Yes.

4. GENERAL:
   (i) Satisfactory.  (ii) and (iii) Nil.  (iv) (a) to (c) N.A.  (v) to (vii) Nil.

5. RESULTS:
   (i) 398 lb./ac.  (ii) 88.2 lb./ac.  (iii) None of the effects is significant.  (iv) Av. yield of grain in lb./ac.
1. BASAL CONDITIONS:
   (i) (a) Paddy—Cotton. (b) Cotton. (c) N.A. (ii) (a) Light clayey. (b) Refer soil analysis, Tirur. (iii) 10.12.1958/20.1.1959. (iv) (a) 3 to 4 ploughings. (b) As per treatments. (c) 35 to 40 lb./ac. (d) and (e) As per treatments. (v) G.L. at 5000 lb./ac. plus Super at 30 lb./ac. of P₂O₅ + A/5 at 150 lb./ac. (vi) TKM. 6. (vii) Irrigated. (viii) Weeding and intercultivation one month after planting. (ix) 11.4.1959.

2. TREATMENTS:
   6 methods of planting: M₁ = Modified Japanese method with 10" X 4" spacing, M₂ = Local method with 4" X 4" spacing, M₃ = Wave-shape method with 18" X 4" spacing, M₄ = Wave-shape method with 30" X 21" spacing, M₅ = Wave-shape method with 10" X 5" spacing and M₆ = Japanese method with 10" X 5" spacing.

No. of seedlings/hole: 2 to 3 for treatment M₂ and 4 for others.

3. DESIGN:
   (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 8. (iv) (a) N.A. (b) 40' X 71/2'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Slightly attacked by stem-borer. (iii) Grain yield. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 1870 lb./ac. (ii) 193.8 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
<th>M₄</th>
<th>M₅</th>
<th>M₆</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2218</td>
<td>2404</td>
<td>1678</td>
<td>946</td>
<td>1969</td>
<td>2005</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>68.5 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Crop:** Paddy (Somavari).  
**Site:** Rice Res. Stn., Tirur.  
**Ref:** M. 58(31).  
**Type:** 'C'.

Object:—To compare the wave-shape method of Paddy cultivation with the modified Japanese (farm) method and local methods.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy (Samba). (c) 5000 lb./ac. of G.L. + 30 lb./ac. of P₂O₅ as Super + 150 lb./ac. of A/5. (ii) (a) Light clayey. (b) Refer soil analysis, Tirur. (iii) 25.4.1958/25.5.1958. (iv) (a) 3 ploughings. (b) As per treatments. (c) 25 to 30 lb./ac. (d) and (e) As per treatments. (v) Same as under (i) (c) above. (vi) TKM. 3. (vii) Irrigated. (viii) 2 weedings, intercultivation one month after planting. (ix) 10.75°. (x) 17.8.1938.

2. TREATMENTS and 3. DESIGN:
   Same as in exp. no. 58(34) on page 147.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) N.A. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 3522 lb./ac. (ii) 158.3 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
<th>M₄</th>
<th>M₅</th>
<th>M₆</th>
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</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3800</td>
<td>3718</td>
<td>3564</td>
<td>2738</td>
<td>3536</td>
<td>3773</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>56.0 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop :- Paddy (Samba).
Site :- Rice Res. Stn., Tirur.

Object :- To determine the optimum seed rate for the broadcast crop of Paddy.

1. BASAL CONDITIONS :
   (i) (a) Paddy—Sugarcane. (b) Sugarcane. (c) 10 C.L./ac. of F.Y.M. (ii) (a) Light clayey. (b) Refer soil analysis, Tirur. (iii) 26.9.1958. (iv) (a) 3 ploughings. (b) and (c) As per treat ments. (d) and (e) —. (v) 10 C.L./ac. of F.Y.M. (vi) Adt. 22. (vii) Unirrigated. (viii) Working intercultivator and weeding. (ix) 30.75". (x) 20.2.1959.

2. TREATMENTS:
   All combinations of (1), (2) and (3)
   (1) 4 seed rates: R1=20, R2=40, R3=60 and R4=80 lb./ac.
   (2) 3 methods of sowing: M1=Broadcast, M2=Sown behind the country plough and M3=drilled.
   (3) 2 types of seed : T0=Unsoaked and T1=Soaked.

3. DESIGN :
   (i) Fact. in R.B.D. (ii) (a) 24. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 24' X 12'. (v) and (vi) Yes.

4. GENERAL :
   (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS :
   (i) 498 lb./ac. (ii) 90.82 lb./ac. (iii) Effect of R is significant and of M is highly significant. Others are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>R1</th>
<th>R2</th>
<th>R3</th>
<th>R4</th>
<th>Mean</th>
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<tr>
<td>T0</td>
<td>432</td>
<td>532</td>
<td>471</td>
<td>516</td>
<td>488</td>
<td>460</td>
<td>515</td>
<td>489</td>
</tr>
<tr>
<td>T1</td>
<td>464</td>
<td>520</td>
<td>518</td>
<td>529</td>
<td>508</td>
<td>436</td>
<td>541</td>
<td>547</td>
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<tr>
<td>Mean</td>
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<td>495</td>
<td>523</td>
<td>498</td>
<td>448</td>
<td>528</td>
<td>518</td>
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<tr>
<td>M1</td>
<td>386</td>
<td>469</td>
<td>454</td>
<td>483</td>
<td></td>
<td></td>
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<td>M2</td>
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<td>526</td>
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<td>M3</td>
<td>498</td>
<td>507</td>
<td>505</td>
<td>562</td>
<td></td>
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</table>

S.E. of R marginal mean = 18.6 lb./ac.
S.E. of T marginal mean = 13.1 lb./ac.
S.E. of M marginal mean = 16.1 lb./ac.
S.E. of body of R X T table = 26.2 lb./ac.
S.E. of body of M X T table = 22.7 lb./ac.
S.E. of body of R X M table = 32.1 lb./ac.
3. **DESIGN:**
   (i) Fact. in R.B.D.  (ii) (a) 24.  (b) N.A.  (iii) 4.  (iv) (a) N.A.  (b) 24’×10’.  (v) and (vi) Yes.

4. **GENERAL:**
   (i) Satisfactory.  (ii) Nil.  (iii) Wheat yield.  (iv) (a) 1955—contd.  (b) Yes.  (c) Nil.  (v) to (vii) Nil.

5. **RESULTS:**
   (i) 224 lb./ac.  (ii) 111.6 lb./ac.  (iii) Main effect of M is highly significant. Other effects and interactions are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>R1</th>
<th>R2</th>
<th>R3</th>
<th>R4</th>
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<td>240</td>
<td>225</td>
<td>156</td>
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<td>T1</td>
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<td>241</td>
<td>223</td>
<td>235</td>
<td>224</td>
<td>157</td>
<td>265</td>
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<tr>
<td>M1</td>
<td>127</td>
<td>193</td>
<td>184</td>
<td>124</td>
<td></td>
<td></td>
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<td>M3</td>
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<td>230</td>
<td>293</td>
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S.E. of R marginal mean = 22.8 lb./ac.
S.E. of T marginal mean = 16.1 lb./ac.
S.E. of M marginal mean = 19.7 lb./ac.
S.E. of body of R×T table = 32.2 lb./ac.
S.E. of body of M×T table = 27.9 lb./ac.
S.E. of body of R×M table = 39.4 lb./ac.

**Crop :-** Paddy (*Thaladi*).
**Site :-** Agri. Res. Stn., Aduthurai.
**Ref :-** M. 55(39).
**Type :-** 'CM'.

Object :- To find out whether different types of interculture contribute to higher yield under the Japanese method of Paddy cultivation.

1. **BASAL CONDITIONS:**
   (i) (a) Paddy—Paddy—Fallow.  (b) Paddy.  (c) G.L. at 5000 lb./ac.+Super at 150 lb./ac.—A/S at 150 lb./ac.  ii) a) Clayey.  (b) Refer soil analysis, Aduthurai.  (iii) 12.9.1955—22.11.1955.  iv) (a) 4 ploughings.  (b) Transplanting.  (c) —.  (d) 10°×5°.  (e) N.A.  (f) Nil.  (v) to (vii) N.A.

2. **TREATMENTS:**
   All combinations of (1) and (2).
   (1) 2 levels of manuring : M1=Japanese method—6000 lb./ac. of G.L.+5 C.L.+Super at 150 lb./ac.—A/S at 150 lb./ac.  M2=Farm method—5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S.  A/S applied 1 month after planting.
   (2) 5 cultural treatments : C0=No intercultivation, C1=Intercultivating with rotary weeder 15, 33 and 45 days after planting, C2=Intercultivating by hand weeding 15, 33 and 45 days after planting, C3=Two weedings 15 and 30 days after planting each followed by intercultivation with rotary weeder and C4=2 hand weedings.

3. **DESIGN:**
   (i) Fact. in R.B.D.  (ii) (a) 10.  (b) N.A.  (iii) 4.  (iv) (a) 20°×25°.  (b) 19°2’×24°2’.

4. **GENERAL:**
   (i) Satisfactory.  (ii) Nil.  (iii) Yield of grain.  (iv) (a) 1955—1957.  (b) No.  (c) Nil.  (v) (a) and (b) N.A.  (vi) and (vii) Nil.
5. RESULTS:
(i) 3999 lb./ac. (ii) 240.4 lb./ac. (iii) Only M effect is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>C₀</th>
<th>C₁</th>
<th>C₂</th>
<th>C₃</th>
<th>C₄</th>
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<td>3903</td>
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<td>3997</td>
<td>4016</td>
<td>3903</td>
<td>4101</td>
<td>3999</td>
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</table>

S.E. of M marginal mean = 53.8 lb./ac.
S.E. of C marginal mean = 85.0 lb./ac.
S.E. of body of table = 120.2 lb./ac.

Crop: Paddy (Thaladi).
Ref: M. 56(34).
Type: 'CM'.

Object: To find out whether different types of interculture contribute to higher yield under the Japanese method of Paddy cultivation.

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy—Fallow. (b) Paddy. (c) G.L. at 5000 lb./ac.+Super at 150 lb./ac.+A/S at 150 lb./ac. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 17.9.1956/8.11.1956. (iv) (a) 4 ploughings. (b) Transplanting. (c) —. (d) 10"x5". (e) N.A. (v) Nil. (vi) CO—25 (late). (vii) Irrigated. (viii) As per treatments. (ix) 29.24°. (x) 3.3.1957.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 55(39) on page 151.

5. RESULTS:
(i) 4297 lb./ac. (ii) 240.6 lb./ac. (iii) Only C effect is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>C₀</th>
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<th>C₂</th>
<th>C₃</th>
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<td>4473</td>
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<td>M₂</td>
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<td>4249</td>
<td>4406</td>
<td>4282</td>
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<td>Mean</td>
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<td>4296</td>
<td>4317</td>
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<td>4177</td>
<td>4297</td>
</tr>
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</table>

S.E. of M marginal mean = 53.8 lb./ac.
S.E. of C marginal mean = 85.1 lb./ac.
S.E. of body of table = 120.3 lb./ac.

Crop: Paddy (Samba).
Ref: M. 57(31).
Type: 'CM'.

Object: To find out whether different types of interculture contribute to higher yield under the Japanese method of Paddy cultivation.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 6.8.1957/24.9.1957. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6"x6". (e) 2 seedlings/hole. (v) Nil. (vi) CO—25. (late). (vii) Irrigated. (viii) As per treatments. (ix) 28.78°. (x) 1.2.1958.
2. TREATMENTS:
Same as in expt. no. 55(39) on page 150.

3. DESIGN:
(i) Fact in R.B.D.  (ii) (a) 10.  (b) N.A.  (iii) 4.  (iv) (a) 20'×25'.  (b) 19'×24'.  (v) One row left as border.  (vi) Yes.

4. GENERAL:
Same as in expt. no. 55(39) on page 150.

5. RESULTS:
(i) 3083 lb./ac.  (ii) 242.6 lb./ac.  (iii) Main effects and interaction are not significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>C₀</th>
<th>C₁</th>
<th>C₂</th>
<th>C₃</th>
<th>C₄</th>
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<td>2915</td>
<td>2973</td>
<td>3003</td>
<td>3018</td>
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<tr>
<td>Mean</td>
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<td>3158</td>
<td>3034</td>
<td>3037</td>
<td>3073</td>
<td>3083</td>
</tr>
</tbody>
</table>

S.E. of M marginal mean = 54.2 lb./ac.
S.E. of C marginal mean = 85.8 lb./ac.
S.E. of body of table = 121.3 lb./ac.

Crop :— Paddy.
Site :— Agri. Res. Stn., Aduthurai.
Ref :— M. 59(69).
Type :— 'CM'.

Object :— To compare the Chinese method of Paddy cultivation with the Japanese and farm methods.

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy.  (b) Paddy.  (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac of Super.  (ii) (a) Alluvial clay.  (b) Refer soil analysis, Aduthurai.  (iii) 1, 5, 15.8.1959/10, 11.9.1959.  (iv) (a) 3 to 4 ploughings.  (b) As per treatments.  (c) 25 lb./ac.  (d) and (e) As per treatments.  (v) As under (i) (c) above.  (vi) CO—25.  (vii) Irrigated.  (viii) 1 weeding.  (ix) 25.75'.  (x) 29.1.1960 and 3.2.1960.

2. TREATMENTS:
3 methods of cultivation: M₁=Farm method with 10'×6' spacing and 2 seedlings/hole, M₂=Japanese method with 10'×10' spacing and 4 seedlings/hole and M₃=Chinese method with 6'×6' spacing and 2 seedlings/hole.

3. DESIGN:
(i) R.B.D.  (ii) (a) 3.  (b) N.A.  (iii) 6.  (iv) (a) 30'×30'.  (b) 28'×26'. 26'×26' and 28'×28' for M₁, M₂ and M₃ respectively.  (v) 2 rows left on either side.  (vi) Yes.

4. GENERAL:
(i) Satisfactory.  (ii) Nil.  (iii) Yield of grain.  (iv) (a) and (b) No.  (e) Nil.  (v) to (vii) Nil.

5. RESULTS:
(i) 3757 lb./ac.  (ii) 275.4 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<tbody>
<tr>
<td>Av. yield</td>
<td>3800</td>
<td>3573</td>
<td>3898</td>
</tr>
</tbody>
</table>

S.E./mean = 112.4 lb./ac.
Crop :- Paddy (2nd Crop).
Site :- Rice Res. Stn., Ambasamudram.

Object :- To study the effect of spacing and interculture on the Japanese and the farm methods of Paddy cultivation.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) G.L. at 5000 lb./ac.+A/S at 150 lb./ac.+Super at 150 lb./ac. (ii) (a) Clayey. (b) Refer soil analysis, Ambasamudram. (iii) 13.9.1954/21.10.1954. (iv) (a) 4 ploughings. (b) As per treatments. (c) N.A. (d) As per treatments. (e) N.A. (v) Nil. (vi) CO—19 (late). (vii) Irrigated. (viii) As per treatments. (ix) N.A. (x) 4.3.1955.

2. TREATMENTS:
   Main-plot treatments:
   2 Methods of cultivation : M₁ = Japanese method of rice cultivation as practised at 'Kora kendra' and M₂ = Farm method.
   Sub-plot treatments:
   All combinations of (1) and (2)
   (1) 2 spacings : S₁ = 10" x 10" and S₂ = 10" x 5".
   (2) 3 cultural practices : C₁ = Planting in rows with interculture, C₂ = Planting in rows without interculture and C₃ = Planting in bulk with weeding.

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block; 6 sub-plots/main-plot. (b) 86' x 61'. (iii) 4. (iv) (a) Main-plot 43' x 61'. (b) 43' x 10' 2" and 43' x 9' 2". (v) One row. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Height, tiller count, length of earhead and yield of grain. (iv) (a) 1954—1956. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2776 lb./ac. (ii) (a) 959.7 lb./ac. (b) 399.6 lb./ac. (iii) Only C effect is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M₁</th>
<th>M₂</th>
<th>Mean</th>
<th>C₁</th>
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</tbody>
</table>

S.E. of difference of two:
1. M marginal means = 277.0 lb./ac.
2. S marginal means = 115.4 lb./ac.
3. C marginal means = 141.3 lb./ac.
4. S means at the same level of M = 163.1 lb./ac.
5. C means at the same level of M = 199.8 lb./ac.
6. M means at the same level of S = 392.4 lb./ac.
7. M means at the same level of C = 507.8 lb./ac.

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

Object :- To study the effect of spacing and interculture on the Japanese and the farm methods of Paddy cultivation.
1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clayey. (b) Refer soil analysis, Ambasamudram.
   (iii) 3.6.1954(7), 8.7.1954. (iv) (a) 4 ploughings. (b) As per treatments. (c) N.A. (d) As per treatments.
   (e) N.A. (f) Nil. (vi) ASD. 1 short. (vii) Irrigated. (viii) As per treatments. (ix) N.A. (x) 3.11.1954.

2. TREATMENTS and 3. DESIGN:
   Same as in exp. no. 54(41) on page 153.

4. GENERAL:
   (b) Yes. (c) Nil. (d) and (b) Nil. (e) and (vi) Nil. (e) and (vi) Nil.

5. RESULTS:
   (i) 3568 lb./ac. (ii) (a) 320.3 lb./ac. (b) 224.7 lb./ac. (iii) M and S effects are highly significant. (iv) Av
   yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>M1</th>
<th>M2</th>
<th>Mean</th>
<th>C1</th>
<th>C2</th>
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</table>

S.E. of difference of two
1. M marginal means = 92.5 lb./ac.
2. S marginal means = 64.9 lb./ac.
3. C marginal means = 79.4 lb./ac.
4. S means at the same level of M = 91.7 lb./ac.
5. C means at the same level of M = 112.4 lb./ac.
6. M means at the same level of S = 157.3 lb./ac.
7. M means at the same level of C = 222.2 lb./ac.

Crop :- Paddy (Katt).
Site :- Rice Res. Stn., Ambasamudram.
Object :- To study the effect of spacing and interculture on the Japanese and the farm methods of Paddy
           cultivation.

Ref :- M. 55(62).
Type :- 'CM'.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii)
   (a) Clay loam. (b) Refer soil analysis, Ambasamudram. (iii) 2.7.1955/8, 9.8.1955. (iv) (a) 4 ploughings.
   (b) As per treatments. (c) N.A. (d) As per treatments. (c) N.A. (vi) As per treatments. (vi) ASD. 1 short.
   (vii) Irrigated. (viii) As per treatments. (ix) 4.885. (x) 28.11.1955.

2. TREATMENTS:
   Main-plot treatments:
   Two methods of manuring: M1 = 40,000 lb./ac. of M. + 2000 lb./ac. of Compost + 150 lb./ac. of Super +
   150 lb./ac. A/S at sowing. Raised seed beds with channels all round. Heavy seed selected by
   immersing in salt water. M2 = Sprouted seed, raised seed beds, 10,000 lb./ac. of Compost + 50 lb./ac. A/S a
   week before lifting.

   Sub-plot treatments:
   All combinations of (1) and (2)
   (1) 2 spacings: S1 = 10"×10" and S2 = 10"×5"
   (2) 3 cultural practices: C1 = Planting in rows with interculture, C2 = Planting in rows without
   interculture and C3 = Bulk planting with hand weeding.
3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 6 sub-plots/main-plot. (b) 43' × 128'. (iii) 4. (iv) (a) 43' × 64' (main-plot) 43' × 10' (sub-plot). (b) 42'4" × 9'4". (v) 4" × 4". (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1954–1956. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 3721 lb./ac. (ii) (a) 517 lb./ac. (b) 243 lb./ac. (iii) M effect is significant. S effect is highly significant. Other effects and interactions are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
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<tr>
<td>S2</td>
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| C1 | 4094 | 3348 |
| C2 | 3969 | 3335 |
| C3 | 4176 | 3404 |

S.E. of difference of of two
1. M marginal means = 149.2 lb./ac.
2. S marginal means = 70.1 lb./ac.
3. C marginal means = 85.9 lb./ac.
4. S means at the same level of M = 59.2 lb./ac.
5. C means at the same level of M = 121.5 lb./ac.
6. M means at the same level of S = 219.4 lb./ac.
7. M means at the same level of C = 289.5 lb./ac.

Crop :- Paddy (Fishanam).
Site :- Rice Res. Stn., Ambasamudram.
Ref :- M. 55(64).
Type :- ‘CM’.
Object :- To study the effect of spacing and interculture on the Japanese and the farm methods of Paddy cultivation.

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S 150 lb./ac. of Super. (ii) Clay loam. (b) Refer soil analysis, Ambasamudram. (iv) (a) 4 ploughings. (b) As per treatments. (c) N.A. (d) As per treatments. (e) N.A. (iii) 15.9.1955/25.9.1955. (v) As per treatments. (vi) CO—19 (late). (vii) Irrigated. (viii) As per treatments. (ix) 23.08°. (x) 5.3.1956.

2. TREATMENTS:
Same as in exp. no. 55(62) on page 154.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots; 6 sub-plots/main-plot. (b) 43' × 68'. (iii) 4. (iv) (a) and (b) 43' × 34'; (main-plot), 43' × 5', 42' × 4'. (sub-plot). (v) One row left. (vi) Yes.

4. GENERAL:
Same as in exp. no. 55(62) on page 154.

5. RESULTS:
(i) 4629 lb./ac. (ii) (a) 959.4 lb./ac. (b) 378.6 lb./ac. (iii) (iv) Av. yield of grain in lb./ac.
Crop: Paddy (Fishanam).
Site: Rice Res. Stn., Ambasamudram.
Ref: M. 56(68).
Type: 'CM'.

Object: To study the effect of spacing and interculture on the Japanese and the farm methods of Paddy cultivation.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of Super + 150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 27.9.1956/21.11.1956. (iv) (a) 4 ploughings. (b) As per treatments. (c) N.A. (d) As per treatments. (e) N.A. (f) As per treatments. (g) CO-19 (late). (h) Irrigated. (i) As per treatments. (j) 17.9.57. (k) 19.3.1957.

2. TREATMENTS:
   Same as in expt. no. 55/62, on page 154.

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block; 6 sub-plots/main-plot. (b) 43'×128'. (iii) 4. (iv) (a) Main-plot 64'×43'. (b) Sub-plot 43'×10', 42'×9', 42'4'×9'4'. (v) One row left. (vi) Yes.

4. GENERAL:
   Same as in expt. no. 55/62) on page 154.

5. RESULTS:
   (i) 4809 lb./ac. (ii) (a) 204.0 lb./ac. (b) 175.2 lb./ac. (iii) Only M and C effects are highly significant. (iv) Av. yield of grain in lb./ac.

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</table>
Crop :- Paddy (Kar).


Ref :- M. 56(67).

Type :- 'CM'.

Object :- To study the effect of spacing and interculture on the Japanese and the farm method of Paddy cultivation.

1. BASAL CONDITIONS :
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. +150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 25.6.1956/30.7.1956. (iv) (a) 4 ploughings. (b) As per treatments. (c) N.A. (d) As per treatments. (e) N.A. (v) As per treatments. (vi) ASD. 1. (vii) Irrigated. (viii) As per treatments. (ix) 2.28". (x) 26.10.1956.

2. TREATMENTS :
   Same as expt. no. 55(62) on page 154.

3. DESIGN :
   (i) Split-plot. (ii) (a) 2 main-plots/block ; 6 sub-plots/main-plots. (b) 43'x128'. (iii) 4. (iv) (a) Main-plot 64'x43'. (b) Sub-plot 43'x10', 42'4"x9'4". (v) One row left. (vi) Yes. 

4. GENERAL :
   (i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :
   (i) 4918 lb./ac. (ii) (a) 749.4 lb./ac. (b) 345.7 lb./ac. (iii) Only M and S effects are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
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</table>

S.E. of difference of two

1. M marginal means = 58.9 lb./ac.
2. S marginal means = 50.6 lb./ac.
3. C marginal means = 61.9 lb./ac.
4. S means at the same level of M = 71.5 lb./ac.
5. C means at the same level of M = 87.6 lb./ac.
6. M means at the same level of S = 109.5 lb./ac.
7. M means at the same level of C = 160.0 lb./ac.
5. RESULTS:

(i) 2872 lb./ac.  (ii) (a) 146.9 lb./ac.  (b) 309.9 lb./ac.  (iii) Main effects and interaction are not significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
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</table>

S.E. of difference of two
1. T marginal means = 46.5 lb./ac.
2. M marginal means = 154.9 lb./ac.
3. M means at the same level of T = 219.1 lb./ac.
4. T means at the same level of M = 201.4 lb./ac.

Crop :- Paddy.
Site :- Agri. College and Res. Instt., Coimbatore.
Ref :- M. 55(58).
Type :- ‘CM’.

Object :- To study the combined effect of tillage and manures on Paddy.

1. BASAL CONDITIONS:
   (i) (a) G.M.—Paddy.  (b) Sesbania (G.M.).  (c) Nil.  (ii) (a) Clay.  (b) Refer soil analysis, Coimbatore.
   (iii) N.A./1.9.1955.  (iv) As per treatments.  (b) N.A.  (c) 30 lb./ac.  (d) 6’x6’.
   (e) 2.  (v) G.M. crop raised with plots and ploughed in after cutting.  (vi) CO=25 (late).  (vii) Irrigated.  (viii) 2 weedings.  (ix) N.A.  (x) 23.1.1956.

2. TREATMENTS:
   Same as in expt. no. 54(100); on page 159.

3. DESIGN:
   (i) Split-plot.  (ii) (a) 2 main plots/5 sub-plots/main-plot.  (b) 80’x100’.  (iii) 4.  (iv) (a) 40’x20’.  (b) 39’x19’.  (v) 6’x6’.  (vi) Yes.

4. GENERAL:
   (i) Satisfactory.  (ii) Nil.  (iii) Height, tiller counts and grain yield.  (iv) (a) 1954—1956.  (b) Yes.  (c) Nil.  (vi) Nil.  (vii) Expt. was conducted by the Agronomist, Coimbatore.

5. RESULTS:
   (i) 3603 lb./ac.  (ii) (a) 82.1 lb./ac.  (b) 379.0 lb./ac.  (iii) None of the effects is significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
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<th>M2</th>
<th>M3</th>
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<td>3575</td>
<td>3603</td>
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</table>

S.E. of difference of two
1. T marginal means = 26.0 lb./ac.
2. M marginal means = 186.5 lb./ac.
3. M means at the same level of T = 268.0 lb./ac.
4. T means at the same level of M = 241.1 lb./ac.
Object:—To study the combined effect of tillage and manures on Paddy.

1. BASAL CONDITIONS:

(i) (a) Paddy—G.M. (b) Sesbania (G.M.). (c) Nil. (ii) (a) Clay. (b) Refer soil analysis, Coimbatore, (iii) N.A. 7.9.1959. (iv) (a) As per treatments. (b) Transplanting. (c) 30 lb./ac. (d) 6′ x 6′. (e) 2. (v) G.M. raised, cut and ploughed in. (vi) CO—25 (late). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 30.1.1957.

2. TREATMENTS:

Same as in expt. no. 54(100) on page 159.

3. DESIGN:

Same as in expt. no. 55(58) on page 160.

4. GENERAL:

(i) Satisfactory. (ii) Case worm attack was noticed and one dusting with 10% B.H.C. was given on 3, 4.11.1956. (iii) Height, tiller count and yield of grain. (iv) [a] 1954—1956. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by the Agronomist, Coimbatore.

5. RESULTS:

(i) 3455 lb./ac. (ii) (a) 212.2 lb./ac. (b) 258.5 lb./ac. (iii) Only S effect is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
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<tr>
<th>M1</th>
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S.E. of difference of two
1. T marginal means = 67.1 lb./ac.
2. M marginal means = 129.2 lb./ac.
3. M means at the same level of T = 182.8 lb./ac.
4. T means at the same level of M = 176.7 lb./ac.
3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 5 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 54' x 13'. (b) 53' x 12'. (v) One row left. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Height, tiller counts and yield of grain. (iv) 1954-1959. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Agronomist, Coimbatore.

5. RESULTS:
(i) 3508 lb./ac. (ii) (a) 501.3 lb./ac. (b) 372.6 lb./ac. (iii) Only S effect is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M₀</th>
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<th>M₂</th>
<th>M₃</th>
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S.E. of difference of two
1. T marginal means = 158.5 lb./ac.
2. M marginal means = 186.3 lb./ac.
3. M means at the same level of T = 263.5 lb./ac.
4. T means at the same level of M = 284.0 lb./ac.

Crop :- Paddy (Samba).
Site :- Paddy Breeding Stn., Coimbatore.

Object :- To test the superiority of the Chinese method of Paddy cultivation over the Japanese and the farm methods.

1. BASAL CONDITIONS :
(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clay loam. (b) N.A. (iii) M₁=12.9.1959, M₂=15.9.1959 and M₃=1.10.1959/25.10.1959 (iv) (a) N.A. (b) Transplanting. (c) N.A. (d) and (e) As per treatments. (v) N.A. (vi) CO-25. (vii) Irrigated. (viii) Clay loam and (ix) N.A. (x) M₁=12.3.1960 and M₃=30.3.1960.

2. TREATMENTS :
3 methods of planting : M₁=Farm method with 10" x 6" spacing and 2 seedlings/hole, M₂=Japanese method with 10" x 10" spacing and 4 seedlings/hole and M₃=Chinese method with 6" x 6" spacing and 2 seedlings/hole.

3. DESIGN:
(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) M₁=28' x 26½', M₂=26½' x 26½' and M₃=28' x 28'. (v) One row left as border. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Yes.

5. RESULTS:
(i) 3780 lb./ac. (ii) 637.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

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<tr>
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S.E./mean = 260.1 lb./ac.
Crop :- Paddy.  
Site :- Paddy Breeding Stn., Coimbatore.  
Object :-To test the efficacy of deep placement of A/S to increase Paddy yield.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clayey. (b) N.A. (iii) 18.8.1954/9.10.1954. (iv) (a) 3 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6" X 6". (e) N.A. (v) As per treatments. (vi) CO—25 (late). (vii) Irrigated. (viii) Weeding one month after planting. (ix) 11.87°. (x) 21, 22.2.1955.

2. TREATMENTS :
   Main-plot treatments :
   2 spacings: S₁ =6" X 6" and S₂ =10" X 10".
   Sub-plot treatments :
   6 levels of manuring : M₀ =No manure, M₁ =5,600 lb./ac. of G.L. +45 lb./ac. of P₂O₅ puddled in before planting, M₂ =M₁ +20 lb./ac. of N before planting+10 lb./ac. of N one month later by placement, M₃ =M₂ +30 lb./ac. of N before planting+15 lb./ac. of N one month later, M₄ =M₃ +30 lb./ac. of N broadcast one month after planting and M₅ =M₁ +45 lb./ac. of N broadcast one month after planting.

N applied as A/S and P₂O₅ as Super.

3. DESIGN :
   (i) Split-plot. (ii) (a) 2 main-plots/block; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 10' X 20'. (b) 9½ X 19½. (v) 1 row left. (vi) Yes.

4. GENERAL :
   (i) Normal. (ii) Nil. (iii) Height, tiller count, and grain yield. (iv) (a) 1953—contd. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :
   (i) 5219 lb./ac. (ii) (a) 786.9 lb./ac. (b) 527.3 lb./ac. (iii) Effect of S alone is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M₀</th>
<th>M₁</th>
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<th>M₃</th>
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S.E. of difference of two
1. S marginal means = 227.1 lb./ac.
2. M marginal means = 263.7 lb./ac.
3. M means at the same level of S = 372.6 lb./ac.
4. S means at the same level of M = 409.2 lb./ac.

Crop :- Paddy.  
Site :- Paddy Breeding Stn., Coimbatore.  
Object :-To test the efficacy of deep placement of A/S to increase Paddy yield.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clay loam. (b) N.A. (iii) 21.9.1955/21.10.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) As per treatments. (e) 2. (f) Nil. (g) CO—25 (late). (h) Irrigated. (i) 2 weedicings. (ii) 9.68°. (x) 6.3.1955.

2. TREATMENTS and 3. DESIGN :
   Same as in exp. no. 54(96) above.
4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1953–1955. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 2597 lb./ac. (ii) (a) 263.6 lb./ac. (b) 257.1 lb./ac. (iii) Only M effect is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
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S.E. of difference of two
1. S marginal means = 76.1 lb./ac.
2. M marginal means = 128.6 lb./ac.
3. M means at the same level of S = 181.8 lb./ac.
4. S means at the same level of M = 200.0 lb./ac.

---

Crop : Paddy.
Site : Paddy Breeding Stn., Coimbatore.
Object : To find out the effect of intercultures as under the Japanese method of Paddy cultivation.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of Super + 150 lb./ac. of A/S top dressed one month after planting. (ii) (a) Clayey. (b) N.A. (iii) 11.2.1954/12.11.1954. (iv) (a) N.A. (b) Transplanting. (c) N.A. (d) At per treatments. (e) N.A. (v) As per treatments. (vi) CO—25 (late). (vii) Irrigated. (viii) Nil. (ix) 11.62". (x) 29.3.1955.

2. TREATMENTS:
Main-plot treatments:
2 methods of manuring: M₁ = Japanese and M₂ = Farm method.

Sub-plot treatments:
6 cultural treatments: C₁ = 10" x 10" spacing and interculture, C₂ = 10" x 10" spacing and no interculture, C₃ = 10" x 10" spacing in bulk and no interculture, C₄ = 10" x 5" spacing and interculture, C₅ = 10" x 5" spacing and no interculture and C₆ = 10" x 5" spacing in bulk and no interculture.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 20' x 7'. (b) 19' x 6'. (v) 1 row left. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Tiller count, height and grain yield. (iv) (a) 1954—contd. (b) Yes. (c) N.A. (v) (a) Aduthurai and Tirur. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 4548 lb./ac. (ii) (a) 691.3 lb./ac. (b) 445.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain lb./ac.

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Object: To find out the effect of intercultures as under the Japanese method of Paddy cultivation.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super
   (ii) (a) Clayey loam. (b) N.A. (iii) 15.10.1955/15.11.1959. (iv) (a) 4 ploughings. (b) Transplanting.
   (c) 30 lb./ac. (d) 10/10°. (e) 2. (v) As per treatments. (vi) CO—25 (late). (vii) Irrigated. (viii) As per treatments. (ix) 15.43°. (x) 19.4.1956.

2. TREATMENTS:
   All combinations of (1) and (2).
   (1) 2 methods of manuring: M₁=Japanese method—10 tons/ac. of F.Y.M., 30 lb./ac. of N and 30 lb./ac. of P₂O₅ as B.D.; top-dressed with 15 lb./ac. of N and 14 lb./ac. of P₂O₅
   15 days and 30 days after planting and M₂=Farm method 5000 lb./ac. of G.L.; 30 lb./ac. of P₂O₅ and 15 lb./ac. of N as B.D.; top-dressed with
   15 lb./ac. of N of 30 days after planting.
   (2) 5 intercultures: C₀=No interculture, C₁=Intercultures with rotary intercultivator 15, 30 and 45 days after planting, C₂=3 intercultures with hand rake 15, 30 and 45 days after planting, C₃=2 weedings followed by intercultivation with rotary intercultivator 15 and 30 days after weeding and C₄=2 hand weedings.

N applied as A/S and P₂O₅ as Super.

3. DESIGN:
   (i) Fact. in R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 30°×15°. (b) 29°2"×14°2". (v) One row left. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1955—1958. (b) Yes. (c) Nil. (v) (a) Aduthurai, Ambasamudram, Tirur and Palur. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 3071 lb./ac. (ii) 249.8 lb./ac. (iii) Only M effect is highly significant. (iv) Av. yield of grain in lb./ac.

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S.E. of M marginal mean = 55.8 lb./ac.
S.E. of C marginal mean = 88.3 lb./ac.
S.E. of body of table = 124.9 lb./ac.
1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. 
(ii) (a) Clay loam. (b) N.A. (iii) 25.8.1956/12.10.1956. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. 
(d) 10' x 10'. (e) 2. (v) As per treatments. (vi) CO—25 (late). (vii) Irrigated. (viii) As per treatments. 
(ix) 19.85". (x) 24.2.1957.

2. TREATMENTS to 4. GENERAL :
Same as in expt. no. 55(57) on page 165.

5. RESULTS:
(i) 2593 lb./ac. (ii) 243.7 lb./ac. (iii) Only M effect is highly significant. (iv) Av. yield of grain in lb./ac.

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S.E. of M marginal mean = 54.5 lb./ac.
S.E. of C marginal mean = 86.2 lb./ac.
S.E. of body of table = 121.8 lb./ac.

Crop :- Paddy (Samba).
Site :- Paddy Breeding Stn., Coimbatore.
Ref :- M. 57(46).
Type :- 'CM'.

Object :- To find out the effect of intercultures as under the Japanese method of Paddy cultivation.

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy. (b) Paddy. (c) 50.00 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. 
(ii) (a) Clay loam. (b) N.A. (iii) 5.8.1957/11.10.1957. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. 
(d) 10' x 10'. (e) 2. (v) As per treatments. (vi) CO—25 (late). (vii) Irrigated. (viii) As per treatments. 
(ix) 20.53". (x) 28.2.1958.

2. TREATMENTS to 4. GENERAL :
Same as in expt. no. 55(57) on page 165.

5. RESULTS:
(i) 3602 lb./ac. (ii) 389 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

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S.E. of M marginal mean = 87.0 lb./ac.
S.E. of C marginal mean = 137.5 lb./ac.
S.E. of body of table = 194.5 lb./ac.

Crop :- Paddy.
Ref :- M. 54(68).
Type :- 'CM'.

Object :- To find the effect of intercultures and spacing on Japanese method and farm method of cultivation Paddy.
1. BASAL CONDITIONS:
(i) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S and 150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 28.8.1954/5.11.1954. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) As per treatments. (e) 2. (v) As per treatments. (vi) CO–25 (late). (vii) Irrigated. (viii) 2 weedings for C_2 and C_3 plots. (ix) 32.38°. (x) 25.2.1955.

2. TREATMENTS:
Same as in expt. no. 54(41) on page 153.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 6 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) 30°-124'. (b) 28°-4'×10°. (v) Yes.

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

5. RESULTS:
(i) 2507 lb./ac. (ii) (a) 320.3 lb./ac. (b) 329.1 lb./ac. (iii) Only M effect is significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two
1. M marginal means = 75.5 lb./ac.
2. S marginal means = 77.6 lb./ac.
3. C marginal means = 95.0 lb./ac.
4. S means at the same level of M = 109.7 lb./ac.
5. M means at the same level of S = 108.2 lb./ac.
6. C means at the same level of M = 134.4 lb./ac.
7. M means at the same level of C = 133.2 lb./ac.

Crop := Paddy (2nd crop).

Object := To find out if interculture contributes to higher yield under Japanese method of Paddy cultivation.

Ref := M. 55(51).
Type := 'CM'.

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L., 150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 6.9.1955/23.9.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6°×6°. (e) 2. (v) As per treatments. (vi) Adt. 25 (late). (vii) Irrigated. (viii) As per treatments. (ix) 21.39°. (x) 17.2.1956.

2. TREATMENTS:
All combinations of (1) and (2)
(1) 2 methods of manuring : M_1=Japanese method—6000 lb./ac. of G.L. and 2½ tons/ac. of F.Y.M. as B.D.; 200 lb./ac. of A/S and 200 lb./ac. of Super; § dose at planting and another § dose one month later and M_2=Local manuring 1 5000 lb./ac. of G.L.+150 b./ac. of Super as B.D.; 150 lb./ac. of N as A/S as top dressing.
3. DESIGN:
(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 40'×16'. (b) 39'×15'. (v) One row. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Tiller count, height and grain yield. (iv) 1955—1957. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 3623 lb./ac. (ii) 137.6 lb./ac. (iii) Main effect of M is significant. (iv) Av. yield of grain in lb./ac.

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S.E. of C marginal mean = 48.6 lb./ac.
S.E. of M marginal mean = 34.4 lb./ac.
S.E. of body of table = 68.8 lb./ac.

Crop :- Paddy (2nd crop).
Ref :- M. 56(48).
Type :- ‘CM’.
Object :- To find out if interculture contributes to higher yield under the Japanese method of Paddy cultivation.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A.S. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 7.9.1956/18.10.1956. (iv) (a) 4 ploughings. (b) Transplanting. c) 30 lb./ac. (d) 6'×6'. (e) 2. (v) Nil. (vi) Adt. 25 (late). (vii) Irrigated. (viii) As per treatments. (ix) 35.2°. (x) 15.2.1957.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 55(51) on page 167.

5. RESULTS:
(i) 3471 lb./ac. (ii) 240 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

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S.E. of M marginal mean = 60.0 lb./ac.
S.E. of C marginal mean = 84.9 lb./ac.
S.E. of body of table = 120.0 lb./ac.
Crop :- Paddy (2nd crop). | Ref :- M. 57(40).
Site :- Agri. Res. Stn., Palur. | Type :- ‘CM’.

Object :- To find out if interculture contributes to higher yield under the Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :
(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of Super + 150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 15.9.1957/16.10.1957. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6’ x 6’. (e) 2. (v) Nil. (vi) Adt. 25 (late). (vii) Irrigated. (viii) As per treatments. (ix) 27.26’. (x) 16.2.1958.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 55(51) on page 167.

5. RESULTS:
(i) 2516 lb./ac. (ii) 192.6 lb./ac. (iii) No effect is significant. (iv) Av. yield grain in lb./ac.

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S.E. of M marginal mean = 49.0 lb./ac.
S.E. of C marginal mean = 69.4 lb./ac.
S.E. of body of table = 98.1 lb./ac.

———

Crop :- Paddy. | Ref :- M. 55(17).
Site :- Rice Res. Stn., Tirur. | Type :- ‘CM’.

Object :- To find out if interculture contributes to higher yield under the Japanese method of Paddy cultivation.

1. BASAL CONDITIONS :
(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 11.9.1955/18.10.1955. (iv) (a) 2 ploughings with iron plough and thrice with country plough till good puddle is obtained. (b) Transplanting. (c) to (e) N.A. (v) As per treatments. (vi) Adt. 25 (late). (vii) Irrigated. (viii) As per treatments. (ix) 22.93’. (x) 21.2.1956.

2. TREATMENTS :
All combinations of (1) and (2)
(1) 2 methods of manuring : M1=Japanese method and M2=Local method.
(2) 5 methods of interculture : C0=No intercultivation, C1=Intercultivating with rotary weeder 15, 30 and 45 days after planting, C2=Intercultivating with hand rake 15, 30 and 45 days after planting, C3=2 weedings 15, 30 days after planting each followed by intercultivation with rotary weeder and C4=2 weedings.

3. DESIGN :
(i) Fact. in R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 70° x 10’. (b) 69°2’ x 9°2’. (v) About 5’ all round. (vi) Yes.

4. GENERAL :
(i) Normal, but crop lodged just before harvest. (ii) Nil. (iii) Height, tiller count and grain yield. (iv) (a) 1955—contd. (b) Yes. (c) N.A. (v) (a) Coimbatore, Aduthurai and Palur. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :
(i) 2203 lb./ac. (ii) 551 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.
Crop: Paddy.

Site: Rice Res. Stn., Tirur.

Object: To find out if interculture contributes to higher yield under the Japanese method of Paddy cultivation.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Fallow. (c) Nil.  (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur.  (iii) 25.9.1956 - 13.11.1956. (iv) (a) 2 ploughings with iron plough and 3 times with country plough till good puddle is obtained. (b) Transplanting. (c) N.A. (d) 6" x 6". (e) 2. (v) As per treatments. (vi) CO - 25 (late). (vii) Irrigated. (viii) As per treatments. (ix) 20.66". (x) 30.3.1957.

2. TREATMENTS:
   Same as in expt. no. 55(17) on page 169.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 10. (b) N.A.  (iii) 4. (iv) (a) 70' x 10'. (b) 69' x 9'. (v) 1 row around. (vi) Yes.

4. GENERAL:
   Same as in expt. no 55(17) on page 169.

5. RESULTS:
   (i) 2223 lb./ac.  (ii) 223.2 lb./ac.  (iii) No effect is significant.  (iv) Av. yield of grain in lb./ac.

```
<table>
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```

S.E. of M marginal mean = 49.9 lb./ac.
S.E. of C marginal mean = 78.9 lb./ac.
S.E. of body of table = 111.6 lb./ac.

---

Crop: Paddy (Samba).

Site: Rice Res. Stn., Tirur.

Object: To find out if interculture contributes to higher yield under the Japanese method of Paddy cultivation.

---

Crop: Paddy.

Site: Rice Res. Stn., Tirur.

Ref: M. 56(2).

Type: ‘CM’.

Ref: M. 59(26).

Type: ‘CM’.
1. BASAL CONDITIONS:
(i) (a) Paddy—Dhaincha. (b) Dhaincha. (c) Nil. (ii) Light clayey. (b) Refer soil analysis, Tirur. (iii) 18.7.1959/5, 6.9.1959. (iv) 3 to 4 ploughings. (b) Transplanting. (c) 2 to 3 lb./ac. (d) 10'' x 10''. (e) 4, (v) As per treatments. (vi) CO—25. (vii) Irrigated. (viii) As per treatments. (ix) 39.68'. (x) 6.2.1959.

2. TREATMENTS:
All combinations of (1) and (2)
(1) Two methods of manuring: M1=Japanese method of manuring—6000 lb./ac. of G.L.+5 C.L. of F.Y.M. or compost+200 lb./ac. of A/S+200 lb./ac. of Super (1 dose of A/S and Super applied at planting and 1 dose one month later.), M2=Local method of manuring—5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. A/S applied one month after planting.
(2) 5 methods of interculture: C0=No intercultivation, C1=Intercultivating with rotary weeder 15, 30 and 45 days after planting, C2=Intercultivating with hand rake 15, 30 and 45 days after planting, C3=2 weedings 15, 30 days after planting each followed by intercultivation with rotary weeder and C4=2 weedings.

3. DESIGN:
(i) Fact. in R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 70' x 5'10". (b) 68'4" x 4'2". (v) One row left. (vi) Yes.

4. GENERAL:
(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—contd. (expt. was not conducted during 1957 and 1958). (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 3706 lb./ac. (ii) 303.8 lb./ac. (iii) No effect is significant. (iv) Av. yield of grain in lb./ac.

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<td>3813</td>
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S.E. of M marginal mean = 67.9 lb./ac.
S.E. of C marginal mean = 107.4 lb./ac.
S.E. of body of table = 151.9 lb./ac.

Crop :- Paddy (1st crop).

Object :- To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra,' Bombay, with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super applied at planting+A/S at 150 lb./ac. top-dressed. (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 22.6.1954/26.7.1954. (iv) (a) Ploughed thrice with mould board plough and levelled with Burmese settun once. (b) Transplanting. (c) 25 lb./ac. (d) 6'' x 6''. (e) N.A. (v) As per treatments. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 13.03'. (x) 17.10.1954.

2. TREATMENTS:
Main-plot treatments:
2 varieties: V1=Adt. 3 and V2=Adt. 20 (early).
Sub-plot treatments:
2 methods of planting: C3=Japanese and C4=Farm methods.
Japanese method: Seed beds manured with F.Y.M. at 40 C.L./ac., ash at 2000 lb./ac. and sieved compost at 2000 lb./ac. A mixture of A/S and Super in 1:1 ratio applied at 2 lb. per 1 lb. of

Ref :- M. 54(73).
Type :- 'CMV'.
seed at sowing. A second dose of A/S and Super mixture, equal to the first dose, applied 10 and 20 days after sowing to the short and long duration varieties respectively. Transplant fields were given a B.D. of F.Y.M. at 20 C.L./ac. 30 lb./ac. as of A/S and 30 lb. of P₂O₅ as Super were applied and plots were dug and levelled. A second dose of phosphate was applied 15 days after planting and another similar dose given 15 days after the second dose to the 1st crop. The chemical manures applied at intervals of one month in the case of Samba and Thaladi crops. The plots intercultivated with a Japanese rotary weeder once in fifteen days till two weeks before flowering of the crop.

Farm method:
The nurseries were manured with 20 C.L./ac. of F.Y.M. during I crop and 10,000 lb./ac. of G.L. during II crop and single crop seasons. The transplanted fields received a B.D. of 5,000 lb. G.L. and 30 lb. P₂O₅ as Super and the manure dug in. 30 lb. of N as A/S applied 30 days after planting in the I crop and 40 days after planting in II crop and single crop seasons.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) and (b) 22' x 23'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Crop lodged just a fortnight before harvest. (ii) N.I. (iii) Height measurement, tiller counts and grain yield. (iv) (a) 1953—contd. (b) No. (c) N.A. (v) (a) and (b) N.A. (v-i, and vii) Nil.

5. RESULTS:
(i) 3263 lb./ac. (ii) (a) 333.1 lb./ac. (b) 313.0 lb./ac. (iii) Main effect of V and interaction C x V are significant. C effect is not significant. (iv) Av. yield of grain in lb./ac.

<table>
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</tr>
<tr>
<td>Mean</td>
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</tr>
</tbody>
</table>

S.E. of difference of two
1. V marginal means = 117.8 lb./ac.
2. C marginal means = 110.7 lb./ac.
3. C means at the same level of V = 156.5 lb./ac.
4. V means at the same level of C = 161.6 lb./ac.

Crop :— Paddy (Single crop).
Site :— Agri. Res. Stn., Aduthurai.

Object :—To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra', Bombay, with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of Super applied at planting +150 lb./ac. of A/S top dressed (ii) (a) Alluvial clay. (b) Refer soil analysis, Aduthurai. (iii) 5.8.1954—6.9.1954. (iv) (a) Ploughed thrice with mould board plough and levelled with Burmese settun once. (b) Transplanting. (c) 30 lb./ac. (p) 6' x 6'. (e) N.A. (v) As per treatments. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 26.87°. (x) 3.2.1955.

2. TREATMENTS:
Main-plot treatments:
2 varieties : V₁ = C0-25 and V₂ = C0-19.
Sub-plot treatments:
Same as in expt. no. 54(73) on page 171.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) and (b) 20' x 17'. (vi) Nil. (vii) Yes.
4. GENERAL:
(i) Crop lodged just a fortnight before harvest. (ii) Nil. (iii) Height measurement, tiller count and grain yield. (iv) (a) 1953—contd. (b) and (c) No. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 4858 lb./ac. (ii) (a) 772.6 lb./ac. (b) 427.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

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<td>V₂</td>
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</table>

S.E. of difference of two
1. V marginal means = 273.2 lb./ac.
2. C marginal means = 151.1 lb./ac.
3. C means at the same level of V = 213.7 lb./ac.
4. V means at the same level of C = 312.4 lb./ac.

Crop :- Paddy (Kuruvai).

Ref :- M. 55(37).
Type :- 'CMV'.

Object :-To compare the merits of Japanese method as practised in ‘Kora Gramodyog kendra’ Bombay with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS:
(i) (a) Fallow—Paddy—Paddy. (b) Fallow. *(c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 4.7.1955/10.8.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) As per treatments. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 10.30'. (x) 14.10.1955.

2. TREATMENTS:
Main-plot treatments:
2 varieties: V₁ =Adt. 3 and V₂ =Adt. 20.

Sub-plot treatments:
2 methods of planting: C₁ =Japanese and C₂ =Farm methods.

Japanese method: B.D. of 20 C.L./ac. of G.M.+30 lb./ac. of P₂O₅ as Super+30 lb./ac. of N as A/S and top-dressing of 15 lb./ac. of N as A/S on the 15th day and 30th day after planting.

Farm method: B.D. of G.L. at 5000 lb./ac.+30 lb./ac. of P₂O₅ as Super. Top-dressing of 30 lb./ac. of N as A/S 25 days after planting.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) 80'×20'. (iii) 8. (iv) (a) Main-plot : 40'×20'; sub-plot : 20'×20'. (b) 19½'×19½'. (v) 6' left as border. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1953—1956. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 3012 lb./ac. (ii) (a) 301.2 lb./ac. (b) 265.2 lb./ac. (iii) Only C effect is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
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<th></th>
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<td>2965</td>
<td>3060</td>
<td>3012</td>
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</table>
S.E. of difference of two

1. V marginal means = 106.5 lb./ac.
2. C marginal means = 93.8 lb./ac.
3. C means at the same level of V = 132.6 lb./ac.
4. V means at the same level of C = 141.9 lb./ac.

---

**Crop:** Paddy *(Thaladi).*

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

Object:—To compare the merits of Japanese method as practised in ‘Kora Gramodyog Kendra’, Bombay with that of farm method of Paddy cultivation.

1. **BASAL CONDITIONS:**
   (i) (a) Follow—Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S + 150 lb./ac. of Super. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 5.8.1955; 10.10.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6" x 6". (e) 3. (f) As per treatments. (v) As per treatments. (vi) Irrigated. (vii) Two weedings. (ix) 26.87°. (x) 27.2.1956.

2. **TREATMENTS:**
   Main-plot treatments:
   - 2 varieties: \( V_1 = C_0-25 \) and \( V_2 = C_0-19 \).
   Sub-plot treatments:
   - Same as in expt. no. 55(37), on page 173.

3. **DESIGN** and 4. **GENERAL:**
   Same as in expt. no. 55(37) on page 173.

5. **RESULTS:**
   (i) 4465 lb./ac. (ii) (a) 536.0 lb./ac. (b) 321.6 lb./ac. (iii) \( V \) effect is highly significant. C effect is significant while Interaction \( C \times V \) is not significant. (iv) Av. yield of grain in lb./ac.

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</table>

S.E. of difference of two

1. V marginal means = 189.5 lb./ac.
2. C marginal means = 113.7 lb./ac.
3. C means at the same level of V = 160.8 lb./ac.
4. V means at the same level of C = 221.0 lb./ac.

---

**Crop:** Paddy *(Samba).*

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

Object:—To compare the merits of Japanese method as practised in ‘Kora Gramodyog Kendra’, Bombay with that of farm method of Paddy cultivation.

1. **BASAL CONDITIONS:**
   (i) (a) Follow—Paddy—Paddy. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 5.8.1955; 10.9.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6" x 6". (e) 2. (f) As per treatments. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 26.87°. (x) 31.1.1956.

2. **TREATMENTS:**
   Same as in expt. no. 55(36) above.
3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) 20'×17; (b) 19'×17'. (v) 6' left as border. (vi) Yes.

4. GENERAL:
   Same as in expt. no. 55(37) on page 173.

5. RESULTS:
   (i) 3465 lb./ac. (ii) (a) 235.6 lb./ac. (b) 249.6 lb./ac. (iii) V effect alone is significant. (iv) Av. yield of grain in lb./ac.

<table>
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S.E. of difference of two
1. V marginal means = 83.3 lb./ac.
2. C marginal means = 88.5 lb./ac.
3. C means at the same level of V = 124.8 lb./ac.
4. V means at the same level of C = 121.4 lb./ac.

---

**Crop:** Paddy (*Kuruvai*).

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

**Ref:** M. 56(31).

**Type:** 'CMV'.

Object: —To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra', Bombay, with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS:
   (i) (a) Fallow—Paddy—Paddy. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 11.7.1956/3.8.1956. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6'×6'. (e) 2. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 18.38'. (x) 22.10.1956.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 55(37) on page 173.

5. RESULTS:
   (i) 3758 lb./ac. (ii) (a) 270.4 lb./ac. (b) 60.0 lb./ac. (iii) C effect alone is highly significant. (iv) Av. yield of grain in lb./ac.

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</table>

S.E. of difference of two
1. V marginal means = 95.6 lb./ac.
2. C marginal means = 21.2 lb./ac.
3. C means at the same level of V = 30.0 lb./ac.
4. V means at the same level of C = 99.0 lb./ac.
Object:—To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra', Bombay, with that of Farm method of Paddy cultivation.

1. BASAL CONDITIONS:
   (i) (a) Fallow—Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 24.9.1956/14.11.1956. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) Two weedings. (ix) 29.24". (x) 14.3.1957.

2. TREATMENTS:
   Main-plot treatments:
   - 2 varieties: V1=CO—25 and V2=CO—19.
   Sub-plot treatments:
   - Same as in expt. no. 55(37) on page 173.

3. DESIGN and GENERAL:
   - Same as in expt. no. 55(37) on page 173.

4. RESULTS:
   (i) 4043 lb./ac. (ii) (a) 226.4 lb./ac. (b) 274.8 lb./ac. (iii) V effect is significant and interaction C×V is highly significant while C effect is not significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two
1. V marginal means = 80.0 lb./ac.
2. C marginal means = 97.2 lb./ac.
3. C means at the same level of V = 137.4 lb./ac.
4. V means at the same level of C = 125.9 lb./ac.

Object:—To compare the merits of Japanese method as practised in Kora Gramodyog Kendra', Bombay, with that of Farm method of Paddy cultivation.

1. BASAL CONDITIONS:
   (i) (a) Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Clayey. (b) Refer soil analysis, Aduthurai. (iii) 8.8.1956/14.9.1956. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6"×6". (e) 2. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 29.24". (x) 29.1.1957.

2. TREATMENTS:
   - Same as in expt. no. 55(36) on page 174.

3. DESIGN:
   - Same as in expt. 55(38) on page 174.

4. GENERAL:
   - Same as in expt. no. 55(37) on page 173.

5. RESULTS:
   (i) 4434 lb./ac. (ii) (a) 226.4 lb./ac. (b) 274.8 lb./ac. (iii) C and V effects are highly 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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<td>4900</td>
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</table>

S.E. of difference of two
1. V marginal means = 137.9 lb./ac.
2. C marginal means = 81.5 lb./ac.
3. C means at the same level of V = 115.2 lb./ac.
4. V means at the same level of C = 160.1 lb./ac.

---

**Crop:** Paddy (Kar).

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

**Ref.** M. 54(39).

**Type:** ‘CMV’.

Object:—To compare the merits of Japanese method as practiced in ‘Kora Gramodyog Kendra’, Bombay, with that of farm method of Paddy cultivation.

1. **BASAL CONDITIONS:**
   (i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S + 150 lb./ac. of Super. 
   (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. 
   (iii) 8 to 10.6.1954/6.7.1954. 
   (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 4”X4” (for farm method). 
   (e) 1. (v) Nil. (vi) As per treatments. 
   (vii) Irrigated. (viii) As per treatments. (ix) Nil. (x) 6.10.1954.

2. **TREATMENTS:**
   **Main-plot treatments:**
   2 methods of cultivation: $C_1$ = Japanese method as practised in Kora kendra (Bombay) and $C_2$ = Farm method.

   **Sub-plot treatments:**
   2 varieties: $V_1$ = ASD. 1 and $V_2$ = ASD. 2.

3. **DESIGN:**
   (i) Split-plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) 40’X44’. (iii) 8. (iv) (a) and (b) Main-plot: 40’X22’, sub-plot: 40’X11’. (v) Nil. (vi) Yes.

4. **GENERAL:**
   (i) Satisfactory. (ii) Nil. (iii) Height measurements, tiller count, panicle length and grain yield were recorded. (iv) (a) 1954–1956. (b) Yes. (c) Nil. (v) (a) Aduthurai, Pattukkottai, Tirur and Coimbatore. (b) N.A. (vi) and (vii) Nil.

5. **RESULTS:**
   (i) 4007 lb./ac. (ii) (a) 253.6 lb./ac. (b) 277.6 lb./ac. (iii) C and V effects are highly significant while interaction C X V is 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>4007</td>
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</table>

S.E. of difference of two
1. C marginal means = 89.7 lb./ac.
2. V marginal means = 98.1 lb./ac.
3. V means at the same level of C = 138.8 lb./ac.
4. C means at the same level of V = 132.9 lb./ac.
Crop: Paddy (2nd crop).
Site: Rice Res. Stn., Ambasamudram.

Ref. :- M. 54(40).
Type :- ‘CMV’.

Object: To compare the merits of Japanese method as practised in ‘Kora Gramodyog Kendra’, Bombay, with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As per treatments.  
   (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. 
   (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. 
   (d) 6'x6' for farm method. (e) 2. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) Nil. (x) 10.3.1955.

2. TREATMENTS:
   Main-plot treatments:
   Two methods of cultivation : C₁ = Japanese and C₂ = Farm methods.

   Sub-plot treatments:
   2 varieties : V₁ = ASD. 1 and V₂ = ASD. 2.

3. DESIGN:
   (i) Split-plot.  
   (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) 40' x 44'. (iii) 8. (iv) (a) and (b) Main-plot: 40' X 22'; sub-plot: 40' x 11'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory.  
   (ii) Nil. (iii) Height, tiller count, panicle length and grain yield. (iv) (a) 1954—1956. (b) Yes. (c) Nil. (v) (a) Aduthurai, Pattukkottai, Tirur and Coimbatore. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 3456 lb./ac. (ii) (a) 413.3 lb./ac. (b) 323.1 lb./ac. (iii) V effect is highly significant while C and C x V effects are significant. (iv) Av. yield of grain in lb./ac.

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</table>

S.E. of difference of two
1. C marginal means = 146.1 lb./ac.
2. V marginal means = 114.2 lb./ac.
3. V means at the same level of C = 161.6 lb./ac.
4. C means at the same level of V = 185.5 lb./ac.

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

Ref. :- M. 55(61).
Type :- ‘CMV’.

Object: To study the response of different varieties of Paddy to Japanese and farm methods of cultivation.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 3000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. 
   (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. 
   (iv) (a) 4 ploughings. (b) Transplanting. (c) to (e) As per treatments. (v) and (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 3.84'. (x) 29.10.1955.

2. TREATMENTS:
   Main-plot treatments:
   Two methods of cultivation : C₁ = Japanese and C₂ = Farm methods.

   Sub-plot treatments:
   2 varieties : V₁ = ASD. 1 and V₂ = ASD. 2.
Japanese method:

Nursery: Seeds were put in salt solution and heavy seeds selected. Dry seeds sown in raised seed beds having channels around. At sowing application of 40,000 lb. of C.M., 2000 lb. of compost, 2000 lb. of ash, 150 lb. of Super and 150 lb. of A/S.

Field: 10' x 6' spacing with 4 seedlings/hole. To the field 20,000 lb./ac. of C.M., 60 lb./ac. of P₂O₅ and 60 lb./ac. of N were applied. Frequent raking. Weeding once in 15 days till shoot-blade stage.

Farm Method:

Nursery: Sprouted seed; raised seed bed, 10,000 lb. of C.M., 50 lb. of A/S a week before lifting seedlings.

Field: 4' x 4' spacing, 2 seedlings/hole. 5000 lb./ac. of G.L., 30 lb./ac. of P₂O₅, 150 lb./ac. of N and 2 weedings.

3. DESIGN:

(i) Split-plot. (ii) 2 main-plots/block; 2 sub-plots/main-plot. (b) 40' x 88'. (iii) 8. (iv) (a) Main-plot: 40' x 44'. Sub-plot: 40' x 22'. (b) Sub-plot: 39' 4" x 21' 4". (v) One row left. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1953—1955. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 1467 lb./ac. (ii) (a) 131.6 lb./ac. (b) 119.2 lb./ac. (iii) C and V effects are highly significant. Interaction C x V is also significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two

1. C marginal means = 46.5 lb./ac.
2. V marginal means = 42.1 lb./ac.
3. V means at the same level of C = 59.6 lb./ac.
4. C means at the same level of V = 62.8 lb./ac.


Object: To study the response of different varieties of Paddy to Japanese and farm methods of cultivation.

1. BASAL CONDITIONS:

(i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Ambasamudram. (iii) 15.9.1955/23.10.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) to (e) As per treatments. (v) and (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 23.08. (x) 3.3.1956.

2. TREATMENTS:

Main-plot treatments: 2 methods of cultivation: C₁=Japanese and C₂=Farm methods.


Japanese method: Same as in expt. no. 55(61) above.

Farm method:

Nursery: Sprouted seed; raised seed beds, 10,000 lb./ac. of compost+50 lb./ac. A/S of a week prior to lifting.

Field: Spacing 6' x 6'; 2 to 3 seedlings/hole, 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S and weeding twice.
3. DESIGN:
(i) (a) Split-plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) Main-plot: 40' X 22'. (b) Sub-plot: 40' X 11'. (v) One row left. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1953—1955. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 1946 lb./ac. (ii) (a) 160.1 lb./ac. (b) 72.8 lb./ac. (iii) C and V effects are highly significant. Interaction is not significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two
1. C marginal means = 56.6 lb./ac.
2. V marginal means = 25.7 lb./ac.
3. V means at the same level of C = 36.4 lb./ac.
4. C means at the same level of V = 62.2 lb./ac.

---

**Crop:** Paddy.  
**Site:** Paddy Breeding Stn., Coimbatore.  
**Ref:** M. 54(97).  
**Type:** ‘CMV’.  

Object:—To compare the merits of Japanese method as practised in ‘Kora Gramodyog Kendra’, Bornbay, with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clayey. (b) N.A. (iii) 31.7.1954/5.10.1954. (iv) (a) 3 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 6" X 6". (e) N.A. (v) As per treatments. (v) and (vi) As per treatments. (viii) Irrigated. (vii) As per treatments. (ix) 13.55". (x) 12.2.1955.

2. TREATMENTS:
Main-plot treatments:
2 varieties: V1 = CO-25 and V2 = CO - 19.
Sub-plot treatments:
2 methods of cultivation: C1 = Japanese and C2 = Farm methods.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) 15' X 20'. (b) 14 1/2" X 19 1/2". (v) 1 row left as guard row. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Tiller count, height measurements and grain yield. (iv) (a) 1953—contd. (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 4224 lb./ac. (ii) (a) 239.9 lb./ac. (b) 433.2 lb./ac. (iii) C effect alone is highly significant. (vi) Av. yield of grain in lb./ac.

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<tr>
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<td>4224</td>
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</table>
S.E. of difference of two
1. \(V\) marginal means \(= 84.8\) lb./ac.
2. \(C\) marginal means \(= 153.2\) lb./ac.
3. \(C\) means at the same level of \(V\) \(= 216.6\) lb./ac.
4. \(V\) means at the same level of \(C\) \(= 175.2\) lb./ac.

Crop: Paddy (Kuruvai).
Ref: M. 54(62).

Object: To compare the merits of Japanese method as practised in ‘Kora Gramodyog Kendra’, Bombay, with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 29.6.1954/27.7.1954. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) As per treatments. (e)—. (v) and (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 18.75°. (x) 18.10.1954.

2. TREATMENTS:
   Main-plot treatments: 2 varieties: \(V_1=TKM-3\) and \(V_2=CO-13\).
   Sub-plot treatments: 2 methods of cultivation: \(C_1=Japanese\) and \(C_2=Farm\) methods.

Japanese method:
Nursery: 10,000 lb./ac. of G.L.+20 C.L. of C.M. Heavier seed selected by immersion in salt solution.
Field: 5000 lb./ac. of G.L.+150 lb./ac. of Super, 150 lb./ac. of A/S (as top-dressing 45 days after planting) and 10"×4" spacing. Intercultivation by rotary weeder at 15 days interval from planting up to one month prior to flowering.

Farm method:
Nursery: 10,000 lb./ac. of G.L.
Field: 5000 lb./ac. of G.L., 150 lb./ac. of Super, 150 lb./ac. of A/S (as top-dressing one month prior to flowering) and 4"×4" spacing.

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) 32’×10’. (b) For \(C_1\): 30’4”×9’4”; for \(C_2\): 31’4’×9’4”. (v) and (vi) Yes.

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

5. RESULTS:
   (i) 2157 lb./ac. (ii) (a) 458.7 lb./ac. (b) 418.8 lb./ac. (iii) \(V\) effect alone is significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two
1. \(V\) marginal means \(= 162.2\) lb./ac.
2. \(C\) marginal means \(= 148.1\) lb./ac.
3. \(C\) means at the same level of \(V\) \(= 209.4\) lb./ac.
4. \(V\) means at the same level of \(C\) \(= 219.6\) lb./ac.
Crop :- Paddy (Samba).
Object :- To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra', Bombay, with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS :
   (i) (a) Paddy—Paddy. (b) G.M. crop. (c) Nil. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 24.8.1954/2, 3.11.1954. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) As per treatments. (e) N.A. (v) and (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 32·33°. (x) 22·2.1955.

2. TREATMENTS :
   Main-plot treatments :
   2 varieties: V1 =C0—25 and V2 =C0—19.
   Sub-plot treatments :
   2 methods of cultivation : C1=Japanese and C2=Farm methods.

Japanese method :
Nursery : 10,000 lb./ac. of G.L.+20 C.L. of C.M. Heavier seed selected by immersion in salt solution.
Field : 5000 lb./ac of G.L.+150 lb./ac of Super+150 lb./ac of A/S (as top-dressing after 45 days of planting) and 10'×10' spacing. Intercultivation by rotary weeder at 15 days interval from planting upto one month prior to flowering.

Farm method :
Nursery : 10,000 lb./ac. of G.L.
Field : 5000 lb./ac. of G.L., 150 lb./ac. of Super, 150 lb./ac. of A/S, top-dressing one month prior to flowering at 6'×6' spacing.

3. DESIGN :
   (i) Split-plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) 30'×60'. (iii) 8. (iv) (a) Main-plot : 30'×30'; sub-plot : 30'×15'. (b) Sub-plot: C1 : 28'4"×13'4" and C2 : 29'×14'. (v) N.A. (iv) Yes.

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

5. RESULTS :
   (i) 2596 lb./ac. (ii) (a) 543·5 lb./ac. (b) 510·8 lb./ac. (iii) C effect alone is highly significant. (iv) Av. yield of grain in lb./ac.

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<th>V2</th>
<th>Mean</th>
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</table>

Mean 2719 2472 2596

S.E. of difference of two

1. V marginal means = 192·2 lb./ac.
2. C marginal means = 180·6 lb./ac.
3. C means at the same level of V = 255·4 lb./ac.
4. V means at the same level of C = 263·7 lb./ac.
1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 9.8.1955/30.9.1955. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) N.A. (d) As per treatments. (e) N.A. (v) As per treatments. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 26.2.1956.

2. TREATMENTS:
   Main-plot treatments:
   2 varieties: V1 = CO—25 and V2 = CO—19.
   Sub-plot treatments:
   Same as in exp. no. 54(63) on page 182.
   Weeding was given as and when necessary.

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) 30' x 60'. (iii) 8. (iv) (a) Main-plot: 30' x 30'. Sub-plot: 30' x 15'. (b) Sub-plot: C1: 29'2" x 14'2" and C2: 29'6" x 14'6". (v) One row left. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Tiller count, height measurement and grain yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 3186 lb./ac. (ii) (a) 264.4 lb./ac. (b) 287.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two
1. V marginal means = 93.5 lb./ac.,
2. C marginal means = 101.7 lb./ac.,
3. C means at the same level of V = 141.8 lb./ac.,
4. V means at the same level of C = 138.1 lb./ac.

Crop: Paddy (Sornavari).  
Ref: M. 55(55).  
Type: ‘CMV’.

Object: To study the response of different varieties of Paddy to Japanese and farm methods of cultivation.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 1.6.1955/26.6.1955. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) and (d) As per treatments. (e) N.A. (v) As per treatments. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 13.57". (x) 29.9.1955.

2. TREATMENTS:
   Main-plot treatments:
   2 varieties: V1=TKM—3 and V2=CO—13 (early).
   Sub-plot treatments:
   2 methods of cultivation: C1=Japanese and C2=Farm methods.

Japanese method:
Nursery: 10,000 lb./ac. of G.L.+20 C.L. of C.M. Heavier seed selected by immersion in salt solution. Seed rate: 30 lb./ac.
Field: 5000 lb./ac. of G.L.+150 lb./ac. of Super as B.D. 150 lb./ac. of A/S on the 30th day after planting as top-dressing and 6" x 6" spacing. Intercultivation by rotary weeder after every 15 days from date of planting till one month prior to flowering.
Farm method:
Nursery: Manured by 10,000 lb./ac. of G.L.; seed rate: 30 lb./ac.
Field: 5000 lb./ac. of G.L.+150 lb./ac. of Super as B.D. 150 lb./ac. of A/S as top-dressing one month prior to flowering and 4'×4' spacing. Weeding was done as and when necessary.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) 50'×30'. (iii) 8. (iv) (a) Main-plot: 25'×30'; Sub-plot: 25'×15'. (b) Sub-plot: C1: 24'6''×14'6'' and C2: 24'8''×14'8''. (v) One row left. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Tiller count, height measurements and grain yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 3300 lb./ac. (ii) (a) 171.6 lb./ac. (b) 84.5 lb./ac. (iii) V and C effects are highly significant. Interaction V×C in significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>V1</th>
<th>V2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>2467</td>
<td>2700</td>
<td>2584</td>
</tr>
<tr>
<td>C2</td>
<td>2646</td>
<td>2586</td>
<td>2616</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. V marginal means = 72.4 lb./ac.
2. C marginal means = 38.6 lb./ac.
3. C means at the same level of V = 54.6 lb./ac.
4. V means at the same level of C = 82.1 lb./ac.

Crop:— Paddy (Samba).
Object:—To study the response of different varieties of Paddy to Japanese and farm methods of cultivation.

1. BASAL CONDITIONS:
(i) (a) Paddy-Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super.
(ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 30.7.1956/1.9.1956. (iv) (a) 4 to 5 ploughings.
(b) Transplanting. (c) 30 lb./ac. (d) As per treatments. (e) N.A. (v) As per treatments. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (iv) 35.5'. (v) 22.1.1957.

2. TREATMENTS:
Main-plot treatments: 2 varieties: V1=CO—25 and V2=CO—19.
Sub-plot treatments: Same as in exp't no. 54(63) on page 182.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) 50'×32'. (iii) 8. (iv) (a) Main-plot: 25'×32'; sub-plot: 25'×16'. (b) Sub-plot: C1: 24'2''×15'2'' and C2: 24'6''×15'6''. (v) One row left. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Tiller count, height measurements and grain yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 3300 lb./ac. (ii) (a) 171.6 lb./ac. (b) 84.5 lb./ac. (iii) V and C effects are highly significant. Interaction V×C in significant. (iv) Av. yield of grain in lb./ac.
1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S.
   (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 1.6.1956/29.6.1956. (iv) (a) 4 to 5 ploughings.
   (b) Transplanting. (c) 30 lb./ac. (d) As per treatments. (e) N.A. (v) As per treatments. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 24.53°. (x) 1.10.1956.

2. TREATMENTS:
   Main-plot treatments:
   2 varieties: V₁=TKM—3 and V₂=PLR—2.
   Sub-plot treatments:
   Same as in exp. no. 55(55) on page 183.

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block : 2 sub-plots/main-plot. (iii) 8. (iv) (a) Main-plot : 19'x38'
   Sub-plot : 19'x14'. (b) Sub-plot : C₁ : 18'6"x13'6" and C₂ : 18'8"x13'8". (v) One row left. (vi) Yes.

4. GENERAL:
   (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (viii) Nil.

5. RESULTS:
   (i) 1896 lb./ac. (ii) (a) 258.0 lb./ac. (b) 209.6 lb./ac. (iii) None of the effects is significant. (iv) Av.
   yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>V₁</th>
<th>V₂</th>
<th>Mean</th>
</tr>
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<tbody>
<tr>
<td>C₁</td>
<td>2110</td>
<td>1832</td>
<td>1971</td>
</tr>
<tr>
<td>C₂</td>
<td>1804</td>
<td>1838</td>
<td>1821</td>
</tr>
<tr>
<td>Mean</td>
<td>1857</td>
<td>1835</td>
<td>1896</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. V marginal means = 91.2 lb./ac.
2. C marginal means = 74.1 lb./ac.
3. C means at the same level of V = 104.8 lb./ac.
4. V means at the same level of C = 117.5 lb./ac.

Crop := Paddy (Sornavari).
Ref := M. 56(53).
Type := ‘CMV’.
Object := To study the response of different varieties of Paddy to Japanese and farm methods of cultivation.
Crop: Paddy (Samba).


Ref: M. 57(44).

Type: ‘CMV’.

Object: To study the response of different varieties of Paddy to Japanese and farm methods of cultivation.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S + 150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 12.6.1957/6.7.1957. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) and (d) As per treatments. (e) N.A. (v) As per treatments. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 17.56’. (x) 6.2.1958.

2. TREATMENTS:
   Main-plot treatments:
   2 varieties: V₁=TKM—6 and V₂=PLR—2.

   Sub-plot treatments:
   Same as in exp. no. 55(55) on page 183.

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) 38’x28’. (iii) 8. (iv) (a) Main-plot: 19’x28’; Sub-plot: 19’x14’. (b) Sub-plot: C₁: 18’2”x13’2” and C₂: 18’6”x13’6”. (v) One row left as border. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Tiller count, height measurements and grain yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2365 lb./ac. (ii) (a) 499.9 lb./ac. (b) 410.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
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<tr>
<th>V₁</th>
<th>V₂</th>
<th>Mean</th>
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<td>2216</td>
<td>2279</td>
</tr>
<tr>
<td>2443</td>
<td>2464</td>
<td>2452</td>
</tr>
</tbody>
</table>

S.E. of difference of two

1. V marginal means = 176.7 lb./ac.
2. C marginal means = 145.2 lb./ac.
3. C means at the same level of V = 205.4 lb./ac.
4. V means at the same level of C = 228.6 lb./ac.

Crop: Paddy (Sornavari).


Ref: M. 57(43).

Type: ‘CMV’.

Object: To study the response of different varieties of Paddy to Japanese and farm methods of cultivation.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S + 150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 12.6.1957/6.7.1957. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) and (d) As per treatments. (e) N.A. (v) As per treatments. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 17.56’. (x) 5.10.1957.

2. TREATMENTS:
   Main-plot treatments:
   2 varieties: V₁=TKM—6 and V₂=PLR—2.

   Sub-plot treatments:
   Same as in exp. no. 55(55) on page 183.
3. **DESIGN:**  
   (i) Split-plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) 38' x 28'. (iii) 8. (iv) (a) Main-plot: 19' x 28'. Sub-plot: 19' x 14'. (b) Sub-plot: C\text{1} = 18'6" x 15'6" and C\text{2} = 18'8" x 13'8". (v) One row left. (vi) Yes.

4. **GENERAL:**  
   (i) Satisfactory. (ii) Nil. (iii) Tiller count, height measurement and grain yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. **RESULTS:**  
   (i) 3690 lb./ac. (ii) (a) 510.0 lb./ac. (b) 270.6 lb./ac. (iii) Only C effect is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>V\text{1}</th>
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<tbody>
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<td>C\text{1}</td>
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<td>3843</td>
</tr>
<tr>
<td>C\text{2}</td>
<td>3475</td>
<td>3463</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. V marginal means = 180.3 lb./ac.
2. C marginal means = 95.7 lb./ac.
3. C means at the same level of V = 135.3 lb./ac.
4. V means at the same level of C = 204.1 lb./ac.

---


Object:—To study the response of different varieties of Paddy to Japanese and farm methods of cultivation.

1. **BASAL CONDITIONS:**  
   (i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.-150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 22.8.1557/28.9.1957. (iv) 4 ploughings. (b) to (d) As per treatments. (e) N.A. (v) and (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 31.22". (x) 2.2.1958.

2. **TREATMENTS:**  
   Main-plot treatments:  
   2 varieties: \(V_1=\text{CO}-25\) and \(V_2=\text{CO}-19\).  
   Sub-plot treatments:  
   Same as in expn. no. 54(63) on page 182.

3. **DESIGN:**  
   (i) Split-plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) 25' x 16'. (b) \(C_1 = 24'2" x 15'2"\) and \(C_2 = 24'6" x 15'6"\). (v) and (vi) Yes.

4. **GENERAL:**  
   (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. **RESULTS:**  
   (i) 2375 lb./ac. (ii) (a) 226.0 lb./ac. (b) 226.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>V\text{1}</th>
<th>V\text{2}</th>
<th>Mean</th>
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<tr>
<td>C\text{2}</td>
<td>2440</td>
<td>2464</td>
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</table>

Mean 2401 2348 2375
Crop :- Paddy (Sornavari).

Ref :- M. 57(105).
Type :- 'CMV'.

Object :- To study the response of different varieties of Paddy to Japanese and farm methods of cultivation.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of Super + 150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 12.6.1-57/6.7.1957. (iv) (a) 4 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) As per treatments. (e) N.A. (v) As per treatments. (vi) As per treatments. (vii) Irrigated. (viii) Weeding twice. (ix) 5.10.1957.

2. TREATMENTS :
   Main-plot treatments :
   2 varieties : V1 = TKM-6 and V2 = PLR-2
   Sub-plot treatments :
   2 methods of cultivation : C1 = Japanese and C2 = Farm methods.

Japanese methods :
Nursery : 10,000 lb./ac. of G.L. + 20 C.L. of C.M. Selection of heavier seed by immersion in salt solution.
Field : 5000 lb./ac. of G.M. + 153 lb./ac. of Super + 150 lb./ac. of A/S applied 45 days after planting at 10" x 4" spacing.

Farm method :
Nursery : 10,000 lb./ac. of G.L.
Field : 5000 lb./ac. of G.L. + 150 lb./ac. of Super + 150 lb./ac. of A/S applied one month prior to flowering and 4" x 4" spacing.

3. DESIGN :
   (i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) 19' x 14'. (b) C1 : 18'2" x 13'8" and C2 : 18'8" x 13'8". (v) One row left. (vi) Yes.

4. GENERAL :
   (i) Satisfactory. (ii) Nil. (iii) Yield. (iv) (a) 1954-1957. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :
   (i) 3642 lb./ac. (ii) (a) 655 lb./ac. (b) 334 lb./ac. (iii) C effect alone is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
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<th>V2</th>
<th>Mean</th>
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<td>3775</td>
<td>3841</td>
</tr>
<tr>
<td>C2</td>
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<td>3443</td>
</tr>
<tr>
<td>Mean</td>
<td>3697</td>
<td>3587</td>
<td>3642</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. V marginal means = 231.6 lb./ac.
2. C marginal means = 118.1 lb./ac.
3. C means at the same level of V = 167.0 lb./ac.
4. V means at the same level of C = 259.9 lb./ac.
Crop: Paddy (Samba).

Object: To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra', Bombay, with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Fallow—Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Sandy to Sandy loam. (b) N.A. (iii) 1.9.1954/15, 16.10.1954. (iv) (a) 4 ploughings with Cooper II plough in puddled condition and levelling up. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 30.82°. (x) 19.2.1955.

2. TREATMENTS:
   Main-plot treatments:
   2 varieties: \( V_1 = \text{CO}—25 \) and \( V_2 = \text{CO}—19 \).
   Sub-plot treatments:
   2 methods of cultivation: \( C_1 = \text{Japanese} \) and \( C_2 = \text{Farm methods} \).

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) \( 24.2' \times 14.6' \). (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Height measurements, tiller count, grain and straw yield. (iv) (a) 1953—1955. (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 3413 lb./ac. (ii) (a) 159.2 lb./ac. (b) 102.2 lb./ac. (iii) Only C effect is significant. (iv) Av. yield of grain in lb./ac.

   \[
   \begin{array}{ccc}
   & V_1 & V_2 \\
   C_1 & 3556 & 3574 & 3565 \\
   C_2 & 3315 & 3199 & 3262 \\
   \hline
   \text{Mean} & 3440 & 3386 & 3413 \\
   \end{array}
   \]

   S.E. of difference of two
   1. V marginal means = 79.6 lb./ac.
   2. C marginal means = 51.1 lb./ac.
   3. C means at the same level of V = 72.2 lb./ac.
   4. V means at the same level of C = 94.5 lb./ac.

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

Object: To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra', Bombay, with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 2.5.1955/28.5.1955. (iv) (a) N.A. (b) to (e) As per treatments. (v) 2000 lb./ac. of G.L. + 150 lb./ac. of A/B + 150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 19.2°. (x) 24.8.1955.

2. TREATMENTS:
   Main-plot treatments:
   2 varieties: \( V_1 = \text{TKM—3} \) and \( V_2 = \text{CO—13} \).
   Sub-plot treatments:
   2 methods of cultivation: \( C_1 = \text{Japanese} \) and \( C_2 = \text{Farm methods} \).
Japanese method: Seed rate—1 lb./cent; spacing—10' x 6'; 4 seedlings/hole and intercultivating once in 15 days.

Farm method: Seed rate—3 lb./cent; spacing—4' x 4'; 2 seedlings/hole and weeding one month after planting.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) Main-plot: 6' x 21'; Sub-plot: 60' x 10'. (b) Sub-plot: 59' x 9½'. (v) Outer row left as border. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Tiller count, height measurement, grain and straw yield. (iv) (a) 1953—1955. (b) No. (c) N.A. (v) (a) Coimbatore, Aduthurai, Palur and Ambasamudram. (b) N.A. (vi) N.A. (vii) Raw data—N.A.

5. RESULTS:
(i) 3109 lb./ac. (ii) (a) and (b) N.A. (iii) Effect of C and V x C are significant. V effect is not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>V₁</th>
<th>V₂</th>
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</tr>
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<td>3141</td>
<td>3077</td>
<td>3109</td>
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</table>

S.E.'s = N.A.


Object: To study the response of different varieties of Paddy to Japanese and farm methods of cultivation.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) G.L. at 5000 lb./ac.+ Super at 175 lb./ac. (d) Sandy loam. (e) Refer soil analysis, Tirur. (ii) 31.8.1955/5.10.1955. (iii) 1953—1955. (iv) (a) N.A. (b) to (e) As per treatments. (v) As per treatments. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 26.43'. (x) 18.2.1956.

2. TREATMENTS:
Main-plot treatments:
2 varieties: V₁ = CO—25 and V₂ = CO—19.

Sub-plot treatments:
2 methods of cultivation: C₁ = Japanese and C₂ = Farm methods.

Japanese method: Seed rate—1½ lb./cent; spacing—10' x 10'; 4 seedlings/hole and intercultivating once in 15 days.

Farm method: Seed rate—3 lb./cent; spacing—6' x 6'; 2 seedlings/hole and weeding one month after planting.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) Main-plot: 60' x 21'; Sub-plot: 60' x 10'. (b) Sub-plot: 59½' x 9½'. (v) Outer row left as border. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Tiller count, height measurement, grain and straw yield. (iv) (a) 1953—1955. (b) No. (c) N.A. (v) (a) Coimbatore, Aduthurai, Palur and Ambasamudram. (b) N.A. (vi) Nil. (vii) Raw data—N.A.

5. RESULTS:
(i) 3296 lb./ac. (ii) (a) and (b) N.A. (iii) Only C effect is significant. (iv) Av. yield of grain in lb./ac.
Crop :- Paddy (Navarai).
Site :- Rice Res. Stn., Tirur.

Objec~: To study the response of different varieties of Paddy to Japanese and farm methods of cultivation.

1. BASAL CONDITIONS :
(i) (a) Nil. (b) Paddy. (c) G.L. at 5000 lb./ac. + Super at 150 lb./ac. + A/S at 175 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 23.12.1955/22.1.1956. (iv) (a) N.A. (b) to (e) As per treatments. (v) 2000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 2.72". (x) 1.5.1956.

2. TREATMENTS :
Main-plot treatments :
2 varieties: V₁ = C0-18 and V₂ = TKM-5 (medium).
Sub-plot treatments :
Same as in expt. no. 55(18) on page 189.

3. DESIGN :
(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) Main-plot : 60'x21'; Sub-plot : 60'x10'. (b) Sub-plot : 59'x9'. (v) Outer row left as border. (vi) Yes.

4. GENERAL :
(i) Satisfactory. (ii) Nil. (iii) Tiller count, height measurements, grain and straw yields. (iv) (a) 1953—1955. (b) No. (c) N.A. (v) (a) Coimbatore, Aduthurai, Palur and Ambassamudram. (b) N.A. (vi) Nil. (vii) Raw data—N.A.

5. RESULTS :
(i) 2121 lb./ac. (ii) (a) and (b) N.A. (iii) Only V×C effect is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>V₁</th>
<th>V₂</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>C₁</td>
<td>2409</td>
<td>2244</td>
<td>2327</td>
</tr>
<tr>
<td>C₂</td>
<td>1779</td>
<td>2053</td>
<td>1916</td>
</tr>
<tr>
<td>Mean</td>
<td>2094</td>
<td>2149</td>
<td>2121</td>
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</table>

S.E.'s = N.A.

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

Ref :- M. 54(34).
Type :- ‘CMV’.

Object :- To compare the merits of Japanese method as practised in ‘Kora Gramodyog Kendra’, Bombay, with that of farm method of Paddy cultivation.
1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) G.L. at 5000 lb./ac. + Super at 150 lb./ac. + A/S at 175 lb./ac. 
   (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 8.1.1954/29, 31.1.1954. (iv) (a) N.A. 
   (b) to (e) As per treatments. (v) and (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. 
   (ix) 0.07". (x) 21.4.1954 and 8.5 1954.

2. TREATMENTS:
   Main-plot treatments:
   2 varieties: V1=CO—18 and V2=TKM—5.
   Sub-plot treatments:
   2 methods of cultivation: C1=Japanese and C2=Farm methods.

Japanese method:
   Nursery: Seed rate—1 lb./cent, 10"x6" spacing with 4 seedlings/hole. F.Y.M at 40 C.L./ac., ash at 20,000 
   lb./ac. and compost at 2000 lb./ac., A/S at 1 lb./cent and Super at 1 lb./cent.
   Field: F.Y.M. at 20 C.L./ac., A/S at 30 lb./ac. of N and Super at 30 lb./ac. of P2O5. Top dressing with 
   A/S at an interval of 15 days each. Intercultivation every fortnight by Japanese weeder.
   Farm method:
   Nursery: Seed rate—3 lb./cent, 4"x4" spacing; bulk planting with 2 seedlings/hole. G.L. at 10,000 lb./ac.
   Field: G.L. at 5000 lb./ac. and Super 30 lb./ac. of P2O5. Weeding one month after planting.

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) 35’x10’. 
   (b) C1: 34’6’x9’2” and C2: 34’8’x9’8”. (v) Outer rows left as guard rows. (vi) Yes.

4. GENERAL:
   (i) C1 plots vigorous and taller than C2 plots. Lodging on 8.4.1954 in C1 plots; propping done. (ii) Nil. 
   (iii) Grain and straw yield. (iv) (a) 1953—1955. (b) No. (c) N.A. (v) (a) Coimbatore, Aduthurai, 
   Pattukkottai, Palur and Ambasamudram. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2633 lb./ac. (ii) (a) 190.8 lb./ac. (b) 165.2 lb./ac. (iii) V and C effects are highly significant. Inter-
   action is not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>V1</th>
<th>V2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>2818</td>
<td>2555</td>
<td>2686</td>
</tr>
<tr>
<td>C2</td>
<td>2675</td>
<td>2364</td>
<td>2520</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. V marginal means = 55.2 lb./ac.
2. C marginal means = 31.2 lb./ac.
3. C means at the same level of V = 44.2 lb./ac.
4. V means at the same level of C = 61.4 lb./ac.

---

Crop :- Paddy (Navarai).
Site :- Rice Res. Stn., Tirur.

Object :- To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra', Bombay, 
with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Ragi. (c) F.Y.M. at 20 C.L./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. 
   iii) 7.5.1954/30.5.1954. (iv) (a) N.A. (b) to (e) As per treatments. (v) and (vi) As per treatments. 
   (vii) Irrigated. (viii) As per treatments. (ix) 16.16". (x) 3.9.1954.

2. TREATMENTS:
   Main-plot treatments:
   2 varieties: V1=CO—13 and V2=TKM—3.
193

Sub-plot treatments:
Sams as in expt. no. 54(34) on page 191.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) 57'×10' (b) For C1: 56'×9'6" and for C2: 56'×9'6". (v) Outer row discarded. (vi) Yes.

4. GENERAL:
(i) C1 plots vigorous and taller than C2 plots. Lodging on 29.7.1954. in C1 plots, propping was done. (ii) Nil (ii) Grain and straw yield. (iv) (a) 1953-1955. (b) No. (c) N.A. (v) (a) Coimbatore, Aduthurai, Pattukkottai, Palur and Ambasamudram. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 3178 lb./ac. (ii) (a) 190.8 lb./ac. (b) 165.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>V1</th>
<th>V2</th>
<th>Mean</th>
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</thead>
<tbody>
<tr>
<td>C1</td>
<td>3306</td>
<td>3263</td>
<td>3285</td>
</tr>
<tr>
<td>C2</td>
<td>3062</td>
<td>3079</td>
<td>3070</td>
</tr>
<tr>
<td>Mean</td>
<td>3184</td>
<td>3171</td>
<td>3178</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. V marginal means = 67.5 lb./ac.
2. C marginal means = 58.4 lb./ac.
3. C means at the same level of V = 82.6 lb./ac.
4. V means at the same level of C = 89.2 lb./ac.

Crop :- Paddy (Sornavari)  
Site :- Rice Res. Stn., Tirur.  
Ref :- M. 54(36).  
Type :- 'CMV'.

Object :- To compare the merits of Japanese method as practised in 'Kora Gramodyog Kendra', Bombay, with that of farm method of Paddy cultivation.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) G.L. at 5000 lb./ac.+Super at 150 lb./ac.+A/S at 175 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 10.9.1954/18.10.1954. (iv) (a) N.A. (b) to (e) As per treatments. (v) and (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 29.94°. (x) 25.2.1955.

2. TREATMENTS:
Main-plot treatments:
2 varieties: V1=CO—25 and V2=CO—19 (late).
Sub-plot treatments:
Same as in expt. no. 54(34) on page 191.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/replication ; 2 sub-plots/main-plot. (iii) 8. (iv) (a) 60'×10'. (b) For C1: 59'2"×9'2" and for C2: 59'2"×9'2". (v) Outer rows left. (vi) Yes.

4. GENERAL:
(i) C1 plots of dark colour due to heavy manuring. Lodging in C1 plots on 24.12.1954; propping done. (ii) Nil. (iii) Grain and Straw yield. (iv) (a) 1953—1955. (b) No. (c) N.A. (v) (a) Coimbatore, Aduthurai, Pattukkottai, Palur and Ambasamudram. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 3364 lb./ac. (ii) (a) 188.4 lb./ac. (b) 121.2 lb./ac. (iii) C effect and interaction C×V are highly significant. V effect is significant.
Object:—To compare the merits of Japanese method as practised in ‘Kora Gramodyog Kendra’, Bombay, with that of Farm method of Paddy cultivation.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) G.L. at 5000 lb./ac.+Super at 150 lb./ac.+A/S at 175 lb./ac.. (ii) (a) Sandy loam. (b) Refer soil analysis, Tirur. (iii) 22.12.1954/19.1.1955. (iv) (a) N.A. (b) to (e) As per treatments. (v) and (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 8.83'. (x) 27.4.1955.

2. TREATMENTS:
   Main-plot treatments:
   2 varieties: \( V_1 = C0-18 \) and \( V_2 = TKM-5 \).

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) 60'×10'. (b) For \( C_1 \) : 59'×9'2' and for \( C_2 \) : 59'×9'2'. (v) Outer rows left. (vi) Yes.

4. GENERAL:
   (i) \( C_1 \) plots are more vigorous and taller than \( C_2 \) plots. \( C_1 \) lodged on 27.3.1955 : propping done. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—1955. (b) No. (c) N.A. (v) (a) Coimbatore, Adhuthurai, Pasukottai, Palur and Ambasamudram. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2164 lb./ac. (ii) (a) 130.0 lb./ac. (b) 156.0 lb./ac. (iii) C effect alone is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>( V_1 )</th>
<th>( V_2 )</th>
<th>Mean</th>
</tr>
</thead>
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<tr>
<td>( C_1 )</td>
<td>2322</td>
<td>2299</td>
<td>2311</td>
</tr>
<tr>
<td>( C_2 )</td>
<td>2079</td>
<td>1956</td>
<td>2017</td>
</tr>
<tr>
<td>Mean</td>
<td>2201</td>
<td>2127</td>
<td>2164</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. V marginal means = 46.0 lb./ac.
2. C marginal means = 55.2 lb./ac.
3. C means at the same level of \( V \) = 78.0 lb./ac.
4. V means at the same level of C = 71.8 lb./ac.
Crop :- Paddy.  
Object :- To study the effect of different fungicides on blast disease of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) Paddy. (c) G.L. at 5000 lb./ac. + Super at 150 lb./ac. + A/S at 500 lb./ac.  (ii) (a) Clayey loam.  (b) Refer soil analysis, Aduthurai. (iii) 30.9.1954/11.11.1954.  (iv) (a) 2 ploughings after watering the field. G.M. applied, trampled and allowed to decompose, ploughed again and levelled prior to transplanting.  (b) Transplanting. (c) to (e) N.A.  (v) 500 lb./ac. of G.M. + 150 lb./ac. of Super just before planting.  (vi) One weeding a month after transplanting.  (ix) 27.33°. (x) 6, 7, 9, 11, 1955.

2. TREATMENTS:
   4 fungicides:  F₀ = No spraying, F₁ = Bordeaux’s mixture, F₂ = Perenox and F₃ = Cupravit.  Spraying in 2 doses, 1st 15 days after planting and the other 15 days later.

3. DESIGN:
   (i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) and (b) 8′×14′. (v) Nil.  (vi) Yes.

4. GENERAL:
   (i) Good.  (ii) Blast attack — As per treatments. (iii) Grain yield and % of blast infected tillers in each plot.  (iv) (a) Nil.  (b) and (c) Nil.  (v) Nil.  (vi) Nil.  (vii) The data is transformed into sin⁻¹√p where p is the % of infection and then analysed.

5. RESULTS:
   I % infection of blast
   (i) 26.74 degrees.  (ii) 4.05 degrees.  (iii) Treatment differences are not significant. (iv) Mean angle in degrees.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>F₀</th>
<th>F₁</th>
<th>F₂</th>
<th>F₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean angle</td>
<td>30.56</td>
<td>24.59</td>
<td>26.26</td>
<td>25.55</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>1.65 degrees</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

II. Grain yield
   (i) 2637 lb./ac.  (ii) 506.3 lb./ac.  (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>F₀</th>
<th>F₁</th>
<th>F₂</th>
<th>F₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2334</td>
<td>2761</td>
<td>2411</td>
<td>3034</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>206.7 lb./ac.</td>
<td></td>
<td></td>
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</table>

Crop :- Paddy.  
Site :- Agri. college and Res. Instt., Coimbatore.  
Object :- To study the effect of different fungicides in controlling blast disease of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Fallow—Paddy.  (b) Paddy.  (c) 5000 lb./ac. of G.L. and 120 lb./ac. of N as A/S. (ii) (a) Clayey.  (b) Refer soil analysis, Coimbatore. (iii) 13.9.1954/14.10.1954. (iv) (a) 2 ploughings after letting water into the field. G.M. applied, trampled, allowed to decompose for a week and ploughed in.  Levelling was done prior to transplantation. (b) Transplanting. (c) to (e) N.A.  (v) 5000 lb./ac. of G.L. spread uniformly and trampled. (vi) CO-13 (early). (vii) Irrigated. (viii) Two weedings. (ix) 13.06°. (x) 12.1.1955.

2. TREATMENTS:
   9 fungicides:  F₀ = No spraying, F₁ = Bordeaux’s mixture 1% + 8 oz. of Albolinium in 100 gallons of water.  F₂ = Cupravit, F₃ = Coppesan, F₄ = Fungi-copper (Geigy), F₅ = Shell copper fungicide, F₆ = Fungimar, F₇ = Trifungal and F₈ = Perenox.  The concentration of Tr. F₂ to F₈ is 1 lb. in 40 gallons of water.  Two sprays given—1st 15 days after planting and second 30 days after planting.

3. DESIGN:
   (i) R.B.D. (ii) (a) 9.  (b) N.A.  (iii) 4. (iv) (a) and (b) 23′×18′.  (v) Nil.  (vi) Yes.
4. GENERAL:

(i) Good. (ii) Blast attack—Control measures as per treatments. (iii) Leaf and neck infestations were recorded. Infection count and grain yield. (iv) (a) 1943—contd. (but with varying treatments). (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) The data is transformed into \( \sin^{-1}\sqrt{p} \) where \( p \) is the % neck infection and then analysed. (vii) Expt. was conducted by the Mycologist, Coimbatore.

5. RESULTS:

I. % infection of blast

(i) 29.57 degrees. (ii) 4.50 degrees. (iii) Treatment differences are not significant. (iv) Mean angle in degrees.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>( F_0 )</th>
<th>( F_1 )</th>
<th>( F_2 )</th>
<th>( F_3 )</th>
<th>( F_4 )</th>
<th>( F_5 )</th>
<th>( F_6 )</th>
<th>( F_7 )</th>
<th>( F_8 )</th>
</tr>
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<tbody>
<tr>
<td>Mean angle</td>
<td>30.68</td>
<td>32.54</td>
<td>27.77</td>
<td>27.62</td>
<td>29.28</td>
<td>29.42</td>
<td>28.66</td>
<td>30.14</td>
<td>30.04</td>
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<tr>
<td>S.E./mean</td>
<td>2.25 degrees</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

II. Grain yield

(i) 580.2 lb./ac. (ii) 159.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>( F_0 )</th>
<th>( F_1 )</th>
<th>( F_2 )</th>
<th>( F_3 )</th>
<th>( F_4 )</th>
<th>( F_5 )</th>
<th>( F_6 )</th>
<th>( F_7 )</th>
<th>( F_8 )</th>
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<tbody>
<tr>
<td>Av. yield</td>
<td>526.1</td>
<td>605.0</td>
<td>683.9</td>
<td>552.4</td>
<td>671.3</td>
<td>499.8</td>
<td>473.5</td>
<td>736.5</td>
<td>473.5</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>79.7 lb./ac</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

Crop:—Paddy. Site:—Agri. College and Res. Instt., Coimbatore. Object:—To study the effect of different fungicides in controlling blast disease.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. (ii) (a) Clayey. (b) Refer soil analysis, Coimbatore. (iii) 6.11.1954 N.A. (iv) (a) Ploughing and levelling after G.L. was applied. (b) to e) N.A. (v) 5000 lb./ac of G.L. (vi) CO—13 (early). (vii) Irrigated. (viii) Nil. (ix) 4.03. (x) 20.12.1954.

2. TREATMENTS:

Same as in expt. no. 54(52) on page 195.

3. DESIGN:

(i) R.B.D. (ii) 9. (b) N.A. (iii) 4. (iv) (a) and (b) 5' \times 10'. (v) No. (vi) Yes.

4. GENERAL:

(i) Good. (ii) Sprayed against thrips. (iii) Leaf infection was recorded. (iv) (a) 1943—contd. (but with different treatments year to year). (b) No. (c) Nil. (d) 'A' and (b) Nil. (vi) The data is transformed into \( \sin^{-1}\sqrt{p} \) where \( p \) is the % infection and then analysed. (vii) Expt. was conducted by the Mycologist.

5. RESULTS:

(i) 29.51 degrees. (ii) 5.46 degrees. (iii) Treatment differences are not significant. (iv) Mean angle in degrees.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>( F_0 )</th>
<th>( F_1 )</th>
<th>( F_2 )</th>
<th>( F_3 )</th>
<th>( F_4 )</th>
<th>( F_5 )</th>
<th>( F_6 )</th>
<th>( F_7 )</th>
<th>( F_8 )</th>
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</thead>
<tbody>
<tr>
<td>Mean angle</td>
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<td>30.12</td>
<td>29.09</td>
<td>29.47</td>
<td>25.52</td>
<td>31.50</td>
<td>31.10</td>
<td>30.98</td>
<td>26.25</td>
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<tr>
<td>S.E./mean</td>
<td>2.73 degrees</td>
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<td></td>
<td></td>
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</table>

Crop:—Paddy. Site:—Agri. College and Res. Instt., Coimbatore. Object:—To study the effect of treating seed with fungicides on the foot-rot disease of Paddy.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. (ii) (a) Clayey. (b) Refer soil analysis, Coimbatore. (iii) 6.11.1954. (iv) (a) Ploughing and levelling. (b) Transplanting. (c) to e) N.A. (v) G.L. given—quantity N.A. (vi) CO—10. (vii) Irrigated. (viii) Nil. (ix) 3.03'. (x) 20.12.1954.
2. TREATMENTS:

6 fungicides: $F_0$=No treatment, $F_1$=Agrosan G.N., $F_2$=Ceresan, $F_3$=Harvesan, $F_4$=Tripomol 50 and $F_5$=Tripomol 80.

Quantity of fungicides—1 gm. per pound of seed.

3. DESIGN:

(i) R.B.D. (ii) 6. (b) N.A. (iii) 4. (iv) (a) and (b) 2'×2'. (v) Nil. (vi) Yes.

4. GENERAL:

(i) Good. (ii) Foot-rot disease—control manures as per treatments. (iii) Observation recorded on percentage of infected seedlings. (iv) (a) 1943—contd. (but with different treatments every year). (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) The data is transformed into $\sin^{-1}\sqrt{p}$ where $p$ is the % infection and then analysed. (vii) Expt. was conducted by Mycologist.

5. RESULTS:

(i) 28.48 degrees. (ii) 3.56 degrees. (iii) Treatment differences are highly significant. (iv) Mean angle in degrees.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$F_0$</th>
<th>$F_1$</th>
<th>$F_2$</th>
<th>$F_3$</th>
<th>$F_4$</th>
<th>$F_5$</th>
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<tr>
<td>Mean angle</td>
<td>79.10</td>
<td>3.01</td>
<td>8.88</td>
<td>6.57</td>
<td>33.16</td>
<td>40.18</td>
</tr>
<tr>
<td>S.E./mean =</td>
<td>1.78 degrees.</td>
<td></td>
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</tr>
</tbody>
</table>

Ref => M. 54(28).

Object:—To study the effect of periodical application of insecticides on Paddy stem-borer.

1. BASAL CONDITIONS:

(i) (a) No. (b) Paddy. (c) 10,000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S as top-dressing. (ii) (a) Clayey. (b)Refer soil analysis, Coimbatore. (iii) 27.8.1949/19.10.1954. (iv) (a) Puddling with Victory plough followed by country plough and levelling. (b) Transplanting. (c) to (e) N.A. (f) 10,000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S as top-dressing. (vi) PTB.21. (medium) (vii) Irrigated. (viii) 4 weedings. (ix) N.A. (x) 17.1.1955.

2. TREATMENTS:

5 insecticides: $I_0$=No spray, $I_1$=B.H.C. 0.1 %, $I_2$=Folidol [0.025 %, $I_3$=Endrine 0.01% (1 oz. in 12 gal. of water) and $I_4$=Product 1250.

Four sprays done—1st at nursery stage (42 days old), 2nd and 3rd after 15 and 30 days of transplanting and 4th at shoot-blade stage.

3. DESIGN:

(i) R.B.D. (ii) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 100'×22'. (v) Nil. (vi) Yes.

4. GENERAL:

(i) Good; lodging was noted on 10.1.1955. (ii) As per treatments. (iii) Percentage of stem-borer infection and grain yield. (iv) (a) 1952—contd. (b) No. (c) Nil. (v) (a) Aduthurai. (b) N.A. (vi) Nil. (vii) Expt. was conducted by the Entomologist, Coimbatore.

5. RESULTS:

(i) 2768 lb./ac. (ii) 121.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$I_0$</th>
<th>$I_1$</th>
<th>$I_2$</th>
<th>$I_3$</th>
<th>$I_4$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2280</td>
<td>2343</td>
<td>2330</td>
<td>2267</td>
<td>2317</td>
</tr>
<tr>
<td>S.E./mean =</td>
<td>49.7 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ref => M. 54(92).

Object:—To study the effect of Ceresan on Paddy yield.
1. **BASAL CONDITIONS**:
   (i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super as B.D.+150 lb./ac. of A/S top-dressed one month after planting. (ii) (a) Clayey. (b) N.A. (iii) 16.7.1954/17.8.1954. (iv) (a) 3 ploughings. (b) Transplanting. (c) 30 lb./ac. (d) 4'×6'. (e) N.A. (v) 5000 lb./ac. of Sesbania G.L.+150 lb./ac. of Super as B.D. (vi) CO-13 (early). (vii) Irrigated. (viii) Weeding a month after planting. (ix) 10.9" (x) 17.11.1954.

2. **TREATMENTS**:
   1. Control.
   2. Each pound of seed treated by 4 lb./ac. of Ceresan.
   3. Each pound of seed treated by 5 lb./ac. of Ceresan.

3. **DESIGN**:
   (i) R.B.D. (ii) 3. (b) N.A. (iii) 8. (iv) (a) and (b) 4'×20'. (v) Nil. (vi) Yes.

4. **GENERAL**:
   (i) Normal. (ii) Nil. (iii) Height measurement, tiller count and grain yield. (iv) (a) 1953—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. **RESULTS**:
   (i) 2783 lb./ac. (ii) 1959 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.
   
<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2813</td>
<td>2762</td>
<td>2776</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>692.6 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**Crop :- Jowar.**

**Site :- Millet Breeding Stn., Coimbatore.**

**Object :-** To find out the optimum dose of fertilizers for Jowar.

1. **BASAL CONDITIONS**:
   (i) Jowar—Cotton—Jowar. (b) Pulses—Cowpea. (c) 5 tons/ac. of F.Y.M. (ii) (a) Red soil. (b) Refer soil analysis, Coimbatore. (iii) 6.8.1954. (iv) (a) 4 ploughings. (b) Line sowing. (c) 15 lb./ac. (d) 1.32'×1.32'. (e) 2. (f) 5 tons/ac. of F.Y.M. given as B.D. before the last ploughing. (v) CO-1 (late) (vi) Irrigated. (vii) 2 weedings, hoeings and thinning. (ix) 14.6". (x) 26.12.1954.

2. **TREATMENTS**:
   4 doses of manure : M₄=No manure, M₁=5 tons/ac. of F.Y.M., M₂=5 tons/ac. of F.Y.M.+20 lb./ac. of N₂O₂, M₃=5 tons/ac. of F.Y.M.+40 lb./ac. of N₂O₂. N as A/S and P₂O₅ as Super. F.Y.M. and Super applied as B.D. before sowing. A/S applied in rows by hoeing at thinning time one month after sowing.

3. **DESIGN**:
   (i) R.B.D. (ii) (a) 4. (b) 32'×66'. (iii) 6. (iv) (a) 33'×66'. (b) 26.4'×59.4'. (v) 3.3'×3.3'. (vi) Yes.

4. **GENERAL**:
   (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954—contd. (b) Yes. 'c' N.A. (v) (a) Tirupathur. (b) N.A. (vi) and (vii) Nil.

5. **RESULTS**:
   (i) 1390 lb./ac. (ii) 150.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1301</th>
<th>1347</th>
<th>1501</th>
<th>1407</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1383</td>
<td>1347</td>
<td>1501</td>
<td>1407</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>61.5 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop :- Jowar.          
Site :- Millet Breeding Stn., Coimbatore.  

Object :- To find out the optimum dose of fertilizers for Jowar.

1. BASAL CONDITIONS :
   (i) (a) Jowar—Pulses—Jowar. (b) Pulse. (c) 2½ tons/ac. of F.W.C.  
   (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore.  
   (iii) 13.9.1955. (iv) (a) 4 ploughings. (b) Line sowing. (c) 15 lb./ac.  
   (d) 1.32' x 1.32'. (e) 2. (v) Nil. (vi) CO—1 (late). (vii) Irrigated. (viii) 2 weedings and 2 hoeings. (ix) 8.95°.  
   (x) 28.1.1956.

2. TREATMENTS and 3. DESIGN :
   Same as in expt. no. 54(113) on page 198.

4. GENERAL :
   (i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) (a) Tirupathur.  
   (b) N.A. (vi) and (vii) Nil.

5. RESULTS :
   (i) 972 lb./ac. (ii) 153.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in  
   lb./ac.

   Treatment  M_0  M_1  M_2  M_3
   Av. yield  858  890  1066  1074

   S.E./mean = 62.75 lb./ac.

---

Crop :- Jowar.          
Site :- Millet Breeding Stn., Coimbatore.  

Object :- To find out the optimum dose of fertilizers.

1. BASAL CONDITIONS :
   (i) (a) Jowar—pulse—Jowar. (b) Pulse. (c) 2½ tons/ac. of F.W.C.  
   (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore.  
   (iii) 8.7.1957. (iv) (a) 4 ploughings. (b) Line sowing. (c) 15 lb./ac.  
   (d) 1.32' x 1.32'. (e) 2. (v) Nil. (vi) CO—1 (late). (vii) Unirrigated. (viii) 2 weedings and 2 hoeings. (ix) 23.87°.  
   (x) 8.1958.

2. TREATMENTS and 3. DESIGN :
   Same as in expt. no. 55(47) on page 198.

4. GENERAL :
   Same as in expt. no 55(47) on page 198.

5. RESULTS :
   (i) 1206 lb./ac. (ii) 129.4 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in  
   lb./ac.

   Treatment  M_A  M_1  M_2  M_3
   Av. yield  1105  1470  1207  1041

   S.E./mean = 52.8 lb./ac.

---

Crop :- Jowar.          
Site :- Regional Millet Stn., Tirupathur.  

Object :- To determine the response of Jowar to organic and inorganic manures.

1. BASAL CONDITIONS :
   (i) (a) Bajra—Horse gram—Jowar. (b) Horse gram. (c) Nil. (ii) (a) Reddish loam. (b) N.A.  
   (iii) 8.6.1955. (iv) (a) 2 ploughings with country plough and one with junior hoe. (b) Line sowing. (c) 10 lb./ac.  
   (d) 1.32' x 0.66'. (e) 1. (v) Nil. (vi) TPT.1 (late). (vii) Unirrigated. (viii) Thinning, hoeing and weeding one month after sowing. (ix) 30.17°.  
2. **TREATMENTS**:

   Same as in expt. no. 54(113) on page 198.

3. **DESIGN**:

   (i) R.B.D.  (ii) (a) 4.  (b) $66' \times 52.8'$.  (iii) 6.  (iv) (a) $66' \times 13.2'$.  (b) $66' \times 10.61'$.  (v) One row on either side.  (vi) Yes.

4. **GENERAL**:

   (i) Normal.  (ii) Nil.  (iii) Yield of grain.  (iv) (a) 1955—1958.  (b) Yes.  (c) Nil.  (v) (a) Coimbatore.  (b) N.A.  (vi) and (vii) Nil.

5. **RESULTS**:

   (i) $902.0 \text{ lb./ac.}$  (ii) $205.8 \text{ lb./ac.}$  (iii) Treatment differences are highly significant.  (iv) Av. yield of grain in lb./ac.

   \[
   \begin{array}{cccc}
   \text{Treatment} & M_0 & M_1 & M_2 & M_3 \\
   \text{Av. yield} & 635 & 793 & 1028 & 1151 \\
   \text{S.E./mean} &= 84.0 \text{ lb./ac.}
   \end{array}
   \]

   **Crop:** Jowar.  
   **Site:** Regional Millet Stn., Tirupathur.  
   **Ref:** M. 56(19).  
   **Type:** 'M'.

Object:—To determine the response of Jowar to organic and inorganic manures.

1. **BASAL CONDITIONS**:

   (i) (a) Bajra—Horse gram—Jowar.  (b) Horse gram.  (c) Nil.  (ii) (a) Reddish loam.  (b) N.A.  (iii) 30.6.1956.  (iv) (a) 2 ploughings with country plough and 1 with junior hoe.  (b) Line sowing.  (c) 10 lb./ac.  (d) $1.32' \times 1.32'$.  (e) 1.  (f) Nil.  (vi) TPT—1 (late).  (vii) Unirrigated.  (viii) Thinning, weeding and hoeing one month after sowing.  (ix) 33.30'.  (x) 4.1.1957.

2. **TREATMENTS**:

   Same as in expt. no. 54(113) on page 198.

3. **DESIGN and 4. GENERAL**:

   Same as in expt. no. 55(26) on page 199.

5. **RESULTS**:

   (i) $1027 \text{ lb./ac.}$  (ii) $161.7 \text{ lb./ac.}$  (iii) Treatment differences are significant.  (iv) Av. yield of grain in lb./ac.

   \[
   \begin{array}{cccc}
   \text{Treatment} & M_0 & M_1 & M_2 & M_3 \\
   \text{Av. yield} & 816 & 873 & 1140 & 1279 \\
   \text{S.E./mean} &= 66.0 \text{ lb./ac.}
   \end{array}
   \]

   **Crop:** Jowar.  
   **Site:** Regional Millet Stn., Tirupathur.  
   **Ref:** M. 57(15).  
   **Type:** 'M'.

Object:—To determine the response of Jowar to organic and inorganic manures.

1. **BASAL CONDITIONS**:

   (i) (a) Bajra—Horse gram—Jowar.  (b) Horse gram.  (c) Nil.  (ii) (a) Loam—Reddish.  (b) N.A.  (iii) 19.6.1957.  (iv) (a) 2 ploughings with country plough and 1 with junior hoe.  (b) N.A.  (c) 10 lb./ac.  (d) $1.32' \times 1.32'$.  (e) 1.  (f) Nil.  (vi) TPT—1 (late).  (vii) Unirrigated.  (viii) 1 thinning, weeding and hoeing (ix) 24.43'.  (x) 28.12.1957.

2. **TREATMENTS**:

   Same as expt. no. 54(113) on page 198.
3. DESIGN and 4. GENERAL:
Same as in expt. no. 55(26) on page 199.

5. RESULTS:
(i) 1028 lb./ac. (ii) 201 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M₀</th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>874</td>
<td>863</td>
<td>1075</td>
<td>1031</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>82.0 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Jowar.
Site :- M.A.E. Farm, Bhavanisagar.

Object :- Type II—To study the effect of N, P and K when applied alone and in combinations along with F.Y.M. on the yield of Jowar.

1. BASAL CONDITIONS:
(i) (a) Cotton—Cholam—Groundnut. (b) Cotton. (c) As per treatments. (ii) (a) and (b) N.A. (iii) 15 and 16.9.1958. (iv) (a) 3 mummaty diggings. (b) Dibbling. (c) 22 lb./ac. (d) 12'×6'. (e) 1. (v) NIL. (vi) CO—1. (vii) Irrigated. (viii) 1 thinning, gap filling, 2 hand weeding, hoeing and weeding, spraying and dusting. (ix) N.A. (x) 20 to 26.1.1959.

2. TREATMENTS:
All combinations of (1), (2), (3) and (4)
(1) 3 levels of N : N₀=0, N₁=20 and N₂=40 lb./ac.
(2) 3 levels of P₂O₅ : P₀=0, P₁=20 and P₂=40 lb./ac.
(3) 3 levels of K₂O : K₀=0, K₁=20 and K₂=40 lb./ac.
(4) 2 levels of F.Y.M. : F₀=0 and F₁=5,000 lb./ac.

3. DESIGN:
(i) 3 x 2 Fact. confd. (ii) (a) 9 plots/block; 6 blocks/replication. (b) N.A. (iii) 3. (iv) (a) 36.3'×15'. (b) 34.3'×13'. (v) and (vi) Yes.

4. GENERAL:
(i) Satisfactory. Crop was slightly affected by continuous shower. (ii) Cholam red-bug. (iii) Grain yield.
(iv) (a) 1957—contd. (b) Yes. (c) —. (v) N.A. (vi) Heavy rains in early stages. (vii) NIL.

5. RESULTS:
(i) 180.3 lb./ac. (ii) 63.45 lb./ac. (iii) Only N effect is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>134.5</td>
<td>183.2</td>
<td>251.6</td>
<td>189.8</td>
</tr>
<tr>
<td>126.8</td>
<td>184.6</td>
<td>209.9</td>
<td>173.8</td>
</tr>
<tr>
<td>118.4</td>
<td>177.1</td>
<td>236.2</td>
<td>177.2</td>
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<table>
<thead>
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<th>K₀</th>
<th>K₁</th>
<th>K₂</th>
<th>Mean</th>
</tr>
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<tbody>
<tr>
<td>130.1</td>
<td>123.9</td>
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<td>251.6</td>
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<tr>
<td>160.2</td>
<td>163.0</td>
<td>169.4</td>
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<tr>
<td>195.9</td>
<td>201.0</td>
<td>205.9</td>
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Ref :- M. 58 (MAE).
Type :- 'M'.

Object :- Type II—To study the effect of N, P and K when applied alone and in combinations along with F.Y.M. on the yield of Jowar.
Crop: Jowar (Kharif).
Site: M.A.E. Farm, Bhavanisagar.

Object: Type VI—To determine the method of placement of phosphatic fertilizers to Jowar.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Horse gram. (c) Nil. (ii) (a) and (b) N.A. (iii) 11, 12, 10.1957. (iv) (a) 3 ploughings. (b) Dibbling. (c) 12 lb./ac. (d) 18° × 6°. (e) 1. (v) 15 lb./ac. of N as AsS 60 days after sowing. (vi) CO—1 (5½ months duration). (vii) Irrigated. (viii) Hoeing and 2 weedings. (ix) 21.9°. (x) 24, 25.2.1958.

Craft:

<table>
<thead>
<tr>
<th>P_0</th>
<th>P_1</th>
<th>P_2</th>
<th>K_0</th>
<th>K_1</th>
<th>K_2</th>
<th>F_0</th>
<th>F_1</th>
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<td>50.3</td>
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<td>128.9</td>
<td>164.4</td>
<td>182.7</td>
<td>125.3</td>
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<td>167.9</td>
<td>180.5</td>
<td>170.6</td>
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<td>208.2</td>
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<td>K_0</td>
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<td>226.3</td>
<td>144.0</td>
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<td>K_1</td>
<td>188.6</td>
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<td>168.6</td>
<td>159.3</td>
<td>219.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of marginal mean of N, P or K = 17.04 lb./ac.
S.E. of body of N×P, N×K or P×K table = 29.52 lb./ac.
2. TREATMENTS:
All combinations of (1), (2) and (3) + a control (no manure)
(1) 2 levels of P\textsubscript{2}O\textsubscript{5}: P\textsubscript{1}=20 and P\textsubscript{2}=40 lb./ac.
(2) 3 sources of P\textsubscript{2}O\textsubscript{5}: S\textsubscript{1}=Super, S\textsubscript{2}=Ammo. Phos. and S\textsubscript{3}=Dical. Phos.
(3) 3 methods of placement of P\textsubscript{2}O\textsubscript{5}: M\textsubscript{1}=Broadcast before final combination, M\textsubscript{2}=Placed 2" below seed and M\textsubscript{3}=Band placement.

3. DESIGN:
(i) R.B.D. (ii) (a) 19. (b) N.A. (iii) 3. (iv) (a) 36.3'x15'. (b) 34.3'x13'. (v) 1'x1'. (vi) Yes.

4. GENERAL:
(i) N.A. (ii) Slight attack of ear-head-bug. (iii) Grain yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) No. (vi) Nil. (vii) Continuous rains during the early part of the crop resulted in stunted growth of the crop.

5. RESULTS:
(i) 69.9 lb./ac. (ii) 19.90 lb./ac. (iii) None of the effect is significant. (iv) Av. yield of grain in lb./ac.

<table>
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<tr>
<th></th>
<th>S\textsubscript{1}</th>
<th>S\textsubscript{2}</th>
<th>S\textsubscript{3}</th>
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<th>P\textsubscript{2}</th>
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S.E. of marginal mean of M or S = 4.69 lb./ac.
S.E. of marginal mean of P = 3.83 lb./ac.
S.E. of body of M\times S table = 8.12 lb./ac.
S.E. of body of M\times P or M\times S table = 6.63 lb./ac.
S.E. of control mean = 11.49 lb./ac.

Crop :- Jowar (Kharif).
Site :- M.A.E. Farm, Bhavanisagar.
Object :- Type VI—To determine the method of placement of phosphatic fertilizers to Jowar.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Groundnut. (c) N.A. (ii) (a) and (b) N.A. (iii) 6, 7.11.1958. (iv) (a) 2 ploughings. (b) Dibbling. (c) 35 lb./ac. (d) 12"x6". (e) N.A. (v) Nil. (vi) CO—1. (vii) Irrigated. (viii) 3 weedicings. (ix) N.A. (x) 4 to 10.3.1959.

2. TREATMENTS and 3. DESIGN:
Same as in exp. no. 57(MAE) Type VI on page 202.

4. GENERAL:
(i) Due to alkalinity the growth of the crop is affected in patches. (ii) A slight attack of cholam ear-head-bug was noticed at the time of flowering—BHC. 10 % dust was given as control measure. (iii) Grain yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 154.6 lb./ac. (ii) 69.88 lb./ac. (iii) Control vs other treatments is highly significant. P effect is significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.
Crop :- Jowar (Kharif).
Site :- M.A.E. Farm, Bhavanisagar.
Object :- Type VI-To determine the method of placement of phosphatic fertilizers to Jowar.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) and (b) N.A. (iii) Oct.-November, 1959. (iv) (a) Ploughings. (b) to (c) N.A. (v) Nil. (vi) N.A. (vii) Irrigated. (viii) and (ix) N.A. (x) February-March, 1960.

2. TREATMENTS:
All combinations of (1), (2) and (3)+control (3 plots/replication).
(1) 2 levels of P₂O₅ : P₁=20 and P₂=40 lb./ac.
(2) 3 sources of P₂O₅ : S₁ = Super, S₂ = Ammon. Phos. and S₃ = Dical. Phos.
(3) 3 methods of placement of P₂O₅ : N₁ = Broadcast before final combination, M₂ = Placed 2" below seed level and M₃ = Band placement.

3. DESIGN:
(i) R.B.D. (ii) (a) 21. (b) N.A. (iii) 3. (iv) (a) 36.3' ×15'. (b) 34.3' ×13'. (v) Yes. (vi) Yes.

4. GENERAL:
(i) and (ii) N.A. (iii) Grain yield. (iv) (a) 1957—contd. (b) and (c) N.A. (v) and (vi) N.A. (vii) Nil.

5. RESULTS:
(i) 219.1 lb./ac. (ii) 70.01 lb./ac. (iii) S effect is highly significant. M effect and control vs others is significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

Control = 264.1 lb./ac.
Crop :- Jowar.
Site :- Millet Breeding Stn., Coimbatore.

Object :- To study the response of different strains of Jowar to different fertilizers.

1. BASAL CONDITIONS :
(i) (a) Nil. (b) Jowar. (c) 5 tons/ac. of F.Y.M.+30 lb./ac of P₂O₅ as Super and 40 lb./ac. of N as A/S. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 12.3.1958. (iv) (a) 4 ploughings. (b) Line sowing. (c) 15 lb/ac. (d) 1.32'×0.66'. (e) 1 seedling/hole. (v) 5 tons/ac. of C.M. (vi) As per treatments. (vii) Irrigated. (viii) 1 weeding. (ix) 9.19'. (x) 15.7.1958.

2. TREATMENTS :
Main-plot treatments : 6 levels of manuring : M₀=0, M₁=25 lb./ac. of P₂O₅ as Super, M₂=25 lb./ac. of P₂O₅ as Super+60 lb/ac. of N as A/S, M₃=25 lb./ac. of P₂O₅ as Super+50 lb./ac. of N as A/S, M₄=25 lb./ac. of P₂O₅ as Super+100 lb./ac. of N as A/S, M₅=25 lb./ac. of P₂O₅ : Super+120 lb./ac. of N as A/S.

3. DESIGN :
(i) Split-plot. (ii) (a) 6 main-plots/block ; 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 13.2'×7.9'. (b) 13.2'×6.6'. (v) 0.66' on either side. (vi) Yes.

4. GENERAL :
(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Millet Specialist, Coimbatore.

5. RESULTS :
(i) 1180 lb./ac. (ii) (a) 198 lb./ac. (b) 151 lb./ac. (iii) M effect and interaction M×V are significant. V effect in highly significant. (iv) Av. yield of grain in lb./ac.

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<th>M₂</th>
<th>M₃</th>
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S.E. of difference of two
1. M marginal means = 62.6 lb./ac.
2. V marginal means = 43.6 lb./ac.
3. V means at the same level of M = 106.8 lb./ac.
4. M means at the same level of V = 114.2 lb./ac.

Crop :- Jowar (Summer).
Site :- Millet Breeding Stn., Coimbatore.

Object :- To compare the farm method of cultivation with Poora method and Ryot's method.
1. BASAL CONDITIONS:
(i) (a) Nil. (b) Jowar. (c) 5 tons/ac. of F.Y.M. +3 lb./ac. P2O5 as Super and 40 lb./ac. N as A/S.
(ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 13.3.1958. (iv) (a) 4 ploughings.
(b) Line sowing. (c) 15 lb./ac. (d) and (e) As per treatments. (v) 5 tons/ac. of F.Y.M. and 30 lb. ac.

2. TREATMENTS:
Three methods of cultivation:
1. Poona method: 60 lb./ac. of N as A/S applied in equal doses, 3 and 6 weeks after sowing, 10 to 12
   seeds/hole to be thinned in 3 stages to 4 plants/hole at 1.98' x 1.32' spacing.
2. Farm method: 40 lb./ac. of N as A/S applied in full doses, 3 and 6 weeks after sowing, 1 plant/
hill at 1.32' x 0.66' spacing.
3. Ryot’s method: 60 lb./ac. of N as A/S applied in equal doses, 3 and 6 weeks after sowing, 1 plant/
hill at 0.66' x 0.66' spacing.

3. DESIGN
(i) R.B.D. (ii) [a] 3. (b) N.A. (iii) 8. (iv) (a) 13.2' x 7.92'. (b) 13.2' x 5.94'. (vi) N.A. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil.
   (vii) Expt. was conducted by Millet Specialist, Coimbatore.

5. RESULTS:
(i) 79 lb./ac. (ii) 43.5 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

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<td>766</td>
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<td>S.E./mean</td>
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Crop :— Jowar.
Site :— M.A.E. Farm, Bhavanisagar.

Object :—Type VIII.—To study the effect of N and P along with different spacings on the yield of Jowar

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) and (b) N.A. (iii) 17. 18.9.1957. (iv) (a) 3 ploughings.
   (b) Dibbling in lines. (c) 15 lb./ac. (d) As per treatments. (e) N.A. (v) F.Y.M. at 5000 lb. ac.
   (vi) Irrigated. (vii) Hoing and 2 weedings. (viii) 17.72". (x) 27, 28.1.1958.

2. TREATMENTS:
All combinations of (1), (2) and (3):
(1) 3 levels of N : N0 = 0, N1 = 20 and N2 = 40 lb/ac.
(2) 3 levels of P2O5: P0 = 0, P1 = 20 and P2 = 40 lb./ac.
(3) 3 spacings between rows: S1 = 6', S2 = 12' and S3 = 18'.
Spacing between plants is 6'.

3. DESIGN:
(i) 3² fact. confd. (ii) (a) 9 plots/block; 3 blocks/replication. (b) N.A. (iii) 2. (iv) (a) 36.0' x 15'.
   (b) 34.3' x 13'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Incidence of cholam ear-head bug; dusting of B.H.C. 10 %. (iii) Grain yield.
   (iv) (a) 1957—contd. (b) and (c) No. (v) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 203.8 lb./ac. (ii) 77.35 lb./ac. (iii) Only N effect is highly significant. (iv) Av. yield of grain
   in lb./ac.
Crop: Jowar.
Site: M.A.E. Farm, Bhavanisagar.
Object: Type VIII—To study the effect of N and P along with different spacings on the yield of Jowar.

1. BASAL CONDITIONS:
   (i) (a) No. (b) Groundnut. (c) N.A. (ii) (a) and (b) N·A. (iii) 29.9.1958. (iv) (a) and (b) N·A. (v) 30.10.1958. (vi) 40 lb. (ac.) P as Super. (vii) CO·I. (viii) Irrigated. (ix) No. (x) Nil.

2. TREATMENTS and 3: DESIGN:
   Same as in expt. no. 57(M.A.E.) Type VIII on page 206.

4. GENERAL:
   (i) Crop was affected by heavy rains in October and November. (ii) Ear-head-bug, controlled by B.H.C. 10% dust. (iii) Cupravit as a check against infection of red-leaf. (iv) (a) 1957—contd. (b) Nil. (v) Nil. (vi) Continuous rains during the early stages of the crop. (vii) Nil.

5. RESULTS:
   (i) 94.7 lb./ac. (ii) 31.15 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

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<td>94.7</td>
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S.E. of any marginal mean = 7.3 lb./ac.
S.E. of body of any table = 12.7 lb./ac.

Crop: Jowar (Kharij).
Site: M.A.E. Farm, Bhavanisagar.
Object: Type VIII—To study the effect of N and P along with different spacings on the yield of Jowar.

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<td>222.3</td>
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S.E. of any marginal mean = 18.2 lb./ac.
S.E. of body of any table = 31.6 lb./ac.
1. BASAL CONDITIONS:
(i) a) Nil. b) Sandhemp. c) Nil. (ii) a) and b) N.A. (iii) 8.9.1959. (iv) a) 4 ploughings. b) and c) N.A. (d) As per treatments. e) N.A. (v) Nil. (vi) CO—1. (vii) Irrigated. (viii) Weeding and hoeing twice. (ix) N.A. (x) 19 to 21.1.1960.

2. TREATMENTS and 3. DESIGN:
Same as in exp. no. 57, M.A.E. Type VIII on page 206.

4. GENERAL:
(i) Not good. (ii) The infection of early shoot borer was controlled by hand picking and with a spray of folded. Ear-head bug was controlled by dusting B.H.C. 10%. (iii) Grain yield. (iv) (a) 1957—cortd. (b) Nil. (c) Nil. (d) Nil. (e) to (vii) Nil. (viii) Weeding and hoeing twice. (ix) N.A. (x) 19 to 21.1.1960.

5. RESULTS:
(i) 259.1 lb./ac. (ii) 69.3 lb./ac. (iii) Only S and N effects are highly significant. (iv) Av. yield of grain in lb./ac.

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S.E. of any marginal mean = 16.3 lb./ac.
S.E. of body of any table = 28.3 lb./ac.

Crop:—Jowar (Summer).
Site:—Agri. College and Res. Inst., Coimbatore.
Object:—To study the combined effect of tillage, manures and irrigation on Jowar.

1. BASAL CONDITIONS:
(i) a) Jowar—Cotton—Ragi with a G.M. crsp between Ragi and Jowar once in 2 years. (b) Sesbania (G.M.: c) Nil. (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 26.3.1955. (iv) (a) As per treatments. (b) Line sowing. (c) N.A. (d) 1.32' x 1.32'. (e) 2. (f) 5 tons/ac. of C.M. (vi) CO—9 early. (vii) Irrigated. (viii) 1 hoeing and 1 weeding. (ix) 9.32'. (x) 4.7.1955.

2. TREATMENTS:
Strips in one direction:
3 levels of irrigation: T1 = 20", T2 = 25" and T3 = 30".

Strip in the perpendicular direction:
All combinations of (1) and (2).
(1) 2 levels of ploughings: T1 = Shallow ploughing and T2 = Deep ploughing (victory plough).
(2) 3 levels of manuring: M1 = 30 lb./ac. of N + 30 lb./ac. of P2O5; M2 = 60 lb./ac. of N + 45 lb. ac. of P2O5 + 50 lb./ac. of K2O and M3 = 90 lb./ac. of N + 60 lb./ac. of P2O5 + 50 lb./ac. of K2O.
N as A.S, P2O5 as Super and K2O as Pot. Sul. were applied.

3. DESIGN:
(i) Strip–plot (ii) a) 18. (b) N.A. (iii) 4. (iv) a) 31' x 13.2'. (b) 29.70 < 10.56'. (v) 1.65'; 1.32'. (vi) Yes.

Ref:—M. 55(88)
Type:—‘ICM’.
4. GENERAL:
(i) Satisfactory. (ii) B.H.C. 50% was sprayed against earhead bugs on jowar. (iii) Yield of grain. (iv) 1954—contd. (b) Yes. (c) Nil. (v) and (vi) Nil. (vii) Expt. was conducted by Agronomist, Coimbatore.

5. RESULTS:
(i) 2733 lb./ac. (ii) (a) 278.2 lb./ac. (b) 295.7 lb./ac. (c) 240.8 lb./ac. (ii) None of the effects or interactions is significant. (iv) Av. yield of grain in lb./ac.

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S.E. difference of two
1. I marginal means = 80.3 lb./ac. 5. I means at the same level of T = 106.2 lb./ac.
2. T marginal means = 69.7 lb./ac. 6. M means at the same level of I = 150.1 lb./ac.
3. M marginal means = 85.3 lb./ac. 7. I means at the same level of M = 126.9 lb./ac.
4. T means at the same level of I = 106.2 lb./ac. S.E. of body of T x M table = 85.4 lb./ac.

Crop: Jowar (Summer).
Ref: M. 58(41).
Type: 'D'.

Object: To find out the best method to control stem-borer.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 19.2.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 12 to 15 lb./ac. (d) 9"x9". (e) 1. (v) 5 tons/ac. of F.Y.M. (vi) CO-18. (vii) Irrigated. (viii) Thinning and weeding. (ix) 6.35°. (x) 7.6.1958.

2. TREATMENTS:
All combinations of (1), (2) and (3) + 2 extra treatments
(1) 3 pesticides: P_1 = Metasystox, P_2 = Systox and P_3 = Pestox.
(2) 2 concentrations: C_1 = 0.1% and C_2 = 0.2%.
(3) 2 methods of application: M_1 = Spraying and M_2 = Along with irrigation.
Extra treatments: T_1 = Spraying water and T_3 = Control (no treatment).

3. DESIGN:
(i) R.B.D. (ii) 14. (b) 168'x48' (iii) 4. (iv) (a) 24'x24'. (b) 21'x21'. (v) 1'x1'. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Stem-borer in the 2nd week of March 1958. Controlled as per treatments. (iii) 5 counts of stem-borer at fortnightly intervals in 100 plants and yield of grain. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Sin^-1/p transformation used where p is the percent infestation. (vii) Experiment was conducted by Entomologist, Coimbatore.

5. RESULTS:
I. % infestation of stem-borer
(i) 23.12 degrees. (ii) 1.14 degrees. (iii) No effect is significant. (iv) Av. incidence stem-borer.
210

\[ T_1 = 24.16 \text{ degrees}; \ T_2 = 23.60 \text{ degrees}. \]

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S.E. of P marginal mean = 0.29 degrees.
S.E. of C or M marginal mean = 0.23 degrees.
S.E. of body of \( C \times M \) table = 0.33 degrees.
S.E. of body of \( P \times C \) or \( P \times M \) table = 0.40 degrees.
S.E. of extra treatment mean = 0.57 degrees.

II. Grain yield.
(i) 3134 lb./ac. (ii) 232 lb./ac. (iii) Only M effect and interaction \( C \times M \) are highly significant. (iv) Av. yield of grain in lb./ac.

\[ T_1 = 2925 \text{ lb./ac.}; \ T_2 = 3088 \text{ lb./ac.} \]

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S.E. of P marginal mean = 58.0 lb./ac.
S.E. of C or M marginal mean = 47.3 lb./ac.
S.E. of body of \( C \times M \) table = 66.9 lb./ac.
S.E. of body of \( P \times C \) or \( P \times M \) table = 82.0 lb./ac.
S.E. of extra treatment mean = 116.0 lb./ac.

Crop: Jowar (Summer).

Ref: M. 59(35).
Type: 'D'.

Object: To find out the best method to control stem-borer.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) and (c) N.A. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 16.2.1959.
   (iv) (a) 3 ploughings (b) N.A. (c) 15 lb./ac. (d) 9' x 9'. (e) 1. (v) 5 tons/ac. of F.Y.M. (vi) CO—18.
   (vii) Irrigated. (viii) 1 thinning and weeding. (ix) N.A. (x) 8.6.1959.

2. TREATMENTS and 3. DESIGN:
   Same as in exp. no. 58(41); on page 209.

4. GENERAL:
   (i) N.A. (ii) Stem-borer incidence noticed. Controlled as per treatments. (iii) Count of stem-borer infested plants and yield of grain. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) sin⁻¹\( \sqrt{p} \) transformation was used where \( p \) is the percent infestation. (vii) Expt. was conducted by Govt. Entomologist, Coimbatore.
5. RESULTS:

I. % infestation of stem-borer.

(i) 18.05 degrees. (ii) 1.24 degrees. (iii) No effect is significant.

\[
T_1 = 17.45 \text{ degrees} ; \quad T_2 = 17.88 \text{ degrees.}
\]

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<td>17.94</td>
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S.E. of P marginal mean = 0.31 degrees.
S.E. of C or M marginal mean = 0.25 degrees.
S.E. of body of C×M table = 0.36 degrees.
S.E. of body of P×C or P×M table = 0.44 degrees.
S.E. of extra treatment mean = 0.62 degrees.

II. Grain yield.

(i) 845 lb./ac.  (ii) 172.6 lb./ac. (iii) M effect is highly significant. P effect is significant. Other effects and interactions are not significant. (iv) Av. yield of grain in lb./ac.

\[
T_1 = 938 \text{ lb./ac.} ; \quad T_2 = 796 \text{ lb./ac.}
\]

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<tr>
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S.E. of P marginal mean = 43.2 lb./ac.
S.E. of C or M marginal mean = 35.2 lb./ac.
S.E. of body of C×M table = 49.8 lb./ac.
S.E. of body of P×C or P×M table = 61.0 lb./ac.
S.E. of extra treatment mean = 86.3 lb./ac.

---

Crop :- Bajra.  
Object :- To study the effect of P2O5 and G.M. on Bajra.

I. BASAL CONDITIONS:

(i) (a) Nil. (b) and (c) N.A.  (ii) (a) Red gravelly loam. (b) The soils are poor in lime, phosphate and nitrogen. The soluble salts are below 0.1%. The pH value ranges from 8 to 9.  (iii) 27 to 30.8.1959. (iv) (a) 2 and 3 ploughings. (b) N.A. (c) 7 to 8 lb./ac. (d) 6"×6". (e) N.A. (v) Nil. (vi) CO-4. (vii) Irrigated. (viii) Weeding once. (ix) 9.10.  (x) 26, 27.12.1959.
2. TREATMENTS:

Main-plot treatments:
- 6 G.M. crops ploughed in situ: M₁ = Sannhemp, M₂ = Sesbania, M₃ = Cowpea, M₄ = Dhw gram, M₅ = Indigo and M₆ = Dhaincha.

Sub-plot treatments:
- 2 levels of P₂O₅ as Super: P₀ = 0 and P₁ = 30 lb./ac.

3. DESIGN:

(i) Split-plot. (ii) [a] 6 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) [a] 6' x 18'. (b) 62' x 16'. (v) 2 rows left as border. (vi) Yes.

4. GENERAL:

(i) Not satisfactory. (ii) N.A. (iii) Yield of grain. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:

(i) 291 lb./ac. (ii) 'a' 59.5 lb./ac. (b) 85.1 lb./ac. (iii) Main effects of M and P are highly significant. Interaction is not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
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<th>M₂</th>
<th>M₃</th>
<th>M₄</th>
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<td>280</td>
<td>269</td>
<td>261</td>
<td>310</td>
<td>291</td>
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</table>

S.E. of difference of two

1. M marginal means = 29.8 lb./ac.
2. P marginal means = 24.6 lb./ac.
3. P means at the same level of M = 60.2 lb./ac.
4. M means at the same level or P = 51.9 lb./ac.

---

Crop: Bajra.


Ref: M. 56(60).

Type: 'M'

Object: To find out the relative effect of application of bulky organic manures at different levels of N to Bajra.

1. BASAL CONDITIONS:


2. TREATMENTS:

Main-plot treatments:
- 4 sources of bulky manure: S₁ = Sannhemp, S₂ = C.M., S₃ = Farm waste compost and S₄ = Glyricidia.

Sub-plot treatments:
- 4 levels of bulky manures: L₀ = 0, L₁ = 2500, L₂ = 5000 and L₃ = 7500 lb./ac.

3. DESIGN:

(i) Split-plot. (ii) [a] 4 main-plots/block; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) [a] 30' x 24'. (b) 27' x 20'. (v) 1' x 2'. (vi) Yes.

4. GENERAL:

(i) Not satisfactory. (ii) NIl. (iii) Grain yield. (iv) (a) 1956—1957. (b) Yes. (c) Nil. (v) 'a' and [b] Nil. (vi) Low yield due to unfavourable seasonal conditions. (vii) Nil.

5. RESULTS:

(i) 333 lb./ac. (ii) [a] 103.0 lb./ac. (b) 109.5 lb./ac. (iii) None of the effects is significant. (iv) Av. y'ld of grain in lb./ac.
Object:—To find out the relative effect of application of bulky organic manures at different levels of N to Bajra.

1. BASAL CONDITIONS:
   (i) (a) G.M.—Cotton—G.M.—Bajra—Ragi. (b) G.M. crop. (c) Nil. (ii) (a) Red gravelly loam. (b) Same as in expt. no. 59(58) on page 211. (iii) 28 to 30.9.1957. (iv) (a) 2 to 3 ploughings. (b) to (e) N.A. (v) River silt at 10 C.L./ac. + A/S at 136 lb./ac. + Super at 240 lb./ac. (vi) CO—4. (vii) Irrigated. (viii) Weeding once. (ix) 1.00". (x) 23 to 25.12.1957.

2. TREATMENTS and 3. DESIGN
   Same as in expt. no. 56(60) on page 212.

4. GENERAL:
   (i) Fair. (ii) N.A. (iii) Grain yield. (iv) (a) 1956—1957. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Yield poor due to untimely heavy rains. (vii) Nil.

5. RESULTS:
   (i) 273 lb./ac. (ii) (a) 83.14 lb./ac. (b) 65.92 lb./ac (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

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<th>S&lt;sub&gt;2&lt;/sub&gt;</th>
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S.E. of difference of two
1. S marginal means = 42.0 lb./ac.
2. L marginal means = 38.7 lb./ac.
3. L means at the same level of S = 77.4 lb./ac.
4. S means at the same level of L = 75.9 lb./ac.
1. **BASEL CONDITIONS**:
   (i) (a) Nil. (b) and (c) N.A. (ii) (a) Red gravelly loam. (b) Same as in expt. no. 59(58) on page 211.
   (iii) 18.9.1958. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 7 to 8 lb./ac. (d) 9"×6". (e) N.A. (v) Nil.

2. **TREATMENTS**:
   **Main-plot treatments**:
   4 sources of bulky manure: \( S_1 = \) Sannhemp, \( S_2 = \) Gliricidia, \( S_3 = \) Farm yard compost and \( S_4 = \) Ordinary compost.

   **Sub-plot treatments**:
   4 levels of bulky manures: \( L_0 = 0 \), \( L_1 = 2500 \), \( L_2 = 5000 \) and \( L_3 = 7500 \) lb./ac.

3. **DESIGN**:
   (i) Split-plot. (ii) (a) 4 main-plots/block; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 30'×24'. (b) 27'×22'. (v) 14'×1'. (vi) Yes.

4. **GENERAL**:
   (i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. **RESULTS**:
   (i) 161 lb./ac. (ii) (a) 89.1 lb./ac. (b) 54.1 lb./ac. (iii) Main effect of Land interaction S×L are highly significant. Effect of \( S \) is significant. (iv) Av. yield of grain in lb./ac.

   \[ L_0 = 126 \text{ lb./ac.} \]

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<th>( S_1 )</th>
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S.E. of difference of two
1. S marginal means = 36.4 lb./ac.
2. L marginal means = 19.1 lb./ac.
3. L means at the same level of S = 38.3 lb./ac.
4. S means at the same level of L = 47.9 lb./ac.

---

**Crop :- Bajra.**

**Site :- Agri. Res. Stn., Bhavanisagar.**

**Ref :- M. 59(57).**

**Type :- 'M'.**

Object :- To study the relative effect of bulky manures on Bajra.

1. **BASEL CONDITIONS**:
   (i) (a) Nil. (b) and (c) N.A. (ii) (a) Red gravelly loam. (b) Same as in expt. no. 59(58) on page 211.
   (iii) 10.8.1959. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 7 to 8 lb./ac. (d) 9"×6". (e) N.A. (v) Nil.

2. **TREATMENTS**:
   Same as in expt. no. 58(68) above.

3. **DESIGN**:
   (i) Split-plot. (ii) (a) 4 main-plots/block; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 33'×24'. (b) 28.5'×23'. (v) 9"×6". (vi) Yes.

4. **GENERAL**:
   Same as in expt. no. 58(68) above.

5. **RESULTS**:
   (i) 444 lb./ac. (ii) (a) 142.1 lb./ac. (b) 73.1 lb./ac. (iii) Main effect of L is highly significant and effect of \( S \) is significant. (iv) Av. yield of grain in lb./ac.
Crop :- Bajra.  
Ref :- M. 56(65). 
Type :- 'M'.

Object :- To study the effects of G.L. on Bajra.

1. BASAL CONDITIONS:
   (i) (a) Bajra—Ragi—Cotton.  (b) G.M. crop.  (c) Nil.  (ii) (a) Red gravelly loam.  (b) Same as in expt. no. 59(58) on page 211.  (iii) 24, 25.11.1956.  (iv) (a) to (e) N.A.  (v) Nil.  (vi) CO—4.  (vii) Irrigated.  (viii) 2 weedings.  (ix) 1.00'.  (x) 22, 23.2.1957.

2. TREATMENTS:
   Main-plot treatments :
   5 G.M. crops: $S_1=\text{Dhaincha}$, $S_2=\text{Sesbania}$, $S_3=\text{Cowpea}$, $S_4=\text{Glyricidia}$ and $S_5=\text{Sannhemp}$.
   Sub-plot treatments :
   4 levels of G.M. : $L_0=0$, $L_1=2500$, $L_2=5000$ and $L_3=7500$ lb./ac.

3. DESIGN:
   (i) Split-plot.  (ii) (a) 5 main-plots/block; 4 sub-plots/main-plot.  (b) N.A.  (iii) 4.  (iv) (a) 25'X27'.  (b) 23'X24'.  (v) 1'X1'.  (vi) Yes.

4. GENERAL:
   (i) N.A.  (ii) Nil.  (iii) Grain yield.  (iv) (a) 1956—1958.  (b) Yes.  (c) Nil.  (v) (a) and (b) Nil.  (vi) Poor yield due to unfavourable seasonal condition.  (vii) Nil.

5. RESULTS:
   (i) 266 lb./ac.  (ii) (a) 82.0 lb./ac.  (b) 78.3 lb./ac.  (iii) None of the effects is significant.  (iv) Av. yield of grain in lb./ac. 

$$L_0 = 244 \text{ lb./ac.}$$

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<td>305</td>
<td>261</td>
<td>283</td>
<td>309</td>
</tr>
<tr>
<td>Mean</td>
<td>261</td>
<td>268</td>
<td>254</td>
<td>283</td>
<td>299</td>
</tr>
</tbody>
</table>

S.E. of difference of two:
1. $S$ marginal means = 33.5 lb./ac.
2. $L$ marginal means = 24.8 lb./ac.
3. $L$ means at the same level of $S$ = 55.4 lb./ac.
4. $S$ means at the same level of $L$ = 56.2 lb./ac.
Crop :- Bajra.  
Object :- To study the effects of G.L. on Bajra.

1. BASAL CONDITIONS:
   (i) (a) Cotton—Bajra—Ragi.  (b) Cotton.  (c) As per treatments.  (ii) (a) Red gravelly loam.  (b) Same as in expt. no. 59(58) on page 211.  (iii) 23 to 28.9.1957.  (iv) (a) to (c) N.A.  (v) Nil.  (vi) CO—4.  (vii) Irrigated.  (viii) 2 weedings.  (ix) 15.14.1958.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 56(65) on page 215.

4. GENERAL:
   (i) N.A.  (ii) Nil.  (iii) Grain yield.  (iv) (a) 1956—1958.  (b) Yes.  (c) Nil.  (v) (a) and (b) Nil.  (vi) Crop affected by heavy rains at the time of flowering.  (vii) N.A.

5. RESULTS:
   (i) 356 lb./ac.  (ii) (a) 128 lb./ac.  (b) 168.1 lb./ac.  (iii) Main effect of L alone is significant.

\[ \text{L} = 268 \text{ lb./ac.} \]

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S5</th>
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<td>L1</td>
<td>386</td>
<td>356</td>
<td>417</td>
<td>345</td>
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<td>L2</td>
<td>459</td>
<td>415</td>
<td>277</td>
<td>390</td>
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<td>380</td>
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<td>L3</td>
<td>427</td>
<td>380</td>
<td>349</td>
<td>402</td>
<td>424</td>
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<tr>
<td>Mean</td>
<td>424</td>
<td>384</td>
<td>348</td>
<td>379</td>
<td>389</td>
<td>385</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. S marginal means = 52.3 lb./ac.
2. L marginal means = 53.1 lb./ac.
3. L means at the same level of S = 118.9 lb./ac.
4. S means at the same level of L = 110.2 lb./ac.

---

Crop :- Bajra.  
Object :- To study the effect of G.L. on Bajra.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) and (c) N.A.  (ii) (a) Red gravelly loam.  (b) Same as in expt. no. 59(58) on page 211.  (iii) 14 to 16.9.1958.  (iv) (a) 2 to 3 ploughings.  (b) N.A.  (c) 7 lb./ac.  (d) 8"×4".  (e) 1.  (v) Nil.  (vi) CO—4.  (vii) Irrigated.  (viii) Weeding and hoeing twice.  (ix) 10.05" (x) 4, 13.12.1958.

2. TREATMENTS:
   Same as in expt. no. 56(65) on page 215.

3. DESIGN:
   (i) Split-plot.  (ii) (a) 5 main-plots/block ; 4 sub-plots/main-plot.  (b) N.A.  (iii) 4.  (iv) (a) 25′×27′.  (b) 23′×25′8".  (v) 8′ left as border.  (vi) Yes.

3. GENERAL:
   (i) Not satisfactory.  (ii) Nil.  (iii) Yield of grain.  (iv) (a) 1956—1958.  (b) Yes.  (c) Nil.  (v) to (vii) Nil.

5. RESULTS:
   (i) 213 lb./ac.  (ii) (a) 67.5 lb./ac.  (b) 52.3 lb./ac.  (iii) Effects of S and S×L are highly significant while effect of L is significant.  (iv) Av. yield of grain in lb./ac.
<table>
<thead>
<tr>
<th></th>
<th>$S_1$</th>
<th>$S_2$</th>
<th>$S_3$</th>
<th>$S_4$</th>
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<td>$L_1$</td>
<td>246</td>
<td>210</td>
<td>219</td>
<td>145</td>
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<td>208</td>
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<td>$L_2$</td>
<td>219</td>
<td>271</td>
<td>108</td>
<td>237</td>
<td>324</td>
<td>232</td>
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<tr>
<td>$L_3$</td>
<td>339</td>
<td>117</td>
<td>167</td>
<td>238</td>
<td>299</td>
<td>232</td>
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<tr>
<td>Mean</td>
<td>268</td>
<td>199</td>
<td>165</td>
<td>207</td>
<td>281*</td>
<td>224</td>
</tr>
</tbody>
</table>

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

Crop :- Bajra.

Object :- To study the effect of G.L. on Bajra.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) and (c) N.A.
   (ii) (a) Red gravelly loam.  (b) Same as in expt. no. 59(58) on page 211.
   (iii) 19, 20.8.1964.
   (iv) (a) 2 to 3 ploughings.  (b) N.A.
   (v) As per treatments.
   (vi) CO—4.
   (vii) Irrigated.
   (viii) Weeding once.
   (ix) 9.11.  (x) 12.11.1959.

2. TREATMENTS:
   Same as in expt. no. 56(61) on page 215.

3. DESIGN:
   (i) Split-plot.
   (ii) (a) 5 main-plots/block; 4 sub-plots/main-plot.  (b) N.A.
   (iii) 4.
   (iv) (a) 27'x25'.  (b) 25'x23'.  (v) 6'x6'.  (vi) Yes.

4. GENERAL:
   (i) Satisfactory.
   (ii) Nil.
   (iii) Grain yield.
   (iv) (a) 1956—contd.
   (b) No.
   (c) Nil.
   (v) to (vii) Nil.

5. RESULTS:
   (i) 442 lb./ac.
   (ii) (a) 71.9 lb./ac.
   (b) 67.9 lb./ac.
   (iii) Effect of $L$ alone is highly significant.
   (iv) Av. yield of grain in lb./ac.

   L₀ = 311 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$S_1$</th>
<th>$S_2$</th>
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<tr>
<td>$L_1$</td>
<td>477</td>
<td>413</td>
<td>392</td>
<td>420</td>
<td>369</td>
<td>414</td>
</tr>
<tr>
<td>$L_2$</td>
<td>513</td>
<td>483</td>
<td>509</td>
<td>494</td>
<td>487</td>
<td>497</td>
</tr>
<tr>
<td>$L_3$</td>
<td>562</td>
<td>485</td>
<td>540</td>
<td>621</td>
<td>513</td>
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<td>460</td>
<td>480</td>
<td>512</td>
<td>456</td>
<td>485</td>
</tr>
</tbody>
</table>

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

Crop :- Bajra.

Object :- To study the effect of P₂O₅ applied to previous G.M. crops on the yield of Bajra.
1. BASAL CONDITIONS:
   (i) (a) *Cumbu—Ragi—Cotton*. (b) G.M. crop. (c) Nil.  
   (ii) (a) Red gravelly loam. (b) Same as in expt. no. 59(58) on page 211.  
   (iii) 24, 25.11.1955.  
   (iv) (a) to (e) N.A.  
   (v) 100 lb./ac. of A/S as top dressing.  
   (vi) CO—4.  
   (vii) Irrigated.  
   (viii) 2 weedings.  
   (ix) 1.00'.  
   (x) 23 to 25.2.1957.

2. TREATMENTS:
   Main-plot treatments:
   - 2 levels of P$_2$O$_5$ as Super: P$_0$ = 0 and P$_1$ = 30 lb./ac.
   Sub-plot treatments:
   - 6 G.M. crops: M$_1$ = Cowpea, M$_2$ = Sesbania, M$_3$ = Sannhemp, M$_4$ = Indigo, M$_5$ = Dewgram and M$_6$ = Dhaincha.
   P$_2$O$_5$ applied to G.M. crops and ploughed in situ.

3. DESIGN:
   (i) Split-plot.  
   (ii) (a) 2 main-plots block; 6 sub-plots/main-plot.  
   (b) 132’ x 72’.  
   (iii) 4.  
   (iv) (a) 66’ x 12’  
   (b) 64’ x 10’.  
   (v) 1’ x 1’.  
   (vi) Yes.

4. GENERAL:
   (i) Poor growth.  
   (ii) Nil.  
   (iii) Grain yield.  
   (iv) (a) 1956—1958.  
   (b) Yes.  
   (c) Nil.  
   (v) (a) and (b) Nil.  
   (vi) and (vii) Nil.

5. RESULTS:
   (i) 346 lb./ac.  
   (ii) (a) 110.4 lb./ac.  
   (b) 80.6 lb./ac.  
   (iii) Effect of M above is significant.  
   (iv) Av. yield of grain in lb./ac.

Crop: Bajra.  
Ref: M. 57(52).  
Type: - 'M'.

Object: To study the effect of P$_2$O$_5$ applied to previous G.M. crops on the yield of Bajra.

### Table 1

<table>
<thead>
<tr>
<th></th>
<th>M$_1$</th>
<th>M$_2$</th>
<th>M$_3$</th>
<th>M$_4$</th>
<th>M$_5$</th>
<th>M$_6$</th>
<th>Mean</th>
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</thead>
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<td>P$_0$</td>
<td>399</td>
<td>264</td>
<td>418</td>
<td>300</td>
<td>416</td>
<td>347</td>
<td>357</td>
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<tr>
<td>P$_1$</td>
<td>378</td>
<td>342</td>
<td>302</td>
<td>321</td>
<td>418</td>
<td>242</td>
<td>334</td>
</tr>
<tr>
<td>Mean</td>
<td>389</td>
<td>303</td>
<td>360</td>
<td>311</td>
<td>417</td>
<td>295</td>
<td>346</td>
</tr>
</tbody>
</table>

Object: To study the effect of P$_2$O$_5$ applied to previous G.M. crops on the yield of Bajra.
Crop :: Bajra.  
Site :: Agri. Res. Stn., Bhavanisagar.  
Ref :: M. 58(67)  
Type :: 'M'.

Object :: To study the effect of P2O5 applied to previous G.M. crops on the yield of Bajra.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) and (c) N.A. (ii) Red gravelly loam. (b) Same as in expt. no. 59(58) on page 211. (iii) 27, 28.9.1958. (iv) 2 to 3 ploughings. (b) N.A. (c) 7 lb./ac. (d) 6"x6". (e) N.A. (v) N.A. (vi) CO-4. (vii) Irrigated. (viii) Weeding once. (ix) N.A. (x) 23, 28.12.1958.

2. TREATMENTS:
   Main-plot treatments:
   6 G.M. crops: M1 = Cowpea, M2 = Sesbania, M3 = Sannhemp, M4 = Indigo, M5 = Dewgram and M6 = Dhaincha.
   Sub-plot treatments:
   2 levels of P2O5 as Super applied to G.M. crops: P0 = 0 and P1 = 30 lb./ac. G.M. crops ploughed in situ.

3. DESIGN:
   Same as in expt. no. 56(63) on page 217.

4. GENERAL:

5. RESULTS:
   (i) 144 lb./ac. (ii) (a) 46.7 lb./ac. (e) 30.5 lb./ac. (iii) Main effect of P alone is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>P0</th>
<th>P1</th>
<th>Mean</th>
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<tr>
<td>M1</td>
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<td>119</td>
<td>106</td>
</tr>
<tr>
<td>M2</td>
<td>76</td>
<td>100</td>
<td>88</td>
</tr>
<tr>
<td>M3</td>
<td>169</td>
<td>149</td>
<td>159</td>
</tr>
<tr>
<td>M4</td>
<td>138</td>
<td>146</td>
<td>155</td>
</tr>
<tr>
<td>M5</td>
<td>232</td>
<td>196</td>
<td>214</td>
</tr>
<tr>
<td>M6</td>
<td>129</td>
<td>177</td>
<td>153</td>
</tr>
<tr>
<td>Mean</td>
<td>140</td>
<td>148</td>
<td>144</td>
</tr>
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</table>

S.E. of difference of two
1. P marginal means = 10.2 lb./ac.
2. M marginal means = 40.0 lb./ac.
3. M means at the same level of P = 56.6 lb./ac.
4. P means at the same level of M = 52.6 lb./ac.

Crop :: Bajra.  
Site :: Millet Breeding Stn., Coimbatore.  
Ref :: M. 54(114).  
Type :: 'M'.

Object :: To determine the optimum dose of A/S and Super for Bajra.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Bajra. (c) 5 tons/ac. of compost. (ii) (a) Red. (b) Refer soil analysis, Coimbatore. (iii) 3.10.1954. (iv) (a) 2 ploughings (b) N.A. (c) 6 lb./ac. (d) 1.3"x0.7" (e) N.A. (x) F.Y.M. at 5 tons/ac. applied 15 to 20 days before sowing. (vi) CO—2 (medium). (vii) Unirrigated. (viii) 2 weedings and interculture with a Junior hoe, one month after sowing. (ix) 1.725°. (x) 25.12.1954.
2. **TREATMENTS**:

4 levels of manure: M_0 = 0, M_1 = 30 lb./ac. of N + 30 lb./ac. of P_2O_5, M_2 = 60 lb./ac. of N + 45 lb./ac. of P_2O_5 and M_3 = 90 lb./ac. of N + 60 lb./ac. of P_2O_5 + 50 lb./ac. of K_2O.

N applied as A/S, P_2O_5 as Super and K_2O as Pot. Sul.

3. **DESIGN**:

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) S. (iv) (a) 8.58' x 51.48'. (b) 5.28' x 44.88. (v) 3.3' x 1.65' left as border. (vi) Yes.

4. **GENERAL**:

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954—1956. (b) and (c) No. (v) (a) and (b) Nil. (vi) Yields are low due to draught. (vii) Nil.

5. **RESULTS**:

(i) 454.5 lb./ac. (ii) 85.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain as lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M_0</th>
<th>M_1</th>
<th>M_2</th>
<th>M_3</th>
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<tbody>
<tr>
<td>Av. Yield</td>
<td>393</td>
<td>443</td>
<td>511</td>
<td>471</td>
</tr>
</tbody>
</table>

S.E./mean = 30.0 lb./ac.

---

**Crop:** Bajra.  
**Site:** Millet Breeding Stn., Coimbatore.  
**Ref:** M. 5(1)  
**Type:** ‘M’.

Object:—To determine the optimum dose of A/S and Super for Bajra.

1. **BASAL CONDITIONS**:

   (i) (a) Nil.  
   (b) Bajra.  
   (c) 5 tons/ac. of compost as B.D.  
   (ii) (a) Red loam.  
   (b) Ref: soil analysis, Coimbatore.  
   (iii) 25.5.1955.  
   (iv) (a) 2 ploughings.  
   (b) N.A.  
   (c) 6 lb./ac.  
   (d) 1.3' x 0.7'.  
   (e) N.A.  
   (f) F.Y.M. at 5 tons/ac.  
   (g) 15 to 20 days before sowing.  
   (h) CO—3 (short duration).  
   (i) Irrigated.  
   (j) Two weedings and intercultivation with hand hoe.  
   (k) 2.48'.  
   (l) 31.8.1955.

2. **TREATMENTS**:

Same as in expt. no. 54(114) on page 219.

N top dressed one month after planting.  P at the time of last ploughing.

3. **DESIGN**:

Same as in expt. no. 55(114) on page 219.

4. **GENERAL**:

(i) Satisfactory.  
(ii) Nil.  
(iii) Grain and straw yield.  
(iv) (a) 1954—1956.  
(b) No.  
(c) N.A.  
(d) Nil.  
(v) and (vi) Nil.

5. **RESULTS**:

(i) 1097.1 lb./ac.  
(ii) 134.2 lb./ac.  
(iii) Treatment differences are significant.  
(iv) Av. yield of grain as lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M_0</th>
<th>M_1</th>
<th>M_2</th>
<th>M_3</th>
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<tr>
<td>Av. yield</td>
<td>973</td>
<td>1057</td>
<td>1189</td>
<td>1171</td>
</tr>
</tbody>
</table>

S.E./mean = 47.6 lb./ac.

---

**Crop:** Bajra.  
**Site:** Millet Breeding Stn., Coimbatore.  
**Ref:** M. 56(44).  
**Type:** ‘M’.

Object:—To find a suitable combination of N, P and K for Bajra.
1. BASAL CONDITIONS:
   (i) (a) Bajra—Jowar—Bajra. (b) Bajra. (c) 5 tons/ac. of compost. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 10.4.1956. (iv) (a) 2 ploughings. (b) 1.3′x0.7′. (c) 6 lb./ac. (d) and (e) N.A. (v) F.Y.M. at 5 tons/ac. applied 15 days before sowing. (vi) CO—3 (early). (vii) Irrigated. (viii) 2 weedings and intercultivation with hand hoe. (ix) 7.09′. (x) 26.7.1956.

2. TREATMENTS:
   4 levels of manure: M₀ = No manure, M₁ = 30 lb./ac. of N+30 lb./ac. of P₂O₅, M₂ = 60 lb./ac. of N+45 lb./ac. of P₂O₅+50 lb./ac. of K₂O and M₃ = 90 lb./ac. of P₂O₅+50 lb./ac. of K₂O.
   N applied as A/S, P₂O₅ as Super and K₂O as Pot. Sul.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 8. (iv) (a) 8.6′x51.5′. (b) 5.3′x44.9′. (v) 1.6′x3.3′. (vi) Yes.

4. GENERAL
   (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1608 lb./ac. (ii) 129.5 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M₀</th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
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<td>Av. yield</td>
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<td>1609</td>
<td>1643</td>
<td>1968</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>52.9 lb./ac.</td>
<td></td>
<td></td>
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</table>

---

Crop : Bajra.
Site : Millet Breeding Stn., Coimbatore.

Object : To find a suitable combination of N, P and K for Bajra.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Maize. (c) 5 tons/ac. of compost. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 2.5.1957. (iv) (a) 3 ploughings. (b) 1.3′x0.7′. (c) 6 lb./ac. (d) and (e) N.A. (v) Compost at 5 tons/ac. applied by broadcast. (vi) CO—3 (early). (vii) Irrigated. (viii) 2 weedings and hoeing. (ix) 6.64′. (x) 24.7.1957.

2. TREATMENTS:
   Same as in explt. no. 56(44) on page 220.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 8. (iv) (a) 8.6′x51.5′. (b) 5.3′x46.2′. (v) 1.6′x2.6′. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1497 lb./ac. (ii) 104.1 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M₀</th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
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<tr>
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<td>1407</td>
<td>1530</td>
<td>1800</td>
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<tr>
<td>S.E./mean</td>
<td>36.8 lb./ac.</td>
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</table>
1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Cotton. (c) 5 tons/ac. of compost + 60 lb/ac. of N as A/S. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 25.10.1955. (iv) (a) 2 ploughings. (b) N.A. (c) 10 lb/ac. (d) 1.32' × 1.32'. (e) N.A. (v) Nil. (vi) CO = 2 (medium). (vii) Unirrigated. (viii) Weeding and hoeing once. (ix) 13.77°. (x) 2.2.1956.

2. TREATMENTS:
   1. No manure.
   2. Compost at 5 tons/ac.
   3. Compost at 5 tons/ac. + 20 lb/ac. of N + 20 lb/ac. of P_2O_5.
   4. Compost at 5 tons/ac. + 40 lb/ac. of N + 20 lb/ac. of P_2O_5, N applied as A/S and P_2O_5 as Super.

3. DESIGN:
   (i) R.B.D. (ii) 4. (b) 66' × 66'. (iii) 6. (iv) (a) 16.5' × 66'. (b) 10.5' × 59.4'. (v) 3' × 3.3'. (vi) N.A. (vii) Nil. (viii) CO = 2 (medium). (ix) Unirrigated. (x) Weeding and hoeing once. (xi) 13.50°.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—1957. (b) No. (c) N.A. (v) to (vii) Nil.

5. RESULTS:
   (i) 774 lb/ac. (ii) 125.9 lb/ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>763</td>
<td>793</td>
<td>732</td>
<td>788</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>51.4 lb/ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Bajra.  
Site :- Millet Breeding Stn., Coimbatore.  
Object :- To find a suitable dose of fertilizers for Bajra.

Ref :- M. 56(40).  
Type :- 'M'.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Jowar. (c) 5 tons/ac. of compost. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 26.10.1956. (iv) (a) 2 ploughings. (b) N.A. (c) 10 lb/ac. (d) 1.32' × 1.32'. (e) N.A. (v) Nil. (vi) CO = 2 (medium). (vii) Unirrigated. (viii) Weeding and hoeing once. (ix) 13.50°. (x) 9.2.1957.

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 55(46) on page 221.

5. RESULTS:
   (i) 459 lb/ac. (ii) 148.2 lb/ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>393</td>
<td>349</td>
<td>511</td>
<td>582</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>60.5 lb/ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Bajra.  
Site :- Millet Breeding Stn., Coimbatore.  
Object :- To find a suitable dose of fertilizer for Bajra crop.

Ref :- M. 57(35).  
Type :- 'M'.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Jowar. (c) 5 tons/ac. of compost. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 20.10.1957. (iv) (a) 2 ploughings. (b) N.A. (c) 10 lb/ac. (d) 1.32' × 1.32'. (e) N.A. (v) Nil. (vi) CO = 2 (medium). (vii) Unirrigated. (viii) Weeding and hoeing once. (ix) 19.43°. (x) 23.1.1958.
2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 55(46) on page 221.

5. RESULTS:
(i) 309.5 lb./ac. (ii) 76.00 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>285</td>
<td>283</td>
<td>299</td>
<td>371</td>
</tr>
<tr>
<td>S.E./mean = 31.04 lb./ac.</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Crop : Bajra.

Object :- To study the residual effect of manures on Bajra crop.

BASAL CONDITIONS:
(i) Nil. (b) Ragi. (c) As per treatments. (ii) Clayey loam. (b) Refer soil analysis, Palur. (iii) 16.8.1954. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) 6'×6'. (c) N.A. (v) Nil. (vi) CO-3. (vii) Unirrigated. (viii) Weeding once. (ix) N.A. (x) 5.11.1954.

TREATMENTS:
All combinations of (1), (2) and (3)+one extra treatment.
(1) 2 levels of B.D. : B₀ =No B.D. and B₁=450 lb./ac. of lime+3 tons/ac. of F.Y.M.+30 lb./ac. of P₂O₅ as Super.
(2) 2 sources of N : S₁=A/S and S₂=C/N.
(3) 2 levels of N : N₁=40 and N₂=60 lb./ac.
Extra treatment : T=450 lb./ac. of lime+3 tons/ac. of F.Y.M.+30 lb./ac. of [P₂O₅ as Super applied as B.D.]

These manures were applied to previous crop Ragi.

DESIGN:
(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a) 32½×20'. (b) 31½×19'. (v) 6' left as border. (vi) Yes.

GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) N.A. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 700 lb./ac. (ii) 134.2 lb./ac. (iii) T vs. others alike is highly significant. (iv) Av. yield of grain in lb./ac.

\[ T = 518 \text{ lb./ac.} \]
Object:—To find a suitable dose of fertilizers for Bajra crop.

1. BASAL CONDITIONS:
   (i) (a) Bajra—Horse gram—Jowar. (b) Jowar. (c) 2 tons/ac. of C.M. (ii) (a) Reddish loam. (b) N.A. (iii) 9.6.1955. (iv) (a) Country plough twice and junior hoe once. (b) N.A. (c) 10 lb./ac. (d) 16'x8'. (e) 1. (v) Nil. (vi) CO—3 (medium). (vii) Irrigated. (viii) Weeding and hoeing one month after planting. (ix) 20.06'. (x) 15.9.1955.

2. TREATMENTS:
   1. No manure.
   2. F.Y.M. at 5 tons/ac.
   3. F.Y.M. at 5 tons/ac.+20 lb./ac. of N+20 lb./ac. of P2O5.
   4. F.Y.M. at 5 tons/ac.+40 lb./ac. of N+40 lb./ac. of P2O5.

F.Y.M. and P2O5 as super applied as B.D. before sowing. 

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) 66'x52.8'. (iii) 6. (iv) (a) 66'x13.2'. (b) 66'x10.16'. (v) One row at either end of plot. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—1958. (b) Yes. (c) Nil. (v) (a) Coimbatore. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 711 lb./ac. (ii) 42.4 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

   Treatment | 1 | 2 | 3 | 4
   Av. yield  | 504 | 544 | 812 | 984
   S.E./mean = 17.3 lb./ac.

Crop :- Bajra.

Site :- Regional Millet Stn., Tirupathur.

Object:—To find a suitable dose of fertilizers for Bajra crop.

1. BASAL CONDITIONS:
   (i) Bajra—Horse gram—Jowar. (b) Jowar. (c) As per treatments. (ii) (a) Reddish loam. (b) N.A. (iii) 29.6.1956. (iv) (a) Ploughed with country plough twice and junior hoe once. (b) N.A. (c) 13 lb./ac. (d) 16'x16'. (e) 1. (v) Nil. (vi) CO—3 (medium). (vii) Irrigated. (viii) Thinning, weeding and hoeing once. (ix) 18.25'. (x) 9.10.1956.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 55(27) above.

4. GENERAL:
   (i) Growth of crop checked due to drought conditions. Heavy rains in September affected grain setting and also caused lodging in the crop. (ii) Nil. (iii) Grain yield. (iv) (a) 1955—1958. (b) Yes. (c) Nil. (v) (a) Coimbatore. (b) Nil. (vi) Unfavourable seasonal conditions. (vii) Nil.

5. RESULTS:
   (i) 354 lb./ac. (ii) 39.2 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

   Treatment | 1 | 2 | 3 | 4
   Av. yield  | 324 | 306 | 368 | 419
   S.E./mean = 16.0 lb./ac.
Crop: Bajra.  
Site: Regional Millet Stn., Tirupathur.

Object: To find a suitable dose of fertilizers for Bajra crop.

1. BASAL CONDITIONS:
   (i) (a) Bajra—Horsegram—Jowar.  (b) Jowar.  (c) As per treatments.  (ii) (a) Reddish loam.  (b) N.A.  (iii) 19.6.1957.  (iv) (a) Ploughing with country plough twice and junior hoe once.  (b) N.A.  (c) 10 lb./ac.  (d) 16"x16".  (e) I.  (v) Nil.  (vi) CO—3 (medium).  (vii) Unirrigated.  (viii) Thinning, weeding and hoeing once.  (ix) 8.48".  (x) 24.9.1957.

2. TREATMENTS and 3. DESIGN:
   Same as in exp. no. 55(27) on page 224.

4. GENERAL:
   (i) Poor growth.  (ii) Nil.  (iii) Grain yield.  (iv) (a) 1955—1958.  (b) Yes.  (c) Nil.  (v) (a) and (b) Coimbatore.  (vi) Growth was poor due to lack of rains.  (vii) Nil.

5. RESULTS:
   (i) 312 lb./ac.  (ii) 31.9 lb./ac.  (iii) Treatment differences are significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>296</td>
<td>357</td>
</tr>
</tbody>
</table>

S.E./mean = 13.0 lb./ac.

Crop: Bajra.  

Object: To study the residual effect of mixed cropping on the succeeding crop of Bajra.

1. BASAL CONDITIONS:
   (i) (a) N.A.  (b) As per treatments.  (c) 5 tons/ac. of compost+100 lb./ac. of A/S.  (ii) (a) Loam.  (b) Refer soil analysis, Palur.  (iii) 16.8.1954.  (iv) (a) 3 ploughings.  (b) and (c) N.A.  (d) 6"x6".  (e) N.A.  (v) 5 tons/ac. of C.M.+100 lb./ac. of A/S.  (vi) CO—3.  (vii) Unirrigated.  (viii) Weeding once.  (ix) N.A.  (x) 29.11.1954.

2. TREATMENTS:
   6 previous crops : C1 = Ragi, C2 = Groundnut, C3 = Cotton, C4 = Ragi+Cotton, C5 = Ragi+Groundnut and C6 = Ragi+Groundnut+Cotton.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 6.  (b) N.A.  (iii) 4.  (iv) (a) and (b) 35°x25°.  (v) Nil.  (vi) Yes.

4. GENERAL:
   (i) Fair.  (ii) Nil.  (iii) Grain yield.  (iv) (a) Not contd.  (b) No.  (c) Nil.  (v) (a) and (b) Nil.  (vi) Yes.  (vii) Nil.

5. RESULTS:
   (i) 151 lb./ac.  (ii) 52.2 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>C4</th>
<th>C5</th>
<th>C6</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>103</td>
<td>200</td>
<td>150</td>
<td>116</td>
</tr>
<tr>
<td>C2</td>
<td>181</td>
<td>156</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E./mean = 26.1 lb./ac.
Crop :- Bajra.  
Ref :- M. 56(83).  
Type :- 'CV'.

Object :- To find out the best date of sowing and harvest for different varieties of Paddy.

1. BASAL CONDITIONS:
(i) to (viii) Same as in exp. no. 56(83) above. (ix) 11.05". (x) As per treatments.

2. TREATMENTS:
Main-plot treatments:
3 dates of sowing/harvest : \( D_1 = 10.9.1956/25.11.1956 \) and \( D_2 = 10.10.1956/20.12.1956 \).

Sub-plot treatments:
2 varieties : \( V_1 = \text{CO} - 1 \) and \( V_2 = \text{CO} - 4 \).

3. DESIGN:
(i) Split-plot. (ii) (a) 3 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) 12' x 18'.

(v) Nil. (vi) Yes.

4. GENERAL:
(i) Not satisfactory. (ii) N.A. (iii) Grain yield. (iv) (a) 1955-1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 96 lb./ac. (ii) (a) 36.8 lb./ac. (b) 18.5 lb./ac. (iii) Main effect of D is highly significant, interaction \( D \times V \) is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>( D_1 )</th>
<th>( D_2 )</th>
<th>( D_3 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( V_1 )</td>
<td>195</td>
<td>46</td>
<td>36</td>
<td>92</td>
</tr>
<tr>
<td>( V_2 )</td>
<td>183</td>
<td>46</td>
<td>72</td>
<td>400</td>
</tr>
<tr>
<td>Mean</td>
<td>189</td>
<td>46</td>
<td>54</td>
<td>96</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. D marginal means | = 15.0 lb./ac.
2. V marginal means | = 6.2 lb./ac.
3. V means at the same level of D | = 10.7 lb./ac.
4. D means at the same level of V | = 16.8 lb./ac.
4. GENERAL:
Same as in expt. no. 56(83) on page 226.

5. RESULTS:
(i) 255 lb./ac. (ii) (a) 66.1 lb./ac. (b) 58.8 lb./ac. (iii) Main effects of D and V are highly significant; interaction $D \times V$ is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$D_1$</th>
<th>$D_2$</th>
<th>$D_3$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_1$</td>
<td>365</td>
<td>140</td>
<td>127</td>
<td>211</td>
</tr>
<tr>
<td>$V_2$</td>
<td>517</td>
<td>250</td>
<td>129</td>
<td>299</td>
</tr>
<tr>
<td>Mean</td>
<td>441</td>
<td>195</td>
<td>128</td>
<td>255</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. $D$ marginal means = 27.0 lb./ac.
2. $V$ marginal means = 19.6 lb./ac.
3. $V$ means at the same level of $D$ = 33.9 lb./ac.
4. $D$ means at the same level of $V$ = 36.1 lb./ac.

Crop :- Bajra.

Ref := M. 58(46).
Type := ‘CV’.

Object :- To study the best time of sowing and harvest for different varieties of Paddy.

1. BASAL CONDITIONS:
(i) (i) to (viii) Same as in expt. no. 56 (83) on page 226. (ix) N.A. (x) As per treatments.

2. TREATMENTS:
Main-plot treatments.
Sub-plot treatments.
2 varieties: $V_1=CO-1$ and $V_2=CO-4$.

3. DESIGN:
Same as in expt. no. 57(76) on page 226.

4. GENERAL:
(i) Satisfactory. (ii) No. (iii) Grain yield. (iv) (a) 1955—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 215 lb./ac. (ii) (a) 61.7 lb./ac. (b) 65.29 lb./ac. (iii) Main effect of $D$ is highly significant and effect of $V$ is significant. (iv) Av. yield of grain lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$D_1$</th>
<th>$D_2$</th>
<th>$D_3$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_1$</td>
<td>257</td>
<td>300</td>
<td>259</td>
<td>239</td>
</tr>
<tr>
<td>$V_2$</td>
<td>219</td>
<td>197</td>
<td>156</td>
<td>191</td>
</tr>
<tr>
<td>Mean</td>
<td>38</td>
<td>249</td>
<td>158</td>
<td>215</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. $D$ marginal means = 25.2 lb./ac.
2. $V$ marginal means = 21.8 lb./ac.
3. $V$ means at the same level of $D$ = 37.7 lb./ac.
4. $D$ means at the same level of $V$ = 36.7 lb./ac.
Crop :- Bajra.  
Ref. :- M 59(45).  

Site :- Agri. Res. stn., Bhavanisagar.  
Type :- 'CV'.

Object :- To study the best time of sowing and harvest for different varieties of Paddy.

1. BASAL CONDITIONS:
   (i) to (viii). Same as in expt. no. 56(83) on page 226. (ix) 9.10° (x) As per treatments.

2. TREATMENTS:
   Main-plot treatments:

   Sub-plot treatments:
   2 varieties: \(V_1 = C0-1\) and \(V_2 = C0-4\).

3. DESIGN and 4. GENERAL:
   Same as in expt. no. 57(76) on page 226.

5. RESULTS:
   (i) 285 lb./ac.  (ii) (a) 59.4 lb./ac.  (b) 111.0 lb./ac.  (iii) Main effect of D alone is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>(D_1)</th>
<th>(D_2)</th>
<th>(D_3)</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>(V_1)</td>
<td>565</td>
<td>295</td>
<td>25</td>
<td>295</td>
</tr>
<tr>
<td>(V_2)</td>
<td>444</td>
<td>363</td>
<td>20</td>
<td>276</td>
</tr>
<tr>
<td>Mean</td>
<td>505</td>
<td>329</td>
<td>22</td>
<td>285</td>
</tr>
</tbody>
</table>

S.E. of difference of two.
1. \(D\) marginal means = 24.2 lb./ac.
2. \(V\) marginal means = 37.0 lb./ac.
3. \(V\) means at the same level of \(D\) = 64.1 lb./ac.
4. \(D\) means at the same level of \(V\) = 51.4 lb./ac.

Crop :- Ragi (Series I).  
Ref :- M. 57(56).  

Type :- 'M'.

Object :- To study the differential effects of the application of different G.M. crops in varying doses.

1. BASAL CONDITIONS:
   (i) Cotton - Bajra - Ragi.  (b) Bajra.  (c) As per treatments.  (ii) (a) Red gravelly loam.  (b) N.A. (iii) 31.12.1957 to 4.1.1958.  (iv) (a) to (e) N.A.  (v) Nil.  (vi) CO - 1.  (vii) Irrigated.  (viii) 2 weedings.  (ix) 9.13°.  (x) 4 and 7.4.1958.

2. TREATMENTS:
   Main-plot treatments:
   5 G.M. crops: \(G_1 = Dhaichna\), \(G_2 = Sesanba\), \(G_3 = Cowpea\), \(G_4 = Gliricidia\) and \(G_5 = Sannhemp\).

   Sub-plot treatments:
   4 levels of G.M.: \(L_0 = 0\), \(L_1 = 2500\), \(L_2 = 5000\) and \(L_3 = 7500\) lb./ac.

3. DESIGN:
   (i) Split-plot.  (ii) (a) 5 main-plots/block; 4 sub-plots/main-plot.  (b) N.A.  (iii) 4.  (iv) 25'x27'.  (b) 23'x24'.  (v) 1'x1'.  (vi) Yes.

4. GENERAL:
   (i) Normal.  (ii) Nil.  (iii) Yield of grain.  (iv) (a) 1956 - 1958.  (b) Yes.  (c) Nil.  (v) (a) and (b) Nil.  (vi) and (vii) Nil.
5. RESULTS:

(i) 941 lb./ac.  (ii) (a) 216 lb./ac.  (b) 51.9 lb./ac.  (iii) Only L effect is significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>L0</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>911</td>
<td>1098</td>
<td>1064</td>
<td>990</td>
<td>1016</td>
</tr>
<tr>
<td>G2</td>
<td>941</td>
<td>957</td>
<td>1042</td>
<td>1054</td>
<td>998</td>
</tr>
<tr>
<td>G3</td>
<td>887</td>
<td>1057</td>
<td>935</td>
<td>891</td>
<td>943</td>
</tr>
<tr>
<td>G4</td>
<td>841</td>
<td>857</td>
<td>849</td>
<td>900</td>
<td>862</td>
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<tr>
<td>G5</td>
<td>800</td>
<td>844</td>
<td>987</td>
<td>920</td>
<td>888</td>
</tr>
</tbody>
</table>

Mean 876 963 975 951 941

S.E. of difference of two
1. G marginal means = 76.36 lb./ac.
2. L marginal means = 16.41 lb./ac.
3. L means at the same level of G = 36.70 lb./ac.
4. G means at the same level of L = 82.72 lb./ac.

Crop :- Ragi (Series II).
Type :- 'M'.

Object :- To study the differential effects of the application of different G.M. crops in varying doses.

1. BASAL CONDITIONS:

(i) (a) Bajra—Ragi—Cotton. (b) Bajra. (c) As per treatments. (ii) (a) Red gravelly loam. (b) N.A. (iii) 26, 27.2.1957. (iv) (a) to (e) N.A. (v) Nil. (vi) CO—1. (vii) Irrigated. (viii) 2 weedings. (ix) 12.95". (x) 27, 28.5.1957.

2. TREATMENTS and 3. DESIGN:

Same as in expt. no. 57(56) on page 228.

4. GENERAL:

(i) Poor. Affected by heavy rains. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 119 lb./ac.  (ii) (a) 24 lb./ac.  (b) 23.7 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
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</table>

Mean 118 120 114 125 119

S.E. of difference of two
1. G marginal means = 7.59 lb./ac.
2. L marginal means = 7.49 lb./ac.
3. L means at the same level of G = 16.76 lb./ac.
4. G means at the same level of L = 16.81 lb./ac.
Crop :- Ragi.

Object :- To find out the differential effects of the application of different G.M. crops in varying doses to Ragi.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 29 to 31.12.1958. (iv) a) 2 to 3 ploughings. (b) N.A. (c) 5 lb./ac. (d) 6"x6". (e) 1. (v) As per treatments. (vi) CO=1. (vii) Irrigated. (viii) 2 weedings. (ix) 0.67'. (x) 18 to 21.3.1959.

2. TREATMENTS:
Same as in expt. no. 57(58) on page 229.

3. DESIGN:
(i) Split-plot. (ii) (a) 5 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 25'x27'. (b) 23'x25'. (v) 1'x1'. (vi) Yes.

4. GENERAL:
(i) Unsatisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1955—1956. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 977 lb./ac. (ii) (a) 146.1 lb./ac. (b) 133.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
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<td>939</td>
<td>978</td>
<td>1030</td>
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</table>

S.E. of difference of two
1. G marginal means = 51.6 lb./ac.
2. L marginal means = 47.2 lb./ac.
3. L means at the same level of G = 94.4 lb./ac.
4. G means at the same level of L = 96.7 lb./ac.
4. GENERAL:
(i) Poor. Unfavourable seasonal conditions. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1957. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 385 lb./ac. (ii) (a) 106.8 lb./ac. (b) 63.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
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<th></th>
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<td>M₃</td>
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<td>385</td>
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</table>

S.E. of difference of two
1. M marginal means = 37.76 lb./ac.
2. L marginal means = 22.34 lb./ac.
3. L means at the same level of M = 44.69 lb./ac.
4. M means at the same level of L = 54.07 lb./ac.

Crop :- Ragi (Series I).
Ref :- M. 58(3).
Type :- 'M'.

Object :- To find out the relative effects of the application of bulky organic manures at different levels.

1. BASAL CONDITIONS:
(i) (a) G.M.—Cotton—G.M.—Bajra—Ragi. (b) Bajra. (c) As per treatments. (ii) (a) Red gravelly loam. (b) N.A. (iii) 13 to 15.1.1958. (iv) (a) 2 to 3 ploughings. (b) to (e) N.A. (v) 10 C.L./ac. of river silt + 136 lb./ac. of A/S and 240 lb./ac. of Super. (vi) CO—1. (vii) Irrigated. (viii) 1 weeding. (ix) 12.95'. (x) 8 to 15.4.1958.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 57(50) on page 230.

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

5. RESULTS:
(i) 1503 lb./ac. (ii) (a) 194 lb./ac. (b) 210 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
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Object: To find out the relative effects of the application of bulky organic manures at different levels.

1. BASAL CONDITIONS:
   (i) a; to c; N.A. (ii) a; Red gravelly loam. (b) N.A. (iii) 20, 21.1.1959. (iv) a; 2 to 3 ploughings. (b) N.A. (c) 5 lb./ac. (d) 6' x 6'. (e) N.A. (v) As per treatments. (vi) CO—1. (vii) Irrigated. (viii) 2 weedings. (ix) 1.57'. (x) 13, 14.4.1959.

2. TREATMENTS:
   Main-plot treatments:
   5 bulky manures: M1=Sannhemp, M2=Ordinary compost, M3=F.Y.M. and M4=Glicieida.
   Sub-plot treatments:
   4 levels of manure: L0=0, L1=250, L2=500 and L3=7500 lb./ac.

3. DESIGN:
   (i) Split-plot. (ii) 4 main-plots/block; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 25' x 25'. (b) 23' x 21'. (v) 6' x 6'. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 1017 lb./ac. (ii) (a) 168.1 lb./ac. (b) 140.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>L0</th>
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<th>L3</th>
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<tr>
<td>Mean</td>
<td>972</td>
<td>989</td>
<td>1058</td>
<td>1048</td>
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</table>

   S.E. of difference of two
   1. M marginal means = 59.4 lb./ac.
   2. L marginal means = 49.6 lb./ac.
   3. L means at the same level of M = 99.2 lb./ac.
   4. M means at the same level of L = 104.5 lb./ac.

CROP: Ragi


Ref: M. 57(53). Type: 'M'.

Object: To find out the effect of different legume crops with and without phosphate on the yield of succeeding Ragi crop.

1. BASAL CONDITIONS:
   (i) (a) Bajra—Ragi—Cotton. (b) Bajra. (c) As per treatments. (ii) (a) Red gravelly loam. (b) N A. (iii) 1.3.1957. (iv) (a) to (e) N A. (v) As per treatments. (vi) CO—1. (vii) Irrigated. (viii) 2 weedings. (ix) 12.95'. (x) 28.5.1957.
2. TREATMENTS:

Main-plot treatments:
2 levels of \( P_2O_5 \) as Super: \( P_0 = \text{No } P_2O_5 \) and \( P_1 = 30 \text{ lb./ac. of } P_2O_5 \) to legumes.

Sub-plot treatments:
6 legume crops: \( G_1 = \text{Cowpea, } G_2 = \text{Sesbania, } G_3 = \text{Sannhemp, } G_4 = \text{Indigo, } G_5 = \text{Dewgram and } G_6 = \text{Dhaincha.} \)

The legumes were cut and incorporated in the respective plots. 100 lb./ac. of A/S applied to the Ragi crop as top-dressing.

3. DESIGN:

(i) Split-plct.  (ii) (a) 2 main-plots/block; 6 sub-plots/main-plot.  (b) 132' x 72'.  (iii) 4.  (iv) (a) 66' x 12'.  (b) 64' x 10'.  (v) 1' left all round.  (vi) Yes.

4. GENERAL:

(i) Poor yields due to heavy rains.  (ii) Nil.  (iii) Yield of grain.  (iv) (a) 1956—1958.  (b) Yes.  (c) Nil.  (v) (a) and (b) Nil.  (vi) and (vii) Nil.

5. RESULTS:

(i) 336 lb./ac.  (ii) (a) 46.6 lb./ac.  (b) 45.3 lb./ac.  (iii) Only G effect is highly significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>( G_1 )</th>
<th>( G_2 )</th>
<th>( G_3 )</th>
<th>( G_4 )</th>
<th>( G_5 )</th>
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<td>267</td>
<td>306</td>
<td>326</td>
<td>368</td>
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<td>336</td>
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<tr>
<td>( P_1 )</td>
<td>395</td>
<td>263</td>
<td>392</td>
<td>324</td>
<td>450</td>
<td>295</td>
<td>353</td>
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<tr>
<td>Mean</td>
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<td>265</td>
<td>349</td>
<td>325</td>
<td>409</td>
<td>280</td>
<td>336</td>
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</table>

S.E. of difference of two
1. \( P \) marginal means = 13.4 lb./ac.
2. \( G \) marginal means = 22.6 lb./ac.
3. \( G \) means at the same level of \( P \) = 32.0 lb./ac.
4. \( P \) means at the same level of \( G \) = 34.7 lb./ac.

Crop :- Ragi (Series I).
Ref :- M. 58(4).
Object :- To find out the effect of different legume crops with and without phosphate on the yield of succeeding Ragi crop.

1. BASAL CONDITIONS:

(i) (a) Cotton—Bajra—Ragi.  (b) Bajra.  (c) As per treatments.  (ii) (a) Red gravelly loam.  (b) N.A.  (iii) 25.1.1958.  (iv) (a) to (c) N.A.  (v) As per treatments.  (vi) CO—1.  (vii) Irrigated.  (viii) 2 weedings.  (ix) 9.13'.  (x) 17, 18, 19.4.1958.

2. TREATMENTS and 3. DESIGN:

Same as in expl. no. 57(53) on page 232.

4. GENERAL:

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

5. RESULTS:

(i) 1689 lb./ac.  (ii) (a) 291 lb./ac.  (b) 79 lb./ac.  (iii) Main effect of G alone is significant.  (iv) Av. yield of grain in lb./ac.

Object :- To find out the effect of different legume crops with and without phosphate on the yield of succeeding Ragi crop.

1. BASAL CONDITIONS:

(i) (a) Cotton—Bajra—Ragi.  (b) Bajra.  (c) As per treatments.  (ii) (a) Red gravelly loam.  (b) N.A.  (iii) 25.1.1958.  (iv) (a) to (c) N.A.  (v) As per treatments.  (vi) CO—1.  (vii) Irrigated.  (viii) 2 weedings.  (ix) 9.13'.  (x) 17, 18, 19.4.1958.

2. TREATMENTS and 3. DESIGN:

Same as in expl. no. 57(53) on page 232.

4. GENERAL:

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

5. RESULTS:

(i) 1689 lb./ac.  (ii) (a) 291 lb./ac.  (b) 79 lb./ac.  (iii) Main effect of G alone is significant.  (iv) Av. yield of grain in lb./ac.

Object :- To find out the effect of different legume crops with and without phosphate on the yield of succeeding Ragi crop.

1. BASAL CONDITIONS:

(i) (a) Cotton—Bajra—Ragi.  (b) Bajra.  (c) As per treatments.  (ii) (a) Red gravelly loam.  (b) N.A.  (iii) 25.1.1958.  (iv) (a) to (c) N.A.  (v) As per treatments.  (vi) CO—1.  (vii) Irrigated.  (viii) 2 weedings.  (ix) 9.13'.  (x) 17, 18, 19.4.1958.
Crop :- Ragi.  
Ref :- M. 59(47).

Type :- 'M'.

Object :-To find out the effect of different legumes crops with and without phosphate on the yield of succeeding Ragi crop.

1. BASAL CONDITIONS :
   (i) ['a] to ['c] N.A. (ii) ['a] Red gravelly loam. (b) N.A. (iii) 5 to 7.2.1959. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 5 lb./ac. (d) 6. x 6'. (e) N.A. (v) As per treatments. (vi) CO=-I. (vii) Irrigated. (viii) 2 weedings. (ix) 1:57'. (x) 25 to 29.4.1959.

2. TREATMENTS:
   Main-plot treatments : 6 legume crops: G1=Cowpea, G2=Sesbania, G3=Sannhemp, G4=Indigo, G5=Dewgram and G6=Dhaincha.
   Sub-plot treatments : 2 levels of P2O5 as Super: P0=No P2O5 and P1=30 lb./ac. of P2O5 to legumes.

3. DESIGN:
   (i) Split-plot. (b) 6 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 66'x 12'. (b) 64'x 10'. (v) 1'x 1' left as border. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) 1956—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 1056 lb./ac. (ii) ['a] 268.0 lb./ac. (b) 217.7 lb./ac. (iii) Only P effect is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>G1</th>
<th>G2</th>
<th>G3</th>
<th>G4</th>
<th>G5</th>
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</table>

Mean 957 996 1159 1024 1104 1095 1056

S.E. of difference of two
   1. G marginal means = 134.0 lb./ac.
   2. P marginal means = 62.8 lb./ac.
   3. P means at the same level of G = 153.9 lb./ac.
   4. G means at the same level of P = 231.3 lb./ac.
Crop :- Ragi.  
Site :- Agri. College & Res. Instit., Coimbatore.  
Ref :- M. 58(45).  
Type :- 'M'.

Object:- To find the effect of spraying different fertilizers on yield of Ragi.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Clay loam.  (b) Refer soil analysis, Coimbatore.  (iii) 6.2.1958/1 and 2.3.1958.
   (iv) (a) 3 ploughings.  (b) Transplanting.  (c) 3 to 4 lb./ac.  (d) and (e) N.A.  (v) 10 tons/ac. of F.Y.M. and 400 lb./ac. of A/s.  (vi) CO–7 (medium).  (vii) Irrigated.  (viii) 3 weedings.  (ix) 6.40°.  (x) 19 and 27.5.1958.

2. TREATMENTS:
   All combinations of (1) and (2) + 2 extra treatments.
   (1) 5 fertilizers for spraying:  
       F₁ = Urea (1%),  F₂ = Urea (1%) + Sucrose (1%),  F₃ = Super (1%),  F₄ = Pot. Nitrate (1%) and F₅ = A/N (1%).
   (2) 2 sprayings:  T₁ = 1 and T₂ = 2.
   Extra treatments:  C₀ = Control and C₁ = Water spray once.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 12.  (b) N.A.  (iii) 6.  (iv) (a) and (b) 1/243.9 ac.  (v) Nil.  (vi) Yes.

4. GENERAL:
   (i) Satisfactory.  (ii) Nil.  (iii) Grain yield.  (iv) (a) 1957—contd.  (b) No.  (c) Nil.  (v) (a) and (b).  
   N.A.  (vi) Nil.  (vii) Expt. was conducted by Systematic Botanist, Coimbatore.

5. RESULTS:
   (i) 3554 lb./ac.  (ii) 517.1 lb./ac.  (iii) Treatment differences are significant.  (iv) Av. yield of grain in lb./ac.

\[
\begin{array}{c|ccccc|c}
 & F₁ & F₂ & F₃ & F₄ & F₅ & \text{Mean} \\
\hline
T₁ & 3374 & 3455 & 3293 & 4065 & 3293 & 3496 \\
T₂ & 3862 & 3537 & 4146 & 3374 & 3130 & 3610 \\
\hline
\text{Mean} & 3618 & 3496 & 3720 & 3720 & 3212 & 3553 \\
\end{array}
\]

\begin{align*}
\text{S.E. of F marginal mean} & = 149.3 \text{ lb./ac.} \\
\text{S.E. of T marginal mean} & = 94.4 \text{ lb./ac.} \\
\text{S.E. of body of F \times T table or any extra treatment mean} & = 211.1 \text{ lb./ac.}
\end{align*}

Crop :- Ragi.  
Site :- Millet. Breeding Stn., Coimbatore.  
Ref :- M. 54(111).  
Type :- 'M'.

Object:- To study the effect of zinc on the yield of Ragi.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) Bajra.  (c) N.A.  (ii) (a) Red soil.  (b) Refer soil analysis, Coimbatore.  (iii) 18.1.1954/15,  
   16.2.1954.  (iv) (a) 3 ploughings.  (b) Transplanting.  (c) 3 to 4 lb./ac.  (d) 0.66' X 0.66'.  (e) N.A.  (v) 5 
   (ix) 4.00°.  (x) 6.5.1954.

2. TREATMENTS:
   1. 10 tons/ac. of F.Y.M.
   2. 10 tons/ac. of F.Y.M.+ 5 lb./ac. of Zn. Sul.
   3. 1 ton/ac. of F.Y.M.+336 lb./ac. of G.N.C. 
   4. 4 tons/ac. of F.Y.M.+336 lb./ac. of G.N.C.+ 5 lb./ac. of Zn. Sul.
3. DESIGN:
(i) R.B.D. (a) 4. (b) N.A. (iii) 6. (iv) (a) 5.94' × 71.28'. (b) 3.96' × 67.32'. (v) 0.99' × 1.98'. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) a) 1953—1954. b) No. (c) N.A. (v) to (vii) Nil.

5. RESULTS:
(i) 4555 lb./ac. (ii) 270.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>4542</td>
<td>4510</td>
<td>4477</td>
<td>4690</td>
</tr>
<tr>
<td>S.E., mean</td>
<td>110.3 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Ragi.  
Site :- Millet Breeding Stn., Coimbatore.  
Ref :- M. 54(112).  
Type :- 'M'.

Object :- To find out the optimum dose of N and P required for the Ragi crop.

1. BASAL CONDITIONS:
(i) Nil.  
(ii) b) Jower. (c) C.M. at 10 tons/ac. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore.  
(iii) 9.6.1954 to 9.7.1954.  
(iv) (a) 3 ploughings. (b) Transplanting. (c) 3 to 4 lb./ac. (d) 0.66' × 0.66'.  
(e) N.A. (v) 5 tons/ac. of F.Y.M. given as B.D. before last ploughing. (vi) CO—7 (early). (vii) Irrigated.  
(viii) 2 weedicings. (ix) 3.72'. (x) 20.9.1954.

2. TREATMENTS:
1. No manure (control).
2. C.M. at 5 tons/ac.
3. C.M. at 5 tons/ac.+20 lb./ac. of N+20 lb./ac. of P₂O₅.
4. C.M. at 5 tons/ac.+20 lb./ac. of N+40 lb./ac. of P₂O₅.
5. C.M. at 5 tons/ac.+40 lb./ac. of N+20 lb./ac. of P₂O₅.
6. C.M. at 5 tons/ac.+40 lb./ac. of N+40 lb./ac. of P₂O₅.
7. C.M. at 5 tons/ac.+60 lb./ac. of N+20 lb./ac. of P₂O₅.
8. C.M. at 5 tons/ac.+60 lb./ac. of N+40 lb./ac. of P₂O₅.  
N as A/S and P₂O₅ as Super.

3. DESIGN:
(i) R.B.D. (ii) 8. (b) N.A. (iii) 4. (iv) (a) 1.83 cent. (b) 1.50 cent. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) 1954—1955. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 1189 lb./ac. (ii) 115.7 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>936</td>
<td>938</td>
<td>1244</td>
<td>1155</td>
<td>1294</td>
<td>1183</td>
<td>1328</td>
<td>1431</td>
</tr>
<tr>
<td>S.E.,mean</td>
<td>57.8 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Ragi.  
Ref :- M. 54(64).  
Type :- 'M'.

Object :- To find out the relative merits of A/S and C/N applied alone and in combination with lime, compost and Super.
BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S and 150 lb./ac. of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 10.6.1954/27.7.1954. (iv) (a) 3 ploughings. (b) Transplanting. (c) 8 lb./ac. (d) 6' x 6'. (e) N.A. (v) As per treatments. (vi) PLR-I. (vii) Irrigated. (viii) 1 weeding. (ix) N.A. (x) 12.9.1954.

8. TREATMENTS:

All combinations of (1), (2) and (3) and a control (B.D. alone)

(1) 2 sources of N: S1=A/S and S2=C/N.
(2) 2 levels of N: N1=40 and N2=60 lb./ac.
(3) 2 levels of B.D.: D0=No B.D. and D1=B.D.
B.D. of 450 lb./ac. of lime, 3 tons/ac. of F.Y.M. and 30 lb./ac. of P2O5 as Super.

3. DESIGN:

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a) 32' x 20'. (b) 31' x 19'. (v) 6' x 6'. (vi) Yes.

4. GENERAL:

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

5. RESULTS:

(i) 1906 lb./ac. (ii) 39.7 lb./ac. (iii) All main effects, 2-factor interactions and 'control vs. others' are all highly significant. 3-factor interactions are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>D0</th>
<th>D1</th>
<th>Mean</th>
<th>N1</th>
<th>N2</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>1911</td>
<td>2135</td>
<td>2023</td>
<td>1960</td>
<td>2086</td>
</tr>
<tr>
<td>S2</td>
<td>1945</td>
<td>2095</td>
<td>2020</td>
<td>1995</td>
<td>2045</td>
</tr>
<tr>
<td>Mean</td>
<td>1928</td>
<td>2115</td>
<td>2021</td>
<td>1978</td>
<td>2065</td>
</tr>
<tr>
<td>N1</td>
<td>1945</td>
<td>2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N2</td>
<td>1911</td>
<td>2220</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of N, D or S marginal mean = 8.89 lb./ac.
S.E. of body of any table = 11.95 lb./ac.

Crop :- Ragi.

Object :- To find out the relative merits of A/S and C/N applied alone and in combination with lime, compost and Super.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Jowar. (c) 5 tons/ac. of compost. (ii) (a) Loam. (b) Refer soil analysis, Palur. (iii) 28.6.1955/27.7.1955. (iv) (a) 4 ploughings. (b) Transplanting. (c) 10 lb./ac. (d) 6' x 6'. (e) Nil. (vi) PLR-I (110 days). (vii) Irrigated. (viii) 2 weedings. (ix) 13.05. (x) 11.10.1955.

2. TREATMENTS:

Same as in exp. no. 54(64) on page 236.

3. DESIGN:

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a) 33' x 17'. (b) 32' x 16'. (v) 6' x 6'. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) to (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.
5. RESULTS:
(i) 2097 lb./ac.  (ii) 209.4 lb./ac.  (iii) S effect is significant. 'Control vs. others' is highly significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>D0</th>
<th>D1</th>
<th>Mean</th>
<th>N1</th>
<th>N2</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>2238</td>
<td>2134</td>
<td>2186</td>
<td>2196</td>
<td>2176</td>
</tr>
<tr>
<td>S2</td>
<td>2072</td>
<td>2092</td>
<td>2082</td>
<td>2022</td>
<td>2142</td>
</tr>
<tr>
<td>Mean</td>
<td>2155</td>
<td>2113</td>
<td>2134</td>
<td>2109</td>
<td>2159</td>
</tr>
</tbody>
</table>

S.E. of N, D or S marginal mean = 46.83 lb./ac.
S.E. of bocy of any table = 66.24 lb./ac.

Crop <- Ragi (Rabi).
Centre <- Salem (c.f.).
Ref <- M. 59(SFT).
Type <- 'M'.

Object <- Type A—To study the responses of Ragi to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A.  (ii) Red. (iii) N.A.  (iv) N.A./December 1959 to January 1960.  (v) (a) 6 ploughings. (b) Transplanting. (c) —. (d) and (e) N.A.  (vi) and (vii) N.A.  (viii) 2 weedings. (ix) N.A.  (x) April 1960.

2. TREATMENTS:
- 0 = Control (no manure).
- n = 20 lb./ac. of N as A/S.
- p = 20 lb./ac. of P₂O₅ as Super.
- np = 20 lb./ac. of N as A/S+20 lb./ac. of P₂O₅ as Super.
- k = 20 lb./ac. of K₂O as Mur. Pot.
- nk = 20 lb./ac. of N as A/S+20 lb./ac. of K₂O as Mur. Pot.
- pk = 20 lb./ac. of P₂O₅ as Super+20 lb./ac. of K₂O as Mur. Pot.
- npk = 20 lb./ac. of N as A/S+20 lb./ac. of P₂O₅ as Super+20 lb./ac. of K₂O as Mur. Pot.

3. DESIGN:
(i) and (ii) The district has been divided into four agriculturally homogeneous zones and one field assistant posted in each zone. The field assistant conducts the trials in one Revenue circle or thana in the zone and the thana is changed once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year 8 on a kharif cereal, 8 on a rabi cereal, 8 on cash crop, 4 on an oilseed crop and 3 on a leguminous crop. Half the number of trials conducted are of type A and the other half of type B on crops other than the legumes. The three trials on legumes are of type C. Residual effects of phosphate application are studied on Type C trials in two out of the four zones in each district every year. The above experiments are laid out in randomly located fields in randomly selected villages in each of the 4 zones at the rate of one experiment per village. (iii) (a) and (b) 1/40 ac.

4. GENERAL:
(i) Normal.  (ii) N.A.  (iii) Grain yield.  (iv) (a) 1959—contd.  (b) No.  (c) N.A.  (v) (a) and (b) As per treatments.  (vi) and (vii) N.A.

5. RESULTS:
<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>n</th>
<th>p</th>
<th>np</th>
<th>k</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1950</td>
<td>2181</td>
<td>2238</td>
<td>2477</td>
<td>2255</td>
<td>2493</td>
<td>2576</td>
<td>2822</td>
</tr>
</tbody>
</table>

G.M. = 2374 lb./ac.; S.E./mean = 74.24 lb./ac. and no. of trials = 4.
Crop :- Ragi (Rabi).
Centre :- Salem (c.f.).
Ref :- M. 59(SFT).
Type :- ‘M’.
Object :- Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS :
(i) (a) to (c) N.A. (ii) Red. (iii) Nil. (iv) N.A./December 1959 and January 1960. (v) (a) 5 to 6 ploughings with country plough. (b) Transplanting. (c) — . (d) and (e) N.A. (vi) Early variety. (vii) Irrigated. (viii) 2 hand weedicings. (ix) N.A. (x) April 1960.

2. TREATMENTS :
\[ 0 = \text{Control (no manure).} \]
\[ n_1 = 20 \text{ lb./ac. of N as AS}. \]
\[ n_2 = 40 \text{ lb./ac. of N as AS}. \]
\[ n_1' = 20 \text{ lb./ac. of N as Urea}. \]
\[ n_2' = 40 \text{ lb./ac. of N as Urea}. \]
\[ n_1'' = 20 \text{ lb./ac. of N as C/A/N}. \]
\[ n_2'' = 40 \text{ lb./ac. of N as C/A/N}. \]

3. DESIGN and 4. GENERAL :
Same as in expt. no. 59(SFT) Type A on page 238 conducted at Salem.

5. RESULTS :

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>( n_1 )</th>
<th>( n_2 )</th>
<th>( n_1' )</th>
<th>( n_2' )</th>
<th>( n_1'' )</th>
<th>( n_2'' )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1317</td>
<td>1514</td>
<td>1786</td>
<td>1596</td>
<td>1728</td>
<td>1671</td>
<td>1810</td>
</tr>
</tbody>
</table>

G.M. = 1645 lb./ac.; S.E./mean = 58.18 lb./ac. and no. of trials = 4.

---

Crop :- Ragi (Rabi).
Centre :- Trichirapalli (c.f.).
Ref :- M. 59(SFT).
Type :- ‘M’.

Object :- Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS and 2. TREATMENTS :
Same as in expt. no. 59(SFT) Type B above.

3. DESIGN and 4. GENERAL :
Same as in expt. no. 59(SFT) Type A on page 288 conducted at Salem.

5. RESULTS :

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>( n_1 )</th>
<th>( n_2 )</th>
<th>( n_1' )</th>
<th>( n_2' )</th>
<th>( n_1'' )</th>
<th>( n_2'' )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1193</td>
<td>1267</td>
<td>1662</td>
<td>1391</td>
<td>1629</td>
<td>1226</td>
<td>1473</td>
</tr>
</tbody>
</table>

G.M. = 1406 lb./ac.; S.E./mean = 110.56 lb./ac. and no. of trials = 2.

---

Crop :- Ragi.
Ref :- M. 56(77).
Type :- ‘CV’.

Object :- To find out the optimum time of transplanting different varieties of Ragi.

1. BASAL CONDITIONS :
(i) (a) to (c) N.A. (ii) (a) Light gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) Transplanting. (c) 3 lb./ac. (d) 6’×6’. (e) — . (v) 10 C.L./ac. of F.Y.M. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedicings. (ix) N.A. (x) 25.11.1956, 4.12.1956 and 17, 18.12.1956.

2. TREATMENTS :
Main-plot treatments :
3 dates of transplanting : \( D_1 = 10.9.1956 \), \( D_2 = 25.9.1956 \) and \( D_3 = 10.10.1956 \).
Sub-plot treatments:
2 varieties: \( V_1 = \text{CO} - 1 \) and \( V_2 = \text{CO} - 5 \).

3. DESIGN:
(i) Split-plot. (ii) 3 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 18'\times12'. (b) 16'\times10'. (v) 2 rows on all sides. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 641 lb./ac. (ii) (a) 160.2 lb./ac. (b) 188.1 lb./ac. (iii) D and V effects are highly significant. Interaction D\times V is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>( D_1 )</th>
<th>( D_2 )</th>
<th>( D_3 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( V_1 )</td>
<td>1588</td>
<td>625</td>
<td>139</td>
<td>784</td>
</tr>
<tr>
<td>( V_2 )</td>
<td>1008</td>
<td>455</td>
<td>31</td>
<td>498</td>
</tr>
<tr>
<td>Mean</td>
<td>1298</td>
<td>540</td>
<td>85</td>
<td>641</td>
</tr>
</tbody>
</table>

S.E. of difference of two:
1. D marginal means = 65.4 lb./ac.
2. V marginal means = 62.7 lb./ac.
3. V means at the same level of D = 108.6 lb./ac.
4. D means at the same level of V = 100.9 lb./ac.

---

Crop :- Ragi.
Object :- To find out the optimum time of transplanting different varieties of Ragi.

Ref :- M 58(48).
Type :- 'CV'.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 5 lb./ac. (d) 6'\times6'. (e) N.A. (v) 10 C.L./ac of Compost. (vi) As per treatments. (vii) Irrigated. (viii) Hoeing and weeding. (ix) N.A. (x) 8.11.1958, 17.11.1958 and 26.11.1958.

2. TREATMENTS:
Main-plot treatments:
3 dates of sowing: \( D_1 = 18.8.1958, D_2 = 1.9.1958 \), and \( D_3 = 15.9.1958 \).
Sub-plot treatments:
2 varieties: \( V_1 = \text{CO} - 1 \) and \( V_2 = \text{CO} - 5 \).

3. DESIGN:
(i) Split-plot. (ii) (a) 3 main-plots/block; 2 sub-plots/main-plots. (b) N.A. (iii) 6. (iv) (a) 24'\times12'. (b) 22'\times10'. (v) 1 row left around. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—1959. (b) No. (c) Nil. (v) \( \text{a and b} \) No. (vi) Nil. (vii) Crop failed in 1957.

5. RESULTS:
(i) 1069 lb./ac. (ii) (a) 192.6 lb./ac. (b) 268.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.
Crop :- Ragi.

Object :- To find out the optimum time of transplanting different varieties of Ragi.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.
        (ii) (a) Red gravelly loam. (b) N.A.
        (iii) As per treatments.
        (iv) (a) 2 to 3 ploughings. (b) N.A.
        (c) 5 lb./ac.
        (d) 6'x6'.
        (e) N.A.
        (v) 10 C.L./ac. of F.Y.M.
        (vi) As per treatments.
        (vii) Irrigated.
        (viii) Hoeing and weeding.
        (ix) N.A.

2. TREATMENTS:
   Main-plot treatments:
   3 dates of sowing: $D_1 = 10.9.1958$, $D_2 = 25.9.1958$ and $D_3 = 10.10.1958$
   Sub-plot treatments:
   2 varieties: $V_1 = CO-1$ and $V_2 = CO-5$.

3. DESIGN and 4. GENERAL:
   Same as in expt. no. 58(48) on page 240.

5. RESULTS:

   (i) 1027 lb./ac.
   (ii) (a) 367.7 lb./ac.
        (b) 410.5 lb./ac.
   (iii) Only V effect is highly significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$D_1$</th>
<th>$D_2$</th>
<th>$D_3$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_1$</td>
<td>1576</td>
<td>1690</td>
<td>1198</td>
<td>1488</td>
</tr>
<tr>
<td>$V_2$</td>
<td>616</td>
<td>432</td>
<td>650</td>
<td>566</td>
</tr>
<tr>
<td>Mean</td>
<td>1096</td>
<td>1061</td>
<td>924</td>
<td>1027</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. D marginal means = 150.1 lb./ac.
2. V marginal means = 136.8 lb./ac.
3. V means at the same level of D = 237.0 lb./ac.
4. D means at the same level of V = 225.0 lb./ac.

---

Crop :- Ragi.

Ref :- M. 58(51).
Type :- 'CV'.

Object :- To find out the optimum time of transplanting different varieties of Ragi.
1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 5 lb./ac. (d) 6"x6". (e) 1. (v) 10 C.L/ac. of compost. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings and 2 hoeings. (ix) 9.1'. (x) 3.12.1959, 8.12.1959 and 26.12.1959.

2. TREATMENTS:
   Main-plot treatments:
   Sub-plot treatments:
   2 varieties: V1=CO-1 and V2=CO-5.

3. DESIGN and 4. GENERAL:
   Same as in expt. no. 58(48) on page 240.

5. RESULTS:
   (i) 1309 lb./ac. (ii) (a) 76.4 lb./ac. (b) 118.6 lb./ac. (iii) D effect is highly significant. Interaction D x V is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>1704</td>
<td>1333</td>
<td>812</td>
<td>1283</td>
</tr>
<tr>
<td>V2</td>
<td>1904</td>
<td>1251</td>
<td>848</td>
<td>1334</td>
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<tr>
<td>Mean</td>
<td>1804</td>
<td>1292</td>
<td>830</td>
<td>1309</td>
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</tbody>
</table>

   S.E. of difference of two
   1. D marginal means = 31.2 lb./ac.
   2. V marginal means = 39.5 lb./ac.
   3. V means at the same level of D = 68.5 lb./ac.
   4. D means at the same level of V = 57.6 lb./ac.

Crop :- Ragi.
Site :- Millet Breeding Stn., Coimbatore.
Type :- 'CV'.

Object :- To find out the optimum age of seedlings of different varieties of Ragi at the time of planting.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Jowar. (c) 10 ton/ac. of C.M. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 25.5.1954. (iv) (a) 3 ploughings. (b) N.A. (c) 3 to 4 lb./ac. (d) 0.66'x0.66'. (e) N.A. (v) 10 tons/ac. of F.Y.M. before last ploughing. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings and 2 hoeings. (ix) 4.33'. (x) V1 and V2 on 28.9.1954 and V3 on 7.9.1954.

2. TREATMENTS:
   Main-plot treatments:
   3 varieties: V1=CO-1, V2=CO-2 and V3=CO-7.
   Sub-plot treatments:

3. DESIGN:
   (i) Split-plot. (ii) (a) 3 main-plots/block; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) Main-plot: 59.4'x9.9'; Sub-plot: 9.9'x9.9'; 9.2'x9.9'. (v) 2 rows. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954-55. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1567 lb./ac. (ii) (a) 337.6 lb./ac. (b) 128.6 lb./ac. (iii) Only A effect and interaction A x V are highly significant. (iv) Av. yield of grain in lb./ac.
Crop :- Ragi.
Site :- Millet Breeding Stn., Coimbatore.
Ref :- M. 54(2).
Type :- 'CV'.

Object — To find out the optimum time of sowing different varieties of Ragi.

1. BASEAL CONDITIONS :

   (i) (a) Nil. (b) Jowar. (c) 10 tons/ac. of C.M. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore.
   (iii) As per treatments / 9.7.1954. (iv) (a) 3 ploughings. (b) Transplanting. (c) 3 to 4 lb./ac. (d)
   0.66' x 0.66' (e) N.A. (v) 10 tons/ac. of F.Y.M. applied before last ploughing. (vi) As per treatments, (vii)
   Irrigated. (viii) 2 weedings and 2 hoeings. (ix) 12.93'. (x) V_1, V_2 on 11.10.1954 and V_3 on 28.9.1954.

2. TREATMENTS :

   Main-plot treatments :
   3 varieties: V_1 = CO—1, V_2 = CO—2 and V_3 = CO—7.

   Sub-plot treatments :
   25.5.1954.

3. DESIGN and 4. GENERAL:
   Same as in expt. no. 54(1) on page 242.

5. RESULTS :

   (i) 1277 lb./ac. (ii) (a) 347.6 lb./ac. (b) 257.1 lb./ac. (iii) D effect is significant and interaction D x V is
   highly significant. (iv) Av. yield of grain in lb./ac.

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<tr>
<th></th>
<th>A_1</th>
<th>A_2</th>
<th>A_3</th>
<th>A_4</th>
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<td>1683</td>
<td>1711</td>
<td>2083</td>
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<td>1906</td>
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<td>V_3</td>
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<td>1644</td>
<td>1413</td>
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</table>

S.E. of difference of two

1. V marginal means = 97.6 lb./ac.
2. A marginal means = 52.3 lb./ac.
3. A means at the same level of V = 90.9 lb./ac.
4. V means at the same level of A = 128.9 lb./ac.

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S.E. of difference of two

1. V marginal means = 99.0 lb./ac.
2. D marginal means = 104.8 lb./ac.
3. D means at the same level of V = 180.9 lb./ac.
4. V means at the same level of D = 192.9 lb./ac.
Crop :- Ragi. 
Site :- Agri. College & Res. Instt., Coimbatore.

Ref :- M. 54(119).
Type :- 'ICM'.

Object :- To study the combined effect of tillage, manure and irrigation on Ragi.

1. BASAL CONDITIONS :
   (i) (a) Ragi—G.M.—Jowar—Cotton. (b) Vegetables. (c) 9 tons/ac. of F.Y.M. 
   (ii) F.Y.M. at 5 tons/ac. broadcast on 14, 15.6.1954. 

2. TREATMENTS :
   Strips in one direction :
   3 levels of irrigation: 1 =20", 1 =25" and 1 =30".
   Strips in the orthogonal direction :
   All combination of (1) and (2):
   (1) 2 levels of tillage: T =Shallow ploughing and T =Deep ploughing.
   (2) 3 levels of manures: M =30 lb/ac. of N+30 lb/ac. of P 2 O 5 .
   M =60 lb/ac. of N+45 lb/ac. of P 2 O 5 .
   M =90 lb/ac. of N+60 lb/ac. of P 2 O 5 .
   N applied as A/S, P 2 O 5 as Super and K 2 O as Pot. Sul.

3. DESIGN :
   (i) Strip-plot. (ii) A. (iii) 4. (iv) (a) 1.00 cent. (b) 0.72 cent. 

4. GENERAL :
   (i) Good. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1954—1957. 

5. RESULTS:
   (i) 3390 lb/ac. (ii) 457.9 lb/ac. (b) 278.3 lb/ac. (c) 308.5 lb/ac. 
   (iii) Only 1 effect is significant. (iv) Av. yield of grain in lb/ac.

<table>
<thead>
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<th>I 2</th>
<th>I 3</th>
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<td>3390</td>
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</table>

S.E. difference of two
1. I marginal means = 132.2 lb/ac.
2. T marginal means = 65.6 lb/ac.
3. M marginal means = 80.3 lb/ac.
4. T means at the same level of I = 122.0 lb/ac.
5. I means at the same level of T = 159.4 lb/ac.
6. M means at the same level of I = 149.4 lb/ac.
7. I means at the same level of M = 182.5 lb/ac.

Crop :- Tenai. 

Ref :- M. 56(82).
Type :- ‘CV’.

Object :- To find out the optimum time of sowing different varieties of Tenai.
1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Red gravelly loam.  (b) N.A.  (iii) As per treatments.  (iv) (a) 2 to 3 ploughings.  (b) and (c) N.A.  (d) 8" x 4".  (e) N.A.  (v) 10 C.L./ac. of compost.  (vi) As per treatments.  (vii) Irrigated.  (viii) 1 hoeing and weeding.  (ix) 11.32".  (x) 7.11.1956, 25.11.1956 and 13.12.1956.

2. TREATMENTS:
   Main-plot treatments :
   Sub-plot treatments :
   8 varieties : V1 = CO - 1 and V2 = CO - 2.

3. DESIGN:
   (i) Split-plot.  (ii) (a) 3 main-plots/block; 2 sub-plots/main-plot.  (b) N.A.  (iii) 6.  (iv) (a) and (b) 12" x 18".  (v) Nil.  (vi) Yes.

4. GENERAL:
   (i) Poor.  (ii) N.A.  (iii) Yield of grain (iv) (a) 1955 - 59.  (b) No.  (c) Nil.  (v) to (vii) Nil.

5. RESULTS:
   (i) 170 lb./ac.  (ii) (a) 86.3 lb/ac.  (b) 46.5 lb./ac.  (iii) Only D effect is significant.  (iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th></th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>Mean</th>
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<tr>
<td>V1</td>
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<td>107</td>
<td>235</td>
<td>176</td>
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<td>V2</td>
<td>187</td>
<td>111</td>
<td>195</td>
<td>164</td>
</tr>
<tr>
<td>Mean</td>
<td>187</td>
<td>109</td>
<td>215</td>
<td>170</td>
</tr>
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</table>

S.E. of difference of two
1. D marginal means = 35.2 lb./ac.
2. V marginal means = 15.5 lb./ac.
3. V means at the same level of D = 26.8 lb./ac.
4. D means at the same level of V = 40.0 lb./ac.

Crop : Tenai.
Ref : M. 57(73).
Type : 'CV'.

Object : To find out the optimum time of sowing different varieties of Tenai.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) Red gravelly loam.  (b) N.A.  (iii) As per treatments.  (iv) (a) 2 to 3 ploughings.  (b) and (c) N.A.  (d) 8" x 4".  (e) N.A.  (v) 10 C.L./ac. of compost.  (vi) As per treatments.  (vii) Irrigated.  (viii) 2 weedings and hoeings.  (ix) 11.05".  (x) 30.11.1957, 11.12.1957 and 24.12.1957.

2. TREATMENTS:
   Main-plot treatments :
   Sub-plot treatments :
   2 varieties : V1 = CO - 1 and V2 = CO - 2.

3. DESIGN:
   (i) Split-plot.  (ii) (a) 3 main-plots/block; 2 sub-plots/main-plot.  (b) N.A.  (iii) 6.  (iv) (a) and (b) 24" x 12".  (v) Nil.  (vi) Yes.

4. GENERAL:
   (i) Satisfactory.  (ii) Nil.  (iii) Grain yield.  (iv) (a) 1955 - 59.  (b) No.  (c) Nil.  (v) to (vii) Nil.
5. RESULTS:

(i) 404 lb./ac. (ii) 86.6 lb./ac. (iii) 60.5 lb./ac. (iv) D and V effects are highly significant. (v) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
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<td>573</td>
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<tr>
<td>D₂</td>
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<td>429</td>
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<td>D₃</td>
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**Mean**

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S.E. of difference of two

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<td>1. D marginal means</td>
<td>35.3 lb./ac.</td>
</tr>
<tr>
<td>2. V marginal means</td>
<td>20.2 lb./ac.</td>
</tr>
<tr>
<td>3. V means at the same level of D</td>
<td>34.9 lb./ac.</td>
</tr>
<tr>
<td>4. D means at the same level of V</td>
<td>43.1 lb./ac.</td>
</tr>
</tbody>
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Object: To find out the optimum time of sowing different varieties of Tenai.

1. BASAL CONDITIONS:

(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) and (c) N.A. (d) 8' x 4'. (e) N.A. (v) 10 C.L. of compost. (vi) As per treatments. (vii) Irrigated. (viii) 1 weeding and hoeing. (ix) 9-85°. (x) 17.12.1958, 23.12.1958 and 2.1.1959.

2. TREATMENTS:

Main-plot treatments:


Sub-plot treatments:

- 2 varieties: V₁ = CO-1 and V₂ = CO-2.

3. DESIGN:

Same as in expt. no. 57(75) on page 245.

4. GENERAL:

Same as in expt. no. 56(82) on page 244.

5. RESULTS:

(i) 60 lb./ac. (ii) 28.6 lb./ac. (b) 26.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of rain in lb./ac.

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<th></th>
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**Mean**

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S.E. of difference of two

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<td>3. V means at the same level of D</td>
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</tr>
<tr>
<td>4. D means at the same level of V</td>
<td>15.8 lb./ac.</td>
</tr>
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</table>
Object:—To find out the optimum time of sowing different varieties of Tenai.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) a) 2 to 3 ploughings. (b) and (c) N.A. (d) 8"x4". (e) N.A. (v) 10 C.L./ac. of compost. (vi) As per treatments. (vii) Irrigated. (viii) 1 weeding and hoeing. (ix) 9.10". (x) 3.10.1959, 14.12.1959, and 6.1.1960.

2. TREATMENTS:
Main-plot treatments:
Sub-plot treatments:
2 varieties: V 1 =CO-1 and V 2 =CO-2.

3. DESIGN and 4. GENERAL:
Same as in expit. no. 57(75) on page 246.

5. RESULTS:
(i) 223 lb./ac. (ii) (a) 121.3 lb./ac. (b) 64.9 lb./ac. (iii) D effect is highly significant and interaction D×V is significant. (iv) Av. yield of grain in lb./ac.

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<thead>
<tr>
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S.E. of difference of two
1. D marginal means = 49.5 lb./ac.
2. V marginal means = 21.6 lb./ac.
3. V means at the same level of D = 37.4 lb./ac.
4. D means at the same level of V = 56.2 lb./ac.

Crop :- Bhendi (Summer).
Site :- Agri. College & Res. Insttt., Coimbatore.
Ref :- M. 56(101)
Type :- 'ICMV'.

Object:—To determine a suitable manurial schedule and an economic irrigation practice for Bhendi.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 15.3.1956. (iv) (a) 2 ploughings. (b) N.A. (c) 5 lb./ac. (d) As per treatments. (e) —. (v) 50 lb./ac. of N as F.Y.M. (vi) and (vii) As per treatments. (viii) Weeding twice. (ix) N.A. (x) 12.6.1956.

2. TREATMENTS:
Main-plot treatments:
All combinations of (1), (2) and (3)
(1) 2 varieties: V 1 =College orchard and V 2 =Indian.
(2) 2 intervals of irrigation: I 1 =4 days interval and I 2 =7 days interval.
(3) 2 spacings: S 1 =24"x9" and S 2 =24"x18".
Sub-plot treatments:
All combinations of (1), (2) and (3)
(1) 2 levels of N as A/S: N 0 =0 and N 1 =40 lb./ac.
(2) 2 levels of P 2o 5 as Super: P 0 =0 and P 1 =60 lb./ac.
(3) 2 levels of K 20 as Pot. Sul.: K 0 =0 and K 1 =40 lb./ac.

DESIGN:
(t) Split-plot. (ii) 8 main-plots/replication ; 8 sub-plot/main-plot. (b) N.A. (iii) 4. (iv) (a) 12'x10'. (b) 10'/x6'. (v) One row left on either side. (vi) Yes.
4. GENERAL:
  (i) Satisfactory. (ii) Nil. (iii) Bhendi yield. (iv) (a) 1956—1957. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS:
  (i) 2128 lb./ac. (ii) (a) 1793 lb./ac. (b) 860 lb./ac. (iii) Main effect of S and interactions K x S and K x I are highly significant. Effect of I and interactions N x P x K are significant. Others are not significant. (iv) Av. yield of bhendi in lb./ac.

<table>
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<tr>
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<th>V₁</th>
<th>V₂</th>
<th>S₁</th>
<th>S₂</th>
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<td>N₁</td>
<td>P₀</td>
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**Crop :- Bhendi (Monsoon).**

**Site :- Agri. College & Res. Instt., Coimbatore.**

Ref :- M. 56(102).

Type :- ICMV'.

Object :- To determine a suitable manurial schedule and an economic irrigation practice for Bhendi.

1. BASAL CONDITIONS:
  (i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) July, 1956. (iv) (a) 2 ploughings. (b) N.A. (c) 5 lb./ac. (d) As per treatments. (e) Doubles. (v) 50 lb./ac. of N as F.Y.M. (vi) and (vii) As per treatments. (viii) Weeding twice. (ix) N.A. (x) Nov. 1956.

2. TREATMENTS to 4 GENERAL:
   Same as in expt. no. 56(101) on page 247.

5. RESULTS:
  (i) 3878 lb./ac. (ii) (a) 3663 lb./ac. (b) 1334 lb./ac. (iii) S effect alone is highly significant. (iv) Av. yield of bhendi in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>V₁</th>
<th>V₂</th>
<th>I₁</th>
<th>I₂</th>
<th>S₁</th>
<th>S₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3861</td>
<td>3896</td>
<td>3573</td>
<td>4183</td>
<td>4226</td>
<td>3531</td>
</tr>
<tr>
<td>Treatment</td>
<td>N₀</td>
<td>N₁</td>
<td>P₀</td>
<td>P₁</td>
<td>K₀</td>
<td>K₁</td>
</tr>
<tr>
<td>Av. yield</td>
<td>3989</td>
<td>3768</td>
<td>3929</td>
<td>3828</td>
<td>3819</td>
<td>3938</td>
</tr>
</tbody>
</table>

---

**Crop :- Bhendi (Summer).**

**Site :- Agri. College & Res. Instt., Coimbatore.**

Ref :- M. 57(88).

Type :- ICMV'.

Object :- To determine a suitable manurial schedule and an economic irrigation practice for Bhendi.

1. BASAL CONDITIONS:
  (i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 1.3.1957. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 5 lb./ac. (d) As per treatments. (e) 2. (f) 50 lb./ac. of N as F.Y.M. (vi) and (vii) As per treatments. (viii) 2 weedings. (ix) N.A. (x) 20.5.1957.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 56(101) on page 247.

4. GENERAL:
  (i) Not satisfactory. Crop was damaged to some extent by heavy rains. (ii) Nil. (iii) Bhendi yield. (iv) 1956—1957. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Heavy rains. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS:
  (i) 2002 lb./ac. (ii) (a) 1646 lb./ac. (b) 606.7 lb./ac. (iii) S effect alone is significant. (iv) Av. yield of bhendi in lb./ac.
Crop: Bhendi.  
Ref: M. 56(88).

Type: ‘D’.

Object: To study the effect of different insecticides against 'damping off' on Bhendi crop.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 28.8.1956. (iv) (a) 1 ploughing. (b) Hand sowing. (c) 5 lb./ac. (d) 2' x 1.5'. (e) (v) 15 lb./ac. of A/S + 30 lb./ac. of Super. (vi) Indian bhendi. (vii) Irrigated. (viii) Nil. (ix) and (x) N.A.

2. TREATMENTS:
   6 insecticides: I₀ = Control, I₁ = Agrosan G.N., I₂ = Ceresan, I₃ = Harvesan, I₄ = Spergon and I₅ = Fernosan. Insecticides applied at 2 grams for per lb. of seed.

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

4. GENERAL:
   (i) Satisfactory. (ii) Incidence of 'damping off' noticed. (iv) Emergence and incidence percentages. (v) (a) 1956 - contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Exp. was conducted by Horticulturist, Coimbatore. Incidence data analysed with sin⁻¹√p transformation, p being the incidence percentage.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Emergence Mean %</th>
<th>Incidence of disease Mean %</th>
<th>Transformed value in degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>I₀</td>
<td>67.6</td>
<td>19.48</td>
<td>21.12</td>
</tr>
<tr>
<td>I₁</td>
<td>67.7</td>
<td>12.55</td>
<td>20.23</td>
</tr>
<tr>
<td>I₂</td>
<td>79.1</td>
<td>15.46</td>
<td>22.58</td>
</tr>
<tr>
<td>I₃</td>
<td>71.4</td>
<td>9.08</td>
<td>16.88</td>
</tr>
<tr>
<td>I₄</td>
<td>67.5</td>
<td>15.21</td>
<td>22.33</td>
</tr>
<tr>
<td>I₅</td>
<td>79.4</td>
<td>13.88</td>
<td>21.33</td>
</tr>
</tbody>
</table>

G.Mean: 72.1
S.E./plot: 5.1
S.E./mean: 2.08
Significance: Not significant

---

Crop: Bhendi (Summer).  
Ref: M. 57(64).

Type: ‘D’.

Object: To study the effect of different insecticides to control the shoot and fruit borer of Bhendi crop.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 24 to 26.2.1957. (iv) (a) One ploughing. (b) Hand sowing. (c) 5 lb./ac. (d) 2' x 15'. (e) (v) 1.5 tons/ac. of F.Y.M. + 100 lb./ac.
## 5. RESULTS:

(i) to (iv)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Yield of fruit</th>
<th>Borer incidence on fruit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>By number</td>
<td>By weight</td>
</tr>
<tr>
<td></td>
<td>in lb/ac.</td>
<td>Mean %</td>
</tr>
<tr>
<td></td>
<td>in no. /ac.</td>
<td>Transformed value in degrees</td>
</tr>
<tr>
<td></td>
<td>Mean %</td>
<td>Transformed value in degrees</td>
</tr>
<tr>
<td>I0</td>
<td>1656</td>
<td>24.900</td>
</tr>
<tr>
<td>I1</td>
<td>6557</td>
<td>1.275</td>
</tr>
<tr>
<td>I2</td>
<td>51.7</td>
<td>3.950</td>
</tr>
<tr>
<td>I3</td>
<td>4095</td>
<td>3.050</td>
</tr>
<tr>
<td>I4</td>
<td>3891</td>
<td>4.925</td>
</tr>
<tr>
<td>I5</td>
<td>4787</td>
<td>14.775</td>
</tr>
<tr>
<td>I6</td>
<td>5627</td>
<td>17.425</td>
</tr>
</tbody>
</table>

**G.M.** 4534 58.314<br>
**S.E./mean** 556.8 11309<br>
**Significance**<br>Highly significant<br>Highly significant<br>Highly significant

**Crop :- Bhendi (Monsoon).**

**Site :- Agri. College & Res. Instt., Coimbatore.**

**Ref :- M. 58(20).**

**Type :- 'D'**

Object :- To study the effect of different insecticides to control the shoot and fruit borer of Bhendi crop.

### 1. BASAL CONDITIONS:

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 2.7.1958. (iv) 1 ploughing. (b) Hand sowing. (c) 5 lb./ac. (d) 2'x11'. (e) 1. (v) 15 tons/ac. of F.Y.M.+100 lb./ac. of A.S+200 lb./ac. of Potash. (vi) Indian bhendi. (vii) Irrigated. (viii) Weeding once. (ix) 10.47. (x) 12.9.1958 to 17.10.1958.

### 2. TREATMENTS:

7 insecticides: I0 = Control, I1 = Endrin 0.01%, I2 = Aldrin 0.1%, I3 = Dieldrin 0.1%, I4 = Toxaphene 0.1%, I5 = Fentox 0.12% and I6 = G. Folidol 0.03%.<br>**Insecticides sprayed on 8, 23.8.1958 and 5.9.1958.**

### 3. DESIGN:

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) 24'x21'. (b) 16'x15'. (v) 4'x3'. (vi) Yes.

### 4. GENERAL:

(i) Satisfactory, (ii) N.A. (iii) Yield of fruit by number and weight and % infection. (iv) (a) 1955—contd. (b) N.A. (c) Nil. (v) (a) and (b) No. (vii) Nil. (viii) Exp. was conducted by Entomologist, Coimbatore.

### 5. RESULTS:

See page 253 under exp. no. 59(20).

---

**Crop :- Bhendi,(Summer).**

**Site :- Agri. College & Res. Instt., Coimbatore.**

**Ref :- M. 59(20).**

**Type :- 'D'**

Object :- To study the effect of insecticides to control the shoot and fruit borer of Bhendi crop.

### 1. BASAL CONDITIONS:

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 2.2.1959. (iv) 1 ploughing. (b) Hand sowing. (c) 5 lb./ac. (d) 2'x21'. (e) 1. (v) 15 tons/ac. of F.Y.M.+100 lb./ac. of A/S+200 lb./ac. of Potash. (vi) Indian bhendi. (vii) Irrigated. (viii) Weeding once. (ix) 1.3. (x) 26.3.1959 to 17.4.1959.
2. TREATMENTS:
6 insecticides: \( I_0 \) = Control (no insecticide), \( I_1 \) = Endrin 0.02\%, \( I_2 \) = Dieldrin 0.1\%, \( I_3 \) = Aldrin 0.1\%, \( I_4 \) = Folidol 0.05\% and \( I_5 \) = Mechanical methods of control. Insecticides sprayed on 27.2.1959, 13.3.1959 and 21.3.1959.

3. DESIGN:
(i) R.B.D. (ii) (a) 6, (b) N.A. (iii) 4, (iv) (a) 21'×24', (b) 18'×20'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) As per treatments. (iii) Yield of bhendi in number and weight; % infection. (iv) (a) 1955—contd. (b) N.A. (c) Nil. (v) (a) and (b) No. (vi) No. (vii) Expt. was conducted by Entomologist, Coimbatore.

5. RESULTS:
(i) to (iv)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Yield of fruit</th>
<th>Borer incidence on fruit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in lb./ac.</td>
<td>in no./ac.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( I_0 )</td>
<td>45</td>
<td>2662</td>
</tr>
<tr>
<td>( I_1 )</td>
<td>1150</td>
<td>59169</td>
</tr>
<tr>
<td>( I_2 )</td>
<td>802</td>
<td>43923</td>
</tr>
<tr>
<td>( I_3 )</td>
<td>537</td>
<td>30734</td>
</tr>
<tr>
<td>( I_4 )</td>
<td>287</td>
<td>15004</td>
</tr>
<tr>
<td>( I_5 )</td>
<td>15</td>
<td>847</td>
</tr>
</tbody>
</table>

G.M. 473 25390 34.26 35.90 34.20 35.81
S.E.\( \bar{x} \) 64.8 12146 — 15.94 — 15.31
S.E.\( \bar{x} \) 32.4 6073 — 7.97 — 7.65
Significance Highly significant

Results of expt. no. 38(24) on page 252.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Yield of fruit</th>
<th>Borer incidence on fruit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in lb./ac.</td>
<td>in no./ac.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( I_0 )</td>
<td>1656</td>
<td>78227</td>
</tr>
<tr>
<td>( I_1 )</td>
<td>6554</td>
<td>210359</td>
</tr>
<tr>
<td>( I_2 )</td>
<td>3890</td>
<td>155727</td>
</tr>
<tr>
<td>( I_3 )</td>
<td>5126</td>
<td>188034</td>
</tr>
<tr>
<td>( I_4 )</td>
<td>4094</td>
<td>161535</td>
</tr>
<tr>
<td>( I_5 )</td>
<td>5625</td>
<td>169521</td>
</tr>
<tr>
<td>( I_6 )</td>
<td>4786</td>
<td>164984</td>
</tr>
</tbody>
</table>

G.M. 4533 161198 8.21 16.61 9.09 17.44
S.E.\( \bar{x} \) 556.6 18673 — 1.09 — 1.09
Significance Highly significant

---

Results of expt. no. 38(24) on page 252.
4. GENERAL:
(i) Satisfactory. (ii) As per treatments. (iii) Direct count and yield. (iv) 'a' 1956—1959. (b) No. 
(c) Nil. (v) 'a' and 'b', Nil. (vi) Nil. (vii) Expt. was conducted by Entomologist, Coimbatore.

5. RESULTS:
(i) to (iv)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Yield of borer free fruits</th>
<th>Borer incidence on fruit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>By number</td>
<td>By weight</td>
</tr>
<tr>
<td></td>
<td>in no. in lb. ac.</td>
<td>Mean % value in degrees</td>
</tr>
<tr>
<td>I_0</td>
<td>57383 8966</td>
<td>30.70</td>
</tr>
<tr>
<td>I_1</td>
<td>87352 11877</td>
<td>14.76</td>
</tr>
<tr>
<td>I_2</td>
<td>86888 13453</td>
<td>21.50</td>
</tr>
<tr>
<td>I_3</td>
<td>73181 10650</td>
<td>27.36</td>
</tr>
<tr>
<td>I_4</td>
<td>61332 8552</td>
<td>34.54</td>
</tr>
</tbody>
</table>

G.M. 73227 10700 25.77 29.71 24.20 29.24 1.99 7.38
S.E./plot 13611 1543 — 3.8 — 3.09 — 2.46
S.E./mean 6087 690 — 1.7 — 1.38 — 1.10

Significance Highly significant — Highly significant — Highly significant — Highly significant

---

Crop: Brinjal (Summer).
Ref: M. 58(22).
Type: 'D'.

Object: To study the effect of different insecticides to control Brinjal shoot and fruit borer.

1. BASAL CONDITIONS:
(i) 'a' to (c) N.A. (ii) 'a' Red loam. (b) Refer soil analysis, Coimbatore. (iii) 3.4.1958. (iv) 'a' 3 to 4
ploughings. (b) Transplanting. (c) About 7000 seedlings/ac. (d) 2.5'x2.5'. (e) 1. 'a' 15 tons/ac.
of F.Y.M. + 100 lb/ac. of A.S + 200 lb/ac. of Super + 100 lb/ac. of Potash. (vi) Okha (medium). (vii) Irrigated. (viii) Hand hoeing and weeding twice and earthing up once. (ix) 2.6'. (x) 10.5.1958 to 20.6.1958.

2. TREATMENTS:
6 insecticides: I_0 = Control (no insecticide), I_1 = Lindane 0.1%, I_2 = Endrin 0.02%, I_3 = Dieldrin 0.1%, I_4 = DDT 0.1% and I_5 = Folidol 0.05%.
5 rounds of treatments given.

3. DESIGN:
(i) R.B.D. (ii) (a) 6. (b) 25'x150'. (iii) 4. (iv) (a) 25'x25'. (b) 20'x20'. (v) One row left as border. (vi) Yes.

4. GENERAL:
Same as in expt. no. 57(63); on page 255.

5. RESULTS:
See on page 257 under expt. no. 58(21).

---

Crop: Brinjal (Monsoon).
Ref: M. 58(21).
Type: 'D'.

Object: To study the effect of insecticides against the Brinjal shoot and fruit borer.

1. BASAL CONDITIONS:
(i) 'a' to (c) N.A. (ii) 'a' Red loam. (b) Refer soil analysis, Coimbatore. (iii) 6.8.1958. (iv) 3 to 4
ploughings. (b) Transplanting. (c) About 7000 seedlings/ac. (d) 2.5'x2.5'. (e) 1. (v) 15 tons/ac.
of F.Y.M.+100 lb./ac. of A/S+200 lb./ac. of Super+100 lb./ac. of Potash. (vi) Őkha (medium). (vii) Irrigated. (viii) Hand hoeing and weeding twice and earthing up once. (ix) 20.10.1958 to 18.11.1958.

2. TREATMENTS:
6 insecticides: I₀ = Control (no insecticides), I₁ = Lindane 0.1%, I₂ = Endrin 0.02%, I₃ = Dieldrin 0.1%, I₄ = D.D.T. 0.1% and I₅ = Folidol 0.05%.

3. DESIGN:
(i) R.B.D. (ii) (a) 6. (b) 25'x150'. (iii) 4. (iv) (a) 25'x25'; (b) 20'x20'. (v) N.A. (vi) Yes.

4. GENERAL:
Same as in exp. no 57(63) on page 255.

5. RESULTS:
(i) to (iv)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Yield of borer free fruit in no./ac.</th>
<th>Yield of borer free fruit in lb./ac.</th>
<th>Borer incidence on fruit (By number)</th>
<th>Borer incidence on fruit (By weight)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean %</td>
<td>Transformed value in degrees</td>
<td>Mean %</td>
<td>Transformed value in degrees</td>
</tr>
<tr>
<td>I₀</td>
<td>1424</td>
<td>80</td>
<td>63.3</td>
<td>46.00</td>
</tr>
<tr>
<td>I₁</td>
<td>11104</td>
<td>764</td>
<td>6.5</td>
<td>13.75</td>
</tr>
<tr>
<td>I₂</td>
<td>12192</td>
<td>943</td>
<td>21.4</td>
<td>30.18</td>
</tr>
<tr>
<td>I₃</td>
<td>11532</td>
<td>851</td>
<td>25.4</td>
<td>27.75</td>
</tr>
<tr>
<td>I₄</td>
<td>13616</td>
<td>1041</td>
<td>51.8</td>
<td>33.45</td>
</tr>
<tr>
<td>I₅</td>
<td>4352</td>
<td>441</td>
<td>30.3</td>
<td>32.85</td>
</tr>
</tbody>
</table>

G.M. 9037 687
S.E./plot 4035.2 323
S.E./mean 2017.5 161.5
Significance Highly significant

Highly significant

Results of exp. no. 57(22) on page 256.
(i) to (iv)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Yield of borer free fruit in no./ac.</th>
<th>Yield of borer free fruit in lb./ac.</th>
<th>Borer incidence on fruit (By number)</th>
<th>Borer incidence on fruit (By weight)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean %</td>
<td>Transformed value in degrees</td>
<td>Mean %</td>
<td>Transformed value in degrees</td>
</tr>
<tr>
<td>I₀</td>
<td>4490</td>
<td>374</td>
<td>60.73</td>
<td>51.24</td>
</tr>
<tr>
<td>I₁</td>
<td>62682</td>
<td>5321</td>
<td>10.23</td>
<td>18.50</td>
</tr>
<tr>
<td>I₂</td>
<td>45479</td>
<td>3527</td>
<td>20.88</td>
<td>27.17</td>
</tr>
<tr>
<td>I₃</td>
<td>85762</td>
<td>3280</td>
<td>23.54</td>
<td>28.86</td>
</tr>
<tr>
<td>I₄</td>
<td>29134</td>
<td>2200</td>
<td>25.45</td>
<td>30.22</td>
</tr>
<tr>
<td>I₅</td>
<td>5.95</td>
<td>470</td>
<td>61.20</td>
<td>57.55</td>
</tr>
</tbody>
</table>

G.M. 38774 2579
S.E./plot 17230 1326.9
S.E./mean 8600 663.1
Significance Highly significant

Highly significant

Highly significant
Crop :· Brinjal (Monsoon).


Object :—To study the effect of different insecticides to control Brinjal fruit borer.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) N.A./26.9.1959. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) About 7000 seedlings/ac. (d) 21'×24'. (e) 1. (v) 15 tons/ac. of F.Y.M.+100 lb/ac. of A/S+200 lb/ac. of Super+100 lb/ac. of Potash. (vi) Okhla (medium). (vii) Irrigated. (viii) Hand hoeing and weeding twice, earthing up once. (ix) 14.89'. (x) 28.11.1959 to 4.1.1960.

2. TREATMENTS:
   5 insecticides : \( I_0 \)=Control (no insecticide), \( I_1 \)=Lindane 0.1%, \( I_2 \)=Endrin 0.02%. \( I_3 \)=Dieldrin 0.1% and \( I_4 \)=D.D.T. 0.1%.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 5. (b) 25'×125'. (iii) 4. (iv) 25'×25'. (b) 20'×20'. (v) 36 guard plants around. (vi) Yes.

4. GENERAL:
   Same as in expt. no. 57(63) on page 255.

5. RESULTS:
   (i) to (iv)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Yield of uninfested fruit</th>
<th>Percentage of borer incidence on fruit</th>
<th>By number</th>
<th>By weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in no./ac.</td>
<td>in lb./ac.</td>
<td>Transformed value in degrees</td>
<td>Transformed value in degrees</td>
</tr>
<tr>
<td>( I_0 )</td>
<td>2505</td>
<td>217</td>
<td>40.41</td>
<td>50.11</td>
</tr>
<tr>
<td>( I_1 )</td>
<td>13830</td>
<td>1341</td>
<td>21.06</td>
<td>21.51</td>
</tr>
<tr>
<td>( I_2 )</td>
<td>9910</td>
<td>918</td>
<td>34.78</td>
<td>36.06</td>
</tr>
<tr>
<td>( I_3 )</td>
<td>15573</td>
<td>1470</td>
<td>34.97</td>
<td>35.26</td>
</tr>
<tr>
<td>( I_4 )</td>
<td>10237</td>
<td>966</td>
<td>36.06</td>
<td>35.22</td>
</tr>
</tbody>
</table>

G.M. 10411 982 35.26 35.90
S.E./plot 2470 279.8 4.44 5.58
S.E./mean 1235 139.9 2.2 2.74
Significance Highly significant Highly significant Highly significant Highly significant

Crop :· Brinjal.


Object :—To test the efficacy of different fungicides applied as dressings on the seeds of Brinjal against "damping off" disease.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 9.8.1956. (iv) (a) 3 ploughings. (b) Transplanting. (c) 1000 seeds/bed of 6'×1'. (d) and (e) N.A.  (v) 15 tons/ac. of F.Y.M.+100 lb/ac. of A/S+200 lb/ac. of Super+100 lb/ac. of Mur. Pot. (vi) H. 129 (I.C. 185). (vii) Irrigated. (viii) Nil. (ix) N.A. (x) Nil.
2. TREATMENTS:

6 fungicides: \( F_0 = \text{Control (no fungicide)} \), \( F_1 = \text{Agrosan G.N.} \), \( F_2 = \text{Ceresan} \), \( F_3 = \text{Harvesan} \), \( F_4 = \text{Spergon} \) and \( F_5 = \text{Fernsan} \).

Fungicides applied at the rate of 2 gms. for a pound of seed.

3. DESIGN:

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) and (b) Raised seed bed of 6’ \times 1’.

(v) Nil. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Low incidence of ‘damping off’ observed. (iii) Emergence \% and incidence \% of ‘damping off’ disease. (iv) 1956—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS:

(i) to (iv)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Emergence out of 1000</th>
<th>% Incidence</th>
<th>Transformed value in degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>( F_0 )</td>
<td>565</td>
<td>3.46</td>
<td>10.68</td>
</tr>
<tr>
<td>( F_1 )</td>
<td>569</td>
<td>3.03</td>
<td>9.85</td>
</tr>
<tr>
<td>( F_2 )</td>
<td>564</td>
<td>1.48</td>
<td>6.65</td>
</tr>
<tr>
<td>( F_3 )</td>
<td>513</td>
<td>2.72</td>
<td>9.38</td>
</tr>
<tr>
<td>( F_4 )</td>
<td>576</td>
<td>3.36</td>
<td>9.78</td>
</tr>
<tr>
<td>( F_5 )</td>
<td>612</td>
<td>3.94</td>
<td>10.73</td>
</tr>
<tr>
<td>G.M.</td>
<td>567</td>
<td>3.00</td>
<td>9.51</td>
</tr>
<tr>
<td>S.E./plot</td>
<td>788</td>
<td>—</td>
<td>3.27</td>
</tr>
<tr>
<td>S.E./treatment</td>
<td>39.4</td>
<td>—</td>
<td>1.63</td>
</tr>
<tr>
<td>Significance</td>
<td>Not significant</td>
<td>—</td>
<td>Not significant</td>
</tr>
</tbody>
</table>

---

Crop :- Brinjal.

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

Object :- To study the effect of fungicides against wilt of Brinjal.

Ref :- M. 57(87).

Type :- ‘D’.

1. BASAL CONDITIONS:

(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 20.3.1957. (iv) (a) 3 ploughings. (b) Transplanting. (c) About 7000 seedlings/ac. (d) 24’ \times 24’. (e) 1. (v) 15 tons/ac. of F.Y.V. +100 lb./ac of A/S+200 lb./ac. of Super. (vi) H.129 (I.C.1955). (vii) Irrigated. (viii) Nil. (ix) N.A. (x) 25.6.1957.

2. TREATMENTS:

6 Fungicides: \( F_0 = \text{Control (no fungicide)} \), \( F_1 = \text{Bordeaux’s mixture} 1\% \), \( F_2 = \text{Wet Ceresan} 0.1\% \), \( F_3 = \text{Ches­}


4. GENERAL:

(i) Satisfactory. (ii) Wilt of brinjal noticed. (iii) Incidence percentage. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by the Horticulturist, Coimbatore.

5. RESULTS:

(i) 16.3 degrees. (ii) 11.68 degrees. (iii) Treatment differences are not significant. (iv) As given below.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>( F_0 )</th>
<th>( F_1 )</th>
<th>( F_2 )</th>
<th>( F_3 )</th>
<th>( F_4 )</th>
<th>( F_5 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Incidence</td>
<td>18.01</td>
<td>3.65</td>
<td>15.94</td>
<td>16.63</td>
<td>10.28</td>
<td>5.31</td>
</tr>
<tr>
<td>Transformed value in degrees</td>
<td>25.1</td>
<td>7.8</td>
<td>19.6</td>
<td>22.8</td>
<td>13.3</td>
<td>9.3</td>
</tr>
</tbody>
</table>

S.E./mean = 5.8 degrees.
Crop :- Brinjal.

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

Object :- To study the effect of fungicides against wilt of brinjal.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 25.1.1958. (iv) (a) 3 ploughings. (b) Transplanting. (c) About 7000 seedlings/ac. (d) 2'×2'X. (e) N.A. (v) 15 tons/ac. of F.Y.M. +100 lb./ac. of A/S+200 lb./ac. of Super. (vi) H. 129 (I.C. 1855). (vii) Irrigated. (viii) Weeding once. (ix) N.A. (x) 31.5.1958.

2. TREATMENTS:
   6 fungicides: F₀ = Control (no fungicide). F₁ = Bordeaux's mixture 1%, F₂ = Wet Ceresan 0.1%, F₃ = Chestnut Compound 0.3%, F₄ = Dithane Z 0.15% and F₅ = Urea 0.3%.

3. DESIGN:
   (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) and (b) 25'X5'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Wilt incidence noticed—control measures as per treatments. (iii) % incidence. (iv) 1956—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS:
   (i) 14.32 degrees. (ii) 7.21 degrees. (iii) Treatment differences are significant. (iv) As given below.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>F₀</th>
<th>F₁</th>
<th>F₂</th>
<th>F₃</th>
<th>F₄</th>
<th>F₅</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of incidence</td>
<td>16.25</td>
<td>7.58</td>
<td>1.25</td>
<td>5.08</td>
<td>12.65</td>
<td>6.63</td>
</tr>
<tr>
<td>Transformed value in degrees</td>
<td>23.75</td>
<td>13.2</td>
<td>3.22</td>
<td>13.00</td>
<td>19.95</td>
<td>12.82</td>
</tr>
<tr>
<td>S.E./mean =</td>
<td>3.6 degrees.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Bitter gourd.

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

Object :- To study the effect of fungicides against downy mildew of bitter gourd.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 31.8.1958. (iv) (a) 3 ploughings. (b) N.A. (c) to (e) 4'X4' pits with 2 plants in each. (v) F.Y.M. at 50 lb./pit. (vi) N.A. (vii) Irrigated. (viii) Nil. (ix) N.A. (x) 10.1.1959.

2. TREATMENTS:
   5 fungicides: F₀ = Control (no fungicide). F₁ = Agrimycin 200 ppm, F₂ = Bordeaux's mixture 1%, F₃ = Cupravit 0.25% and F₄ = Flit. 406 0.1%.


3. DESIGN:
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5 (iv) (a) and (b) 8'X8'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Incidence of downy mildew noticed. (iii) Incidence in categorical values and yield. (iv) 1956—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.
1. BASAL CONDITIONS:
   (i) (a) Brinjal—Bitter gourd. (b) Brinjal. (c) 15 tons of F.Y.M. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 18.3.1958. (iv) (a) One ploughing. (b) Hand sowing. (c) 8 seeds/plot. (d) and (e) N.A. (v) F.Y.M. at 100 lb./pit as B.D. and 100 lb./pit at the time of flowering. (vi) H. 7. (vii) Irrigated. (viii) Weeding once. (ix) 2.6. (x) 6.5.1958 to 23.6.1958.

2. TREATMENTS:
   5 insecticides: I₀ = Control (no insecticide), I₁ = Folidol 0.05%, I₂ = Nicotine Sulphate 0.1%, I₃ = Calcium arsenate+lime (1 oz. each in one gallon of water) and I₄ = Endrin 0.02%. Insecticides sprayed on 25.4.1958, 7.5.1958, 19.5.1958 and 30.5.1958.

3. DESIGN:
   (i) R.B.D. (ii) 5. (b) N.A. (iii) 4. (iv) (a) and (b) 8'×8'. (v) None. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) As per treatments. (iii) The percentage of incidence and the number of healthy fruits at harvest. (iv) 1955—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Expt. was conducted by Entomologist, Coimbatore.

5. RESULTS:
   (i) to (iv)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Yield of uninfested fruit</th>
<th>Fruit fly incidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in no./ac.</td>
<td>in lb./ac.</td>
</tr>
<tr>
<td>I₀</td>
<td>178529</td>
<td>10890</td>
</tr>
<tr>
<td>I₁</td>
<td>221885</td>
<td>13358</td>
</tr>
<tr>
<td>I₂</td>
<td>196362</td>
<td>12209</td>
</tr>
<tr>
<td>I₃</td>
<td>145519</td>
<td>9997</td>
</tr>
<tr>
<td>I₄</td>
<td>259865</td>
<td>15952</td>
</tr>
<tr>
<td>G.M.</td>
<td>200432</td>
<td>12481</td>
</tr>
<tr>
<td>S.E./plot</td>
<td>36373</td>
<td>2856</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>18186</td>
<td>1428</td>
</tr>
<tr>
<td>Significance</td>
<td>Highly significant</td>
<td>Not</td>
</tr>
</tbody>
</table>

Crop: Bitter gourd (Monsoon).
Object: To study the effect of insecticides for the control of the fruit fly Dacus Cucurbitae Coq.

Ref: M. 58(27).
Type: 'D'.

1. BASAL CONDITIONS:
   (i) (a) Bitter gourd—Brinjal. (b) Brinjal. (c) 15 tons/ac. of F.Y.M. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 17.9.1958. (iv) (a) 1 ploughing. (b) Hand sowing. (c) 8 seeds/plot. (d) and (e) N.A. (v) 100 lb./pit of F.Y.M. as B.D. and 100 lb./pit at the time of flowering. (vi) N.A. (vii) Irrigated. (viii) Weeding twice. (ix) 10.96°. (x) 17.12.1958 to 27.1.1958.

2. TREATMENTS:
   Same as in expt. no. 58(28) on Page 261.

3. DESIGN and 4. GENERAL:
   Same as in expt. no. 58(28) on page 261.
5. RESULTS:

(i) to (iv) See page 1264 under expt. no 59(25).

Crop: Bitter gourd (Summer).
Ref: M. 59(24).
Type: 'D'.

Object: To study the effect of insecticides against the control of fruit fly Dacus cucurbitae Coq.

1. BASAL CONDITIONS:

(i) (a) Brinjal—Bitter gourd. (b) Brinjal. (c) 15 ton/ac. of F.Y.M. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 28.3.1959. (iv) (a) One ploughing. (b) Hand sowing. (c) 8 seeds/pit. (d) and (e) N.A. (v) 100 lb./pit of F.Y.M. as B.D.+100 lb./pit of F.Y.M. at the time of flowering. (vi) Adt. (vii) Irrigated. (viii) Weeding once. (ix) 2.53°. (x) 26.5.1959 to 22.6.1959.

2. TREATMENTS:

6 insecticides: I₀ = Control (no insecticide), I₁ = DDT 0.1%, I₂ = Folidol 0.05%, I₃ = Calcium arsenate with lime, I₄ = Endrin 0.02% and I₅ = Aldrin 0.1%. Insecticides sprayed on 9.5.1959, 19.5.1959 and 3.6.1959.

3. DESIGN:

(i) R.B.D. (ii) 6. (b) N.A. (iii) 4. (iv) (a) and (b) 8' x 8'. (v) Nil. (vi) Yes.

4. GENERAL:

Same as in expt. no. 58(28) on page 261.

5. RESULTS:

(i) to (iv) See page 264 under expt. no 59(25).

Crop: Bitter gourd (Monsoon).
Ref: M. 59(25).
Type: 'D'.

Object: To study the effect of insecticides against the control of fruit fly Dacus cucurbitae Coq.

1. BASAL CONDITIONS:

(i) (a) Brinjal—Bitter gourd. (b) Brinjal. (c) 15 tons/ac. of F.Y.M. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 29.8.1959. (iv) (a) One ploughing. (b) Hand sowing. (c) 8 seeds/pit. (d) and (e) N.A. (v) 100 lb./pit of F.Y.M. as B.D.+100 lb./pit of F.Y.M. at the time of flowering. (vi) Adt. (vii) Irrigated. (viii) Weeding twice. (ix) 16.27°. (x) 19.11.1959 to 31.12.1959, pulled cut on 31.12.1959.
2. TREATMENTS:
6 insecticides: I₆=Control (no insecticide), I₁=Endrin 0.02%, I₂=DDT 0.1%, I₃=Parathion (Folidol) 0.05%, I₄=Dieldrin 0.1% and I₅=Calcium arsenate.

3. DESIGN:
(i) R.B.D. (ii) 6. (b) N.A. (iii) 4. (iv) (a) and (b) 8'x8'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) As per treatments. (iii) The percentage incidence at harvest. (iv) (a) 1955—contd. (b) No. (c) Nil. (v) (a) and (b) No. (vii) Nil. (viii) Expt. was conducted by the Entomologist, Coimbatore. Plot-wise yield N.A. Hence not analysed.

5. RESULTS:
(i) As given below. (ii) and (iii) N.A. (iv) As given below.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>I₀</th>
<th>I₁</th>
<th>I₂</th>
<th>I₃</th>
<th>I₄</th>
<th>I₅</th>
<th>G.M.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. number</td>
<td>55302</td>
<td>171691</td>
<td>166416</td>
<td>136809</td>
<td>122856</td>
<td>134767</td>
<td>131307</td>
</tr>
<tr>
<td>Av. yield</td>
<td>3830</td>
<td>12683</td>
<td>13502</td>
<td>10406</td>
<td>8959</td>
<td>10778</td>
<td>10026</td>
</tr>
</tbody>
</table>

Results of expt. no. 59(24) on page 263.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Yield of uninfested fruit</th>
<th>Fruit fly incidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in no./ac.</td>
<td>in lb./ac.</td>
</tr>
<tr>
<td>I₁</td>
<td>50367</td>
<td>2192</td>
</tr>
<tr>
<td>I₂</td>
<td>60063</td>
<td>4309</td>
</tr>
<tr>
<td>I₃</td>
<td>68744</td>
<td>4107</td>
</tr>
<tr>
<td>I₄</td>
<td>72827</td>
<td>5182</td>
</tr>
<tr>
<td>I₅</td>
<td>66021</td>
<td>4862</td>
</tr>
<tr>
<td>G.M.</td>
<td>62845</td>
<td>3942</td>
</tr>
<tr>
<td>S.E./plot</td>
<td>21358</td>
<td>N.A.</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>10679</td>
<td>N.A.</td>
</tr>
<tr>
<td>Significance</td>
<td>Not significant</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

Crop :- Radish.
Site :- Agri. College & Res. Instt., Coimbatore.
Object :- To study the effect of insecticides against tuber-rot disease.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 7.9.1956. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) About 4 lb./ac. (d) 9"x11". (e) 2. (v) 15 tons/ac. of F.Y.M.+100 lb./ac. of A/S+200 lb./ac. of Super. (vi) H—123. (vii) Irrigated. (viii) Nil. (ix) and (x) N.A.

2. TREATMENTS:
6 insecticides: I₆=Control (no insecticide), I₁=Agrosan G.N., I₂=Harvesan, I₃=CeresaD, I₄=Spergon and I₅=Femosan.
Insecticides applied at the rate of 2 gm./lb. of seed.

3. DESIGN:
(i) R.B.D. (ii) 6. (b) N.A. (iii) 4. (iv) (a) and (b) 15'x3'. (v) Nil. (vi) Yes.
4. GENERAL:
(i) Satisfactory. (ii) Mild attack of tuber-rot disease noticed. (iii) Emergence and incidence percentage. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS:
(i) to (iv)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Emergence Mean %</th>
<th>Mean %</th>
<th>Mean incidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I_0</td>
<td>70.00</td>
<td>10.35</td>
<td>18.75</td>
</tr>
<tr>
<td>I_1</td>
<td>75.62</td>
<td>3.12</td>
<td>10.07</td>
</tr>
<tr>
<td>I_2</td>
<td>73.12</td>
<td>7.22</td>
<td>15.57</td>
</tr>
<tr>
<td>I_3</td>
<td>72.37</td>
<td>6.80</td>
<td>15.12</td>
</tr>
<tr>
<td>I_4</td>
<td>70.00</td>
<td>5.45</td>
<td>13.27</td>
</tr>
<tr>
<td>I_5</td>
<td>76.25</td>
<td>6.02</td>
<td>14.10</td>
</tr>
<tr>
<td>G.M.</td>
<td>72.89</td>
<td>6.49</td>
<td>14.48</td>
</tr>
<tr>
<td>S.E./plot</td>
<td>13.64</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>6.82</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

Significance: Not significant

Crop: Radish.

Ref: M. 57(83).
Type: D.

Object: To study the effect of insecticides against tuber-rot disease.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 6.4.1957. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 2 rows of 20 plants each. (d) 1" × 9". (e) N.A. (v) 15 tons/ac. of F.Y.M.+100 lb./ac. of A/5+200 lb./ac. of Super. (vi) H. 123. (vii) Nil. (ix) N.A. (x) 21.5.1957.

2. TREATMENTS:
6 insecticides: I_0=Control (no insecticide), I_1=Agrosan G.N., I_2=Harvesan, I_3=Spergon, I_4=Ceresan and I_5=Orthocide.

Insecticides applied at the rate of 2 gm./lb. of seed.

3. DESIGN:
(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) and (b) 15'×3'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Tuber-rot disease noticed. (iii) % emergence and yield. (iv) (a) 1956—1957 (treatments modified). (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS:
(i) to (iv)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Emergence Mean %</th>
<th>Transformed value in degrees</th>
<th>Av. yield in lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I_0</td>
<td>87.5</td>
<td>55.70</td>
<td>11223</td>
</tr>
<tr>
<td>I_1</td>
<td>63.1</td>
<td>52.63</td>
<td>9136</td>
</tr>
<tr>
<td>I_2</td>
<td>65.0</td>
<td>54.08</td>
<td>8773</td>
</tr>
<tr>
<td>I_3</td>
<td>75.0</td>
<td>60.05</td>
<td>10149</td>
</tr>
<tr>
<td>I_4</td>
<td>69.4</td>
<td>56.95</td>
<td>9786</td>
</tr>
<tr>
<td>I_5</td>
<td>80.0</td>
<td>64.48</td>
<td>9499</td>
</tr>
<tr>
<td>G.M.</td>
<td>72.3</td>
<td>57.32</td>
<td>9761</td>
</tr>
<tr>
<td>S.E./plot</td>
<td>—</td>
<td>7.79</td>
<td>2995</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>—</td>
<td>3.89</td>
<td>1497</td>
</tr>
</tbody>
</table>

Significance: Not significant

Object: To study the effect of fungicides against downy mildew of Ribbed gourd.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 10.9.1956. (iv) (a) 3 ploughings. (b) N.A. (c) and (d) 4 plants per pit of 4'x4'. (e) N.A. (v) F.Y.M. at 50 lb./pit. (vi) N.A. (vii) Irrigated. (viii) Nil. (ix) N.A. (x) 30.11.1956.

2. TREATMENTS:
   5 fungicides: F1 = Control (no fungicide), F2 = Bordeaux's mixture 1%, F3 = Dithane Z78 0.15%, F4 = Cupravit 0.4%, F5 = Fungimar 0.25%. Fungicides sprayed on 11.10.1956, 27.10.1956, 11.11.1956 and 27.11.1956.

3. DESIGN:
   (i) R.B.D. (ii) 6. (b) N.A. (iii) 4. (iv) (a) and (b) 20'x4'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Mild incidence of downy mildew noticed. (iii) Incidence in categorical values and yield. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulurist, Coimbatore.

5. RESULTS:
   (i) to (iv) Treatment | Av. yield in lb./ac. | Incidence of downy mildew in categorical values.
   F1 10,822 | 50.00 |
   F2 13,638 | 11.00 |
   F3 14,658 | 22.75 |
   F4 12,259 | 31.75 |
   F5 10,958 | 27.25 |
   G.M. 11,545 | 36.25 |
   S.E. plot 12,313 | 29.33 |
   S.E. *mean 1480 | 2.39 |
   Significance Not significant Highly significant


Object: To study the effect of fungicides against mildew of Ribbed gourd.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 10.9.1957. (iv) (a) 3 ploughings. (b) N.A. (c) and (d) 4 plants per pit of 4'x4'. (e) N.A. (v) F.Y.M. at 50 lb./pit. (vi) N.A. (vii) Irrigated. (viii) Nil. (ix) N.A. (x) 15.12.1957.

2. TREATMENTS:
   5 fungicides: F1 = Control (no fungicide), F2 = Bordeaux's mixture 1%, F3 = Dithane Z78 0.15%, F4 = Copper oxychloride 0.25%. Fungicides applied on 26.10.1957, 8.11.1957, 22.11.1957 and 6.12.1957.

3. DESIGN:
   (i) R.B.D. (ii) 5. (b) N.A. (iii) 5. (iv) (a) and (b) 12'x12'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Mild incidence of downy mildew. (iii) Incidence of the disease and yield. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) and (vi) Nil. (vii) Expt. was conducted by Horticulurist, Coimbatore.
RESULTS:

(i) to (iv)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield in lb./ac.</th>
<th>Incidence of downy mildew in categorical values</th>
</tr>
</thead>
<tbody>
<tr>
<td>F₀</td>
<td>3319</td>
<td>2.26</td>
</tr>
<tr>
<td>F₁</td>
<td>2986</td>
<td>1.64</td>
</tr>
<tr>
<td>F₂</td>
<td>3198</td>
<td>1.86</td>
</tr>
<tr>
<td>F₃</td>
<td>3035</td>
<td>2.00</td>
</tr>
<tr>
<td>F₄</td>
<td>3444</td>
<td>1.74</td>
</tr>
<tr>
<td>G.M.</td>
<td>3196</td>
<td>1.90</td>
</tr>
<tr>
<td>S.E./plot</td>
<td>884.1</td>
<td>0.181</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>395.4</td>
<td>0.08</td>
</tr>
</tbody>
</table>

Significance: Not significant

Crop: Ribbed gourd.
Site: Agricultural College & Res. Instt., Coimbatore.

Object: To study the effect against the die-back disease of Ribbed gourd.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 13.3.1958. (iv) (a) 2 ploughings. (b) N.A. (c) to (e) 4'x4' pits with 2 plants in each. (v) F.Y.M. at 50 lb./pit. (vi) N.A. (vii) Irrigated. (viii) Nil. (ix) N.A. (x) 28.6.1958.

2. TREATMENTS:
   4 fungicides: F₀=Control (no fungicide); F₁=Bordeaux’s mixture 1%; F₂=Cupravit 0.4% and F₃=Dithane Z-78 0.15%.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) and (b) 8’x8’. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Incidence of die-back noticed. (iii) % incidence and yield. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS:
   (i) to (iv)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Mean % of incidence</th>
<th>Transformed value in degrees</th>
<th>Av. yield in lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>F₀</td>
<td>26.67</td>
<td>31.05</td>
<td>7358</td>
</tr>
<tr>
<td>F₁</td>
<td>28.35</td>
<td>28.78</td>
<td>7957</td>
</tr>
<tr>
<td>F₂</td>
<td>21.67</td>
<td>27.31</td>
<td>7589</td>
</tr>
<tr>
<td>F₃</td>
<td>21.12</td>
<td>27.68</td>
<td>8065</td>
</tr>
<tr>
<td>G.M.</td>
<td>24.45</td>
<td>28.71</td>
<td>7742</td>
</tr>
<tr>
<td>S.E./plot</td>
<td>—</td>
<td>1.99</td>
<td>2232</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>—</td>
<td>0.81</td>
<td>911</td>
</tr>
</tbody>
</table>

Significance: Significant Not significant

Crop: Potato.

Object: To study the availability of phosphates to Potato by the addition of organic manure and lime.

1. BASAL CONDITIONS:
   (i) (a) Potato—Lupin. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 25.3.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 4000 lb./ac. (d) 18°x9°. (e) 1. (v) Nil. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Weeding, hoeing and 2 earthing. (ix) 35.58°. (x) 26.7.1958.
2. TREATMENTS:

All combinations of (1), (2, and (3))—an extra treatment:

(1) Nanjanad mixture with 4 sources of $P_{2}O_{5}$ to give the total phosphate content: $S_{1}=$Rock Phos., $S_{2}=$B.M., $S_{3}=$Super and $S_{4}=$Dicalcium Phos.
(2) 2 levels of lim: $L_{0}=0$ and $L_{1}=7500$ lb./ac.
(3) 2 levels of G.L.: $G_{0}=0$ and $G_{1}=500$ lb./ac.

Extra treatment: $T=$Standard Nanjanad mixture.
Treatments applied as B.D.

3. DESIGN:

(i) R.B.D. (ii) (a) 17. (b) N.A. (iii) 3. (iv) (a) 1/200 ac. (b) 1/400 ac. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) (a) and (b) N.L. (vi) Nil. (vii) Nanjanad mixture contains 50 lb./ac. of G.N.C.+200 lb./ac. of A/S+672 lb./ac. of Super+350 lb./ac. of B.M.+224 lb./ac. of Pot. Sul.

5. RESULTS:

(i) 7152 lb./ac. (ii) 2636 lb./ac. (iii) Main effect of $S$ and $L$ are significant. No other effect is significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$S_{1}$</th>
<th>$S_{2}$</th>
<th>$S_{3}$</th>
<th>$S_{4}$</th>
<th>$L_{0}$</th>
<th>$L_{1}$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$G_{0}$</td>
<td>6110</td>
<td>5516</td>
<td>9300</td>
<td>10368</td>
<td>6372</td>
<td>9275</td>
<td>7824</td>
</tr>
<tr>
<td>$G_{1}$</td>
<td>5338</td>
<td>4440</td>
<td>8952</td>
<td>7800</td>
<td>5863</td>
<td>7403</td>
<td>6633</td>
</tr>
<tr>
<td>Mean</td>
<td>5724</td>
<td>4978</td>
<td>9126</td>
<td>9084</td>
<td>6118</td>
<td>8339</td>
<td>7228</td>
</tr>
</tbody>
</table>

S.E. of $G$ or $L$ marginal mean = 538 lb./ac.
S.E. of $S$ marginal mean = 761 lb./ac.
S.E. of body of $S\times G$ or $S\times L$ table = 1076 lb./ac.
S.E. of body of $G\times L$ table = 761 lb./ac.

---

Crop :- Potato (Summer).

Object :- To study the availability of phosphates to Potato by the addition of organic manures and lime.

1. BASAL CONDITIONS:

(i) (a) Potato—Lupin. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad.
(iii) 8.4.±59. (iv) (a) 3 ploughings. (b) N.A. (c) 400 lb./ac. (d) $18^\circ \times 9^\circ$. (e) 1. (v) 5 tons/acc. of F.Y.M. (vi) Great Scot. (vii) Unirrigated. (viii) 6 weedings and 2 earthing. (ix) 52.98%. (x) 25.8.1959.

2. TREATMENTS to 4. GENERAL:

Same as in expt. no 58(136) on page 267.

5. RESULTS:

(i) 8130 lb./ac. (ii) 2913 lb./ac. (iii) Main effect of $S$ is highly significant while that of $L$ is significant. No other effect is significant. (iv) Av. yield of tuber in lb./ac.
Object:—To find out the possibility of replacing Super by Hyper Phos. in the Nanjanad mixture for Potato.

**1. BASAL CONDITIONS:**
(i) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 9.4.1956. (iv) 3 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 24"x9". (e) Nil. (v) 5000 lb./ac. of G.L.+1946 lb./ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Hoeing, weeding and 1 earthing. (ix) 50.75". (x) 19.9.1956.

**2. TREATMENTS:**
All combinations of (1), (2) and (3)
(1) 2 sources of P2O5: S1=Super and S2=Hyper Phos.
(2) 3 levels of P2O5 : P1=150 P2=200 and P3=250 lb./ac.
(3) 2 levels of N : N1=100 and N2=150 lb./ac.
The treatments are variations in the constituents of Nanjanad mixture applied at the time of planting.

**3. DESIGN:**
(i) Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) 1/133.3 lb./ac. (b) 1/200 lb./ac. (v) On row around. (vi) Yes.

**4. GENERAL:**
(i) Satisfactary. (ii) Nil. (iii) Tuber yield. (iv) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

**5. RESULTS:**
(i) 11807 lb./ac. (ii) 1336 lb./ac. (iii) Main effect of S is highly significant while that of P is significant. No other effect is significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>P1</th>
<th>P2</th>
<th>P3</th>
<th>S1</th>
<th>S2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1</td>
<td></td>
<td></td>
<td>10880</td>
<td>11360</td>
<td>12200</td>
</tr>
<tr>
<td>N2</td>
<td></td>
<td></td>
<td>11200</td>
<td>12560</td>
<td>12640</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td>11040</td>
<td>11960</td>
<td>12420</td>
</tr>
<tr>
<td>S1</td>
<td></td>
<td></td>
<td>12440</td>
<td>13520</td>
<td>13800</td>
</tr>
<tr>
<td>S2</td>
<td></td>
<td></td>
<td>9640</td>
<td>10400</td>
<td>11040</td>
</tr>
</tbody>
</table>

T = 7191 lb./ac.
Crop :- Potato (Summer).

Object :- To find out the possibility of replacing Super by Hyper Phos. in the Nanjanad mixture for Potato.

1. BASAL CONDITIONS :
(i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 16.4.1957. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18'x9'. (e) 1. (v) 5 tons/acre of F.Y.M. + 1946 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Unirrigated. (viii) 2 weedings and 1 earthing. (ix) 26.9.1957.

2. TREATMENTS :
Same as in exp. no. 56(96) on page 269.

3. DESIGN :
(i) Fact. in R.B.D. (ii) 12. (b) N.A. (iii) 5. (iv) (a) 33'x12'. (b) 30'x9'. (v) 1' around the net plot. (vi) Yes.

4. GENERAL :
Same as in exp. no. 56,96) on page 269.

5. RESULTS :
(i) 10714 lb./ac. (ii) 985 lb./ac. (iii) S and P effects are highly significant. Effect of N is significant. Other effects are not significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
<th>S1</th>
<th>S2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1</td>
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<td>10309</td>
<td>11072</td>
<td>11785</td>
<td>9051</td>
<td>10418</td>
</tr>
<tr>
<td>N2</td>
<td>10164</td>
<td>11398</td>
<td>11471</td>
<td>12269</td>
<td>9753</td>
<td>11011</td>
</tr>
<tr>
<td>Mean</td>
<td>10019</td>
<td>10854</td>
<td>11272</td>
<td>12027</td>
<td>9402</td>
<td>10714</td>
</tr>
</tbody>
</table>

S.E. of N or S marginal mean = 179.8 lb./ac.
S.E. of P marginal mean = 220.3 lb./ac.
S.E. of body of P X N or P X S table = 311.5 lb./ac.
S.E. of body of N X S table = 254.3 lb./ac.
2. TREATMENTS:
Same as in expt. no. 56(96) on page 269.

3. DESIGN:
(i) Fert. in R.B.D.  (ii) (a) 12.  (b) N.A.  (iii) 5. (iv) (a) 33' × 9'.  (b) 30' × 7.5'.  (v) 18' × 9' left on all sides.  (vi) Yes.

4. GENERAL:
Same as in expt. no. 56(96) on page 269.

5. RESULTS:
(i) 11743 lb./ac.  (ii) 2460 lb./ac.  (iii) Only main effect of S is significant.  (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
<th>S1</th>
<th>S2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1</td>
<td>11186</td>
<td>11572</td>
<td>11680</td>
<td>12726</td>
<td>10231</td>
<td>11479</td>
</tr>
<tr>
<td>N2</td>
<td>11438</td>
<td>11892</td>
<td>12694</td>
<td>12727</td>
<td>11288</td>
<td>12008</td>
</tr>
<tr>
<td>Mean</td>
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<td>11732</td>
<td>12187</td>
<td>12726</td>
<td>10739</td>
<td>11743</td>
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<td></td>
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<td>10292</td>
<td>10826</td>
<td>11160</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of N or S marginal mean = 449 lb./ac.
S.E. of P marginal mean = 550 lb./ac.
S.E. of body of P × N or P × S table = 778 lb./ac.
S.E. of body of N × S table = 635 lb./ac.

Crop :- Potato (1st crop).
Ref :- M. 54(6).
Type :- 'M'.

Object :- To study the effect of application of split doses of Nanjanad mixture to Potato.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) Potato—G.M. (Lupin-rye mixture).  (c) N.A.  (ii) (a) Laterite.  (b) Refer soil analysis, Nanjanad.  (iii) 25.3.1954.  (iv) (a) Hand forking and breaking clods to a fine tilth.  (b) to (e) N.A.  (v) Nil.  (vi) Great Scot (medium).  (vii) Unirrigated.  (viii) Nil.  (ix) 14.9.1954.

2. TREATMENTS:
1. No fertilizer.
2. ½ dose of Nanjanad mixture at planting + ½ dose at 1st earthing up.
3. ¼ dose of Nanjanad mixture at planting + ½ dose at 1st earthing up.
4. ¾ dose of Nanjanad mixture at planting + ½ dose at 1st earthing up.
5. Complete dose at planting.

3. DESIGN:
(i) R.B.D.  (ii) (a) 5.  (b) N.A.  (iii) 4.  (iv) (a) 1/100 ac.  (b) 1/200 ac.  (v) N.A.  (vi) Yes.

4. GENERAL:
(i) Satisfactory.  (ii) Nil.  (iii) Height and growth of plants and tuber yield.  (iv) (a) 1954—1956.  (b) Yes.  (c) Nil.  (v) to (vii) Nil.

5. RESULTS:
(i) 16655 lb./ac.  (ii) 1290 lb./ac.  (iii) Treatment differences are significant.  (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>12025</td>
<td>15725</td>
<td>17025</td>
<td>19525</td>
<td>18975</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>645 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop :- Potato (2nd crop).  
Object :- To study the effect of application of split doses of Nanjanad mixture to Potato.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Potato—G.M. (Lupin-rye mixture). (c) N.A. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 11.8.1954. (iv) (a) Hand forking and breaking clods to a fine tilth. (b) to (e) N.A. v. Nil. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Nil. (ix) 44°. (x) 17.12.1954.

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 54(6) on page 271.

5. RESULTS:
   (i) 11410 lb./ac. (ii) 1282 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of tuber in lb./ac.
   Treatment  | 1  | 2  | 3  | 4  | 5
   Av. yield  | 7150 | 9550 | 11000 | 14600 | 14750
   S.E./mean  = 641 lb./ac.

Crop :- Potato (Main crop).  
Object :- To study the effect of application of split doses of Nanjanad mixture to Potato.

1. BASAL CONDITIONS:
   (i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 9.4.1955. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18°×9°. (e) I. (v) 5 tons/ac. of F.Y.M. + Nanjanad mixture—as per treatments. (vi) Great Scot. (vii) Unirrigated. (viii) Great Scot. (ix) 38.15°. (x) 5.8.1955.

2. TREATMENTS and 3. DESIGN:
   Same as in exp. no. 54(6) on page 271.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1954—1955. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 11235 lb./ac. (ii) 1640 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in lb./ac.
   Treatment  | 1  | 2  | 3  | 4  | 5
   Av. yield  | 5875 | 9550 | 11875 | 13425 | 15450
   S.E./mean  = 820 lb./ac.
273

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 54(6) on page 271.

4. GENERAL:
Same as in expt. no. 54(77) on page 272.

5. RESULTS:
(i) 8240 lb./ac. (ii) 1250 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2400</td>
<td>8100</td>
<td>9100</td>
<td>10500</td>
<td>11100</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>625 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop : Potato (Summer).  Ref :- M. 56(94).
Site :- Agri. Res. Stn., Nanjanad.  Type :- 'M'.

Object :- To study the effect of bulky organic manures and Nanjanad mixture on Potato.

1. BASAL CONDITIONS:
(i) (a) Lupin-Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 23.4.1956. (iv) (a) 3 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 24"×9". (e) —. (v) As per treatments. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Hoeing, weeding and 1 earthing. (ix) 50.75°. (x) 6.9.1956.

2. TREATMENTS:
All combinations of (1) and (2)
(1) 3 bulky manures as B.D. : B₀=0, B₁=5 tons/ac. of F.Y.M. and B₂=5 tons/ac. of spent Cinchona bark compost.
(2) 2 levels of Nanjanad mixture : M₀=0 and M₁=1946 lb./ac.

3. DESIGN:
(i) Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 1/266.7 ac. (b) 1/400 ac. (v) One row left. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 10911 lb./ac. (ii) 3896 lb./ac. (iii) Main effect of M is highly significant and B effect is significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>B₀</th>
<th>B₁</th>
<th>B₂</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>M₀</td>
<td>5800</td>
<td>5533</td>
<td>6067</td>
<td>7133</td>
</tr>
<tr>
<td>M₁</td>
<td>13667</td>
<td>17400</td>
<td>13500</td>
<td>14689</td>
</tr>
<tr>
<td>Mean</td>
<td>9734</td>
<td>13467</td>
<td>9533</td>
<td>10911</td>
</tr>
</tbody>
</table>

S.E. of B marginal mean = 1125 lb./ac.
S.E. of M marginal mean = 918 lb./ac.
S.E. of body of table = 1591 lb./ac.

Crop :- Potato.  Ref :- M. 54(8).
Site :- Agri. Res. Stn., Nanjanad.  Type :- 'M'.

Object :- To study the effect of application of magnesium and lime with Nanjanad mixture to Potato.
1. BASAL CONDITIONS
(i) (a) Nil. (b) Potato. (c) N.A. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 31.3.1954. (iv) (a) Hand forking and breaking of clods to fine tilth. (b) and (c) N.A. (d) 24" between rows. (e) —. (v) 5000 lb./ac. of G.L. as B.D. + 1946 lb./ac. of Nanjanad mixture as B.D. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Nil. (ix) 44.0°. (x) 8.9.1954.

2. TREATMENTS:
All combinations of (1), (2) and (3) + 2 extra treatments
(1) 3 levels of MgO as MgSO₄: \( S_1 = 10 \), \( S_2 = 20 \) and \( S_3 = 30 \) lb./ac.
(2) 2 levels of slaked lime: \( L_0 = 0 \) and \( L_1 = 1500 \) lb./ac.
(3) 2 methods of application of MgO: \( M_1 = \) Soil application and \( M_2 = \) Spray application.
Extra treatments: \( T_0 = \) Control and \( T_1 = 1500 \) lb./ac. of slaked lime.

3. DESIGN:
(i) R.B.D. (ii) (a) 14. (b) N.A. (iii) 4. (iv) (a) and (b) 1/200 ac. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Growth, height measurements and tuber yield. (iv) (a) 1953—1954. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 15404 lb./ac. (ii) 1840 lb./ac. (iii) No effect is significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S_1</th>
<th>S_2</th>
<th>S_3</th>
<th>L_0</th>
<th>L_1</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( M_1 )</td>
<td>15900</td>
<td>16050</td>
<td>15250</td>
<td>16117</td>
<td>15350</td>
<td>15733</td>
</tr>
<tr>
<td>( M_2 )</td>
<td>15125</td>
<td>15475</td>
<td>15600</td>
<td>15117</td>
<td>15533</td>
<td>15575</td>
</tr>
<tr>
<td>Mean</td>
<td>15538</td>
<td>15763</td>
<td>15425</td>
<td>15533</td>
<td>15575</td>
<td></td>
</tr>
<tr>
<td>( L_0 )</td>
<td>16100</td>
<td>15200</td>
<td>15550</td>
<td>15117</td>
<td>16325</td>
<td>15733</td>
</tr>
<tr>
<td>( L_1 )</td>
<td>14975</td>
<td>16325</td>
<td>15300</td>
<td>15533</td>
<td>15417</td>
<td></td>
</tr>
</tbody>
</table>

S.E. of M or L marginal mean = 275.7 lb./ac.
S.E. of S marginal mean = 460.0 lb./ac.
S.E. of body of S x M or S x L table = 650.5 lb./ac.
S.E. of body of M x L table = 531.2 lb./ac.
S.E. of extra treatment mean = 920.0 lb./ac.

Crop :- Potato.

Ref :- M. 54(9).
Type :- 'M'.

Object :- To find out a suitable source of N for Nanjanad mixture for Potato crop.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Potato. (c) N.A. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 29.3.1954. (iv) (a) Hand forking and breaking of clods to fine tilth. (b) to (e) N.A. (v) 5000 lb./ac. of G.L. and 1500 lb./ac. of lime. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Nil. (ix) 44.0°. (x) 13.9.1954.

2. TREATMENTS:
Main-plot treatments:
All combinations of (1) and (2)
(1) 2 levels of lime: \( L_0 = 0 \) and \( L_1 = 1500 \) lb./ac.
(2) 2 levels of G.L.: \( G_0 = 0 \) and \( G_1 = 5000 \) lb./ac.

Sub-plot treatments:
4 manurial treatments: \( M_1 = 80 \) lb./ac. of N as C/N/P₂O₅ and K₂O as in Nanjanad mixture, \( M_2 = 80 \) lb./ac. of N as Urea+P₂O₅ and K₂O as in Nanjanad mixture, \( M_3 = 80 \) lb./ac. of N as A/S/P₂O₅ and K₂O as in Nanjanad mixture and \( M_4 = \) Nanjanad mixture.
3. DESIGN:
(i) Split-plot. (ii) (a) 4 main-plots/replication; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 1/200 ac. (b) 1/400 ac. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Growth, height measurements and tuber yield. (iv) (a) 1952—1954. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 13775 lb./ac. (ii) (a) 1521 lb./ac. (b) 1445 lb./ac. (v) N.A. (vi) Yes. (vii) Nil.

<table>
<thead>
<tr>
<th></th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
<th>M₄</th>
<th>G₀</th>
<th>G₁</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>L₀</td>
<td>13400</td>
<td>14100</td>
<td>12250</td>
<td>14200</td>
<td>12775</td>
<td>14200</td>
<td>13488</td>
</tr>
<tr>
<td>L₁</td>
<td>14000</td>
<td>13250</td>
<td>13600</td>
<td>15400</td>
<td>14250</td>
<td>13875</td>
<td>14062</td>
</tr>
<tr>
<td>Mean</td>
<td>13700</td>
<td>13675</td>
<td>12925</td>
<td>14800</td>
<td>13513</td>
<td>14037</td>
<td>13775</td>
</tr>
</tbody>
</table>

G₀  13600  12700  12650  15100
G₁  13800  14650  13200  14500

S.E. of difference of two
1. L or G marginal means = 380.3 lb./ac.
2. M marginal means = 510.9 lb./ac.
3. M means at the same level of L or G = 722.5 lb./ac.
4. L or G means at the same level of M = 732.2 lb./ac.

Crop: Potato (Summer).

Object: To assess the manurial value of combinations of Copper, Zinc and Urea for Potato crop.

1. BASAL CONDITIONS:
(i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad (iii) 3.4.1955. (iv) (a) 3 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 24" x 9". (e) —. (v) 5000 lb./ac. of G.L. + 1946 lb./ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Hoeing, weeding and 1 earthing. (ix) 43°.82". (x) 31.7.1955.

2. TREATMENTS:
All combinations of (1), (2) and (3)
(1) 2 levels of Copper Sulphate: C₀ = 0 and C₁ = 10 lb./ac.
(2) 2 levels of Zn. Sul.: Z₀ = 0 and Z₁ = 10 lb./ac.
(3) 2 levels of Urea: U₀ = 0 and U₁ = 15 lb./ac.
Each constituent was dissolved in 100 gallons of water for spraying 45 days after planting.

3. DESIGN:
(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 1/133.3 ac. (b) 1/200 ac. (v) 2 rows left. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) 1955—1956. (b) No. (c) Nil. (v) to (vii) Nil.

RESULTS:
(i) 11431 lb./ac. (ii) 708 lb./ac. (ii) Main effect of C alone is highly significant. (iv) Av. yield of tuber in lb./ac.
Crop : Potato (Summer).

Object :—To assess the manurial value of combinations of Copper, Zinc and Urea for Potato crop.

1. BASAL CONDITIONS :
   (i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 31.3.1956. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) I. (v) 5 tons/ac. of F.Y.M. +1946 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Unirrigated. (viii) Weeding and 2 earthings. (ix) 27.55°. (x) 7.9.1956.

2. TREATMENTS :
   All combinations of (1), (2) and (3)
   (1) 2 levels of C/ S : C₀=0 and C₁=20 lb./ac.
   (2) 2 levels of Zn Sul. : Z₀=0 and Z₁=10 lb./ac.
   (3) 2 levels of Urea : U₀=0 and U₁=15 lb./ac.
   Each constituent was dissolved in 100 gallons of water and sprayed 45 days after planting.

3. DESIGN and 4. GENERAL :
   Same as in expt. no. 55:73) on page 275.

5. RESULTS :
   (i) 10362 lb./ac. (ii) 1390 lb./ac. (iii) Main effect of C alone is significant. (iv) Av. yield of tuber in lb./ac.

---

<table>
<thead>
<tr>
<th></th>
<th>C₀</th>
<th>C₁</th>
<th>Mean</th>
<th>U₀</th>
<th>U₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z₀</td>
<td>11050</td>
<td>9950</td>
<td>10500</td>
<td>10350</td>
<td>10650</td>
</tr>
<tr>
<td>Z₁</td>
<td>10800</td>
<td>9650</td>
<td>10225</td>
<td>9700</td>
<td>10750</td>
</tr>
<tr>
<td>Mean</td>
<td>10925</td>
<td>9800</td>
<td>10362</td>
<td>10025</td>
<td>10700</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>U₀</th>
<th>U₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>10850</td>
<td>9200</td>
<td></td>
</tr>
<tr>
<td>11000</td>
<td>10400</td>
<td></td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 347.5 lb./ac.
S.E. of body of any table = 491.4 lb./ac.
Crop :- Potato.  
Ref :- M. 56(95).  
Type :- 'M'.

Object :- To study the effect of replacing A/S by A/S/N in Nanjanad mixture on Potato.

1. BASAL CONDITIONS:
   (i) (a) Lupin-Potato.  (b) Lupin.  (c) Nil.  (ii) (a) Laterite.  (b) Refer soil analysis, Nanjanad.  (iii) 10.4.1956.  (iv) (a) 3 ploughings.  (b) Planting in furrows.  (c) 2000 lb./ac.  (d) 24"×9".  (e) N.A.  (v) 5000 lb./ac. of G.L.+Nanjanad mixture as per treatments.  (vi) Great Scot (medium).  (vii) Unirrigated.  (viii) Hoeing, weeding and earthing.  (ix) 50.75".  (x) 14.9.1956.

TREATMENTS:
3 manurial treatments: M<sub>1</sub>=Nanjanad mixture at 1946 lb./ac., M<sub>2</sub>=Nanjanad mixture at 1946 lb./ac. replacing A/S by A/S/N and M<sub>3</sub>=Nanjanad mixture in which total N is supplied by A/S/N.

Nanjanad mixture applied at the time of planting in furrows by placement. Nanjanad mixture consists of Super at 672; A/S at 200 lb.; G.N.C. at 5000 lb.; B.M. at 350 lb. and Potash at 224 lb.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 3.  (b) N.A.  (iii) 8.  (iv) (a) 1/100 ac.  (b) 1/200 ac.  (v) 2 rows left.  (vi) Yes.

4. GENERAL:
   (i) Satisfactory.  (ii) Nil.  (iii) Tuber yield.  (iv) ?? (a) 1956--1958.  (b) No.  (c) Nil.  (v) (a) and (b) Nil.  (vi) and (vii) Nil.

5. RESULTS:
   (i) 10883 lb./ac.  (ii) 1301 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M&lt;sub&gt;1&lt;/sub&gt;</th>
<th>M&lt;sub&gt;2&lt;/sub&gt;</th>
<th>M&lt;sub&gt;3&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>11750</td>
<td>10650</td>
<td>10250</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 460 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Potato (Summer).  
Ref :- M. 57(104).  
Type :- 'M'.

Object :- To study the effect of replacing A/S by A/S/N in Nanjanad mixture on Potato.

BASAL CONDITIONS:
(i) (a) Lupin-Potato.  (b) Lupin.  (c) Nil.  (ii) (a) Laterite.  (b) Refer soil analysis, Nanjanad.  (iii) 21.4.1957.  (iv) (a) 3 ploughings.  (b) N.A.  (c) 4500 lb./ac.  (d) 48"×9".  (e) N.A.  (f) 5 tons/ac. of F.Y.M.  (vi) Great Scot.  (vii) Unirrigated.  (viii) Weeding and 2 earthing.  (ix) 37.91".  (x) 6.9.1957.

TREATMENTS:
Same as in expt. no. 56(95) above.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 3.  (b) N.A.  (iii) 8.  (iv) (a) 21"×21".  (b) 15"×15".  (v) 3′×3′ left as border.  (vi) Yes

4. GENERAL:
   Same as in expt. no. 56(95) above.

5. RESULTS:
   (i) 8397 lb./ac.  (ii) 938 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M&lt;sub&gt;1&lt;/sub&gt;</th>
<th>M&lt;sub&gt;2&lt;/sub&gt;</th>
<th>M&lt;sub&gt;3&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>v yield</td>
<td>8107</td>
<td>8083</td>
<td>9002</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 332 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop :- Potato (Summer).
Object :- To study the effect of replacing A/S by A/S/N in Nanjanad mixture on Potato.

1. BASAL CONDITIONS :
(i) (a) Potato—Lupin. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 18.3.1955. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18" x 9". (e) 1. (v) As per treatments.
2. TREATMENTS :
Same as in expt. no. 56(95) on page 277.
3. DESIGN :
(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 22' x 20'. (b) 16' x 14'. (v) 3' x 3' left alround.
(vi) Yes.
4. GENERAL :
Same as in expt. no. 56(95) on page 277.
5. RESULTS :
(i) 14406 lb./ac. (ii) 1029 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M_1</th>
<th>M_2</th>
<th>M_3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>14682</td>
<td>14293</td>
<td>14244</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>364 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Potato (Main crop).
Object :- To study the effect of Mg on Potato.

1. BASAL CONDITIONS :
(i) (a) Nil. (b) Fallow. (c) Nil. (ii) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 2.4.1955. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18" x 9". (e) 1. (v) 5 tons/ac. of F.Y.M. (vi) Great Scot. (vii) Unirrigated. (viii) Weeding and 1 earthing. (ix) 38.15". (x) 29.7.1955.
2. TREATMENTS :
1. Control.
2. MgSO_4 at 30 lb./ac. at planting.
3. MgSO_4 at 60 lb./ac. at planting.
4. MgSO_4 at 60 lb./ac. at planting+30 lb./ac. after one month.
Treatments applied to the soil.
3. DESIGN :
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) 1/133.3 ac. (b) 1/200 ac. (v) N.A. (vi) Yes.
4. GENERAL :
(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1955—58. (b) No. (c) Nil. (v) to (vii) Nil.
5. RESULTS :
(i) 13938 lb./ac. (ii) 904 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>12450</td>
<td>14500</td>
<td>14400</td>
<td>14400</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>452 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop: Potato.  
Object: To study the effect of Mg on Potato.

1. BASAL CONDITIONS
   
   (i) (a) Lupin—Potato.  (b) Lupin.  (c) Nil.  (ii) (a) Laterite.  (b) Refer soil analysis, Nanjanad.  (iii) 6.4.1956.  
   (iv) (a) 3 ploughings.  (b) Planting in furrows.  (c) 2000 lb./ac.  (d) 24'x9'.  (e) N.A.  
   (v) 5000 lb./ac. of G.L.+1946 lb./ac. of Nanjanad mixture.  (vi) Great Scot (medium).  
   (vii) Unirrigated.  
   (viii) Hoeing, weeding and earthing.  (ix) 50.75'.  (x) 15.9.1956.

2. TREATMENTS:
   Same as in expt. no. 55(79) on page 278.

3. DESIGN:
   (i) R.B.D.  
   (ii) (a) 4.  (b) N.A.  
   (iii) 8.  
   (iv) (a) 1/100 ac.  (b) 1/200 ac.  (v) 2 rows left around.  
   (vi) Yes.

4. GENERAL:
   Same as in expt. no. 55(79) on page 278.

5. RESULTS:
   (i) 12925 lb./ac.  
   (ii) 1668 lb./ac.  
   (iii) Treatment differences are not significant.  
   (iv) Av. yield of tuber in lb./ac.
   
   Treatment 1 2 3 4
   Av. yield 12250 12800 13250 13400
   S.E./mean = 590 lb./ac.

Crop: Potato (Summer).  
Object: To study the effect of Mg on Potato.

1. BASAL CONDITIONS
   
   (i) (a) Lupin—Potato.  (b) Lupin.  (c) Nil.  (ii) (a) Laterite.  (b) Refer soil analysis, Nanjanad.  (iii) 2.4.1957.  
   (iv) (a) 3 ploughings.  (b) N.A.  
   (c) 4500 lb./ac.  
   (d) 18'x9'.  (e) 1.  
   (v) 5 tons/ac. of F.Y.M.+1946 lb./ac. of Nanjanad mixture.  
   (vi) Great Scot.  
   (vii) Unirrigated.  
   (viii) Weeding and 2 earthings.  
   (ix) 33.82'.  (x) 25.7.1957.

2. TREATMENTS:
   Same as in expt. no. 55(79) on page 278.

3. DESIGN:
   (i) R.B.D.  
   (ii) (a) 4.  (b) N.A.  
   (iii) 8.  
   (iv) (a) 29'x18'.  (b) 20'x10'.  (v) 41'x3'.  
   (vi) 4'x3'.  
   (vii) Yes.

4. GENERAL:
   Same as in expt. no. 55(79) on page 278.

5. TREATMENTS:
   (i) 14402 lb./ac.  
   (ii) 1160 lb./ac.  
   (iii) Treatment differences are not significant.  
   (iv) Av. yield of tuber in lb./ac.
   
   Treatment 1 2 3 4
   Av. yield 13955 14438 14341 14872
   S.E./mean = 389 lb./ac.
Crop :- Potato (Summer).
Object :- To study the effect of Mg on Potato.

1. BASAL CONDITIONS :
   (i) (a) Lupin-Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 8.4.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18°×9°. (e) 1. (v) 5 tons/ac. of F.Y.M. +1946 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Unirrigated. (viii) Hoeing, 2 weedings and 1 earthing. (ix) 41.33°. (v) 12.9.1958.

2. TREATMENTS :
   Same as in expt. no. 55(79) on page 278.

3. DESIGN :
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 8. (iv) (a) 29°×18°. (b) 20°×12°. (v) 4 ft×3 ft left as border. (vi) Yes.

4. GENERAL :
   Same as in expt. no. 55(79) on page 278.

5. RESULTS :
   (i) 6531 lb./ac. (ii) 1977 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

   Treatment | 1 | 2 | 3 | 4
   Av. yield  | 6784 | 6262 | 6613 | 6466
   S.E./mean = 699 lb./ac.

---

Crop :- Potato (Main crop).
Object :- To study the effect of Mg on Potato.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 2.4.1955. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18°×9°. (e) 1. (v) 5 tons ac. of F.Y.M. (vi) Great Scot. (vii) Unirrigated. (viii) Weeding and 1 earthing. (ix) 38.15°. (x) 29.7.1957.

2. TREATMENTS :
   1. Control.
   2. MgSO₄ at 10 lb./ac. in 100 gallons of water 45 days after planting.
   3. MgSO₄ at 10 lb./ac. in 100 gallons of water in 2 doses 45 and 60 days after planting.
   4. MgSO₄ at 20 lb/ac. in 100 gallons of water 45 days after planting.
   Treatments applied as foliar spray.

3. DESIGN :
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 1/133.3 ac. (b) 1/200 ac. (v) and (vi) Yes.

4. GENERAL :
   (i) Satisfactory. (ii) Nil. (iii) Tuber yield. (v) (a) 1955—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :
   (i) 1423 lb./ac. (ii) 876 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of tuber in lb./ac.

   Treatment | 1 | 2 | 3 | 4
   Av. yield  | 13700 | 13350 | 15300 | 14600
   S.E./mean = 438 lb./ac.
Crop: Potato (Summer).

Object: To study the effect of Mg on Potato.

1. BASAL CONDITIONS:
   (i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 5.4.1956. (iv) (a) 3 ploughings. (b) Planting in furrows. (c) 2000 lb./ac. (d) 24°×9°. (e) N.A. (v) 5000 lb./ac. of G.L. + 1946 lb./ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Hoeing, weeding and earthing. (ix) 50.75°. (x) 18.9.1956.

2. TREATMENTS:
   1. Control.
   2. MgSO₄ at 10 lb./ac. in 100 gallons of water 45 days after planting.
   3. MgSO₄ at 10 lb./ac. in 100 gallons of water in 2 doses, 45 and 60 days after planting.
   4. MgSO₄ at 20 lb./ac. in 100 gallons of water in 2 doses, 45 and 60 days after planting.

   Treatments applied as foliar spray.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 8. (iv) (a) 1/100 ac. (b) 1/200 ac. (v) 2 rows around. (vi) Yes.

   GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1956-1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 13000 lb./ac. (ii) 1109 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>13150</td>
<td>12850</td>
<td>13100</td>
<td>12900</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>392 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop: Potato (Summer).

Object: To study the effect of Mg on Potato.

1. BASAL CONDITIONS:
   (i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 30.3.1957. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18°×9°. (e) 1. (f) 5 tons/ac. of F.Y.M. + 1946 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Unirrigated. (viii) Weeding and 2 earings. (ix) 40.85°. (x) 13.9.1957.

2. TREATMENTS:
   Same as in exp. no. 56(97) above.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 8. (iv) (a) 29°×18°. (b) 20°×10°6°. (v) 4'×3' left as border. (vi) Yes.

4. GENERAL:
   Same as in exp. no. 56(97) above.

5. RESULTS:
   (i) 12252 lb./ac. (ii) 1645 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>11395</td>
<td>12506</td>
<td>12941</td>
<td>12168</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>582 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1937—N.A. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 1350 lb./ac. (ii) 1258 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>( T_0 )</th>
<th>( T_1 )</th>
<th>( T_2 )</th>
<th>( T_3 )</th>
<th>( T_4 )</th>
<th>( T_5 )</th>
<th>( T_6 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>16983</td>
<td>12672</td>
<td>11862</td>
<td>11797</td>
<td>16335</td>
<td>12770</td>
<td>12089</td>
</tr>
</tbody>
</table>

S.E./mean = 513 lb./ac.

Crop :- Potato (Autumn).  
Ref :- M. 58(116).  
Type :- 'M'.

Object :-To find out the effect of minor elements on Potato.

1. BASAL CONDITIONS:

(i) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 9.9.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18’×9’. (e) L. (v) 5 tons/ac. of F.Y.M +1946 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Unirrigated. (viii) Weeding and earthing. (ix) 12.95’. (x) 24.12.1958.

2. TREATMENTS to 4. GENERAL:

Same as in exp. no. 58(114) on page 283.

5. RESULTS:

(i) 8820 lb./ac. (ii) 1289 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>( T_0 )</th>
<th>( T_1 )</th>
<th>( T_2 )</th>
<th>( T_3 )</th>
<th>( T_4 )</th>
<th>( T_5 )</th>
<th>( T_6 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>13483</td>
<td>6330</td>
<td>7487</td>
<td>6936</td>
<td>12932</td>
<td>7357</td>
<td>7227</td>
</tr>
</tbody>
</table>

S.E./mean = 526 lb./ac.

Crop :- Potato (Autumn).  
Ref :- M. 57(102).  
Type :- 'M'.

Object :-To find out the effect of minor elements on Potato.

1. BASAL CONDITIONS:

(i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 4.9.1957. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18’×9’. (e) N.A. (v) 5 tons/ac. of F.Y.M +1946 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Unirrigated. (viii) Weeding and 2 earthings. (ix) 22.98’. (x) 27.12.1957.

2. TREATMENTS to 4. GENERAL:

Same as in exp. no. 57(101) on page 283.

5. RESULTS:

(i) 6657 lb./ac. (ii) 1497 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>( T_0 )</th>
<th>( T_1 )</th>
<th>( T_2 )</th>
<th>( T_3 )</th>
<th>( T_4 )</th>
<th>( T_5 )</th>
<th>( T_6 )</th>
<th>( T_7 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>6996</td>
<td>6996</td>
<td>6864</td>
<td>6600</td>
<td>5940</td>
<td>5808</td>
<td>7392</td>
<td></td>
</tr>
</tbody>
</table>

S.E./mean = 611 lb./ac.
Crop : Potato (Summer).

Object :—To find out the effect of minor elements on Potato.

1. BASAL CONDITIONS :
   (i) (c) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 26.3.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) 1. (v) 5 tons/ac. of F.Y.M.+1946 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Unirrigated. (viii) Weeding and earthing. (ix) 35.58". (x) 7.8.1958.

2. TREATMENTS :
   Same as in exp. no. 57(102) on page 284.

3. DESIGN and 4. GENERAL :
   Same as in exp. no. 58(114) on page 283.

5. RESULTS :
   (i) 13464 lb./ac. (ii) 3050 lb.fac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

   Treatment
   \[ \begin{array}{cccccc}
   T_0 & T_1 & T_2 & T_3 & T_4 & T_5 & T_6 \\
   12640 & 13677 & 13904 & 13871 & 12575 & 13321 & 14260 \\
   \end{array} \]

   S.E./mean = 1245 lb./ac.

Crop : Potato (Summer).
Ref : M. 58(115).
Type : 'M'.

Object :—To find out the effect of minor elements on Potato.

1. BASAL CONDITIONS :
   (i) (c) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 26.3.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) 1. (v) 5 tons/ac. of F.Y.M.+1946 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Unirrigated. (viii) Weeding and earthing. (ix) 35.58". (x) 7.8.1958.

2. TREATMENTS :
   Same as in exp. no. 57(102) on page 284.

3. DESIGN and 4. GENERAL :
   Same as in exp. no. 58(114) on page 283.

5. RESULTS :
   (i) 11672 lb./ac. (ii) 1193 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

   Treatment
   \[ \begin{array}{ccccccc}
   T_0 & T_1 & T_2 & T_3 & T_4 & T_5 & T_6 \\
   12121 & 11603 & 11214 & 11344 & 11181 & 12154 & 12089 \\
   \end{array} \]

   S.E./mean = 487 lb./ac.

Crop : Potato (Autumn).
Ref : M. 58(117).
Type : 'M'.

Object :—To study the comparative merits of different G.M. crops on Potato.

1. BASAL CONDITIONS :
   (i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 2.9.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) 1. (v) 5 tons/ac. of F.Y.M.+1946 lb./ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Weeding and earthing. (ix) 12.95". (x) 26.12.1958.

2. TREATMENTS :
   Same as in exp. no. 57(102) on page 284.

3. DESIGN and 4. GENERAL :
   Same as in exp. no. 58(114) on page 283.

5. RESULTS :
   (i) 11672 lb./ac. (ii) 1193 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

   Treatment
   \[ \begin{array}{ccccccc}
   T_0 & T_1 & T_2 & T_3 & T_4 & T_5 & T_6 \\
   12121 & 11603 & 11214 & 11344 & 11181 & 12154 & 12089 \\
   \end{array} \]

   S.E./mean = 487 lb./ac.
1. BASAL CONDITIONS:
   (i) (a) Lupin—Potato. (b) As per treatments. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad.
   (iii) 10.4.1957. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"×9". (e) I. (v) 1946 lb./ac. of Nanjanad mixture. (vi) Great Scot. (vii) Unirrigated. (viii) 1 weeding and 2 earthings. (ix) 38.57°. (x) 6.8.1957.

2. TREATMENTS:
   4 Green manures: G₀ = Fallow, G₁ = Lupin, G₂ = Buckwheat, and G₃ = Rye.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) and (b) 22′×10′. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) 1957—1960. (b) No. (c) Nil. (v) (a) and (b, Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1223 lb./ac. (ii) 1593 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>G₀</th>
<th>G₁</th>
<th>G₂</th>
<th>G₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>11400</td>
<td>12700</td>
<td>12800</td>
<td>12033</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>650 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Potato (Autumn).  
Object :- To study the comparative merits of different G.M. crops on Potato.

---

Crop :- Potato (Summer).  
Ref :- M. 57(100).  
Type :- 'M'.

Object :- To study the comparative merits of different G.M. crops on Potato.
1. **BASAL CONDITIONS**

   (i) (a) and (b) As per treatments. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 20.3.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb/ac. (d) 18'x9". (e) 1. (v) 1946 lb/ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) 2 earthings and 2 weedings. (ix) 35.5°. (x) 25.7.1958.

2. **TREATMENTS**

   Same as in expt. no 57(99) on page 285.


3. **DESIGN and GENERAL**

   Same as in expt. no. 57(99) on page 285.

4. **RESULTS**

   (i) 1211 lb/ac. (ii) 3229 lb/ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb/ac.

   $$\begin{array}{cccc}
   \text{Treatment} & G_0 & G_1 & G_2 & G_3 \\
   \text{Av. yield} & 11286 & 12573 & 12672 & 11913 \\
   \text{S.E}/\text{mean} & 1318 & 1318 & 1318 & 1318 \\
   \end{array}$$

   **Crop :- Potato (Autumn).**

   **Site :- Agri. Res. Stn., Nanjanad.**

   **Object :-** To study the comparative merits of different G.M. on Potato.

5. **BASAL CONDITIONS**

   (i) (a) and (b) As per treatments. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 2.9.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb/ac. (d) 18'x9". (e) 1. (v) 1946 lb/ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) 2 weedings and 1 earthing. (ix) 12.95°. (x) 29.8.1959.

2. **TREATMENTS**

   Same as in expt. no 57(99) on page 285.

   G.M. sown on 8.4.1958, G1, G2 and G3 incorporated on 7.8.1958, 27.5.1958 and 7.6.1958 respectively.

3. **DESIGN and GENERAL**

   Same as in expt. no. 57(99) on page 285.

4. **RESULTS**

   (i) 11526 lb/ac. (ii) 947 lb/ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb/ac.

   $$\begin{array}{cccc}
   \text{Treatment} & G_0 & G_1 & G_2 & G_3 \\
   \text{Av. yield} & 11534 & 12062 & 11204 & 11303 \\
   \text{S.E}/\text{mean} & 387 & 387 & 387 & 387 \\
   \end{array}$$

   **Crop :- Potato (Summer).**

   **Site :- Agri. Res. Stn., Nanjanad.**

   **Object :-** To study comparative merits of different G.M. crops on Potato.

5. **BASAL CONDITIONS**

   (i) (a) and (b) As per treatments. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 30.3.1959. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb/ac. (d) 18'x9". (e) 1. (v) 1946 lb/ac. of Nanjanad mixture. (vi) Great Scot. (vii) Unirrigated. (viii) Weeding and earthing. (ix) 54.5°. (x) 29.8.1959.

2. **TREATMENTS**

   Same as in expt. no 57(99) on page 285.

3. DESIGN and 4. GENERAL:
Same as in expt. no. 57(99) on page 285.

5. RESULTS:
(i) 12,722 lb./ac. (ii) 1723 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>G₀</th>
<th>G₁</th>
<th>G₂</th>
<th>G₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>11748</td>
<td>13893</td>
<td>13860</td>
<td>11385</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>703 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

_Crop :- Potato (Autumn)._  
_Site :- Agri. Res. Stn., Nanjanad._  
Object :- To study the comparative merits of different G.M. on Potato.

1. BASAL CONDITIONS:
(i) (a) and (b) As per treatments. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 2.9.1959. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18”x9”. (e) 1. v, 1946 lb./ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Weeding and earthing. (ix) 24.22.

2. TREATMENTS:
Same as in expt. no. 57(99) on page 285.


3. DESIGN and 4. GENERAL:
Same as in expt. no. 57(99) on page 285.

5. RESULTS:
(i) 8390 lb./ac. (ii) 775 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>G₀</th>
<th>G₁</th>
<th>G₂</th>
<th>G₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>8118</td>
<td>8283</td>
<td>8415</td>
<td>8745</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>316 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

_Crop :- Potato (Summer)._  
_Site :- Agri. Res. Stn., Nanjanad._  
Object :- To find out the optimum depth of cultivation for planting Potatoes.

1. BASAL CONDITIONS:
(i) (a) Potato—Lupin. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 7.4.1957. (iv) (a) As per treatments. (b) Placement in furrows. (c) N.A. (d) 2”x9”. (e) —. (v) 1946 lb./ac. of Nanjanad mixture applied at the time of planting in furrows. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Hoeing, weeding and earthing. (ix) 33.41. (x) 25.7.1957.

2. TREATMENTS:
4 depths of cultivation: D₁=4", D₂=6", D₃=9" and D₄=12".
D₁ was with guddalies where as D₂ to D₄ were with digging fork.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) 86’x11’. (iii) 6. (iv) (a) 1/200 ac. (b) 1/400 ac. (v) Yes and (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Germination count, height of plant, yield and weight of different grades. (iv) (a) 1957—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.
5. RESULTS:
(i) 13,012 lb./ac. (ii) 2038 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>12567</td>
<td>13333</td>
<td>13267</td>
<td>13000</td>
</tr>
</tbody>
</table>

S.E./mean = 832 lb./ac.

Crop :- Potato.

Object :- To find out the optimum depth of cultivation for planting Potato.

1. BASAL CONDITIONS:
(i) (a) Potato—Lupin. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 2.4.1958.
(iv) (a) As per treatments. (b) In ridges and furrows. (c) N.A. (d) 2' x 9'. (e) N.A. (v) 1946 lb./ac. of Nanjanad mixture applied at the time of planting in furrows. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Hoeing, weeding and earthing. (ix) 32.85". (x) 23.7.1958.

2. TREATMENTS to 4. GENERAL:
Same as in exp't no. 57(53) on page 288.

5. RESULTS:
(i) 16,545 lb./ac. (ii) 2121 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>13133</td>
<td>12800</td>
<td>12666</td>
<td>13933</td>
</tr>
</tbody>
</table>

S.E./mean = 680 lb./ac.

Crop :- Potato (Summer).

Object :- To find out the optimum depth of cultivation for planting Potato.

1. BASAL CONDITIONS:
(i) (a) Potato—Lupin. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 15.4.1959.
(iv) (a) As per treatments. (b) In ridges and furrows. (c) N.A. (d) 2' x 9'. (e) N.A. (v) 1946 lb./ac. of Nanjanad mixture applied at the time of planting in furrows. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Hoeing, weeding and earthing. (ix) 55.82". (x) 9.9.1959.

2. TREATMENTS:
3 depths of cultivation: D1=4" with firefly plough, D2=6" with Victory plough and D3=9" with digging fork.

3. DESIGN:
(i) R.B.D. (ii) (a) 3. (b) 86' x 11'. (iii) 8. (iv) (a) 1/50 ac. (b) 1/100 ac. (v) and (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Tuber yield and weight measurement. (iv) (a) 1957—contd. (modified in 1959). (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 16,545 lb./ac. (ii) 2121 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.
Crop :- Potato (Summer).

Object :- To determine the best combination of size of seed and row spacing for Potato.

1. BASAL CONDITIONS:
- (i) 'a' Lupin—Potato. 'b' Lupin. 'c' Nil. 'd' (a) Laterite. (b) Refer soil analysis, Nanjanad. 
  (ii) 10.4.1957. 'e' (a) 3 ploughings. 'f' N.A. 'g' and 'd' As per treatments. 'h' —. v 1946 b.ac.
  of Nanjanad mixture. 'i' Great Scot (medium). 'j' Unirrigated. 'k' Hoeing, weeding and earthing. 
  (ix) 33.64'. 'x' 30.7.1957.

2. TREATMENTS:
- All combinations of (1), '2', and '3'
  - (1) 4 seed sizes: S = 0.5, S2 = 1.0, S3 = 1.5 and S4 = 2.0 oz.
  - (2) 4 row spacings: R1 = 12", R2 = 16", R3 = 20" and R4 = 24".
  - (3) 4 plant spacings: L1 = 6", L2 = 9", L3 = 12" and L4 = 15".

3. DESIGN:
- (i) Fact. in R.B.D. (ii) 64. (b) 144'. (iii) 2. (iv) (a) and (b) 14'×8'. (v) Nil. (vi) Yes

4. GENERAL:
- (i) Satisfactory. (ii) Nil. ' (iii) Tubber yield. (iv) (a) 1957—1959. 'b' No. 'c' Nil. (v, vi, vili) Nil.

5. RESULTS:
- (i) 18,572 lb./ac. (ii) 2829 lb./ac. (iii) Main effects of L, S and R are highly significant. Interactions are 
  not significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>L4</th>
<th>Mean</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>24300</td>
<td>20700</td>
<td>18650</td>
<td>15600</td>
<td>19813</td>
<td>14000</td>
<td>18600</td>
<td>23500</td>
</tr>
<tr>
<td>R2</td>
<td>24250</td>
<td>19350</td>
<td>18480</td>
<td>16650</td>
<td>19763</td>
<td>13200</td>
<td>20700</td>
<td>21300</td>
</tr>
<tr>
<td>R3</td>
<td>23000</td>
<td>21100</td>
<td>17350</td>
<td>16300</td>
<td>19438</td>
<td>13500</td>
<td>20900</td>
<td>20700</td>
</tr>
<tr>
<td>R4</td>
<td>17750</td>
<td>15050</td>
<td>15250</td>
<td>13100</td>
<td>15275</td>
<td>10300</td>
<td>15600</td>
<td>17000</td>
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<tr>
<td>Mean</td>
<td>22325</td>
<td>19050</td>
<td>17500</td>
<td>15413</td>
<td>18572</td>
<td>12850</td>
<td>18950</td>
<td>20625</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 500 lb. ac.
S.E. of body of any table = 1000 lb. ac.

Crop :- Potato (Autumn).

Object :- To determine the best combination of size of seed and row spacing for Potato.

Ref :- M. 57(111).
Type :- ‘C’.
1. BASAL CONDITIONS:
   (i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 29.8.1957. (iv) 3 ploughings. (b) N.A. (c) and (d) As per treatments. (a) — (v) 1946 lb./ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Hoeing, weeding and earthing. (ix) 25.01°. (x) 6.1.1958.

TREATMENTS to 4. GENERAL:
Same as in exp. no 57(111) on page 290.

5. RESULTS:
(i) 11855 lb./ac. (ii) 2087 lb./ac. (iii) Main effects of L, S and R are highly significant. Interactions are not significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>L4</th>
<th>Mean</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>16150</td>
<td>13950</td>
<td>11725</td>
<td>12100</td>
<td>13481</td>
<td>11700</td>
<td>12075</td>
<td>14675</td>
</tr>
<tr>
<td>R2</td>
<td>16025</td>
<td>13025</td>
<td>12700</td>
<td>10725</td>
<td>13119</td>
<td>9250</td>
<td>11425</td>
<td>14275</td>
</tr>
<tr>
<td>R3</td>
<td>13200</td>
<td>10875</td>
<td>10650</td>
<td>10500</td>
<td>11306</td>
<td>7875</td>
<td>11325</td>
<td>12025</td>
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<tr>
<td>R4</td>
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<td>9725</td>
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<td>7325</td>
<td>9513</td>
<td>6950</td>
<td>8675</td>
<td>10700</td>
</tr>
<tr>
<td>Mean</td>
<td>14375</td>
<td>11894</td>
<td>10988</td>
<td>10163</td>
<td>11855</td>
<td>8944</td>
<td>10875</td>
<td>12919</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 369 lb./ac.
S.E. of body of any table = 738 lb./ac.

Crop : Potato (Summer).
Object : To determine the best combination of size of seed and row spacing for Potato.

Ref : M. 58(131).
Type : 'C'.

1. BASAL CONDITIONS:
   (i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 29.3.1958. (iv) 3 ploughings. (b) N.A. (c) and (d) As per treatments. (vi) 1946 lb./ac. of Nanjanad mixture. (vii) Unirrigated. (viii) Hoeing, weeding and earthing. (ix) 25.01°. (x) 5.8.1958.

2. TREATMENTS to 4. GENERAL:
Same as in exp. no. 57(111) on page 290.

5. RESULTS:
(i) 14546 lb./ac. (ii) 2901 lb./ac. (iii) Main effects of L, S and R are highly significant. Interactions are not significant. (iv) Av. yield of tuber in lb./ac.
Crop :- Potato (Autumn).
Object :- To determine the best combination of size of seed and row spacing for Potato.

1. BASAL CONDITIONS:
(i) (a) Lupin—Potato. b) Lupin. (c) Nil. (ii) (a) Laterite. b) Refer soil analysis, Nanjanad. (ii) 4.9.1958. (iv) a) 3 ploughings. b) N.A. (c) and (d) As per treatments. c) —. v 1946 lb. ac. of Nanjanad mixture. (vi) Great Scot ‘medium’. (vii) Unirrigated. (viii) Hoeing, weeding and earthing.

1. TREATMENTS to 4. GENERAL:
Same as in expt. no. 57(11) on page 290.

5. RESULTS:
(i) 13269 lb./ac. (ii) 1403 lb./ac. iii) Main effects of L, S and R and interaction R x L are highly significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>L4</th>
<th>Mean</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
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<td>1575</td>
<td>15575</td>
<td>11650</td>
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<td>R2</td>
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<td>16025</td>
</tr>
<tr>
<td>R3</td>
<td>15775</td>
<td>13150</td>
<td>11250</td>
<td>11275</td>
<td>12863</td>
<td>9400</td>
<td>12605</td>
<td>16750</td>
</tr>
<tr>
<td>R4</td>
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<td>9150</td>
<td>10275</td>
<td>7225</td>
<td>9875</td>
<td>11200</td>
</tr>
<tr>
<td>Mean</td>
<td>15781</td>
<td>13594</td>
<td>12619</td>
<td>11081</td>
<td>13269</td>
<td>10038</td>
<td>12544</td>
<td>14406</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 513 lb./ac.
S.E. of body of any table = 1026 lb./ac.
Object: To determine the best combination of size of seed and row spacing for Potato.

1. BASAL CONDITIONS:
   (i) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 28.3.1959. (iv) (a) 3 ploughings. (b) N.A. (c) and (d) As per treatments. (e) N.A. (v) 1946 lb./ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Weeding and earthing twice. (ix) 55.25”. (x) 30.8.1959.

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 57(111) on page 290.

5. RESULTS:
   (i) 11619 lb./ac. (ii) 3426 lb./ac. (iii) Main effects of L, S and R are highly significant. (iv) Av. yield of tuber in lb./ac.
Crop :- Potato (Autumn).


Object :- To study the effect of pre-treatment of Potato seed with growth regulating chemicals.

1. BASAL CONDITIONS:
   (i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 1.9.1957. (iv) 'a' 3 Ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18'' x 9''. (e) 1. (v) 5 tons ac. of F.Y.M. + 1946 lb./ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (vii) Weeding and earthing. (ix) 22.98. (x) 18.12.1957.

2. TREATMENTS:
   1. Control : soaking in water.
   2. % naphthalene acetic acid 25 ppm.
   3. % naphthalene acetic acid 50 ppm.
   4. % indolyl acetic acid 50 ppm.
   5. % butyric acid 50 ppm.

   The tubers were soaked in the chemicals for 6 hours.

3. DESIGN:
   (i) R.B.D. (ii) 'a' 9. (b) N.A. (iii) 6. (iv) (a) and (b) 11' x 10'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1957—1958. (b) No. (c) Nil. v. to (vii) Nil.

5. RESULTS:
   (i) 8712 lb./ac. (ii) 1548 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

   Treatment
<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>7590</td>
<td>8514</td>
<td>8448</td>
<td>9636</td>
<td>8580</td>
<td>8712</td>
<td>9438</td>
<td>9108</td>
<td>8382</td>
</tr>
</tbody>
</table>

   S.E./mean = 632 lb./ac.

---

Crop :- Potato (Autumn).


Object :- To study the effect of pre-treatment of Potato seed with growth regulating chemicals.
1. **BASAL CONDITIONS:**

   (i) (a) Lupin—Potato. (b) Lupin. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Nanjanad. (iii) 26.8.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 4500 lb./ac. (d) 18"x9". (e) 1. (v) 5 tons/ac. of F.Y.M.+1946 lb./ac. of Nanjanad mixture. (vi) Great Scot (medium). (vii) Unirrigated. (viii) Weeding and 1 earthing. (ix) 15.68". (x) 21.12.1958.

2. **TREATMENTS:**

   Same as in expt. no. 57(103) on page 294.

3. **DESIGN:**

   (i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 6. (iv) (a) and (b) 18"x6". (v) Nil. (vi) Yes.

4. **GENERAL:**

   Same as in expt. no. 57(103) on page 294.

5. **RESULTS:**

   (i) 12257 lb./ac. (ii) 1680 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

   Treatment
<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
</table>
   Av. yield | 12234 | 12369 | 12571 | 12705 | 11764 | 12302 | 12167 | 12369 | 11831 |
   S.E./mean = 686 lb./ac.

---

_Crop:_ Sweet Potato.  
_Site:_ Agri. College & Res. Instt., Coimbatore.  
_Ref:_ M. 54(109).  
_Type:_ 'M'.

Object:—To determine a suitable manural schedule for Sweet Potato.

1. **BASAL CONDITIONS:**

   (i) (a), Nil. (b) Sannhemp. (c) Nil. (ii) (a) Stiff clay. (b) Refer soil analysis, Coimbatore. (iii) 26 to 28.11.1954. (iv) 4 ploughings, working Cambridge roller and ridge plough once. (b) N.A. (c) 20,000 cuttings/ac. (d) 2"x6". (e) N.A. (v) As per treatments. (vi) V—6. (vii) Irrigated. (viii) Weeding twice. (ix) N.A. (x) 9 to 14.5.1955.

2. **TREATMENTS:**

   **Main-plot treatments:**

   3 levels of B.D.: B₀—No B.D., B₁—F.Y.M. at 10,000 lb./ac. and B₂=G.L. to supply same N as in B₁.

   **Sub-plot treatments:**

   All combinations of (1) and (2)

   (1) 3 levels of N as A/S : N₃₀=0, N₃₁=50 and N₃₂=100 lb./ac.

   (2) 3 levels of K₂O as Pot. Sul. : K₉₀=0, K₉₁=80 and K₉₂=160 lb./ac.

   **Sub-sub-plot treatments:**

   2 levels of P₂O₅ as Super : P₀=0 and P₁=80 lb./ac.

   N and K applied one month after planting. P applied at planting. Three basal dressings allotted to 6 replications at random so that each treatment covers 2 replications.

3. **DESIGN:**

   (i) Split-plot. (ii) (a) 3 main-plots/replication ; 9 sub-plots/main-plot ; 2 sub-sub-plots/sub-plot. (b) N.A. (iii) 2. (iv) (a) 24"x15". (b) 20"x13". (v) N.A. (vi) Yes.

4. **GENERAL:**

   (i) Satisfactory. (ii) Slight incidence of sweet potato weevil. (iii) Tuber yield. (iv) (a) 1951—58. (b) No. (c) Nil. (v) to (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. **RESULTS:**

   (i) 4471 lb./ac. (ii) (a) 10927 lb./ac. (b) 2174 lb./ac. (c) 1362 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of tuber in lb./ac.
296

| N₀ | B₀  | 2888 | 2828 | 5212 | 4128 | 4193 | 4481 | 4542 | 4512 |
| N₁ | B₁  | 3401 | 5606 | 4342 | 5840 | 4335 | 4642 | 5216 | 4839 |
| N₂ | B₂  | 1665 | 5907 | 3749 | 4171 | 4269 | 4299 | 3828 | 4063 |
| Mean |     | 2651 | 5877 | 4434 | 4713 | 4266 | 4414 | 4529 | 4471 |

| P₀ | 4791 | 2683 | 5767 |
| P₁ | 4981 | 2619 | 5987 |

| K₀ | 4887 | 2692 | 5734 |
| K₁ | 5033 | 2778 | 6229 |
| K₂ | 4737 | 2494 | 5567 |

S.E. of difference of two:
1. B marginal means = 2576 lb./ac.
2. N or K marginal means = 512 lb./ac.
3. P marginal means = 262 lb./ac.
4. B means at the same level of N or K = 2676 lb./ac.

---

Crop: Sweet Potato.

Object: To determine a suitable manural schedule for Sweet Potato.

1. BASAL CONDITIONS:
(i) Nil (b) Sannhemp. (c) Nil (ii) (a) Loamy soil. (b) Refer soil analysis, Coimbatore. (iii) 18, 19.11.1955. (iv) (a) 4 ploughings, passing Cambridge roller and ridging once. (b) N.A. (c) 20,000 cuttings/ac. (d) 2'x6". (e) N.A. 'v' As per treatments. (vi) V—6. (vii) Irrigated. (viii) 2 weedings. (ix) 18.14. (x) 16.4.1956 to 21.4.1956.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 54(109; on page 295

4. GENERAL:
(i) Satisfactory. (ii) Nil (iii) Tuber yield. (iv) (a) 1951—1958. (b) No. (c) Nil. (v) (a) and (b) Nil (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS:
(i) 18785 lb./ac. (ii) (a) 9400 lb./ac. (b) 5243 lb./ac. (c) 2650 lb./ac. (iii) Interaction P×K alone is significant. (iv) Av. yield of tuber in lb./ac.

| B₀ | B₁  | B₂  | P₀  | P₁  | K₀  | K₁  | K₂  | Mean |
| 1747 | 20071 | 18331 | 19026 | 18180 | 17280 | 19809 | 18720 | 18603 |
| 19401 | 19989 | 16999 | 19368 | 19558 | 21680 | 19586 | 17123 | 19463 |
| 17960 | 17660 | 19250 | 17799 | 18781 | 16594 | 19445 | 18831 | 18290 |
| Mean | 18256 | 19240 | 18860 | 18731 | 18840 | 18518 | 19613 | 18225 | 18785 |

---

Ref: M. 55(74).
Type: 'M'.
Crop: Sweet Potato.

Object: To determine an optimum manurial schedule for Sweet Potato.

1. BASAL CONDITIONS:

(i) (a) to (c) N.A. 
(ii) (a) Loamy. 
(b) Refer soil analysis, Coimbatore. 
(iii) 16, 17, 12.1956. 
(iv) (a) 4 ploughings and passing Cambridge roller once. 
(b) N.A. 
(c) 20,000 cuttings/ac. 
(d) 2r x 9\". 
(e) N.A. 
(v) Nil. 
(vi) V-8. 
(vii) Irrigated. 
(viii) 2 weedings. 
(ix) 35.07'. 
(x) 13, 15, 20, 29 and 30.5.1957.

2. TREATMENTS to 4. GENERAL:

Same as in exp. no. 55(74) on page 289.

3. RESULTS:

(i) 16559 lb/ac. 
(ii) (a) 7797 lb/ac. 
(b) 4679 lb/ac. 
(c) 3222 lb/ac. 
(iii) Effects of N and N x B are highly significant. 
Effects of K and N x K are significant. 
(iv) Av. yield of tuber in lb/ac.

<table>
<thead>
<tr>
<th>B0</th>
<th>B1</th>
<th>B2</th>
<th>P0</th>
<th>P1</th>
<th>K0</th>
<th>K1</th>
<th>K2</th>
<th>Mean</th>
</tr>
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<tr>
<td>13844</td>
<td>21611</td>
<td>20679</td>
<td>17810</td>
<td>19613</td>
<td>19551</td>
<td>16237</td>
<td>20346</td>
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<td>18903</td>
<td>15918</td>
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<td>14076</td>
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<td>17199</td>
<td>16437</td>
<td>16680</td>
<td>16358</td>
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<td>18092</td>
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<td>K0</td>
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<td>K2</td>
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<td>16332</td>
<td>16437</td>
<td>16358</td>
<td>15226</td>
<td>18092</td>
</tr>
</tbody>
</table>

4. S.E. of difference of two

1. B marginal means = 2216 lb/ac. 
2. N or K marginal means = 1236 lb/ac. 
3. P marginal means = 510 lb/ac. 
4. N or K means at the same level of B = 2141 lb/ac. 
5. B means at the same level of N or K = 2822 lb/ac. 
6. P means at the same level of B, N or K = 885 lb/ac. 
7. B means at the same level of P = 2303 lb/ac. 
8. N or K means at the same level of P = ' 1386 lb/ac. 

S.E. of body of N x K table = 1514 lb/ac.
2. **TREATMENTS:**

Same as in expno. 54, 109; on page 295.

3. **DESIGN:**

(i) Split-plot. (ii) (a) 3 main-plots/block; 9 sub-plots/main-plot; 2 sub-sub-plots/sub-plot. (b, N.A. (iii, 2. (iv) (a) 25' x 15'. (b) 21' x 10'. (v) Nil. (vi) Yes.

4. **GENERAL:**

(i) Not satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1951-1958. (b) No. (c) Nil. (v) a, and (b, Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. **RESULTS:**

(i) 4083 lb./ac. (ii) (a) 4028 lb./ac. (b) 263 lb./ac. (c) 2537 lb./ac. (iii) Main effect of N alone is highly significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>B0</th>
<th>B1</th>
<th>B2</th>
<th>P0</th>
<th>P1</th>
<th>K0</th>
<th>K1</th>
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<td>4379</td>
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<td>3018</td>
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</tr>
</tbody>
</table>

S.E. of difference of two
1. B marginal means
2. N or K marginal means
3. P marginal means
4. N or K means at the same level of B

Crop :- Sweet Potato.

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

Ref :- M. 58(92).

Type :- 'M'.

Object :- To determine a suitable manurial schedule for Sweet Potato.

1. **BASAL CONDITIONS:**

(i) (a) to (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 21, 22.10.1958. (iv) (a) 4 ploughings; passing Cambridge roller once and ridge plough once. (b) N.A. (c) 20,000 cuttings ac. (d) 21' x 9'. (e) N.A. (v) Nil. (vi) V-8. (vii) Irrigated. (viii) Weeding twice. (ix) 25.21'. (x) 18.3.1959 to 27.3.1959.

2. **TREATMENTS to 4. GENERAL:**

Same as in expno. 55, 74; on page 296.

5. **RESULTS:**

(i) 25138 lb./ac. (ii) (a) 9165 lb./ac. (b) 6792 lb./ac. (c) 2887 lb./ac. (iii) Interaction PxB alone is significant. (iv) Av. yield of tuber in lb./ac.
Crop: Sweet Potato.

Object: To study the performance of crops raised from vines planted horizontally and vertically.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Sannhemp. (c) Nil. (ii) (a) Stiff clay. (b) Refer soil analysis, Coimbatore. (iii) 14.11.1954. (iv) (a) 4 ploughings; Cambridge roller passed to break up the clods and ridging. (b) As per treatments. (c) to (e) N.A. (v) 5.7 tons/ac. of F.Y.M. applied at the time of last ploughing. (vi) V—6. (vii) Irrigated. (viii) 2 weedings. (ix) 28.34". (x) 17.3.1955.

2. TREATMENTS:
   1. Planting vines erect.
   2. Planting vines horizontally.

3. DESIGN:
   (i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 10. (iv) (a) 22'×6'. (b) 20'×2'. (v) 2 rows left as border. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Slight infection by sweet potato weevil. (iii) Tuber yield. (iv) (a) 1950—contd. (b) No. (c) Nil. (v) (a) and (b) No. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS:
   (i) 2327.5 lb./ac. (ii) 524.3 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2069</td>
<td>2586</td>
</tr>
</tbody>
</table>

S.E./mean = 165.8 lb./ac.
Crop :- Sweet Potato. Ref :- M. 56(7).
Site :- Agri. College & Res. Instt., Coimbatore. Type :- 'C'.

Object :- To test the effect of pruning vines on the yield of Sweet Potato.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 9.12.1956. (iv) (a) 4 ploughings. (b) N.A. (c) 21000 cuttings/ac. (d) 2\'\times9\'. (e) N.A. (v) 5 tons/ac. of F.Y.M. applied before the last ploughing. (vi) V—8. (vii) Irrigated. (viii) 2 weedings. (ix) 25.38\'. (x) 30.4.1957.

2. TREATMENTS:
   1. No treatment.
   2. Vines pruned to 1'.
   3. Vines pruned to 2'.
   4. Vines pruned to 3'.
   5. Vines not pruned but merely rolled.

3. DESIGN:
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 30'\times9'. (b) 25'\times6'. (v) 2'\times1'. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1956—contd. (b) No. (c) N.A. (v) (a) and (b); Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS:
   (i) 20411 lb/ac. (ii) 2490 lb/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in lb/ac.

   Treatment
   1 2 3 4 5
   Av. yield 22787 18610 21223 24031 15403
   S.E./mean = 1016 lb/ac.

Crop :- Sweet Potato. Ref :- M. 57(1).
Site :- Agri. College & Res. Instt., Coimbatore. Type :- 'C'.

Object :- To test the effect of pruning vines on the yield of Sweet Potato

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 13.10.1957. (iv) (a) 4 ploughings; passing Cambridge roller once. (b) N.A. (c) 21000 cuttings/ac. (d) 2\'\times9'. (e) N.A. (v) 5 tons/ac. of F.Y.M. applied before the last ploughing. (vi) V—8. (vii) Irrigated. (viii) 2 weedings. (ix) 35.07'. (x) 28.2.1958.

2. TREATMENTS:
   4. GENERAL
   Sam: as in expt. no. 56(7) above.

5. RESULTS:
   (i) 6909 lb/ac. (ii) 1914 lb/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in lb/ac.

   Treatment
   1 2 3 4 5
   Av. yield 7365 6647 7533 9107 3891
   S.E./mean = 781 lb/ac.
Crop :- Sweet Potato.  
Ref :- M. 58(95).  
Site :- Agri. College & Res. Instt., Coimbatore.  
Type :- 'C'.

Object :- To test the effect of pruning vines on the yield of Sweet Potato.

1. BASAL CONDITIONS :
   (i) (a) to (c) N.A.  (ii) (a) Loamy.  (b) Refer soil analysis, Coimbatore.  (iii) 3, 4.10.1958.  (iv) 4 ploughings; passing Cambridge roller once.  (b) N.A.  (c) 20000 cuttings/ac.  (d) 2½' x 9'.  (e) N.A.  (v) 5 tons/ac. of F.Y.M. applied before the last ploughing.  (vi) V—8.  (vii) Irrigated.  (viii) Weeding twice.  (ix) 25.21'.  (x) 27, 28.2.1959.

2. TREATMENTS to 4. GENERAL :
   Same as in expt. no. 56(7) on page 302.

5. RESULTS :
   (i) 26,304 lb./ac.  (ii) 4185 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of tuber in lb./ac.

<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>24853</td>
</tr>
<tr>
<td>3</td>
<td>26688</td>
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<tr>
<td>4</td>
<td>27874</td>
</tr>
<tr>
<td>5</td>
<td>22704</td>
</tr>
</tbody>
</table>

S.E./mean = 1708 lb./ac.

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Crop :- Sweet Potato.  
Ref :- M. 56(8).  
Site :- Agri. College & Res. Instt., Coimbatore.  
Type :- 'C'.

Object :- To find out the effect of disturbing the vines on the yield of Sweet Potato.

1. BASAL CONDITIONS :
   (i) (a) Nil.  (b) and (c) N.A.  (ii) (a) Loamy.  (b) Refer soil analysis, Coimbatore.  (iii) 3, 12.1956.  (iv) 4 ploughings.  (b) N.A.  (c) 21000 cuttings/ac.  (d) 2¼' x 9'.  (e) N.A.  (v) 5 tons/ac. of F.Y.M. applied before the last ploughing.  (vi) V—8.  (vii) Irrigated.  (viii) 2 weedings.  (ix) 25.38'.  (x) 29.4.1957.

2. TREATMENTS :
   5 levels of disturbing the vines : D_0=0, D_1=2, D_2=4, D_3=6 and D_4=8 times.

3. DESIGN and 4. GENERAL :
   Same as in expt. no. 56(7) on page 302.

5. RESULTS :
   (i) 14,686 lb./ac.  (ii) 3864 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>14791</td>
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<tr>
<td>2</td>
<td>16069</td>
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<tr>
<td>3</td>
<td>13116</td>
</tr>
<tr>
<td>4</td>
<td>14701</td>
</tr>
<tr>
<td>5</td>
<td>14750</td>
</tr>
</tbody>
</table>

S.E./mean = 1577 lb./ac.

---

Crop :- Sweet Potato.  
Ref :- M. 57(2).  
Site :- Agri. College & Res. Instt., Coimbatore.  
Type :- 'C'.

Object :- To determine the effect of disturbing the vines on the yield of tuber.

1. BASAL CONDITIONS :
   (i) (a) Nil.  (b) and (c) N.A.  (ii) (a) Loamy.  (b) Refer soil analysis, Coimbatore.  (iii) 12.10.1957.  (iv) 4 ploughings and passing Cambridge roller once to break the clods.  (b) N.A.  (c) 21000 cuttings/ac.  (d) 2½' x 9'.  (e) N.A.  (v) 5 tons/ac. of F.Y.M. applied before the last ploughing.  (vi) V—8.  (vii) Irrigated.  (viii) 2 weedings.  (ix) 35.07'.  (x) 26.2.1958.
TREATMENTS:
Same as in exp. no. 56 8. on page 303.

DESIGN:
Same as in exp. no. 56 7. on page 302.

GENERAL:
(i) Not satisfactory.  (ii) Nil.  (iii) Tuber yield.  (iv) (a) 1956—contd. (b) N.A. (c) Nil.  (v) (a) and (b) Nil., (vi) Nil.  (vii) Exp. was conducted by Horticulutrist, Coimbatore.

RESULTS:
(i) 6154 lb. ac.  (ii) 1850 lb. ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of tuber in lb. ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
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<tr>
<td>Av. yield</td>
<td>22913</td>
<td>25763</td>
<td>23595</td>
<td>21591</td>
<td>22869</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 1208 lb. ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

Crop :- Sweet Potato.  
Site :- Agri. College & Res. Instt., Coimbatore.  
Ref :- M. 58(96).  
Type :- 'C'.

Object :- To determine the effect of disturbing the vines on the yield of Sweet Potato.

BASAL CONDITIONS:
(i) Nil.  (b) Sainthemp.  (c) Nil.  (d) Loamy.  (e) Refer soil analysis, Coimbatore.  (f) 9.10.1958.  (g) 4 ploughings and passing Cambridge roller once.  (h) N.A.  (i) 20,000 cuttings ac.  (j) 2.  (k) 9.  (l) N.A.  (m) 5 tons. ac. of F.Y.M.  (n) V—8.  (o) Irrigated.  (p) Weeding twice.  (q) 25.21.  (r) 2.  (s) 3.3.1959.

TREATMENTS:
Same as in exp. no. 56(8), on page 303.

DESIGN and GENERAL:
Same as in exp. no. 56(7), on page 302.

RESULTS:
(i) 23,315 lb. ac.  (ii) 2293 lb. ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of tuber in lb. ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td>Av. yield</td>
<td>22913</td>
<td>25763</td>
<td>23595</td>
<td>21591</td>
<td>22869</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 1208 lb. ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Sweet Potato.  
Site :- Agri. College & Res. Instt., Coimbatore.  
Ref :- M. 54(44).  
Type :- 'C'.

Object :- To find out the difference in yield of Sweet Potato raised by using vines from tubers and vines from planting material.

BASAL CONDITIONS:
(i) Nil.  (b) Sainthemp.  (c) Nil.  (d) Loamy.  (e) Refer soil analysis, Coimbatore.  (f) 14.11.1954.  (g) 4 ploughings and working Cambridge roller.  (h) Forming ridges and furrows.  (i) N.A.  (j) 5 to 7 tons. ac. of F.Y.M. applied at the time of last ploughing.  (k) V—6.  (l) Irrigated.  (m) 2 weedings.  (n) 28.34.  (o) 17.3.1955.

TREATMENTS:
1. Planting vines to raise vines.
2. Planting tubers to raise vines.
Crop :- Sweet Potato.  
Site :- Agri. College & Res. Instt., Coimbatore.  
Ref :- M. 54(45).  
Type :- 'C'.

Object :- To find out the influence of length of cuttings on the final yield of tuber in Sweet Potato.

1. BASAL CONDITIONS :
   (i) (a) Nil.  (b) Sann hemp.  (c) Nil.  (ii) (a) Stiff clay soil.  (b) Refer soil analysis, Coimbatore.  (iii) 19.1.1954.  (iv) (a) Ploughings and breaking of clods by passing Cambridge roller. Forming ridges and furrows.  (b) to (e) N.A.  (v) 5 to 7 tons/ac of F.Y.M. applied at the time of last ploughing.  (vi) V—6.  (vii) Irrigated.  (viii) 2 weedings.  (ix) 28.3.1956.  (x) 26.3.1956.

2. TREATMENTS : 
   2 lengths of vines: L_1=18" (long) and L_2=9" (short).

3. DESIGN : 
   (i) R.B.D.  (ii) (a) 2.  (b) N.A.  (iii) 10.  (iv) (a) 22'×6'.  (b) 20'×2'.  (v) 2 rows left as border.  (vi) Yes.

4. GENERAL : 
   (i) Not satisfactory.  (ii) Nil.  (iii) Tuber yield.  (iv) (a) 1952—contd.  (b) and (c) No.  (v) (a) and (b) Nil.  (vi) Nil.  (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS : 
   (i) 2354 lb./ac.  (ii) 639.2 lb./ac.  (iii) Treatment difference is not significant.  (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>L_1</th>
<th>L_2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2491</td>
<td>2219</td>
</tr>
</tbody>
</table>

S.E./mean = 202.6 lb./ac.

---

Crop :- Sweet Potato.  
Site :- Agri. College & Res. Instt., Coimbatore.  
Ref :- M. 55(24).  
Type :- 'C'.

Object :- To find out the influence of length of cuttings on the final yield of tuber in Sweet Potato.

1. BASAL CONDITIONS :
   (i) (a) Nil.  (b) and (c) N.A.  (ii) (a) Loamy soil.  (b) Refer soil analysis, Coimbatore.  (iii) 3.11.1955.  (iv) (a) 4 ploughings; passing Cambridge roller.  (b) N.A.  (c) 2000 cuttings/ac.  (d) 2×8'.  (e) N.A.  (v) 5 tons/ac of F.Y.M. applied before the last ploughing.  (vi) V—2.  (vii) Irrigated.  (viii) 2 weedings.  (ix) 18.14'.  (x) 26.3.1956.

2. TREATMENTS to 4. GENERAL : 
   Same as in exp. no. 54(45) above.
5. RESULTS

(i) 24830 lb./ac.  (ii) 2080 lb./ac.  (iii) Treatment difference is significant.  (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>L_1</th>
<th>L_2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>23207</td>
<td>26452</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 658 lb./ac.</td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Sweet Potato.  
Site :- Agri. College & Res. Instt., Coimbatore.  
Ref :- M. 57(39).  
Type :- ‘C’.

Object:- To find out the optimum spacing for Sweet Potato.

1. BASAL CONDITIONS:

(i) (a) Nil.  (b) and (c) N.A.  (ii) (a) Loamy.  (b) Refer soil analysis, Coimbatore.  (iii) 9, 10.10.1957.  (iv) (a) 4 ploughings.  (b) and (c) N.A.  (d) As per treatments.  (e) N.A.  (v) 5 tons/ac. of FYM applied before the last ploughing.  (vi) V-8.  (vii) Irrigated.  (viii) 2 weedings.  (ix) 35.07'.  (x) 10 to 13.3.1958.

2. TREATMENTS:

Main-plot treatments:
3 spacings between rows: R_1 =2', R_2 =2.5' and R_3 =3'.

Sub-plot treatments:
3 spacings within rows: C_1 =6', C_2 =9' and C_3 =12'.

3. DESIGN:

(i) Split-plot.  (ii) (a) 3 main-plots/block; 3 sub-plots/main-plot.  (b) N.A.  (iii) 6.  (iv) (a) N.A.  (b) 30'×6'.  (v) One row left as border.  (vi) Yes.

4. GENERAL:

(i) Satisfactory.  (ii) Nil.  (iii) Tuber yield.  (iv) (a) 1956–1958.  (b) No.  (c) Nil.  (v) (a) and (b) Nil.  (vi) Nil.  (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS:

(i) 19.075 lb./ac.  (ii) 7715 lb./ac.  (iii) None of the effects is significant.  (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>R_1</th>
<th>R_2</th>
<th>R_3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>C_1</td>
<td>20165</td>
<td>20221</td>
<td>20425</td>
<td>20270</td>
</tr>
<tr>
<td>C_2</td>
<td>17998</td>
<td>18413</td>
<td>20201</td>
<td>18871</td>
</tr>
<tr>
<td>C_3</td>
<td>18214</td>
<td>19515</td>
<td>16528</td>
<td>18086</td>
</tr>
<tr>
<td>Mean</td>
<td>18792</td>
<td>19383</td>
<td>19051</td>
<td>19075</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. R marginal means = 2572 lb./ac.
2. C marginal means = 1232 lb./ac.
3. C means at the same level of R = 2134 lb./ac.
4. R means at the same level of C = 3107 lb./ac.
1. BASAL CONDITIONS:
   (i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 22, 29.10.1958.
   (iv) (a) 4 ploughings. (b) N.A. (c) 20,000 cuttings/ac. (d) As per treatments. (e) N.A. (v) 5 tons/ac. of F.Y.M.

2. TREATMENTS:
   Same as in expt. no. 57(39) on page 306.

3. DESIGN:
   (i) Split-plot. (ii) (a) 3 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) 30'X6'. (v) Nil. (vi) Yes.

4. GENERAL:
   Same as in expt. no 57(39) on page 306.

5. RESULTS:
   (i) 28291 lb./ac. (ii) (a) 5953 lb./ac. (b) 5048 lb./ac. (iii) Note of the effects is significant. (iv) Av. yield of tuber 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>C1</td>
<td>27140</td>
<td>27680</td>
<td>26814</td>
<td>27211</td>
</tr>
<tr>
<td>C2</td>
<td>31356</td>
<td>31133</td>
<td>25834</td>
<td>29448</td>
</tr>
<tr>
<td>C3</td>
<td>27605</td>
<td>29105</td>
<td>27934</td>
<td>28215</td>
</tr>
<tr>
<td>Mean</td>
<td>28700</td>
<td>29313</td>
<td>26861</td>
<td>28291</td>
</tr>
</tbody>
</table>

   S.E. of difference of two
   1. R marginal means = 1984 lb./ac.
   2. C marginal means = 1683 lb./ac.
   3. C means at the same level of R = 2915 lb./ac.
   4. R means at the same level of C = 3098 lb./ac.

Crop: Sweet Potato.  Ref: M. 56(46).
Site: Agri. College & Res. Instt., Coimbatore.  Type: 'IC'.

Object: To test the effect of time of planting and frequency of irrigation on Sweet Potato yield.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) As per treatments.
   (iv) (a) 4 ploughings and passing Cambridge roller once to break the clods. (b) to (e) N.A. (v) 5 tons/ac. of F.Y.M. applied before the last ploughing. (vi) V—8. (vii) Irrigated. (viii) 2 weedings. (ix) 25.38°.
   (x) As per treatments.

2. TREATMENTS:
   Main-plot treatments:
   4 dates of planting/harvest: D1=1.10.1956/25.2.1957, D2=15.10.1956/13.3.1957, D3=1.11.1956/28.3.1957
   and D4=15.11.1956/12.4.1957.

   Sub-plot treatments:
   No. of irrigations: I1=4, I2=8 and I3=12 irrigations.

3. DESIGN:
   (i) Split-plot. (ii) (a) 4 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 30'X9'. (b) 25'X6'. (v) 2'/X1'. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield of tuber. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) Nil.
   (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.
5. RESULTS:
(i) 24171 lb./ac. (ii) (a) 2176 lb./ac. (b) 2882 lb./ac. (iii) All the effects are highly significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>D₁</th>
<th>D₂</th>
<th>D₃</th>
<th>D₄</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>I₁</td>
<td>28614</td>
<td>19955</td>
<td>20827</td>
<td>849</td>
<td>19361</td>
</tr>
<tr>
<td>I₂</td>
<td>31010</td>
<td>21044</td>
<td>22327</td>
<td>25826</td>
<td>25052</td>
</tr>
<tr>
<td>I₃</td>
<td>35438</td>
<td>21567</td>
<td>25792</td>
<td>29601</td>
<td>28059</td>
</tr>
<tr>
<td>Mean</td>
<td>31687</td>
<td>20855</td>
<td>22982</td>
<td>21159</td>
<td>24171</td>
</tr>
</tbody>
</table>

S.E. of difference of two:
1. D marginal means = 725 lb./ac.
2. I marginal means = 832 lb./ac.
3. I means at the same level of D = 1664 lb./ac.
4. D means at the same level of I = 1204 lb./ac.

Crop :- Sweet Potato.


Ref :- M. 58(94).

Type :- 'IC'.

Object :- To test the effect of time of planting and frequency of irrigation on Sweet Potato yield.

1. BASAL CONDITIONS:
   (i) Nil. (b) and (c) N.A. (ii) Loamy. (b) Refer soil analysis. Coimbatore. (iii) As per treatments.
   (iv) (a) 4 ploughings and passing Cambridge roller once. (b) N.A. (c) 20,000 cuttings/acre. (d) 2" x 9".
   (e) N.A. (v) 5 tons/ac. of F.Y.M. applied before the last ploughing. (vi) V-8. (vii) Irrigated. (viii) 2 weedings. (ix) 25.21".
   (x) As per treatments.

2. TREATMENTS:

   Main-plot treatments:

   Sub-plot treatments:
   No. of irrigations: I₁ = 4, I₂ = 8 and I₃ = 12 irrigations.

3. DESIGN and 4. GENERAL:
   Same as in exp. no. 56/46; on page 307.

5. RESULTS:

   (i) 17.765 lb./ac. (ii) 6255 lb./ac. (b) 3101 lb./ac. (iii) Main effect of D is significant. Effect of I and interaction D x I are highly significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>D₁</th>
<th>D₂</th>
<th>D₃</th>
<th>D₄</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>I₁</td>
<td>23435</td>
<td>20706</td>
<td>24742</td>
<td>21025</td>
<td>22477</td>
</tr>
<tr>
<td>I₂</td>
<td>24684</td>
<td>16555</td>
<td>15943</td>
<td>14346</td>
<td>17882</td>
</tr>
<tr>
<td>I₃</td>
<td>19660</td>
<td>14288</td>
<td>9641</td>
<td>8160</td>
<td>12937</td>
</tr>
<tr>
<td>Mean</td>
<td>22593</td>
<td>17182</td>
<td>16775</td>
<td>14510</td>
<td>17765</td>
</tr>
</tbody>
</table>

S.E. of difference of two:
1. D marginal means = 2085 lb./ac.
2. I marginal means = 895 lb./ac.
3. I means at the same level of D = 1790 lb./ac.
4. D means at the same level of I = 2547 lb./ac.
**Crop:** Sweet Potato.  
**Site:** Agri. College & Res. Instt., Coimbatore.  
**Ref:** M. 54(30).  
**Type:** 'D'.

Object: To find out the effective insecticide for the control of Sweet Potato weevil.

1. **BASAL CONDITIONS**:
   (i) (a) Nil. (b) and (c) N.A.  
   (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore.  
   (iii) 28.11.1954.  
   (iv) (a) 2 ploughings with country plough and forming ridges. (b) to (e) N.A.  
   (v) 10 tons/ac. of F.Y.M.  
   (vi) V—6 (medium).  
   (vii) Irrigated.  
   (viii) 4 weedings.  
   (ix) 11.03'.  
   (x) 9.5.1955.

2. **TREATMENTS**:
   1. No treatment.  
   2. Aldrin 2.5% dust applied in soil at 20 lb./ac.  
   3. Dieldrin 2.5% dust applied in soil at 20 lb./ac.  
   4. Lindane 0.65% dust applied in soil at 20 lb./ac.  
   5. Aldrin 0.1% spray on foliage.  
   6. Dieldrin 0.1% spray on foliage.  
   7. Lindane 0.1% spray on foliage.

3. **DESIGN**:
   (i) R.B.D.  
   (ii) (a) 7. (b) N.A.  
   (iii) 4.  
   (iv) (a) 17' ×14'. (b) 15' ×10'. (v) 2 rows left as border.  
   (vi) Yes.

4. **GENERAL**:
   (i) Good growth.  
   (ii) Nil.  
   (iii) Tuber yield.  
   (iv) (a) N.A.  
   (b) No.  
   (c) Nil.  
   (v) (a) and (b) Nil.  
   (vi) Nil.  
   (vii) Expt. was conducted by Entomologist, Coimbatore.

5. **RESULTS**:
   (i) 4938 lb./ac.  
   (ii) 1968.9 lb./ac.  
   (iii) Treatment differences are highly significant.  
   (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1735</td>
<td>4538</td>
<td>6984</td>
<td>2338</td>
<td>5314</td>
<td>10911</td>
<td>2744</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>984.5 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**Crop:** Sweet Potato.  
**Site:** Agri. College & Res. Instt., Coimbatore.  
**Ref:** M. 54(47).  
**Type:** 'D'.

Object: To find out the effect of the different insecticides on Sweet Potato weevil.

1. **BASAL CONDITIONS**:
   (i) (a) Nil. (b) Sannhemp. (c) Nil.  
   (ii) (a) Stiff clay soil. (b) Refer soil analysis, Coimbatore.  
   (iii) 28.11.1954.  
   (iv) (a) 4 ploughings; passing Cambridge roller once and ridging up once. (b) to (e) N.A.  
   (v) 5 to 7 tons/ac. of F.Y.M. applied at the time of last ploughing. (vi) V—6. (vii) Irrigated. (viii) 2 weedings.  
   (ix) 28.34'.  
   (x) 2.5.1955.

2. **TREATMENTS** and 3. **DESIGN**:
   Same as in expt. no. 54(30) above.

4. **GENERAL**:
   (i) Satisfactory.  
   (ii) Infestation of sweet potato weevil.  
   (iii) Tuber yield.  
   (iv) (a) 1952—contd. (b) No.  
   (c) Nil.  
   (v) (a) and (b) Nil.  
   (vi) Nil.  
   (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. **RESULTS**:
   (i) 2585 lb./ac.  
   (ii) 1792 lb./ac.  
   (iii) Treatment differences are not significant.  
   (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>4414</td>
<td>4879</td>
<td>900</td>
<td>1016</td>
<td>871</td>
<td>3369</td>
<td>2643</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>896 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop :- Sweet Potato.  
Site :- Agri. College & Res. Instt., Coimbatore.  
Ref :- M. 56(9).  
Type :- 'D'.

Object :- To determine the relative efficacy of different insecticides in minimizing the incidence of Sweet Potato weevil.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) and (c) N.A.  
   (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore.  
   (iv) (a) 4 ploughings. (b) N.A. (c) 21000 cuttings/"ac. (d) 21'×9". (e) N.A. (f) 5 tons/"ac. of F.Y.M. applied before the last ploughing.  
   (vi) V-8. (vii) Irrigated. (viii) 2 weedings. (ix) 25.35°. (x) 8.5.1957.

2. TREATMENTS:
   1. Control (no treatment).
   2. Aldrin 0.1% spray.
   3. Aldrin 2.5% dust.
   4. Dieldrin 0.1% spray.
   5. Dieldrin 1.5% dust.
   6. Endrine 0.1% spray.
   7. Endrine 0.1% dust.

3. DESIGN:
   (i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) 18'×15'. (b) 15'×10'. (v) 1½'×2½'. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Weevil pest observed—control measures as per treatments. (iii) Yield of unaffected tubers. (iv) 1951—cond. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS:
   (i) 3901 lb./"ac.  
   (ii) 2266 lb./"ac.  
   (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./"ac.

   Treatment | 1 | 2 | 3 | 4 | 5 | 6 | 7
---|---|---|---|---|---|---|---
Av. yield | 581 | 1742 | 4138 | 5733 | 5699 | 5277 | 4138
S.E./mean  =  1133 lb./"ac.

---

Crop :- Sweet Potato.  
Site :- Agri. College & Res. Instt., Coimbatore.  
Ref :- M. 58(93).  
Type :- 'D'.

Object :- To determine the relative efficacy of different insecticides in minimizing the incidence of Sweet Potato weevil.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) and (c) N.A.  
   (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore.  
   (iii) 29.10.1958.  
   (iv) a; 4 ploughings. (b) N.A. (c) 20,000 cuttings/"ac. (d) 2½'×9". (e) N.A. (f) 5 tons/"ac. of F.Y.M. applied before the last ploughing.  

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 56(9; above.

5. RESULTS:
   (i) 9761 lb./"ac.  
   (ii) 2193 lb./"ac.  
   (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./"ac.

   Treatment | 1 | 2 | 3 | 4 | 5 | 6 | 7
---|---|---|---|---|---|---|---
Av. yield | 7587 | 12988 | 7986 | 11079 | 8952 | 10222 | 9511
S.E./mean  =  2097 lb./"ac.
Crop: Sweet Potato.  
Ref: M. 55(25).  
Type: 'D'.

Object: To test the relative efficacy of the different insecticides in controlling Sweet Potato weevil.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) and (c) N.A.  (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore.  (iii) 20.11.1955.  
   (iv) (a) 4 ploughings; passing Cambridge roller once. (b) N.A.  (c) 22000 cuttings/ac.  (d) 2'×6'. (e) N.A.  
   (v) 5 tons/ac. of F.Y.M. applied before the last ploughing.  (vi) V=6.  (vii) Irrigated.  (viii) 2 weed- 

2. TREATMENTS:
   1. Control (no treatment).  
   2. Aldrin 0.1% spray.  
   3. Dieldrin 0.1% spray.  
   4. Endrine 0.1% spray.  
   5. Aldrin 2% dust.  
   6. Dieldrin 2% dust.  
   7. Endrine 1% dust.

3. DESIGN:
   (i) R.B.D. (ii) (a) 7.  (b) N.A.  (iii) 4. (iv) (a) 17'×14'. (b) 15'×10'. (v) 1'×2'. (vi) Yes.

4. GENERAL:
   (i) Satisfactory.  (ii) Attack of weevil pest—control measures as per treatments.  (iii) Yield of healthy tubers.  
   (iv) (a) 1951—cond.  (b) and (c) No.  (v) (a) and (b) Nil.  (vi) Nil.  (vii) Expt. was conducted by 
   Horticulturist, Coimbatore.

5. RESULTS:
   (i) 9483 lb./ac.  (ii) 2264 lb./ac.  (iii) Treatment differences are highly significant.  (iv) Av. yield of tuber 
   in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2577</td>
<td>12015</td>
<td>12588</td>
<td>11180</td>
<td>7260</td>
<td>10781</td>
<td>9983</td>
</tr>
</tbody>
</table>

S.E./Mean = 1132 lb./ac.

Crop: Tomato (Summer).  
Ref: M. 56(99).  
Type: 'IMV'.

Object: To determine a suitable manurial schedule and an economic irrigation practice for Tomato.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) and (c) N.A.  (ii) (a) Red loam.  (b) Refer soil analysis, Coimbatore.  (iii) 20.4/1956.  
   (iv) (a) 3 ploughings. (b) N.A.  (c) 4 ozs/ac.  (d) 2'×2'. (e) 2. (v) 50 lb./ac. of N as F.Y.M.  (vi) As per treat- 

2. TREATMENTS:
   Main-plot treatments:  
   All combinations of (1) and (2)  
   (1) 3 varieties: V1=Red jacket, V2=Early Chatham and V3=Ottawa to 17.  
   (2) 2 intervals of irrigation: I1=4 and I2=7 days.

   Sub-plot treatments:  
   All combinations of (1), (2) and (3)  
   (1) 2 levels of N as A/S: N0=0 and N1=30 lb./ac.  
   (2) 2 levels of P2O5 as Super: P0=0 and P1=60 lb./ac.  
   (3) 2 levels of K2O as Pot. Sul.: K0=0 and K1=30 lb./ac.

3. DESIGN:
   (i) Split-plot. (ii) (a) 6 main-plots/block; 8 sub-plots/main-plot. (b) N.A.  (iii) 4. (iv) (a) 10'×12'.  
   (b) 5'×7'. (v) One row left on all sides. (vi) Yes.
4. GENERAL:
(i) Not satisfactory. (ii) Nil. (iii) Tomato yield. (iv) (a) N.A. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Heavy rains damaged the crops to some extent. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS:
(i) 2390 lb./ac. (ii) 'a' 2179 lb./ac. (b) 1218 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of tomato in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>V1</th>
<th>V2</th>
<th>V3</th>
<th>I1</th>
<th>I2</th>
<th>N0</th>
<th>N1</th>
<th>P0</th>
<th>P1</th>
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<td>2507</td>
<td>2118</td>
<td>2930</td>
<td>2264</td>
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<tr>
<td>K1</td>
<td>2159</td>
<td>2332</td>
<td>2292</td>
<td>2230</td>
<td>2292</td>
<td>2359</td>
<td>2163</td>
<td>2325</td>
<td>2197</td>
<td>2261</td>
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<tr>
<td>Mean</td>
<td>2333</td>
<td>2225</td>
<td>2611</td>
<td>2247</td>
<td>2532</td>
<td>2448</td>
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<td>2312</td>
<td>2468</td>
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<tr>
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<td>2255</td>
<td>2099</td>
<td>2579</td>
<td>2260</td>
<td>2362</td>
<td>2546</td>
<td>2077</td>
<td>2349</td>
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<tr>
<td>P1</td>
<td>2411</td>
<td>2351</td>
<td>2642</td>
<td>2234</td>
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</tr>
<tr>
<td>N0</td>
<td>2504</td>
<td>2280</td>
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</tr>
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<td>N1</td>
<td>2162</td>
<td>2170</td>
<td>2663</td>
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</tr>
<tr>
<td>I1</td>
<td>2129</td>
<td>2442</td>
<td>2230</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I2</td>
<td>2537</td>
<td>2118</td>
<td>2941</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. for difference of two
1. V marginal means = 385.2 lb./ac. 5. N, P or K means at the same level of I = 248.6 lb./ac.
2. I marginal means = 314.5 lb./ac. 6. V means at the same level of N, P or K = 441.3 lb./ac.
3. N, P or K marginal means = 175.8 lb./ac. 7. I means at the same level of N, P or K = 360.3 lb./ac.
4. N, P or K means at the same level of V = 304.5 lb./ac. S.E. of body of V x I table = 385.2 lb./ac.

Crop: Tomato (Monsoon).
Ref: M. 56(100).
Type: ‘IMV’.

Object: To determine a suitable manurial schedule and an economic irrigation practice for Tomato.

1. BASAL CONDITIONS:
(i) a' Nil. b) and 'c': N.A. (ii) 'a', Red loam. (b) Refer soil analysis, Coimbatore. iii 20.7.1956. (iv) 'a'; 3 ploughings. b) N.A. (v) 'c'; 4 ozs./ac. (d); 2'x2'. (e) 2'. (v) 50 lb./ac. of N as F.Y.M. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 35.46'. (x) 9.11.1956.

2. TREATMENTS and 3. DESIGN:
Same as in exp. no. 56(99) on page 311.

4. GENERAL:
(i) Satisfactory. ii' Nil. 'ii' Tomato yield. (iv) (a) N.A. (b) No. (v) 'c' Nil. (vi) (a) and (b) Nil. (vii) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS:
(i) 7238 lb./ac. (ii) 'a' 5719 lb./ac. (b) 2492 lb./ac. (iii) Interaction N x V and N x I are highly significant. Effect of I, N x P and K x I are significant. Other effects are not significant. (iv) Av. yield of tomato in lb./ac.
Crop: Tomato.


Object: To determine a suitable manural schedule and an economic irrigation practice for Tomato.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) and (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 5.8.1957. (iv) (a) 3 ploughings. (b) N.A. (c) 4 ozs. jac. (d) 2/1 x 2/1. (e) 2. (f) 50 lb./ac. of N as F.Y.M. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 28.75°. (x) 15.11.1957.

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 56(100) on page 312.

5. RESULTS:
   (i) 9002 lb./ac. (ii) 4662 lb./ac. (b) 4182 lb./ac. (iii) Interaction N x P alone is highly significant. (iv) Av. yield of tomato in lb./ac.

<table>
<thead>
<tr>
<th>V1</th>
<th>V2</th>
<th>V3</th>
<th>I1</th>
<th>I2</th>
<th>N0</th>
<th>N1</th>
<th>P0</th>
<th>P1</th>
<th>Mean</th>
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</thead>
<tbody>
<tr>
<td>K0</td>
<td>8639</td>
<td>9565</td>
<td>9716</td>
<td>9444</td>
<td>9169</td>
<td>9372</td>
<td>9242</td>
<td>8845</td>
<td>9769</td>
</tr>
<tr>
<td>K1</td>
<td>8066</td>
<td>9057</td>
<td>8966</td>
<td>8137</td>
<td>9257</td>
<td>8870</td>
<td>8524</td>
<td>8633</td>
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</tr>
<tr>
<td>Mean</td>
<td>8353</td>
<td>9211</td>
<td>9341</td>
<td>8791</td>
<td>9213</td>
<td>9121</td>
<td>8883</td>
<td>8739</td>
<td>9265</td>
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<tr>
<td>P0</td>
<td>7666</td>
<td>9374</td>
<td>9157</td>
<td>8506</td>
<td>8972</td>
<td>9795</td>
<td>7683</td>
<td>8447</td>
<td>10083</td>
</tr>
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<td>P1</td>
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<tr>
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<td>9566</td>
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<td>8688</td>
<td>9078</td>
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</tr>
<tr>
<td>I1</td>
<td>7723</td>
<td>9021</td>
<td>9629</td>
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<td></td>
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</tr>
<tr>
<td>I2</td>
<td>8983</td>
<td>9601</td>
<td>5053</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. V marginal means = 1011 lb./ac. 5. N, P or K means at the same level of V = 508.6 lb./ac.
2. I marginal means = 524.4 lb./ac. 6. V means at the same level of N, P or K = 1103 lb./ac.
3. N, P or K marginal means = 359.7 lb./ac. 7. I means at the same level of N, P or K = 900.4 lb./ac.
4. N, P or K means at the same level of V = 23.0 lb./ac. S.E. of body of V x I table = 1011 lb./ac.

Ref: M. 57(89). Type: 'IMV'.
S.E. of difference of two
1. V marginal means = 859.5 lb./ac. 5. N, P or K means at the same level of I = 853.6 lb./ac.
2. I marginal means = 701.8 lb./ac. 6. V means at the same level of N, P or K = 1133.7 lb./ac.
3. N, P or K marginal means = 693.6 lb./ac. 7. I means at the same level of N, P or K = 925.7 lb./ac.
4. N, P or K means at the same level of V = 1045.5 lb./ac. S.E. of body of V x I table = 859.4 lb. ac.

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Crop :- Tomato.
Site :- Agri. College & Res. Instit., Coimbatore.
Ref :- M. 56(92).
Type :- 'D'.

Object :- To study the effect of different fungicides against wilt of Tomato.

1. BASAL CONDITIONS:
(i, a) Nil. (b) and (c) Red loam. (b) Refer soil analysis, Coimbatore. (jii, 25.8.1956.
(iv, a) 2 to 3 ploughings. (b) N.A. (c) 4 ozs ac. (d) 21' x 21'. (e) 2. v: 15 tons/ac. of F.Y.M. +
100 lb/ac. of A/S + 200 lb/ac. of Super + 109 lb/ac. of Mur. of Poi. (vi, H = 123. (vii, Irrigated. (viii, Nil.
(ix) N.A. (x) 28.11.1956.

2. TREATMENTS:
6 fungicides: F0 = Control, F1 = Bordeaux mixture 1%, F2 = Chestnut compound 1 oz in a gallon of water,
F3 = Wer cercosan 0.1%, F4 = Agallol 0.1% and F5 = Urea 0.1%.
Fungicides applied on 4, 19.10.1956 and 5, 15.11.1956.

3. DESIGN :
(i) R.B.D. (ii) (a) 6, (b) N.A. (iii) 6. (iv) (a) and (b) 25' x 5'. (v) Nil. (vi) Yes.

4. GENERAL :
(i) Satisfactory. (ii) Severe incidence of tomato wilt. As per treatments. (jii, Incidence %, and tomato yield 
(iv) 1956–contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted
by Horticulturist, Coimbatore. The data is transformed into sin 1/p, where p is the % incidence of wilt
and then analysed.

5. RESULTS :

I. Tomato yield
(i) 4805 lb./ac. (ii) 1082 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tomato
in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>F0</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>F4</th>
<th>F5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>4436</td>
<td>4850</td>
<td>5131</td>
<td>4588</td>
<td>5134</td>
<td>4654</td>
</tr>
</tbody>
</table>

S.E./mean = 44.7 lb./ac.

II. Incidence of wilt
(i) 29.86 degrees (ii) 5.51 degrees. (iii) Treatment differences are significant. (iv) Av. incidence of wilt
in degrees.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>F0</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>F4</th>
<th>F5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean angle</td>
<td>32.10</td>
<td>22.32</td>
<td>27.62</td>
<td>32.85</td>
<td>34.33</td>
<td>22.95</td>
</tr>
</tbody>
</table>

S.E./mean = 2.25 degrees

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Crop :- Tomato.
Site :- Agri. College & Res. Instit., Coimbatore.
Ref :- M. 57(84).
Type :- 'D'.

Object :- To study the effect of fungicides against wilt of Tomato.
1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Red loam.  (b) Refer soil analysis, Coimbatore. (iii) 6.3.1957.  (iv) 3 ploughings.  
(b) N.A. (c) 4 ozs./ac.  (d) 2' × 2'.  (e) 2.  (v) 15 tons/ac. of F.Y.M.+100 lb./ac. of A/S+200 lb./ac. of Super+100 lb./ac. of Mur. Pot. (vi) H—123. (vii) Irrigated. (viii) Nil. (ix) N.A. (x) 10.6.1957.

2. TREATMENTS:
6 fungicides :  
F₀ = Control, F₁ = Bordeaux mixture 1%, F₂ = Wet Ceresan 0.1%, F₃ = Chestnut Compound 1 oz. in a gallon of water, F₄ = Dithane Z 78 0.15% and F₅ = Urea 1 oz in 2 gallons of water. 
Fungicides applied as soil drench at the base of the plants, at one pint/plant on 7, 25.4.1957 and 9, 27.5.1957.

3. DESIGN:
Same as in expt. no. 56(92) on page 314.

4. GENERAL:
(i) Satisfactory.  (ii) Heavy incidence of wilt of tomato—control measures as per treatments.  (iii) Incidence percentage.  (iv) to (vi) Same as in expt. no. 56(92) on page 314.

5. RESULTS:

(i) 41.11 degrees.  (ii) 8.68 degrees.  (iii) Treatment differences are not significant.  (iv) Avg. incidence of wilt in degrees.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>F₀</th>
<th>F₁</th>
<th>F₂</th>
<th>F₃</th>
<th>F₄</th>
<th>F₅</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean angle</td>
<td>40.09</td>
<td>39.68</td>
<td>47.35</td>
<td>38.65</td>
<td>44.48</td>
<td>36.08</td>
</tr>
<tr>
<td>S.E./mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.34 degrees.</td>
</tr>
</tbody>
</table>

--

Crop :- Tomato.  
Site :- Agri. College & Res. Instit., Coimbatore.  
Object :- To study the effect of fungicides against wilt of Tomato.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) and (c) N.A. (ii) (a) Red loam.  (b) Refer soil analysis, Coimbatore. (iii) 24.1.1958.  (iv) 3 ploughings.  
(b) N.A. (c) 4 ozs./ac.  (d) 2' × 2'.  (e) 2.  (v) 15 tons/ac. of F.Y.M.+100 lb./ac. of A/S+200 lb./ac. of Super+100 lb./ac. of Mur. Pot. (vi) H—123. (vii) Irrigated. (viii) Nil. (ix) N.A. (x) 24.5.1958.

2. TREATMENTS:
6 fungicides :  
F₀ = Control, F₁ = Bordeaux mixture 1%, F₂ = Wet Ceresan 0.1%, F₃ = Chestnut compound 0.3%, F₄ = Dithane Z 78 0.15% and F₅ = Urea 1 oz in 2 gallons of water. 
Fungicides applied on 30.3.1958 ; 8, 28.4.1958 and 10.5.1958.

3. DESIGN and 4. GENERAL:
Same as in expt. no. 56(92) on page 314.

5. RESULTS:

I. Tomato Yield
(i) 8477 lb./ac. (ii) 1982 lb./ac. (iii) Treatment differences are not significant.  (iv) Avg. yield of tomato in lb./ac

<table>
<thead>
<tr>
<th>Treatment</th>
<th>F₀</th>
<th>F₁</th>
<th>F₂</th>
<th>F₃</th>
<th>F₄</th>
<th>F₅</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>9082</td>
<td>7598</td>
<td>9512</td>
<td>9757</td>
<td>6896</td>
<td>8015</td>
</tr>
<tr>
<td>S.E./mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>591 lb./ac.</td>
</tr>
</tbody>
</table>

II. Incidence of Wilt.
(i) 16.26 degrees.  (ii) 8.16 degrees.  (iii) Treatment differences are not significant.  (iv) Avg. incidence of wilt. in degrees.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>F₀</th>
<th>F₁</th>
<th>F₂</th>
<th>F₃</th>
<th>F₄</th>
<th>F₅</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean angle</td>
<td>18.30</td>
<td>17.48</td>
<td>13.00</td>
<td>16.73</td>
<td>17.10</td>
<td>14.93</td>
</tr>
<tr>
<td>S.E./mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.08 degrees.</td>
</tr>
</tbody>
</table>
Crop: Tomato (Monsoon).

Ref: M. 59(68).
Type: 'D'.

Object: To study the effect of fungicides on the early blight disease of Tomato.

1. BASAL CONDITIONS:
   (i) (a) N.I. ('a) Red loam. (b) Red loam. (b) Ref soil analysis, Coimbatore. (b) N.A. (c) 4 oz./ac. (d) 2'/x'2'. (e) 15 tons of F.Y.M. + 103 lb. ac. of A S + 200 lb. ac. of Super + 100 lb. ac. of M.u. Pot. (vi) H—123. (vii) Irrigated. (viii) Nil. ix N.A. x 15.12.1959.

2. TREATMENTS:
   6 fungicides: \( F_0 \) = Control, \( F_1 \) = Bordeaux mixture 1%, \( F_2 \) = Flit 406 0.15%, \( F_3 \) = Cupravit 0.25%, \( F_4 \) = Dithane Z 78 0.15% and \( F_5 \) = Copper acetyl acetone 0.125%.

3. DESIGN:
   (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 20' x 10'. (b) 15' x 5'. (v) 2'/x'2'. (vi) Yes.

4. GENERAL:
   i) Satisfactory. ii) Incidence of early blight—control measures as per treatments. iii) Incidence of tomato yield. iv) 'a' 1956—contd. (b) No. (c) Nil. (v) (a) and (b, Nil. vi) Nil. vii) Expt. was conducted by the Horticulturist, Coimbatore.

5. RESULTS:
   (i) 3249 lb./ac. (ii) 7.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tomato in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>( F_0 )</th>
<th>( F_1 )</th>
<th>( F_2 )</th>
<th>( F_3 )</th>
<th>( F_4 )</th>
<th>( F_5 )</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yeld</td>
<td>2360</td>
<td>2530</td>
<td>2813</td>
<td>3712</td>
<td>3385</td>
<td>3694</td>
<td>357 lb./ac</td>
</tr>
</tbody>
</table>

Crop: Tomato.


Ref: M. 56(67).
Type: 'D'.

Object: To test the efficacy of different fungicides as seed dressings against 'damping off' disease of Potato.

1. BASAL CONDITIONS:
   (i) (a) N.I. (b) and (c) N.A. (ii) (a) Red loam. (b) Ref soil analysis, Coimbatore. (iii) 9.8. 956. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 4 oz./ac. (d) N.A. (e) 1000 seeds sown in each raised bed of 6' x 1'. (x) 15 tons/ac. of F.Y.M.+100 lb./ac. of A S + 200 lb./ac. of Super + 100 lb. ac. of M.u. Pot. (vi) H—123. (vii) Irrigated. (viii) N.I. (ix) N.A. (a) Nil.

2. TREATMENTS:
   6 fungicides: \( F_0 \) = Control, \( F_1 \) = Agrosan G.N., \( F_2 \) = Ceresan, \( F_3 \) = Harvesan, \( F_4 \) = Spergon and \( F_5 \) = Fernosan. 2 gms of fungicide for 1 lb. of seed.

3. DESIGN:
   (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) and (b) 6' x 1'. (v) Nil. (vi) Yes.

4. GENERAL:
   i) Satisfactory. (ii) Low incidence of 'damping off' disease—control measures as per treatments. (iii) % emergence and % incidence of the 'damping off' disease. (iv) 1955—contd. (b) N.A. (c) N.I. (v) and (vi) N.I. (vii) Expt. was conducted by the Horticulturist. The data has been transformed into sin-1p, where p is the % incidence of disease and then analysed

5. RESULTS:
   (i) 19.91 degrees. (ii) 2.92 degrees. (iii) Treatment differences are not significant. (iv) Av. incidence of 'damping off' disease.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>( F_0 )</th>
<th>( F_1 )</th>
<th>( F_2 )</th>
<th>( F_3 )</th>
<th>( F_4 )</th>
<th>( F_5 )</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean angle</td>
<td>21.48</td>
<td>19.38</td>
<td>19.58</td>
<td>22.63</td>
<td>17.48</td>
<td>18.93</td>
<td>1.46 degrees</td>
</tr>
</tbody>
</table>
Crop :- Tomato. Ref :- M. 56(91).

Site :- Agri. College & Res. Instt., Coimbatore. Type :- 'D'.

Object :- To study the effect of fungicides against early blight and leaf-spot disease of Tomato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 23.8.1956.

(iv) (a) 3 ploughings. (b) N.A. (c) 4 ozs/ac. (d) 2½'x½'. (e) N.A. (v) 15 tons/ac. of F.Y.M.+ 20 lb/ac. of Super+100 lb/ac. of A/S+100 lb/ac. of Mur. Pot. (vi) H—123. (vii) Irrigated. (viii) Nil. (ix) N.A. (x) 25.11.1956.

2. TREATMENTS :

6 fungicides: 

- F₀ =Control, F₁ =Dithane Z 78 0.15%, F₂ =Fungimar 0.25%, F₃ =Bordeaux mixture 1%, 

- F₄ =Yellow Cuprocide 0.15% and F₅ =Shell copper fungicide 0.25%.


3. DESIGN :

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 30'x7½' (b) 25'x5'. (v) One row left as border. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Mild incidence of early blight.—control measures as per treatments. (iii) Incidence %.

(iv) to (vii) Same as in exp. no. 56(87) on page 316.

5. RESULTS:

(i) 9.5 degrees (ii) 1.66 degrees. (iii) Treatment differences are not significant. (iv) Av. incidence of disease.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>F₀</th>
<th>F₁</th>
<th>F₂</th>
<th>F₃</th>
<th>F₄</th>
<th>F₅</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.E./mean</td>
<td>0.83 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Tomato. Ref :- M. 57(85).

Site :- Agri. College & Res. Instt. Coimbatore. Type :- 'D'.

Object :- To study the effect of fungicides against early blight and leaf-spot disease of Tomato.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) and (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 14.7.1957.

(iv) (a) 3 ploughings. (b) N.A. (c) 4 ozs/ac. (d) 2½'x½'. (e) 2. (v) 15 tons/ac. of F.Y.M.+ 100 lb/ac. of A/S+200 lb/ac. of Super+100 lb/ac. of Mur. Pot. (vi) H—123. (vii) Irrigated. (viii) Nil. (ix) N.A. (x) 18.10.1957.

2. TREATMENTS :

5 fungicides: 

- F₀ =Control, F₁ =Fungimar 0.25%, F₂ =Copper oxychloride 0.25%, F₃ =Dithane Z 78 0.15% and F₄ =Bordeaux Mixture 1%.


3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 20'x10'. (b) 17½'x7½'. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Mild incidence of early blight. (iii) % of incidence and yield. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS:

(i) 6875 lb/ac. (ii) 1670 lb/ac. (iii) Treatment differences are not significant. (iv) Av. yield of tomato in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>F₀</th>
<th>F₁</th>
<th>F₂</th>
<th>F₃</th>
<th>F₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>6034</td>
<td>7556</td>
<td>7002</td>
<td>6798</td>
<td>6985</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>746.9 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop :- Tomato.  
Ref :- M. 58(67).

Site :- Agri. College & Res. Instt., Coimbatore.  
Type :- ‘D’.

Object :- To study the effect of fungicides on the early blight of Tomato.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) and (c) N.A.  (ii) (a) Red loam.  (b) N.A.  (iii) 4.8.1958.  (iv) (a) 3 ploughings.  (b) N.A.  (c) 4 oz./ac.  (d) 2’ x 2’.
   (c) 2.  (v) 15 tons/ac. of F.Y.M.+100 lb/ac. of A.S.+200 lb/ac. of Super+100 lb/ac. of Mur. Pot.  (vi) H·123.  (vii) Irrigated.  (viii) Nil.  (ix) N.A.  (x) 8.11.1958.

2. TREATMENTS:
   5 fungicides: F₀ = Control, F₁ = Flit 406 0.1%, F₂ = Cupravit 0.25%, F₃ = Dithane 27 0.15% and F₄ = Bordeaux mixture 1%.

3. DESIGN and 4. GENERAL:
   Same as in expt. no. 59.68 on page 316.

5. RESULTS:
   (i) 20596 lb./ac.  (ii) 4832 lb./ac.  (iii) Treatment differences are significant.  (iv) Av. yield of tomato in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>F₀</th>
<th>F₁</th>
<th>F₂</th>
<th>F₃</th>
<th>F₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>15786</td>
<td>23749</td>
<td>20822</td>
<td>23714</td>
<td>18911</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 1969 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Tomato (Monsoon).  
Ref :- M. 57(66).  
Type :- ‘D’.

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

Object :- To study the effect of fungicides against fruit-borer.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) and (c) Nil.  (ii) (a) Red loam.  (b) Refer soil analysis, Coimbatore.  (iii) N.A. 9.8.1957.  (iv) (a) 3 ploughings.  (b) Transplanting.  (c) 4 oz./ac.  (d) 2’ x 2’.
   (c) N.A.  (v) 15 tons ac. of F.Y.M. +100 lb/ac. of A.S.+200 lb/ac. of Super+100 lb/ac. of potash.  (vi) Morden.  (vii) Irrigated.  (viii) Weeding.  (ix) 21.4.  (x) N.A.

2. TREATMENTS:
   4 fungicides: F₀ = Control, F₁ = Endrine 0.02%, F₂ = DDT 0.1% and F₃ = Mechanical methods.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 4.  (b) N.A.  (iii) 5.  (iv) (a) 25’ x 20’.  (b) 20’ x 15’.  (v) 32 guard plants around.  (vi) Yes.

4. GENERAL:
   (i) Satisfactory.  (ii) Fruit-borer attack—control measures as per treatments.  (iii) Percentage and weight of affected and unaffected fruit.  (iv) (a) 1956—N.A.  (b) No.  (c) Nil.  (d) and (e) Nil.  (iv) Expt. was conducted by Entomologist, Coimbatore.  The data is transformed to sin⁻¹p, where p is the % incidence and then analysed.

5. RESULTS:
   (i) 13 77 degrees.  (ii) 1.81 degrees.  (iii) Treatment differences are highly significant.  (iv) Av. incidence of borer attack.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>F₀</th>
<th>F₁</th>
<th>F₂</th>
<th>F₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean angle</td>
<td>30.40</td>
<td>6.79</td>
<td>2.44</td>
<td>30.39</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 0.81 degrees</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop :- Tomato (Monsoon).  
Site :- Agri. College & Res. Instt., Coimbatore.  
Object :- To study the effect of fungicides against fruit-borer.

1. BASAL CONDITIONS :
(i) (a) to (c) Nil. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 26.7.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 4 oz./ac. (d) 2'/2 x 2'. (e) N.A. (v) 15 tons/ac. of F.Y.M.+100 lb./ac. of A/S+200 lb./ac. of Super+100 lb./ac. of Potash. (vi) Morden. (vii) Irrigated. (viii) Weeding. (ix) 10.47". (x) 22.9.1958. to 25.10.1958.

2. TREATMENTS :
5 fungicides : F0 = Control, F1 = Endrin 0.02%, F2 = DDT 0.1%, F3 = Folidol 0.05% and F4 = Mechanical method.

3. DESIGN :
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 30' x 30'. (b) 25' x 25'. (v) 2'/2 x 2'. (vi) Yes.

4. GENERAL :
(i) Satisfactory. (ii) Attack of Heliothis armigera H and Prodenia litura F. Control measures as per treatments. (iii) Percentage and weight of affected and unaffected fruit. (iv) to (vii) Same as in exp. no. 57(66) on page 318.

5. RESULTS:
(i) 14.83 degrees. (ii) 1.94 degrees. (iii) Treatment differences are highly significant. (iv) Av. incidence of borer attack.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>F0</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>F4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean angle</td>
<td>23.80</td>
<td>7.40</td>
<td>10.00</td>
<td>12.10</td>
<td>20.85</td>
</tr>
<tr>
<td>S.E./mean = 0.97 degrees.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Tomato (Summer).  
Site :- Agri. College & Res. Instt., Coimbatore.  
Object :- To study the effect of fungicides against fruit-borer.

1. BASAL CONDITIONS :
(i) (a) to (c) Nil. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 16.2.1958. (iv) (a) 3 ploughings. (b) N.A. (c) 4 oz./ac. (d) 2'/2 x 2'. (e) N.A. (v) 15 tons/ac. of F.Y.M.+100 lb./ac. of A/S+200 lb./ac. of Super+100 lb./ac. of Potash. (vi) Morden. (vii) Irrigated. (viii) Weeding. (ix) 2.02". (x) 6.4.1958 to 17.5.1958.

2. TREATMENTS :
Same as in exp. no. 58(25) above. Treatments applied from 10.3.1958 to 10.4.1958 at fortnightly intervals.

3. DESIGN :
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 30' x 20'. (b) 25' x 15'. (v) 2'/2 x 2'. (vi) Yes.

4. GENERAL :
(i) Satisfactory. (ii) Attack of Heliothis armigera H fruit borer—control measures as per treatments. (iii) Percentage and weight of affected and unaffected fruit. (iv) to (vii) Same as in exp. no. 57(6) on page 318.

5. RESULTS:
I. Unaffected fruit.
(i) 7197 lb./ac. (ii) 2840 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of unaffected fruit in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>F0</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>F4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3196</td>
<td>11117</td>
<td>10909</td>
<td>6707</td>
<td>4058</td>
</tr>
<tr>
<td>S.E./mean = 1270 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
II. Percentage incidence of borer

(i) 23.54 degrees. (ii) 2.39 degrees. (iii) Treatment differences are highly significant. (iv) Av. incidence of borer attack.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>F₀</th>
<th>F₁</th>
<th>F₂</th>
<th>F₃</th>
<th>F₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean angle</td>
<td>41.36</td>
<td>8.43</td>
<td>6.34</td>
<td>27.06</td>
<td>44.74</td>
</tr>
</tbody>
</table>

S.E., mean = 1.07 degrees.

Crop: Tomato (Summer).

Object: To study the effect of fungicides against fruit borer.

1. BASAL CONDITIONS:
(i) 2 ploughings. (ii) Nil. (iii) 3 ploughings. " Ref: M. 59(23). Type: 'D'.

2. TREATMENTS:
Same as in expt. no. 58:25; on page 319. Treatments sprayed on 21.3.1959 and 5, 20.4.1959.

3. DESIGN:
(i) R.B.D. (ii) 5. (iii) Yes. (iv) 25' x 25'. (v) Yes. (vi) 20' x 20'. (vii) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Attack of Heliothis armiger has prolifica litorea F. Control measures as per treatments. (iii) Percentage and weight of affected and unaffected fruit. (iv) to (vii) S.1 as in expt. no. 57, 66; on page 3.8.

5. RESULTS:

I. Uninfested fruit

(i) 1170 lb./ac. (ii) 933.2 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of uninfested fruit in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>F₀</th>
<th>F₁</th>
<th>F₂</th>
<th>F₃</th>
<th>F₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>511</td>
<td>1776</td>
<td>2505</td>
<td>1246</td>
<td>265</td>
</tr>
</tbody>
</table>

S.E., mean = 466.6 lb./ac.

II. Percentage incidence of borer

(i) 34.35 degrees. (ii) 4.74 degrees. (iii) Treatment differences are highly significant. (iv) Av. incidence of borer attack.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>F₀</th>
<th>F₁</th>
<th>F₂</th>
<th>F₃</th>
<th>F₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Angle</td>
<td>54.00</td>
<td>13.85</td>
<td>10.13</td>
<td>36.55</td>
<td>57.23</td>
</tr>
</tbody>
</table>

S.E., mean = 2.37 degrees.

Crop: Tomato (Monsoon).

Object: To study the effect of insecticides against fruit borer.

Ref: M. 59(22).
Type: 'D'.
1. BASAL CONDITIONS:
   (i) (a) to (c) Nil. (b) Refer soil analysis, Coimbatore. (iii) 31.8.1959. (iv) (a) 3 ploughings. (b) N.A. (c) 4 oz./ac. (d) 24'×24'. (e) N.A. (v) 15 tons/ac. of F.Y.M.+100 lb./ac. of A/S+200 lb./ac. of Super+100 lb./ac. of Potash. (vi) Morden. (vii) Irrigated. (viii) Weeding. (ix) 1.63'.
   (x) 10.9.1959 to 6.10.1959.

2. TREATMENTS:
   5 insecticides: F_0=Control, F_1=Dieldrin 0.1%, F_2=Endrine (Folorin) 0.02%, F_3=DDT 0.1%, and F_4=Cadmium arsenate.

3. DESIGN:
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 25'×25'. (b) 20'×20'. (v) One row around left as border. (vi) Yes.

4. GENERAL:
   Same as in exp. no. 59(22) on page 320.

5. RESULTS:
   (i) 19.24 degrees. (ii) 2.30 degrees. (iii) Treatment differences are highly significant. (iv) Av. incidence of borer.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Mean angle</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>F_0</td>
<td>30.27</td>
<td>1.15</td>
</tr>
<tr>
<td>F_1</td>
<td>8.08</td>
<td>1.15</td>
</tr>
<tr>
<td>F_2</td>
<td>11.79</td>
<td>1.15</td>
</tr>
<tr>
<td>F_3</td>
<td>21.35</td>
<td>1.15</td>
</tr>
<tr>
<td>F_4</td>
<td>24.69</td>
<td>1.15</td>
</tr>
</tbody>
</table>

Crop :- Tomato.  
Site :- Agri. College & Res. Instt., Coimbatore.  
Ref :- M. 56(90).  
Type :- ‘D’.

Object—To study the effect of different methods of planting and spraying different fungicides on the ‘damping off’ disease of Tomato.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) and (c) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 14.7.1956. (iv) (a) 2 ploughings. (b) As per treatments. (c) 4 oz./ac. (d) and (e) N.A. (v) 15 tons/ac. of F.Y.M.+200 lb./ac. of Super+100 lb./ac. of A/S+100 lb./ac. of Mur. Pot. (vi) H=123. (vii) Irrigated. (viii) Nil. (ix) and (x) N.A.

2. TREATMENTS:
   Main-plot treatments:
   2 methods of planting: C_1=Planting on raised beds and C_2=Planting on level beds.
   Sub-plot treatments:
   6 fungicides: F_0=Control, F_1=Bordeaux mixture 1%, F_2=Chestnut compound 0.3%, F_3=Wet Ceresan 0.1%, F_4=Dithane Z-78 0.15% and F_5=Cupravit 0.4%.
   Fungicides applied to the soil at one gallon/plot on 21, 29.7.1956 and 5.8.1956.

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block; 6 sub-plots/main-plot. (b) N.A. (iii) 4 (iv) (a) and (b) 10'×2'.
   (v) Nil. (vi) Yes.

4. GENERAL:
   (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.
   The data is transformed into sin^-1v'p, where p is the % incidence and then analysed.

5. RESULTS:
   (i) 8.38 degrees. (ii) (a) 2.55 degrees. (b) 1.80 degrees. (iii) Main effect of F alone is significant. (iv) Av. incidence of ‘damping off’ disease.
Crop: Tomato (Monsoon).

Object: To study the effect of different methods of planting and spraying different fungicides on the 'damping off' disease of Tomato.

1. BASAL CONDITIONS:
   (i) a) Nil. b) Red loam. c) N.A. (ii) a) Nil. b) Refer soil analysis, Coimbatore. (iii) 30.7.1958. (iv) a) 3 ploughings. b) As per treatments. c) 500 seeds/plot. d) and e) N.A. f) 15 tons/ac. of F.Y.M. =100 lb./ac. of A'S+200 lb./ac. of Super+100 lb./ac. of Mur. Pot. (v) H--123. (vi) Irrigated. (vii) Nil. (viii) N.A. (ix) Nil.

2. TREATMENTS:
   Main-plot treatments: 2 types of seed beds: B1 =Raised and B2 =Level.
   Sub-plot treatments: 7 fungicides: F0 =Control (without fungus), F1 =Control (with fungus), F2 =Bordeaux mixture 2%, F3 =Chestnut compound at 1 oz./2 gallons of water, F4 =Wet Ceresan 0.1%, F5 =Cupravit 0.25% and F6 =Dithane Z-78 0.15%.
   Spraying done on 30.7.1958, 6, 13 and 20.8.1958.

3. DESIGN:
   (i) Split-plot. (ii) a) 2 main-plots/block; 7 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) a) and b) 5'x2'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Incidence of 'damping off' ;control measures as per treatments. (iii) 1956--contd. (b) No. (c) N.A. (d) Nil. (e) Nil. (f) Nil. (g) Nil. (h) Expt. was conducted by the Horticulturist. The data is transformed into sin-1√p, where p is the % incidence and then analyzed.

5. RESULTS:
   (i) 33.1 degrees. (ii) a) 4.14 degrees. (b) 6.43 degrees. (iii) F effect alone is significant. (iv) Av. incidence of 'damping off' disease.

### Table 1: F0, F1, F2, F3, F4, F5, F6, Mean

<table>
<thead>
<tr>
<th></th>
<th>F0</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>F4</th>
<th>F5</th>
<th>F6</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>38.5</td>
<td>21.2</td>
<td>32.8</td>
<td>38.6</td>
<td>27.8</td>
<td>34.3</td>
<td>35.8</td>
<td>32.7</td>
</tr>
<tr>
<td>B2</td>
<td>37.8</td>
<td>23.1</td>
<td>35.1</td>
<td>39.5</td>
<td>28.9</td>
<td>36.2</td>
<td>33.7</td>
<td>33.5</td>
</tr>
<tr>
<td>Mean</td>
<td>38.1</td>
<td>22.2</td>
<td>33.9</td>
<td>39.1</td>
<td>28.4</td>
<td>35.2</td>
<td>34.8</td>
<td>33.1</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. B marginal means = 1.11 degrees.
2. F marginal means = 3.22 degrees.
3. F means at the same level of B = 4.55 degrees.
4. B means at the same level of F = 4.35 degrees.
Crop :- Tomato.  Ref :- M. 59(67).
Site :- Agri. College & Res. Instt., Coimbatore. Type :- ‘DC’.

Object :- To study the effect of different methods of planting and spraying different fungicides on the ‘damping off’ disease of Tomato.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) and (c) N.A.  (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore.  (iii) 21.8.1959.  (iv) (a) 3 ploughings. (b) As per treatments. (c) 500 seeds/plot. (d) and (e) N.A.  (v) 15 tons/ac. of F.Y.M.+100 lb/ac. of A/S+200 lb./ac. of Super+100 lb./ac. of Mur. Pot.  (vi) H—123.  (vii) Irrigated.  (viii) Nil.  (ix) N.A.  (x) Nil.

2. TREATMENTS to 4. GENERAL :
   Same as in expt. no. 58(88) on page 322.

5. RESULTS :
   (i) 33.8 degrees. (ii) (a) 5.81 degrees. (b) 4.68 degrees. (iii) F effect alone is highly significant. (iv) Av. incidence of ‘damping off’ disease.

<table>
<thead>
<tr>
<th></th>
<th>F_0</th>
<th>F_1</th>
<th>F_2</th>
<th>F_3</th>
<th>F_4</th>
<th>F_5</th>
<th>F_6</th>
</tr>
</thead>
<tbody>
<tr>
<td>B_1</td>
<td>39.2</td>
<td>18.6</td>
<td>40.9</td>
<td>29.8</td>
<td>37.1</td>
<td>32.1</td>
<td>39.9</td>
</tr>
<tr>
<td>B_2</td>
<td>37.4</td>
<td></td>
<td>39.9</td>
<td>28.8</td>
<td>37.4</td>
<td>31.7</td>
<td>39.3</td>
</tr>
<tr>
<td>Mean</td>
<td>38.3</td>
<td>20.0</td>
<td>40.4</td>
<td>29.3</td>
<td>37.3</td>
<td>31.9</td>
<td>39.6</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. B marginal means = 1.55 degrees.
2. F marginal means = 2.34 degrees.
3. F means at the same level of B = 3.31 degrees.
4. B means at the same level of F = 3.30 degrees.

Crop :- Tapioca.  Ref :- M. 54(110).
Site :- Agri. College & Res. Instt., Coimbatore. Type :- ‘M’.

Object :- To determine a suitable manurial dose for Tapioca under local conditions.

1. BASAL CONDITIONS :
   (i) (a) Nil.  (b) Maize.  (c) Nil.  (ii) (a) Stiff clay soil. (b) Refer soil analysis, Coimbatore.  (iii) 20 to 23.9.1954.  (iv) (a) 4 ploughings; working Cambridge roller once and ridging up once.  (b) As per treatments.  (v) Butter stick.  (vi) Irrigated.  (vii) 2 weedings.  (ix) 28.34°.  (x) 7 to 15.8.1955.

2. TREATMENTS :
   Main-plot treatments :
   3 basal dressings : B_0 = No basal dressing, B_1 = 10,000 lb./ac. of F.Y.M. and B_2 = G.L. equivalent to B_1 (on basis of N).
   Sub-plot treatments :
   All combinations of (1) and (2)
   (1) 3 levels of N as A/S : N_0 = 0, N_1 = 50 and N_2 = 100 lb./ac.
   (2) 3 levels of K_2O as Pot. Sul. : K_0 = 0, K_1 = 80 and K_2 = 160 lb./ac.
   Sub-sub-plot treatments :
   2 levels of P_2O_5 as Super : P_0 = 0 and P_1 = 80 lb./ac.
   A/S and Pot. Sul. applied one month after planting. Super applied just before planting.

3. DESIGN :
   (i) Split-plot.  (ii) (a) 3 main-plots/block ; 9 sub-plots/main-plot and 2 sub-sub-plots/sub-plot. (b) N.A.  (iii) 2.  (iv) (a) 24'x15'.  (b) 18'x12'.  (v) 3'x1'.  (vi) Yes.

4. GENERAL :
   (i) Satisfactory.  (ii) Nil.  (iii) Tuber yield.  (iv) (a) 1951—1957.  (b) No.  (c) Nil.  (v) (a) and (b) Nil.  (vi) Nil.  (vii) Expt. was conducted by Horticulturist, Coimbatore.
5. RESULTS:

(i) 3770 lb./ac. (ii) 7862 lb./ac. (b) 1511 lb./ac. (c) 1363 lb./ac. (iii) None of the effects is significant.
(iv) Av. yield of tapioca in lb./ac.

<table>
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<tr>
<th></th>
<th>N₀</th>
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<th>N₂</th>
<th>K₀</th>
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S.E. of difference of two

1. B marginal means = 1069.9 lb./ac. 6. N or K means at the same level of B = 356.2 lb./ac.
2. N or K marginal means = 205.6 lb./ac. 7. B means at the same level of N or K = 1921 0 lb./ac.
3. P marginal means = 151.4 lb./ac. 8. P means at the same level of N or K = 290.8 lb./ac.
4. P means at the same level of B = 262.3 lb./ac. 9. N or K means at the same level of P = 279.9 lb./ac.
5. B means at the same level of P = 1085.8 lb./ac. S.E. of body of N x K table = 2518 lb./ac.

Crop: Tapioca.


Ref: M. 55(75). Type: ‘M’.

Object:—To determine a suitable manural dose for Tapioca.

1. BASAL CONDITIONS:

(i) & Nil. (b) and (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 24 to 27.8.1955.

2. TREATMENTS:

Same as in exp. no. 54(110) on page 323.

3. DESIGN:

‘i’ Split-plot. (ii) ‘a’, 3 main-plots/block ; 9 sub-plots/main-plot and 2 sub-sub-plots/sub-plots. (b) N.A.

4. GENERAL:

Same as in exp. no. 54(110) on page 323.

5. RESULTS:

(i) 10660 lb./ac. (ii) (a) 2290 lb./ac. (b) 1823 lb./ac. (c) 2170 lb./ac. (iii) N effect and interaction K x N x B are highly significant. Interaction N x B is significant. Others are not significant. (iv) Av. yield of tapioca in lb./ac.
Crop :- Tapioca.

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

Ref :- M. 56(104).

Type :- 'M'.

Object :- To determine a suitable manurial dose for Tapioca.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 3.8.1956. (iv) (a) 4 ploughings; passing Cambridge roller once. (b) N.A. (c) 12000 cuttings/ac. (d) 2'×1½'. (e) 1. (v) Nil.; (vi) V=8. (vii) Irrigated. (viii) 3 weedings. (ix) 25.38°. (x) 13.7.1957.

2. DESIGN :
   (i) Split-plot. (ii) (a) 3 main-plots/block ; 9 sub-plots/main-plot; 2 sub-sub-plots/sub-plot. (b) N.A. (iii) 2. (iv) (a) 24'×15'. (b) 21'×10'. (v) 1½'×2½'. (vi) Yes.

3. GENERAL:
   Same as in expt. no. 54(110) on page 323.

4. RESULTS:
   (i) 5659 lb./ac. (ii) (a) 2623 lb./ac. (b) 2621 lb./ac. (c) 1116 lb./ac. (iii) N effect is highly significant. Interaction N×P, P×K, P×N×B, P×K×B and P×K×N×B are significant. (iv) Av. yield of tuber in lb./ac.

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S.E. of difference of two
1. B marginal means = 311.6 lb./ac. 6. N or K means at the same level of B = 429.7 lb./ac.
2. N or K marginal means = 248.1 lb./ac. 7. B means at the same level of N or K = 812.8 lb./ac.
3. P marginal means = 241.1 lb./ac. 8. P means at the same level of N or K = 350.8 lb./ac.
4. P means at the same level of B = 295.3 lb./ac. 9. N or K means at the same level of P = 385.7 lb./ac.
5. B means at the same level of P = 429.3 lb./ac. S.E. of body of N×K table = 303.8 lb./ac.
S.E. of difference of two

1. B marginal means = 356.9 lb./ac. 6. N or K means at the same level of B = 617.8 lb./ac.
2. N or K marginal means = 356.7 lb./ac. 7. B means at the same level of N or K = 1070.3 lb./ac.
3. P marginal means = 124.0 lb./ac. 8. P means at the same level of N or K = 504.4 lb./ac.
4. P means at the same level of B = 214.8 lb./ac. 9. N or K means at the same level of P = 387.7 lb./ac.
5. B means at the same level of P = 387.9 lb./ac. S.E. of body of N\times K table = 436.8 lb./ac.

Crop :- Tapioca. Ref :- M. 57(93).
Site :- Agri. College & Res. Instit., Coimbatore. Type :- 'M'.

Object :- To determine a suitable manurial dose for Tapioca.

1. BASAL CONDITIONS :
   (i) a: Nil. (b) and (c): N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 6, 7, 8.8.1957.
   (iv) 4 ploughings; passing Cambridge roller once. (b) N.A. 'c' 12000 cuttings; ac. (d) 2' × 1''. (e) 1.
   'f' Nil. (vi) Valenca. (vii) Irrigated. (viii) 3 weedings. (ix) 35.07'' (x) 17 to 21.5.1958.

2. TREATMENTS :
   Same as in expt. no. 54 110 on page 323.

3. DESIGN :
   Same as in expt no. 56 104 on page 325.

4. GENERAL :
   (i) Poor ii Incidence of fungus diseases—spraying with 1% Bordeaux mixture. (iii) Yield of tuber.
   (iv) a) 1951-1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :
   (i) 2221 lb./ac. (ii) (a) 3064 lb./ac. (b) 775 lb./ac. (c) 269 lb./ac. (iii) P effect is significant. Inter-
   actions N\times K, B\times N, P\times K, P\times K\times N, P\times N\times B and N\times N\times K\times B are highly significant. (iv) A\times yield of
   tuber in lb./ac.

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</table>

S.E. of difference of two

1. B marginal means = 417.0 lb./ac. 6. N or K means at the same level of B = 182.7 lb./ac.
2. N or K marginal means = 105.5 lb./ac. 7. B means at the same level of N or K = 767.0 lb./ac.
3. P marginal means = 29.9 lb./ac. 8. P means at the same level of N or K = 149.1 lb./ac.
4. P means at the same level of B = 51.8 lb./ac. 9. N or K means at the same level of P = 111.6 lb./ac.
5. B mean, at the same level of P = 418.6 lb./ac. S.E. of body of N\times K table = 129.2 lb./ac.

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Crop :- Tapioca. 
Object :- To study the effect of different quantities of manures on the yield of Tapioca.

1. BASAL CONDITIONS :
(i) (a) Nil. (b) and (c) N.A.  (ii) (a) Loamy. (b) Refer soil analysis, Palur. (iii) 18.11.1954.  (iv) (a) 3 ploughings. (b) to (c) N.A.  (v) 5 tons/ac. of F.Y.M. and 560 lb./ac. of lime. (vi) Valenca.  (vii) Irrigated. (viii) One weeding and 1 earthing up. (ix) N.A.  (x) 24.8.1955.

2. TREATMENTS :
Five doses of manures : M_0 = Control, M_1 = 30 lb./ac. of P_2O_5 + 30 lb./ac. of K_2O, M_2 = 45 lb./ac. of N + 25 lb./ac. of P_2O_5 + 50 lb./ac. of K_2O and M_3 = 50 lb./ac. of N + 25 lb./ac. of P_2O_5 + 50 lb./ac. of K_2O.
N applied as A/S, P_2O_5 as Super and K_2O as Potash.

3. DESIGN :
(i) R.B.D.  (ii) (a) 4. (b) N.A.  (iii) 4. (iv) (a) and (b) 30' x 36'. (v) Nil.  (vi) Yes.

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

5. RESULTS:
(i) 23318 lb./ac. (ii) 659 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tapioca in lb./ac.

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Crop :- Tapioca. 
Object :- To find out the effect of different manures on different varieties of Tapioca.

1. BASAL CONDITIONS :
(i) (a) Nil. (b) and (c) N.A.  (ii) (a) Sandy loam. (b) N.A. (iii) 9.9.1958.  (iv) (a) 3 ploughings. (b) N.A. (c) 25 tubers/plot.  (d) N.A. (e) 1. (f) Nil. (g) (h) and (i) As per treatments. (iv) Irrigated. (vii) Irrigated. (viii) N.A.  (ix) N.A.  (x) 24.6.1959.

2. TREATMENTS :
Main-plot treatments : 2 varieties : V_1 = Butter stick and V_2 = Local.
Sub-plot treatments : 4 levels of manure : M_0 = No manure, M_1 = C.M. at 5 tons/ac. + lime stone at 5 C.L./ac., M_2 = M_1 + 30 lb./ac. of N + 25 lb./ac. of P_2O_5 + 50 lb./ac. of K_2O and M_3 = 45 lb./ac. of N + 25 lb./ac. of P_2O_5 + 50 lb./ac. of K_2O.
N applied as A/S, P_2O_5 as Super and K_2O as Pot. Sul.

3. DESIGN :
(i) Split-plot. (ii) (a) 2 main-plots/block; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 12' x 7'. (v) Nil.  (vi) Yes.

4. GENERAL :
(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1958—1959. (b) No. (c) Nil. (d) (a) and (b) Nil. (e) and (f) Nil.

5. RESULTS:
(i) 11308 lb./ac. (ii) 1795 lb./ac. (b) 2547 lb./ac. (iii) Only M effect is significant. (iv) Av. yield of tuber in lb./ac.
Crop :- Tapioca.
Object :-To find out the effect of different manures on different varieties of Topioca.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) and (c) N.A. (ii) (a) Sand loam. (b) N.A. (iii) 1.7.1959. (iv) 1.7.1959. (v) 3 ploughings. (b) N.A. (c) 25 tubers/plot. (d) N.A. (e) 1. (f) and (g) As per treatments. (h) Irrigated. (i) N.A. (ix) N.A. (x) 24.6.1959.

2. TREATMENTS :
   Main-plot treatments : 
   2 varieties: V1 =Butter Stick and V2 =Local.
   Sub-plot treatments :
   4 levels of manure: M1=N0 manure, M1=5 tons/ac. of C.M. + 5 C.L./ac. of lime stone, M2=M1+30 lb./ac. of N+25 lb./ac. of P2O5+20 lb./ac. of K2O and M3=30 lb./ac. of N+25 lb./ac. of P2O5+20 lb./ac. of K2O.
   N applied as A/S, P2O5 as Super and K2O as Pot. Sul.

3. DESIGN :
   (i) Split-plot. (ii) (a) 2 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 15'×12'. (v) Nil. (vi) Yes.

4. GENERAL :
   Same as in expt. no. 58(78) on page 327.

5. RESULTS :
   (i) 15265 lb./ac. (ii) 5262 lb./ac. (b) 1977 lb./ac. (iii) Only M effect is highly significant. (iv) Av. yield of tuber in lb./ac.

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S.E. of difference of two
1. V marginal means = 1860 lb./ac.
2. M marginal means = 985 lb./ac.
3. M means at the same level of V = 1398 lb./ac.
4. V means at the same level of M = 2218 lb./ac.
Crop :- Tapioca.  
Site :- Agri. College & Res. Instit., Coimbatore.  
Ref :- M. 56(47).  
Type :- 'C'.  

Object:—To determine the optimum spacing for Tapioca.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 13.14.8.1956. (iv) (a) 4 ploughings. (b) N.A. (c) and (d) As per treatments. (e) 1. (v) 5 tons/ac. of F.Y.M. applied before last ploughing. (vi) Local. (vii) Irrigated. (viii) 3 weedings. (ix) 25.38°. (x) 24.6.1957 to 3.7.1957.

2. TREATMENTS:
Main-plot treatments:
3 spacings with in rows: D$_1$=1½', D$_2$=2' and D$_3$=3'.
Sub-plot treatments:
3 spacings between rows: S$_1$=2', S$_2$=3' and S$_3$=4'.

3. DESIGN:
(i) Split-plot. (ii) (a) 3 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 30'x12'. (v) 1 row all round. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1956—N.A. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS:
(i) 9129 lb./ac. (ii) (a) 3388 lb./ac. (b) 2130 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of tuber in lb./ac.

<table>
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<td>9129</td>
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</tbody>
</table>

S.E. of difference of two
1. D marginal means = 1129 lb./ac.
2. S marginal means = 710 lb./ac.
3. S means at the same level of D = 1230 lb./ac.
4. D means at the same level of S = 1511 lb./ac.

Crop :- Tapioca.  
Site :- Agri. College & Res. Instit., Coimbatore.  
Ref :- M. 54(46).  
Type :- 'C'.  

Object:—To find out the performance of setts taken from the different parts of the stem for Tapioca.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Maize. (c) Nil. (i) (a) Stiff clay soil. (b) Refer soil analysis, Coimbatore. (iii) 30.8.1954. (iv) (a) 4 ploughings and passing Cambridge roller once and ridging up once. (b) to (d) N.A. (e) 1. (v) 5 to 7 tons/ac. of F.Y.M. applied before last ploughing. (vi) Butter stick. (vii) Irrigated. (viii) 2 weedings. (ix) 25.34°. (x) 13.7.1955.

2. TREATMENTS:
1. Setts from bottom ½ portion of stem.
2. Setts from middle ½ portion.
3. Setts from top ½ portion.
3. DESIGN:
(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 12. (iv) (a) 12' × 12'. (b) 10' × 10'. (v) 1' around. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Tuber yield. (iv) (a) 1933—contd. (b) and (c) No. (d) 'a' and (e) Nil. (f) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS:
(i) 716 lb./ac. (ii) 3997 lb./ac. (ii) Treatment differences are not significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7993</td>
<td>8088</td>
<td>5267</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E./mean = 1068 lb./ac.

---

**Crop:** Tapioca.  
**Site:** Agri. College & Res. Instt., Coimbatore.  
**Ref:** M. 54(48).  
**Type:** ‘C’.

Object:—To find out the difference in yield by planting setts on mounds and ridges.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Maize. (c) Nil. (ii) (a) Stiff clay silt. (b) Refer soil analysis, Coimbatore. (iii) 31.8.1954. (iv) (a) 4 ploughings and passing Cambridge roller once. (b) to (d) N.A. (e) 1. (f) to (g) N.A. (h) 5 to 7 tons/ac. of FYM applied before last ploughing. (i) Local. (ii) Irrigated. (iii) 2 weedings. (iv) 28.34. (v) 29, 30.6.1955.

2. TREATMENTS:
All combinations of (1) and (2):
(i) 2 methods of planting: M1—Planting on ridges and M2—Planting on mounds.
(ii) 3 spacings between rows and between plants: S1 = 2' × 3', S2 = 3' × 2' and S3 = 4' × 1'.

3. DESIGN:
(i) Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 24' × 15'. (b) 18' × 12'. (c) 3' × 11'. (d) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Attack of scale insects. Folidol and Endrine were sprayed. (iii) Tuber yield. (iv) (a) 1951—contd. (b) No. (c) Nil. (d) 'a' and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.

5. RESULTS:
(i) 7767 lb./ac. (ii) 1729 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td>8504</td>
<td>8715</td>
<td>6773</td>
<td>7997</td>
</tr>
<tr>
<td>M2</td>
<td>7875</td>
<td>6628</td>
<td>8707</td>
<td>7537</td>
</tr>
<tr>
<td>Mean</td>
<td>8189</td>
<td>7672</td>
<td>7440</td>
<td>7767</td>
</tr>
</tbody>
</table>

S.E. of S marginal mean  = 499.2 lb./ac.
S.E. of M marginal mean  = 407.6 lb./ac.
S.E. of body of table    = 705.9 lb./ac.

---

**Crop:** Tapioca.  
**Site:** Agri. College & Res. Instt., Coimbatore.  
**Ref:** M. 54(49).  
**Type:** ‘C’.

Object:—To compare the performance of Tapioca raised from setts planted erect and horizontally.
1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Maize. (c) Nil. (ii) (a) Stiff clay soil. (b) Refer soil analysis, Coimbatore. (iii) 26.8.1954. (iv) (a) 4 ploughings followed by passing Cambridge roller. Ridge plough was then passed to form ridges and furrows. (b) to (d) N.A. (e) 1. (v) 5 to 7 tons/ac. of F.Y.M. applied at the time of planting. (vi) Valencia. (vii) Irrigated. (viii) 2 weedings. (ix) 28.3.4. (x) 19.7.1955.
2. TREATMENTS:
   1. Planting setts erect.
   2. Planting setts horizontally.
3. DESIGN:
   (i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) 10' x 8'. (b) 10' x 6'. (v) 2 rows. (vi) Yes.
4. GENERAL:
   (i) Poor. (ii) Nil. (iii) Tuber yield. (iv) (a) 1953—contd. (b) and (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.
5. RESULTS:
   (i) 7322 lb/ac. (ii) 6998 lb/ac. (iii) Treatment difference is not significant. (iv) Av. yield of tuber in lb/ac.
   Treatment yield
   | 1  | 2  |
   | 7726 | 7018 |
   S.E./mean = 2020 lb/ac.

---

**Crop:** Tapioca

**Site:** Agri. College & Res. Instt., Coimbatore

**Ref:** M. 55(21).

**Type:** C.

Object:—To find out the performance of setts taken from the different portions of the stem for Tapioca.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) and (c) N.A. (ii) (a) Loamy soil. (b) Refer soil analysis, Coimbatore. (iii) 29.7.1955. (iv) (a) 4 ploughings. (b) N.A. (c) 8000 setts/ac. (d) 2' x 1'. (e) 1. (f) 5 tons/ac. of F.Y.M. (vi) Valencia. (vii) Irrigated. (viii) 3 weedings. (ix) 18.14". (x) 27.6.1956.
2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 54(46) on page 329.
4. GENERAL:
   (i) Poor. (ii) Nil. (iii) Tuber yield. (iv) (a) 1953—1955. (b) N.A. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Horticulturist, Coimbatore.
5. RESULTS:
   (i) 5956 lb/ac. (ii) 1840.8 lb/ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in lb/ac.
   Treatment yield
   | 1  | 2  | 3  |
   | 5745 | 6688 | 5436 |
   S.E./mean = 531.4 lb/ac.

---

**Crop:** Sugarcane (Adiali)

**Site:** Central Sugarcane Res. Stn., Cuddalore

**Ref:** M. 55(76).

**Type:** M.

Object:—To determine the optimum dose of N and time of application of the final dose to Sugarcane crop.

1. BASAL CONDITIONS:
   (i) (a) Ragi—Sugarcane—Paddy—G.M. (b) Ragi. (c) 40 lb/ac. of N as A/S. (ii) (a) Sandy loam. (b) Refer soil analysis, Cuddalore. (iii) 23.8.1955. (iv) (a) 5 ploughings. (b) Planting in rows. (c) 15000 3-budded setts/ac. (d) 3.3' between rows. (e) As per treatments. (vi) CO—527 (early). (vii) Irrigated. (viii) 3 weedings, propping once and earthing up twice. (ix) 83.2". (x) 31.12.1956.
TREATMENTS:

Main-plot treatments:
2 levels of N as mixture of A/S and G.N.C. in 2 : 1 ratio: N₁ = 250 and N₂ = 350 lb./ac.

Sub-plot treatments:
3 times of application of final dose (T): T₁ = December 1955, T₂ = March 1956 and T₃ = June 1956. The first and 2nd doses of manure (each of the dose in main-plots) was given after 45 and 90 days after planting respectively.

3. DESIGN:
(i) Split-plot. (ii) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 46.2' x 33'. (b) 39.6' x 29.7'. (v) One row on either side and 1.65' at each end. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Yield of cane. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 61.10 tons/ac. (ii) (a) 6.27 tons/ac. (b) 8.65 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of sugarcane in tons/ac.

<table>
<thead>
<tr>
<th></th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₁</td>
<td>56.39</td>
<td>59.70</td>
<td>62.01</td>
<td>59.37</td>
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<tr>
<td>N₂</td>
<td>59.06</td>
<td>70.91</td>
<td>58.52</td>
<td>62.83</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. N marginal means = 2.6 tons/ac.
2. T marginal means = 4.3 tons/ac.
3. T means at the same level of N = 6.1 tons/ac.
4. N means at the same level of T = 5.6 tons/ac.

Crop: Sugarcane (Adali).
Ref: M. 56(103).
Site: Central Sugarcane Res. Stn., Cuddalore.
Type: 'M'.

Object: To determine the optimum dose of N and time of application of the final dose of N to Sugarcane crop.

1. BASAL CONDITIONS:
(i) (a) Ragi—Sugarcane. (b) Ragi. (c) 40 lb./ac. of N as A/S. (ii) (a) Sandy loam. (b) Refer soil analysis, Cuddalore. (iii) 24.9.1956. (iv) (a) 3 ploughings. (b) Planting in rows. (c) 15000 three-budded setts/ac.
(d) 3.3' between rows. (e) —. (v) 5000 lb./a. of G.L. (vi) CO = 527 (early). (vii) Irrigated. (viii) 3 weedings, earthing up twice and trash twist prop;>ion. (ix) 78.41°. (a) December 1957.

2. TREATMENTS:
Main-plot treatments:
2 levels of N as mixture of A/S and G.N.C. in 2 : 1 ratio: N₁ = 250 and N₂ = 350 lb./ac.

Sub-plot treatments:
3 times of application of final dose (T): T₁ = December 1956, T₂ = March 1957 and T₃ = June 1957. The first and 2nd doses of manure (each of the dose in main-plots) were given 45 and 90 day after planting respectively.

3. DESIGN:
(i) Split-plot. (ii) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 46.2' x 31'. (b) 39.6' x 27.7'. (v) One row. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Yield, population and sugar content. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) to (vii) Nil.
5. RESULTS:

(i) 58.15 tons/ac.  (ii) (a) 0.20 tons/ac. (b) 0.85 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of cane in tons/ac.

<table>
<thead>
<tr>
<th></th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₁</td>
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<td>59.74</td>
<td>61.03</td>
<td>59.95</td>
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<td>N₂</td>
<td>55.68</td>
<td>56.83</td>
<td>56.57</td>
<td>56.36</td>
</tr>
<tr>
<td>Mean</td>
<td>57.38</td>
<td>58.28</td>
<td>58.80</td>
<td>58.15</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. N marginal means = 0.1 tons/ac.
2. T marginal means = 0.4 tons/ac.
3. T means at the same level of N = 0.6 tons/ac.
4. N means at the same level of T = 0.5 tons/ac.

Crop :- Sugarcane.
Site :- Central Sugarcane. Res. Sta., Cuddalore.
Ref :- M. 57(108).
Type :- 'M'.

Object :- To determine the optimum dose of N and time of application of the final dose to the Adsali crop of Sugarcane.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Clay loam. (b) Refer soil analysis, Cuddalore. (iii) 15.9.1957.  
(iv) (a) 5 ploughings. (b) Planting. (c) 15000 3-budded sets/ac. (d) 3.3' between rows. (e) --- (v) As per treatments. (vi) CO-527. (vii) Irrigated. (viii) 2 weedings and earthing up once. (ix) 39.5°. (x) 4.1.1959.

2. TREATMENTS:

Main-plot treatments :
2 levels of N as mixture of A/S and G.N.C. in 1 : 2 ratio: N₁=250 lb/ac. and N₂=350 lb/ac.

Sub-plot treatments :
1st dose applied 45 days after planting and 2nd dose 90 days after planting.

3. DESIGN:

(i) Split-plot. (ii) (a) 3 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6.  
(iv) (a) 39.6'x31'. (b) 33'x24.4'. (v) 3.3' around. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Yield of cane. (iv) (a) 1955-1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:

(i) 70.27 tons/ac. (ii) (a) 6.76 tons/ac. (b) 11.73 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of Sugarcane in tons/ac.

<table>
<thead>
<tr>
<th></th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>Mean</th>
</tr>
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<tbody>
<tr>
<td>N₁</td>
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<td>73.13</td>
<td>69.33</td>
<td>69.62</td>
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<td>N₂</td>
<td>68.86</td>
<td>73.12</td>
<td>70.77</td>
<td>70.92</td>
</tr>
<tr>
<td>Mean</td>
<td>67.63</td>
<td>73.12</td>
<td>70.05</td>
<td>70.27</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. N marginal means = 2.3 tons/ac.
2. T marginal means = 4.8 tons/ac.
3. T means at the same level of N = 6.8 tons/ac.
4. N means at the same level of T = 6.0 tons/ac.
Crop : Sugarcane.  
Site : Central Sugarcane Res. Stn., Cuddalore.  
Object :- To determine the optimum dose of N, P and K for Sugarcane crop.

1. BASAL CONDITIONS :
(i) Nil.  (b) Santhemp. (c) Nil.  
(ii) (a) Sandy loam.  (b) Refer soil analysis, Cuddalore.  
(iii) 5,6.5.1957.  
(iv) (a) 5 ploughings.  (b) Planted in furrows.  (c) 15000 3-budded sets/ac.  
(d) 3'3' between furrows.  
(e) — (v) 5000 lb/ac. of G.L.  (vi) CO—449.  (vi) Irrigated. (vii) 3 weedings and earthing up once.  
(ix) 35.4'.  
(x) Last week of February 1958.

2. TREATMENTS :
1. No manure.
2. 150 lb/ac. of N.
3. 200 lb/ac. of N.
4. 250 lb/ac. of N + 100 lb/ac. of P2O5+125 lb/ac. of K2O.
5. 350 lb/ac. of N.
6. 350 lb/ac. of N + 100 lb/ac. of P2O5+125 lb/ac. of K2O.  
N as A.S and G.N.C. in 2 : 1 ratio ; P and K as Triple Super and Mur. Pot. applied as B.D.

3. DESIGN :
(i) R.B.D.  (ii) (a) 6.  (b) N.A.  (iii) 6.  
(iv) (a) 39.6' X 33'.  (b) 33' X 26.4'  (v) 3.3' allround.  (vi) Yes.

4. GENERAL :
(i) Satisfactory.  (ii) Nil.  (iii) Yield of cane.  
(iv) (a) and (b) No.  (c) Nil.  (v) to (vii) Nil.

5. RESULTS :
(i) 43.38 tons/ac.  (ii) 5.03 tons/ac.  
(iii) Treatment differences are highly significant.  
(iv) Av. yield of cane in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<tbody>
<tr>
<td>Av. yield</td>
<td>17.21</td>
<td>45.12</td>
<td>46.65</td>
<td>48.15</td>
<td>52.16</td>
<td>50.99</td>
</tr>
<tr>
<td>S.E/mean</td>
<td>2.05 tons/ac.</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Crop : Sugarcane.  
Site : Central Sugarcane Res. Stn., Cuddalore.  
Object :- To study the effect of foliar application of N on the yield of Sugarcane.

1. BASAL CODITIONS :
(i) : Sugarcane—G.M. crop—Sugarcane.  (b) G.M. crop.  (c) Nil.  
(ii) (a) Sandy loam.  (b) Refer soil analysis, Cuddalore.  
(iii) 28. 29.3.1958.  
(iv) (a) 5 ploughings.  (b) Planted in rows.  (c) 15000 three-budded sets/ac.  
(d) 3'3' between rows.  
(e) — (v) 5000 lb/ac. of G.L.  (vi) CO—419.  (vii) Irrigated.  
(viii) 3 weedings and earthing up twice.  (ix) 37.20'.  (x) 2nd week of March 1959.

2. TREATMENTS :
Al combinations of (1) and (2)  
1. 2 sources of N : S1=A/S and S2=Urea.  
2. 2 methods of application : M1 Application of full dose to soil and M2+ Application partly to soil and partly by foliar spray. 
Full dose of N is 250 lb/ac. and in M2 150 lb was applied to soil.

3. DESIGN and 4. GENERAL :
Same as in exp. no. 57(95) above.

5. RESULTS :
(i) 41.50 tons/ac.  (ii) 5.98 tons/ac.  
(iii) None of the effects is significant.  
(iv) Av. yield of cane in tons/ac,
Crop :- Sugarcane.
Site :- Central Sugarcane Res. Stn., Cuddalore.

Object :- To study the effect of foliar application of N on Sugarcane.

1. **BASAL CONDITIONS**:

   (i) (a) Sugarcane—G.M.—Sugarcane. (b) G.M. crc.p. (c) Nil. (ii) (a) Sardy lcam. (b) Refer soil analysis, Cuddalore. (iii) 17.3.1959. (iv) (a) 5 ploughings. (b) Planting in rows. (c) 15000 3-budded setts/ac. (d) 3' apart. (e) —. (v) 5000 lb./ac. of G.L. (vi) Co—755. (vii) Irrigated. (viii) 3 weedings, earthing up twice, trashign and propping. (ix) 47.08. (x) 28.6.1960.

2. **TREATMENTS**:

   Main-plot treatments :
   4 levels of N as mixture of A/S and G.N.C. in 2 : 1 ratio : N₅=0, N₁=25, N₂=50 and N₃=75 lb./ac.

   Sub-plot treatments :
   6 levels of N as Urea : U₀=0, U₁=10, U₂=20, U₃=30, U₄=40, and U₅=50 lb./ac.

   A/S and G.N.C. applied to soil in two doses 45 and 90 days after planting. While Urea applied as foliar spray at an interval of 8 days (2% solution).

3. **DESIGN** :

   (i) Split-plot. (ii) (a) 4 main-plots/block ; 6 sub-plots/main-plot. (b) N.A. (iii) 2. (iv) (a) 33'x26'. (b) 26.4'x19.8'. (v) one row on all sides. (vi) Yes.

4. **GENERAL** :

   (i) Satisfactory. (ii) Nil. (iii) Yield of cane. (iv) (a) 1959—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. **RESULTS**:

   (i) 35.8 tons/ac. (ii) (a) 2.107 tons/ac. (b) 7.204 tons/ac. (iii) Main effect of U is highly significant and of N is significant. Interaction U × N is not significant. (iv) Av. yield of cane in tons/ac.

\[
\begin{array}{ccc|c|c}
    & U_0 & U_1 & U_2 & U_3 & U_4 & U_5 & Mean \\ 
    \hline
    N_0 & 19.4 & 18.8 & 19.3 & 37.2 & 35.8 & 63.7 & 32.4 \\
    N_1 & 16.8 & 34.2 & 21.2 & 43.3 & 33.9 & 60.4 & 35.0 \\
    N_2 & 22.8 & 31.5 & 33.3 & 44.9 & 43.0 & 42.9 & 36.4 \\
    N_3 & 27.7 & 31.6 & 37.8 & 42.8 & 50.3 & 46.1 & 39.4 \\
    \hline
    \text{Mean} & 21.7 & 29.0 & 27.9 & 42.1 & 40.8 & 53.3 & 35.8 \\
\end{array}
\]

S.E. of difference of two
1. N marginal means = 0.86 tons/ac.
2. U marginal means = 3.60 tons/ac.
3. U means at the same level of N = 7.20 tons/ac.
4. N means at the same level of U = 6.63 tons/ac.

Ref :- M. 59(83).
Type :- 'M'.
Crop: - Sugarcane.  
Site: - Central Sugarcane Res. Sta., Cuddalore. 
Type: - ‘M’.

Object: — To find out the effect of different sources of N on Sugarcane crop.

1. BASAL CONDITIONS:
   (i) (a) Sugarcane—Fallow—Sugarcane. (b) Fallow. (c) Nil. (d) Sandy loam. (e) Refer soil analysis, Cuddalore. 
   (ii) 39.3"X33". (v) 3.3' between rows. (e) —. (v) 5000 lb./ac. of G.L. (vi) Co—419 (late). (vii) Irrigated. (viii) Weeding 
   and earthing up twice. 

2. TREATMENTS:
   4 sources of 250 lb./ac. of N : S1=As/S, S2=Urea, S3=A/S:N and S4=C/A N.

3. DESIGN: 
   (i) R.B.D. 
   (ii) 9. 
   (iii) 6. 
   (iv) (a) 39.6'X33'. (b) 33"X26.4'. (v) 3.3' around. 

4. GENERAL: 
   (i) Satisfactory. 
   (ii) Nil. 
   (iii) Yield of cane. 
   (iv) (a) 1958—1960. 
   (v) No. 

5. RESULTS:
   (i) 49.5 tons/ac. 
   (ii) 5.88 tons/ac. 
   (iii) Treatment differences are not significant. 
   (iv) Avg. yield of cane in tons/ac.

    Treatment | S1 | S2 | S3 | S4 |
    --- | --- | --- | --- | --- |
    Av. yield | 49.2 | 49.1 | 48.6 | 51.0 |
    S.E./mean = 2.4 tons/ac.

---

Crop: - Sugarcane.  
Site: - Central Sugarcane Res. Sta., Cuddalore. 
Type: - ‘M’.

Object: — To determine the best time and method of application of P2O5 to Sugarcane crop.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Sannhemp. (c) Nil. (d) Sandy loam. (e) Refer soil analysis, Cuddalore. 
   (ii) 8. 
   (iii) 19.5.1957. 
   (iv) (a) 5 ploughings. (b) Planted in furrows. 
   (c) Irrigated. (v) 5000 lb./ac. of G.L.+250 lb./ac. as A/S and G.N.C. in 2:1 ratio. (vi) Co—419. 
   (vii) Weeding and earthing up once and twice. 

2. TREATMENTS:
   All combinations of (1), (2) & (1)+a control. 
   (1) 2 levels of P2O5 : P1=75 and P2=150 lb./ac. 
   (2) 2 methods of applications : M1= On surface and M2=6" below the surface. 
   (3) 2 times of applications : T1 = All at planting and T2 = In two split doses half at planting and remaining half at earthing up.

3. DESIGN: 
   (i) R.B.D. 
   (ii) 9. 
   (iii) 6. 
   (iv) (a) 39.6'X33'. (b) 33"X26.4'. (v) 3.3' around. 

4. GENERAL: 
   (i) Satisfactory. 
   (ii) Nil. 
   (iii) Yield of cane. 
   (iv) (a) 1957—1959. 

5. RESULTS:
   (i) 35.15 tons/ac. 
   (ii) 2.87 tons/ac. 
   (iii) None of the effects is significant. 
   (iv) Avg. yield of Sugarcane in tons/ac.
Object: To determine the best time and method of application of \( P_2O_5 \) to Sugarcane crop.

**BASAL CONDITIONS:**

1. (a) Sugarcane—Groundnut—G.M. crop. (b) Sannahemp. (c) Nil. (ii) (a) Clay loam. (b) Refer soil analysis, Cuddalore. (iii) 20.4.1958. (iv) (a) 5 ploughings. (b) Planted in furrows. (c) 15000 three-budded setts/ac. (d) 3.3' between furrows. (e)—. (v) 5000 lb/ac. of G.L.+250 lb/ac. of N as A/S and G.N.C. in 2 : 1 ratio. (vi) CO—419 (late). (vii) Irrigated. (viii) 3 weedings & earthing up once (ix) 37.20'.

2. (x) 20.3.1959.

2. TREATMENTS to 4. GENERAL:

Same as in expt. no. 57(94) on page 336.

5. RESULTS:

(i) 52.32 tons/ac. (ii) 9.28 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of sugarcane in tons/ac

<table>
<thead>
<tr>
<th></th>
<th>( P_1 )</th>
<th>( P_2 )</th>
<th>( M_1 )</th>
<th>( M_2 )</th>
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<td>36.19</td>
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</table>

S.E. of any marginal mean = .59 tons/ac.
S.E. of body of any table = .83 tons/ac.

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**Crop:** Sugarcane.
**Site:** Central Sugarcane. Res. Stn., Cuddalore.
**Ref:** M. 58(111).
**Type:** ‘M’.

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**Crop:** Sugarcane.
**Site:** Central Sugarcane. Res. Stn., Cuddalore.
**Ref:** M. 59(91).
**Type:** ‘M’.

Object: To determine the best time and method of application of \( P_2O_5 \) to Sugarcane crop.
1. BASAL CONDITIONS:
(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Cuddalore. (iii) 7.4.1959.
(iv) (a) 5 ploughings. (b) In furrows. (c) 15000 three-budded setts/ac. (d) 3.3' a part. (e) —. (v) 5000 lb/ac. of G.L.+250 lb/ac. of N as A/S and G.N.C. in 2 : 1 ratio. (vi) CO—419. (vii) Irrigated. (viii) 3 weedings and earthing up once. (ix) 21.65°. (x) 19.4.1960.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 57(94) on page 336.

4. GENERAL:
(i) Satisfactory; lodged. (ii) Nil. (iii) Yield of sugarcane. (iv) (a) 1957—1959. (b) Nil. (c) Nil. (v) and (b) Nil. (vi) Heavy rains in September 1959. (vii) Nil.

5. RESULTS:
(i) 56.43 tons/acre. (ii) 9.93 tons/acre. (iii) Interaction P x T is significant. Other effects are not significant.
(iv) Av. yield of cane in tons/acre.

<table>
<thead>
<tr>
<th></th>
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<th>P2</th>
<th>M1</th>
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<td>T2</td>
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<td>55.70</td>
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<td>56.78</td>
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</table>

Mean

| M1 | 55.91 | 57.18 |
| M2 | 54.64 | 56.79 |
|    | 57.18 | 57.57 |

S.E. of any marginal mean = 2.03 tons/acre.
S.E. of body of any table = 2.87 tons/acre.

Crop : Sugarcane.
Site : Sugarcane Res. Stn., Gudiyattam.
Ref : M. 55(67).
Type : 'M'.

Object : To study the effect of different sources of N on the yield of Sugarcane.

1. BASAL CONDITIONS:
(i) (a) Paddy—Sugarcane—Paddy. (b) Paddy. (c) 5000 lb/ac. of G.L.+100 lb/ac. of Super as B.D.+150 lb/ac. of A/S as top dressing. (ii) (a) Sandy loam. (b) N.A. (iii) 19.4.1955. (iv) (a) 5 to 6 ploughings. (b) N.A. (c) 15000 three-budded setts/ac. (d) 3.3' between rows. (e) N.A. (v) As per treatments. (vi) CO—419. (vii) Irrigated. (viii) 3 weedings, moniter digging twice, earthing up twice, trash and propping once. (ix) and (x) N.A.

2. TREATMENTS:
Main-plot treatments:
4 levels of B.D. : B0 = No B.D., B1 = F.Y.M. at 10 tons/ac., B2 = 5000 lb/ac. of G.M. as sannhemp intersown in cane rows and B3 = Super at 100 lb/ac. of P2O5.

Sub-plot treatments:
5 sources of 200 lb/ac. of N : S1 = A/S, S2 = G.N.C., S3 = Castorcake, S4 = G.N.C. and A/S and S5 = Castorcake and A/S in 2 : 1 ratio of N.

3. DESIGN:
(i) Split-plot. (ii) (a) 4 main-plots/block; 5 sub-plots/main-plot. (b) N.A. 'iii) 4. (iv) (a) 33'x23.1'. (b) 33' x 16.5'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Slight attack of shoot-borer and top borer. (iii) Germination, tillering, count of early shoot and top-borers, smut and yield of cane. (iv) (a) 1955—1957. (b) Yes. (c) Nil. (v) and (vi) Nil. (vii) Raw data N.A.
5. RESULTS:
(i) 43.14 tons/ac.  (ii) (a) and (b) N.A.  (iii) None of the effects in significant.  (iv) Av. yield of cane in tons/ac.

<table>
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<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
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<td>41.40</td>
<td>43.21</td>
<td>42.36</td>
<td>43.14</td>
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S.E.'s N.A.

Crop :- Sugarcane.
Site :- Sugarcane Res. Stn., Gudiyattam.
Ref :- M. 56(71).
Type :- 'M'.

Object :- To study the effect of different sources of N on the yield of Sugarcane.

1. BASAL CONDITIONS:
(i) (a) Paddy—Sugarcane—Paddy.  (b) Paddy.  (c) 5000 lb./ac. of G.L.+100 lb./ac. of Super as B.D.+150 lb./ac. of A/S as top-dressing.  (ii) (a) Sandy loam.  (b) N.A.  (iii) 15,16.3.1956.  (iv) (a) 5 to 6 ploughings.  (b) N.A.  (c) 15000 three budded setts/ac.  (d) 3.3' between rows.  (e) —.  (v) As per treatments.  (vi) CO—419.  (vii) Irrigated.  (viii) 3 weodings, mummatty digging twice, earthing up twice, trashing and propping once.  (ix) 37.05.  (x) 2.3.1957 to 26.4.1957.

2. TREATMENTS:
Main-plot treatments:
4 levels of B.D. : B0 = No B.D., B1 = 10 tons/ac. of F.Y.M., B2 = 10 tons/ac. of F.Y.M.+5000 lb/ac. of G.L. as sannhemp grown in ridges and applied in situ and B3 = 100 lb/ac. of P2O5 as Super.

Sub-plot treatments:
Same as in expt. no. 55(67) on page 338.

3. DESIGN and 4. GENERAL:
Same as in expt. no. 55(67) on page 338.

5. RESULTS:
(i) 47.07 tons/ac.  (ii) (a) 5.74 tons/ac.  (b) 5.03 tons/ac.  (iii) Main effect of S is highly significant. Other effects are not significant.  (iv) Av. yield of cane in tons/ac.

<table>
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<td>45.62</td>
<td>38.46</td>
<td>50.05</td>
<td>47.07</td>
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</table>

S.E. of difference of two
1. B marginal means = 1.81 tons/ac.
2. S marginal means = 1.78 tons/ac.
3. S means at the same level of B = 3.56 tons/ac.
4. B means at the same level of S = 3.66 tons/ac.
Crop :- Sugarcane. 
Site :- Sugarcane Res. Stn., Gudiyattam. 
Object :-To study the effect of different sources of N on the yield of Sugarcane.

1. BASAL CONDITIONS :
   (i) (a) Paddy—Sugarcane—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+100 lb./ac. of Super as B.D.+150 lb./ac. of A/S as top-dressing. (ii) (a) Sandy loam. (b) N.A. (iii) 23.8.1957 to 3.4.1957. (iv) (a) 5 to 6 ploughings. (b) N.A. (c) 15000 three-budded setts/ac. (d) 3.3' between rows. (e) —. (v) As per treatments. (vi) CO—419. (vii) Irrigated. (viii) 3 weedings, mummy digging twice, earthing up twice, trash and propping once. (ix) 33.40. (x) 16.4.1958 to 1.5.1958.

2. TREATMENTS :
   Main-plot treatments :
   4 levels of B.D. : B0 = No B.D., B1 = F.Y.M. at 10 tons/ac., B2 = F.Y.M. at 30 tons/ac.+5000 lb./ac. of G.M.as sannhemp intersown between rows of cane and B4 = Super at 100 lb./ac. of P2O5.
   Sub-plot treatments :
   Same as expt. no. 55(67) on page 338.

3. DESIGN :
   (i) Split-plot. (ii) (a) 4 main-plots/block ; 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) 'a) 33'x23.1'. (b) 33'x16.5'. (v) One row left on either side. (vi) Yes.

4. GENERAL :
   Same as in expt. no. 55(67) on page 338.

5. RESULTS :
   (i) 39.03 tons/ac. (ii) (a) 15.10 tons/ac. (b) 4.59 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of cane in tons/ac.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S5</th>
<th>Mean</th>
</tr>
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<tbody>
<tr>
<td>B0</td>
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<td>38.09</td>
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<tr>
<td>B1</td>
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<td>38.28</td>
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<td>36.96</td>
<td>38.19</td>
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S.E. of difference of two
1. B marginal means = 4.77 tons/ac.
2. S marginal means = 1.62 tons/ac.
3. S means at the same level of B = 3.24 tons/ac.
4. B means at the same level of S = 5.59 tons/ac.

---

Crop :- Sugarcane. 
Site :- Sugarcane Res. Stn., Gudiyattam. 
Object :-To determine the best time and method of application of P2O5 to Sugarcane.

1. BASAL CONDITIONS :
   (i) (a) Paddy—Sugarcane—Paddy. (b) Paddy. (c) Nil. (ii) (a) Sandy loam. (b) N.A. (iii) 31.3.1958 and 8.4.1958. (iv) (a) 5 to 6 ploughings. (b) Planting. (c) 15000 three-budded setts/ac. (d) 3.3' between rows. (e) —. (v) B.D. of 10 tons/ac. of F.Y.M. (vi) CO—419. (vii) Irrigated. (viii) 3 weedings, mummy digging twice, earthing up twice and trash once. (ix) 36.65. (x) 2 to 22.4.1959.

2. TREATMENTS :
   All combinations of (1), (2), and (3)+a control
   (1) 2 levels of P2O5 : P1 =75 lb./ac. and P2 =150 lb./ac.
(2) 2 times of application: \( T_1 = \frac{1}{2} \) at planting and \( \frac{1}{2} \) at earthing up and \( T_2 = \) Full dose at planting.
(3) 2 methods of application: \( M_1 = \) Normal method and \( M_2 = \) By placement 6" below the soil.
\( P_2 \) applied as Super and N at 200 lb./ac. as mixture of G.N.C. and A/S in 2:1 ratio of N.

3. DESIGN:
(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 39.6' \times 39.6'. (b) 33' \times 33'. (v) One row kept on either side. (vi) Yes.

4. GENERAL:
(i) Slightly affected by drought conditions. (ii) Nil. (iii) Yield of sugarcane. (iv) (a) 1958—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(a) 48.27 tons/ac. (ii) 7.45 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of cane in tons/ac.

<table>
<thead>
<tr>
<th></th>
<th>( M_1 )</th>
<th>( M_2 )</th>
<th>( P_1 )</th>
<th>( P_2 )</th>
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</table>

S.E. of any marginal mean = 1.86 tons/ac.
S.E. of body of any table = 2.63 tons/ac.

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**Crop :- Sugarcane.**

**Site :- Sugarcane Res. Sta., Gudiyattam.**

Object :- To determine the best time and method of application of \( P_2 \) to Sugarcane.

1. BASAL CONDITIONS:
(i) (a) Paddy—Sugarcane—Paddy. (b) Paddy. (c) Nil. (ii) (a) Sandy Loam. (b) N.A. (iii) 18 and 20.3.1959. (iv) (a) 5 to 6 ploughings (b) Planting. (c) 150 sets/ac. (d) 3.3' between cane rows. (e) N.A. (v) B.D. of 10 tons/ac. of F.Y.M. (vi) CO-419. (vii) Irrigated. (viii) 3 weedicings. mummaty digging twice, earthing up twice, trashing once and propping once. (ix) 23.71'. 5 to 9.3.1960.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 58(39) on page 340.

4. GENERAL:
(i) The crop was stunted due to water scarcity. (ii) Early shoot borer and top borer on mild scale; spraying with DDT was taken up. The smut wilt was removed. (iii) Cane yield. (iv) (a) 1958—1960. (b) No. (c) Nil. (v) (a) Cuddalore. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 45.6 tons/ac. (ii) 29.08 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of cane in tons/ac.

Ref :- M. 59(32).

Type :- 'M'.
Crop :- Sugarcane.
Site :- Central Sugarcane Res. Stn., Cuddalore.
Ref :- M. 58(108).
Type :- 'MV'.

Object :- To study the response of Sugarcane to N with and without basal application of P2O5 and K2O.

1. BASAL CONDITIONS :
   (i) (a) Sugarcane—G.M.—Sugarcane. (b) G.M. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Cuddalore. (iii) 1st week of April 1958. (iv) (a) 5 ploughings. (b) Planting in furrows. (c) 15020 three-budded setts/ac. (d) 3.3' between rows. (e) N.A. (f) 5000 lb/ac. of G.L. (v) As per treatments. (vii) Irrigated. (3) Weeding and earthing up once. (ix) 37.20. (x) Last week of Feb. 1959 and 1st week of March 1959.

2. TREATMENTS :
   Main-plot treatments :
   2 varieties: V1=CO—419 and V2=CO—449.
   Sub-plot treatments :
   6 doses of manures : D0=No nitrogen, D1=150 lb/ac. of N, D2=250 lb/ac. of N, D3=250 lb/ac. of N+100 lb/ac. of P2O5+125 lb/ac. of K2O, D4=350 lb/ac. of N and D5=350 lb/ac. of N+100 lb/ac. of P2O5+125 lb/ac. of K2O.
   N as A/S and G.N.C. in 2 : 1 ratio in two equal doses applied 45 and 90 days after planting. K2O as Mur. Pot. and P2O5 as Super applied at planting as B.D.

3. DESIGN :
   (i) Split-plot. (ii) (a) 2 main-plots/block ; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 33'x26.4' (b) 29.7'x19.8'. (c) 3.3'x1.6'. (v) Yes.

4. GENERAL :
   (i) Satisfactory. (b) N.A. (iii) Yield of cane. (iv) (a) to (c) N.A. (v) to (vii) Nil.

5. RESULTS :
   (i) 46.80 tons/ac. (ii) (a) 5.47 tons/ac. (b) 2.92 tons/ac. (iii) Effect of M alone is significant. (iv) Av. yield of sugarcane in tons/ac.

<table>
<thead>
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<th>M0</th>
<th>M1</th>
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<td>50.80</td>
<td>45.55</td>
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</table>

Mean 23.20 48.65 51.55 52.20 52.30 52.90 46.70

S.E. of difference of two
1. V marginal means = 1.58 tons/ac.
2. M marginal means = 1.46 tons/ac.
3. M means at the same level of V = 2.06 tons/ac.
4. V means at the same level of M = 2.46 tons/ac.

Control = 50.0 tons/ac.

M1: 42.8 42.7
M2: 49.3 45.2
P1: 46.1 43.9
P2: 48.0 42.9

S.E. of any marginal mean = 7.27 tons/ac.
S.E. of body of any table = 10.28 tons/ac.

---

Crop :- Sugarcane.
Site :- Central Sugarcane Res. Stn., Cuddalore.
Ref :- M. 58(108).
Type :- 'MV'.

Object :- To study the response of Sugarcane to N with and without basal application of P2O5 and K2O.

1. BASAL CONDITIONS :
   (i) (a) Sugarcane—G.M.—Sugarcane. (b) G.M. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Cuddalore. (iii) 1st week of April 1958. (iv) (a) 5 ploughings. (b) Planting in furrows. (c) 15020 three-budded setts/ac. (d) 3.3' between rows. (e) N.A. (f) 5000 lb/ac. of G.L. (v) As per treatments. (vii) Irrigated. (3) Weeding and earthing up once. (ix) 37.20. (x) Last week of Feb. 1959 and 1st week of March 1959.

2. TREATMENTS :
   Main-plot treatments :
   2 varieties: V1=CO—419 and V2=CO—449.
   Sub-plot treatments :
   6 doses of manures : D0=No nitrogen, D1=150 lb/ac. of N, D2=250 lb/ac. of N, D3=250 lb/ac. of N+100 lb/ac. of P2O5+125 lb/ac. of K2O, D4=350 lb/ac. of N and D5=350 lb/ac. of N+100 lb/ac. of P2O5+125 lb/ac. of K2O.
   N as A/S and G.N.C. in 2 : 1 ratio in two equal doses applied 45 and 90 days after planting. K2O as Mur. Pot. and P2O5 as Super applied at planting as B.D.

3. DESIGN :
   (i) Split-plot. (ii) (a) 2 main-plots/block ; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 33'x26.4' (b) 29.7'x19.8'. (c) 3.3'x1.6'. (v) Yes.

4. GENERAL :
   (i) Satisfactory. (b) N.A. (iii) Yield of cane. (iv) (a) to (c) N.A. (v) to (vii) Nil.

5. RESULTS :
   (i) 46.80 tons/ac. (ii) (a) 5.47 tons/ac. (b) 2.92 tons/ac. (iii) Effect of M alone is significant. (iv) Av. yield of sugarcane in tons/ac.

<table>
<thead>
<tr>
<th>M0</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
<th>M5</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>21.50</td>
<td>51.20</td>
<td>52.90</td>
<td>53.70</td>
<td>54.00</td>
<td>55.00</td>
<td>48.05</td>
</tr>
<tr>
<td>24.90</td>
<td>46.10</td>
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<td>50.70</td>
<td>50.60</td>
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<td>45.55</td>
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</tbody>
</table>

Mean 23.20 48.65 51.55 52.20 52.30 52.90 46.70

S.E. of difference of two
1. V marginal means = 1.58 tons/ac.
2. M marginal means = 1.46 tons/ac.
3. M means at the same level of V = 2.06 tons/ac.
4. V means at the same level of M = 2.46 tons/ac.
Crop :- Sugarcane.  
Site :- Central Sugarcane Res. Stn., Cuddalore.  

Ref :- M. 59(80).  
Type :- ‘MV’.  

Object :- To study the effect of N, P and K on the yield of Sugarcane.

1. BASAL CONDITIONS :
   (i) (a) Sugarcane—G.M.—Sugarcane.  (b) G.M. crop.  (c) Nil.  (ii) (a) Sandy loam.  (b) Refer soil analysis, Cuddalore.  (iii) 25.3.1959 to 3.4.1959.  (iv) (a) 5 ploughings.  (b) Planting in furrows.  (c) 15000 three-budded setts/ac.  (d) 3.3' between rows.  (e) (v) 500 lb/ac. of G.L.  (vi) As per treatments.  (vii) Irrigated.  (viii) 3 weedings; earthing up twice.  (ix) 47.35°.  (x) March, 1960.

2. TREATMENTS :
   Main-plot treatments :
   2 varieties: V1 = CO-419 and V2 = CO-449.
   
   Sub-plot treatments :
   9 manurial doses: M0 = No nitrogen, M1 = 50 lb/ac. of N, M2 = 100 lb/ac. of N, M3 = 150 lb/ac. of N, M4 = 150 lb/ac. of N+100 lb/ac. of P2O5, M5 = 250 lb/ac. of N, M6 = 250 lb/ac. of N+100 lb/ac. of P2O5+125 lb/ac. of K2O, M7 = 350 lb/ac. of N and M8 = 350 lb/ac. of N+100 lb/ac. of P2O5+125 lb/ac. of K2O.  N as A/S and G.N.C. applied in two doses 45 and 100 days after planting.  P2O5 as Super and K2O as Mur. of Pot. applied at planting.

3. DESIGN :
   (i) Split-plot.  (ii) (a) 2 main-plots/block; 9 sub-plots/main-plot.  (b) N.A.  (iii) 6.  (iv) (a) 39.6' x 33'.  (b) 33' x 29.7'.  (v) 3.3' x 1.6'.  (vi) Yes.

4. GENERAL:
   (i) Satisfactory.  (ii) Nil.  (iii) Cane yield.  (iv) (a) 1957—1961.  (b) No.  (c) Nil.  (v) to (vii) Nil.

5. RESULTS :
   (i) 34.4 tons/ac.  (ii) (a) 4.88 tons/ac.  (b) 3.77 tons/ac.  (iii) Main effects of V and M are significant.  Interaction V x D is not significant.  (iv) Av. yield of sugarcane in tons/ac.

<table>
<thead>
<tr>
<th></th>
<th>M0</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
<th>M5</th>
<th>M6</th>
<th>M7</th>
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<tr>
<td>V1</td>
<td>20.8</td>
<td>30.3</td>
<td>39.2</td>
<td>44.8</td>
<td>47.3</td>
<td>46.2</td>
<td>48.9</td>
<td>48.6</td>
<td>49.8</td>
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<tr>
<td>V2</td>
<td>17.6</td>
<td>21.2</td>
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<tr>
<td>Mean</td>
<td>19.2</td>
<td>25.8</td>
<td>33.0</td>
<td>36.4</td>
<td>39.1</td>
<td>38.9</td>
<td>39.3</td>
<td>39.5</td>
<td>38.7</td>
<td>34.4</td>
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</table>

S.E. of difference of two
1. V marginal means = 0.9 tons/ac.
2. M marginal means = 1.5 tons/ac.
3. M means at the same level of V = 2.2 tons/ac.
4. V means at the same level of M = 2.3 tons/ac.

Crop :- Sugarcane.  
Site :- Central Sugarcane Res. Stn., Cuddalore.  

Ref :- M. 59(87).  
Type :- ‘MV’.  

Object :- To find out the optimum dose of N required for adasali planting under different varieties.

1. BASAL CONDITIONS:
   (i) (a) Sugarcane—G.M.—Sugarcane.  (b) Sannhemp.  (c) Nil.  (ii) (a) Sandy loam.  (b) Refer soil analysis, Cuddalore.  (iii) 7.8.1959.  (iv) (a) 5 ploughing.  (b) Planted in furrows.  (c) 15000 three-budded setts/ac.  (d) 3.3' apart.  (e) (v) 5000 lb/ac. of G.M.  (vi) As per treatments.  (vii) Irrigated.  (viii) 3 weedings; earthing up twice, trashing and propping.  (ix) 102.3'.  (x) 16 to 20.12.1960.

2. TREATMENTS :
   Main-plot treatments :
   3 varieties: V1 = CO—527, V2 = CO—658 and V3 = CC—785.
344

Sub-plot treatments:
5 levels of N: M₁ = 200, M₂ = 250, M₃ = 300, M₄ = 350 and Mₛ = 400 lb/ac.
N as A/S and G.N.C. in 2 : 1 ratio applied in 2 equal doses 45 and 100 days after planting.

3. DESIGN:
(i) Split-plot. (ii) (a) 3 main-plots/block; 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 33' x 26.4'. (b) 29.7' x 19.8'. (v) 3.3' x 1.6' left as border. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Cane yield. (iv) (a) 1959—1961. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 45.56 tons/ac. (ii) (a) 7.73 tons/ac. (b) 7.33 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of sugarcane in tons/ac.

<table>
<thead>
<tr>
<th></th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
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<td>41.10</td>
<td>43.83</td>
<td>44.32</td>
<td>40.75</td>
<td>42.76</td>
</tr>
</tbody>
</table>

Mean 47.38 45.70 43.07 47.28 44.36 45.56

S.E. of difference of two
1. V marginal means = 2.4 tons/ac.
2. M marginal means = 3.0 tons/ac.
3. M means at the same level of V = 5.2 tons/ac.
4. V means at the same level of M = 5.2 tons/ac.

Crop :- Sugarcane. Ref :- M. 58(128).
Site :- Central Sugarcane Res. Stn., Cuddalore. Type :- 'C'.
Object :- To study the effect of trashing and propping on the yield of Sugarcane.

1. BASAL CONDITIONS:
(i) (a) Sugarcane—Groundnut or Ragi—G.M. (b) Sannhemp. (c) Nil. (ii) (a) Sandy loam. b) Refers soil analysis, Cuddalore. (iii) 17th to 20th March, 1958. (iv) (a) 5 ploughings. (b) Planting. (c) 15000 three budded setts/ac. (d) 3.3' between rows. (e) N.A. (v) N at 250 lb/ac. as A/S and G.N.C. in 2 : 1 ratio. (vi) CO—449. (vii) Irrigated. (viii) Weeding and earthing up twice. (ix) 38.0°. (x) 5th to 10th Feb., 1959.

2. TREATMENTS:
1. No trashing and no propping.
2. Trashing and no propping.
3. Trashing and propping by trash twists.
4. Trashing and propping by bamboos.
In treatments 2 to 4 trashing was done twice; propping was done in the 8th month of planting.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) and (b) 1/33.3 ac. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Cane yield. (iv) (a) 1958—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 42.45 tons/ac. (ii) 3.10 tons/ac. (iii) Treatment differences are significant. (iv) Av. yield of cane in tons/ac.
Treatment | 1 | 2 | 3 | 4 |
Av. yield | 47.6 | 42.8 | 38.9 | 40.5 |
S.E./mean = 1.55 tons/ac.

Crop: Sugarcane.  
Site: Central Sugarcane Res. Stn., Cuddalore.  
Ref: M. 59(85).  
Type: 'CV'.

Object: To study the effect of trashing and propping on the yield of Sugarcane.

1. BASAL CONDITIONS:
   (i) (a) Sugarcane—Fallow. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Cuddalore. (iii) 17.9.1959. (iv) (a) As per treatments. (b) Planting in furrows. (c) N.A. (d) As per treatments. (e) N.A. (v) 5000 lb./ac. of G.L.+250 lb./ac. of N as A/S and G.N.C. in 1 : 2 ratio in 3 doses: 90, 90 and 70 lb. applied 45, 90 and 150 days after planting respectively. (vi) As per treatments. (vii) Irrigated. (viii) Earthing up once and 3 weedings. (ix) 93.57°. (x) 11.12.1960.

2. TREATMENTS:
   Main-plot treatments:  
   3 varieties: \( V_1 = \text{CO} - 527 \), \( V_2 = \text{CO} - 658 \) and \( V_3 = \text{CO} - 785 \).
Sub-plot treatments:
2 methods of planting: M₁ = Local method—planting in furrows of 4' x 6' depth with 3.3' spacing between rows; partial earthing up and high banking after final manuring. Trashing and trash twist propping. M₂ = Hawaiian method—planting in 18' deep furrows and spacing 4' apart. The crop will be allowed to lodge after May to rest on slopes of the ridges.

3. DESIGN:
(i) Split-plot. (ii) (a) 3 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 39.6' x 33'. (b) For M₁: 33' x 26.4'; for M₂: 31.6' x 26.4'. (v) One row on either side of plot. (vi) Yes.

4. GENERAL:

5. RESULTS:
(i) 51.9 tons/ac. (ii) (a) 6.75 tons/ac. (b) 12.92 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of cane in tons/ac.

\[
\begin{array}{cccc}
 & V_1 & V_2 & V_3 & \text{Mean} \\
M_1 & 50.3 & 53.7 & 44.1 & 49.4 \\
M_2 & 52.1 & 60.3 & 50.9 & 54.4 \\
\text{Mean} & 51.2 & 57.0 & 47.5 & 51.9 \\
\end{array}
\]

\[
\text{S.E. difference of any two} \\
1. \text{V marginal means} = 3.37 \text{tons/ac.} \\
2. \text{M marginal means} = 5.27 \text{tons/ac.} \\
3. \text{M means at the same level of V} = 9.14 \text{tons/ac.} \\
4. \text{V means at the same level of M} = 7.29 \text{tons/ac.}
\]

Crop: Sugarcane.
Site: Sugarcane Res. Stn., Gudiyattam.
Ref: M. 54(55).
Type: ‘CV’.
Object: To find out the suitability of Rayungan as seed material in comparison with three budded setts.

1. BASAL CONDITIONS:
(i) (a) G.M.—Paddy—Sugarcane. (b) Paddy. (c) 5000 lb./ac. of G.M.+30 lb./ac. of P₂O₅ as Super+30 lb./ac. of N as A.S. (ii) (a) Sandy. (b) N.A. (iii) 4, 5.3, 1954. (iv) (a) 5 ploughings. (b) N.A. (c) 15000 three budded setts/ac. (d) 2' x 2.5'. (e) N.A. (v) 10 tons/ac. of F.Y.M.+100 lb./ac. of N as A S as top dressing by placement method. (vi) As per treatments. (vii) Irrigated. (viii) 3 weedings. (ix) 3.3' x 1.6'. (x) 12th to 28th April, 1955.

2. TREATMENTS:
All combinations of (1), (2) and (3)
(1) 2 types of seed material: R₁ = Three-budded setts and R₂ = Rayungan.
(2) 3 spacings within furrows: S₁ = 6', S₂ = 12' and S₃ = 15'.
(3) 2 varieties: V₁ = CO—419 (late) and V₂ = CO—449 (medium).

3. DESIGN:
(i) Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) 1/441.44 ac. (b) 1,714.29 ac. (v) 3.3' x 1.6'. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Attack of smuts—removal and burning of infested clumps. (iii) No. of canes, girth, length and yield. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 66.2 tons/ac. (ii) 13.4 tons/ac. (iii) None of the effects is significant. (iv) Av. yie'd of cane in tons/ac.
Crop - Sugarcane.
Site - Sugarcane Res. Stn., Gudiyattam.
Ref: M. 55(66).
Type: ‘CV’.

Object: To study the suitability of Rayungan as seed material as compared to setts in different spacings.

1. BASAL CONDITIONS:
- (i) G.M.—Paddy—Sugarcane.
- (ii) Paddy.
- (iii) Sandy loam.
- (iv) Sandy loam.
- (v) 29.3.1955.
- (vi) Sandy loam.
- (vii) 5 to 6 ploughings.
- (viii) 5 to 6 ploughings.
- (ix) 15000 three-budded setts/ac.
- (x) 5 to 6 ploughings.
- (xi) As per treatments.
- (xii) 2.73 tons/ac.
- (xiii) 3.35 tons/ac.
- (xiv) 3.87 tons/ac.
- (xv) 4.74 tons/ac.

2. TREATMENTS:
- All combinations of (1), (2) and (3)
- (1) 2 types of seed material: R1 = Setts and R2 = Rayungan.
- (2) 3 spacings within furrows: S1 = 6", S2 = 12", S3 = 18".
- (3) 2 varieties: V1 = CO-419 and V2 = CO-449.

3. DESIGN:
- (i) Fact. in R.B.D.
- (ii) 12.
- (iii) 4.
- (iv) 1952—1953.
- (v) One row left on either side.
- (vi) Yes.

4. GENERAL:
- (i) Satisfactory.
- (ii) Slight attack of shoot-borer, top-borer, smut and mosaic.
- (iii) Germination count and cane yield.
- (iv) 28.20''.
- (v) 7.1.1956.

5. RESULTS:
- (i) 37.34 tons/ac.
- (ii) 10.45 tons/ac.
- (iii) None of the effects is significant.
- (iv) Av. yield of cane in tons/ac.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>R1</th>
<th>R2</th>
<th>Mean</th>
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<tbody>
<tr>
<td>V1</td>
<td>40.02</td>
<td>32.23</td>
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<td>39.43</td>
<td>32.43</td>
<td>35.93</td>
</tr>
<tr>
<td>V2</td>
<td>42.01</td>
<td>38.35</td>
<td>35.89</td>
<td>42.21</td>
<td>35.28</td>
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</tr>
<tr>
<td>Mean</td>
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<td>35.72</td>
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<td>30.24</td>
<td>31.84</td>
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</tr>
</tbody>
</table>
Crop: Sugarcane.  
Site: Sugarcane Res. Stn., Gudiyathams.  
Type: ‘CV’.

Object: To find out the suitability of Rayungan as seed material as compared to setts in different spacings.

1. BASAL CONDITIONS:
   (i) (a) G.M.—Paddy—Sugarcane. (b) Paddy. (c) Nil. (ii) (a) Sandy loam. (b) N.A. (iii) 19.2.1956. (iv) (a) 5 to 6 ploughings. (b) In furrows. (c) 15000 three-budded setts/ac. (d) As per treatments. (e) N.A. (v) 10 tons/ac. of F.Y.M. as B.D.+200 lb./ac. of N as A/S and castorcake in 1:2 applied in two equal doses. 45 days after planting and at earthing up. (vi) As per treatments. (vii) 3 weedings, 2 mummtisly digings, 2 earthing and 1 trashing. (ix) 35.81”. (x) 28.1.1957 to 15.2.1957.

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 55,66) on p:ge 347.

5. RESULTS:
   (i) 46.29 tons/ac. (ii) 4.55 tons/ac. (iii) V, R and V x S effects are significant. Other effects are not significant. (iv) AV. yield of cane in tons/ac.

<table>
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<tr>
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<th>S1</th>
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<td>45.93</td>
</tr>
<tr>
<td>Mean</td>
<td>44.75</td>
<td>47.83</td>
</tr>
</tbody>
</table>

S.E. of V or R marginal mean = 2.1 tons/ac.
S.E. of S marginal mean = 2.6 tons/ac.
S.E. of body of V x R table = 3.0 tons/ac.
S.E. of body of V x S or R x S table = 3.7 tons/ac.

Crop: Sugarcane.  
Site: Central Sugarcane Res. Stn., Cuddalore.  
Type: ‘IM’.

Object: To study the effect of irrigations combined with different forms of manure on the yield of Sugarcane.

1. BASAL CONDITIONS:
   (i) (a) Sugarcane—Groundnut or Ragi—G.M. (b) Sannhemp. (c) Nil. (ii) (a) Clay loam. (b) Refer soil analysis, Cuddalore. (iii) 15, 16, 17.4 1957. (iv) (a) 5 ploughings. (b) —. (c) 15,000 3-budded setts/ac. (d) 3’ between rows. (e) N.A. (v) As per treatments. (vi) Co—419 (late). (vii) As per treatments. (viii) 3 weedings and earthing up twice. (ix) 35.4”. (x) 11.3.1958.

2. TREATMENTS:
   Main-plot treatments:
   2 irrigations: I1 = Normal irrigation up to 5th week and thereafter once in 6 days up to harvest and I2 = Restricted irrigation i.e. normal irrigation upto 5th week and thereafter once in 12 days upto end of Dec., once in 18 days in Jan.—Feb. and no irrigation thereafter.
Sub-plot treatments:

All combinations of (1) and (2)

(1) 2 levels of N: N₁ = 150 lb./ac. N₂ = 250 lb./ac.
(2) 4 sources of N: S₁ = A/S, S₂ = G.N.C., S₃ = Sannhemp at 5000 lb./ac. A/S and S₄ = 100 lb. of P₂O₅ + A/S.

3. DESIGN:

(i) Split-plot. (ii) (a) 2 main-plots/block; 8 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 39.6°x30.8°. (b) 33'x24.4'. (v) 3.3' along. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Cane yield. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:

(i) 47.80 tons/ac. (ii) (a) 7.32 tons/ac. (b) 4.38 lb./ac. (iii) Main effects of N and S are significant. Other effects are not significant. (iv) Av. yield of cane in tons/ac.

<table>
<thead>
<tr>
<th></th>
<th>S₁</th>
<th>S₂</th>
<th>S₃</th>
<th>S₄</th>
<th>Mean</th>
<th>N₁</th>
<th>N₂</th>
</tr>
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<tbody>
<tr>
<td>I₁</td>
<td>49.35</td>
<td>49.68</td>
<td>48.28</td>
<td>50.02</td>
<td>49.33</td>
<td>47.38</td>
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<tr>
<td>I₂</td>
<td>50.05</td>
<td>43.82</td>
<td>43.12</td>
<td>48.08</td>
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<td>45.71</td>
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<tr>
<td>Mean</td>
<td>49.70</td>
<td>46.75</td>
<td>45.70</td>
<td>49.05</td>
<td>47.80</td>
<td>46.54</td>
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<td>N₁</td>
<td>48.43</td>
<td>44.93</td>
<td>45.26</td>
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<tr>
<td>N₂</td>
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<td>46.54</td>
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</tbody>
</table>

S.E. of difference of mean
1. I marginal means = 1.58 tons/ac. 5. I means at the same level of S = 2.63 tons/ac.
2. N marginal means = 1.10 tons/ac. 6. N means at the same level of I = 1.55 tons/ac.
3. S marginal means = 1.55 tons/ac. 7. I means at the same level of N = 2.13 tons/ac.
4. S means at the same level of I = 2.20 tons/ac. S.E. of body of N x S table = 2.19 tons/ac.

CROP: Sugarcane.
SITE: Central Sugarcane Res. Stn., Cuddalore.
Ref. : M. 59(86).
Type : '1M'.

Object: To compare the effect of trash mulch with the local practice of irrigation during summer.

1. BASAL CONDITIONS:

(i) (a) Sugarcane—Ragi—G.M. (b) Sannhemp. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Cuddalore. (iii) 23.3.1959. (iv) (a) 5 ploughings. (b) Planted in furrows at 6" to 8" depth. (c) 15000 3-budded setts/ac. (d) 3.3' apart. (e) N.A. (v) 5000 lb./ac of G.L.+250 lb./ac. of N as A/S and G.N.C. in 2:1 ratio in 2 equal doses applied after 45th and 100th day. (vi) CO—785 (early). (vii) Irrigated. (viii) Weeding, digging, earthing up, trashling and propping. (ix) 47.08°. (x) 17.3.1960.

2. TREATMENTS:

All combinations of (1) and (2) + a control
(1) 2 methods of irrigations: I₁ = Trash mulching and irrigation given once in 5 days and I₂ = Trash mulching and irrigation once in 10 days till break of monsoon.
(2) 2 levels of N as A/S: N₀ = 0 and N₁ = 30 lb./ac. of N at the time of incorporation of trash in site.
Trash was applied at the rate of 4 tons/ac.

3. DESIGN:

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 33'x26.4'. (b) 33'x19.8'. (v) One row on either side. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Spraying was done with Endrine against early shoot-borer attack. (iii) Cane yield. (iv) (a) 1959—1962. (b) No (c) Nil. (v) to (vii) Nil.
5. RESULTS:

(i) 43.18 tons/ac.  (ii) 2.92 tons/ac.  (iii) None of the effects is significant.  (iv) Av. yield of cane in tons/ac.

<table>
<thead>
<tr>
<th></th>
<th>N₀</th>
<th>N₁</th>
<th>Mean</th>
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<tbody>
<tr>
<td>I₁</td>
<td>43.4</td>
<td>45.5</td>
<td>44.5</td>
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<tr>
<td>I₂</td>
<td>43.9</td>
<td>41.9</td>
<td>42.6</td>
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<tr>
<td>Mean</td>
<td>43.6</td>
<td>43.7</td>
<td>43.7</td>
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</tbody>
</table>

S.E. of N or I marginal mean = 1.0 tons/ac.
S.E. of body of table = 1.5 tons/ac.

Crop :- Sugarcane.
Site :- Central Sugarcane Res. Stn., Cuddalore.
Ref :- M. 57(113).
Type :- 'D'.

Object :- To test the efficacy of different insecticides in controlling the early shoot-borer of Sugarcane.

1. BASAL CONDITIONS:

(i) (a) Sugarcane—G.M.—Paddy.  (b) Paddy.  (c) 100 lb./ac. of N as A/S+G.L. at 5 tons/ac.  (ii) (a) Sandy loam.  (b) Refer soil analysis, Cuddalore.  (iii) 20.4.1957.  (iv) (a) 5 ploughings.  (b) Planting in furrows.  (c) 15000 three-budded setts/ac.  (d) 3.3' between rows.  (e) N.A.  (v) Compost at 5000 lb/ac.  (vi) CO—449.  (vii) Irrigated.  (viii) Weeding and earthing up once.  (ix) 47.16°.  (x) 22.24.2.1958.

2. TREATMENTS:

8 insecticides:  C₆=Control,  C₁=DDT 0.25%,  C₂=BHC 0.5%,  C₃=Endrine 0.1%,  C₄=Folidol 0.05%,  C₅=Aldrin 0.1%,  C₇=Diedrin 0.1% and C₈=Ryania 0.5%.

3 spraying were given at an interval of 15 days from the early sign of appearance of the pest.

4. GENERAL:

(i) Satisfactory.  (ii) Incidence of early shoot borer noticed.  (iii) Cane yield.  (iv) (a) 1957—1959.  (b) No.  (c) Nil.  (v) to (vii) Nil.  (vi) Yes.

5. RESULTS:

(i) 29.3 tons/ac.  (ii) 8.33 tons/ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of cane in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>C₀</th>
<th>C₁</th>
<th>C₂</th>
<th>C₃</th>
<th>C₄</th>
<th>C₅</th>
<th>C₆</th>
<th>C₇</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>22.5</td>
<td>25.2</td>
<td>29.9</td>
<td>29.5</td>
<td>32.4</td>
<td>31.7</td>
<td>30.4</td>
<td>32.8</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 3.4 tons/ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Crop :- Sugarcane.
Site :- Central Sugarcane Res. Stn., Cuddalore.
Ref :- M. 58(133).
Type :- 'D'.

Object :- To test the efficacy of different insecticides in controlling the early borer of Sugarcane.

1. BASAL CONDITIONS:

(i) (a) Sugarcane—G.M.—Paddy  (b) Paddy.  (c) 100 lb./ac. of N as A/S+G.L. at 5 tons/ac.  (ii) (a) Sandy loam.  (b) Refer soil analysis, Cuddalore.  (iii) 2.3.1958.  (iv) (a) 5 ploughings.  (b) Planting in furrows.  (c) 15000 three-budded setts/ac.  (d) 3.3' between rows.  (e) N.A. (v) 5000 b/ac. of G.L. (vi) CO—449.  (vii) Irrigated.  (viii) Weeding, earthing up, trash and propping.  (ix) 36.55°.  (x) Feb. 1959.
2. TREATMENTS:
   9 insecticides: C0 = Control (no treatment), C1 = DDT 0.25%, C2 = BHC 0.5%, C3 = Endrine 0.1%, C4 = Folidol 0.05%, C5 = Aldrin 0.1%, C6 = Dieldrin 0.1%, C7 = Ryania 0.5%, and C8 = Mechanical control.

3 sprays given at 15 days intervals commencing from the early signs of appearance of the post regulating the quantity of spray material used at 40 to 60 gallons/ac. according to the age of the crop.

3. DESIGN:
   (i) R.B.D. (ii) (a) 9, (b) 99' x 99'. (iii) 4. (iv) (a) and (b) 1/40 ac. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Early shoot borer incidence noticed and control measures—As per treatments. (iii) Cane yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 50.2 tons/ac. (ii) 7.0 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of cane in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>C0</th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>C5</th>
<th>C6</th>
<th>C7</th>
<th>C8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>49.6</td>
<td>48.7</td>
<td>49.7</td>
<td>50.1</td>
<td>46.6</td>
<td>54.1</td>
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<td>45.1</td>
<td>52.1</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>3.5 tons/ac.</td>
<td></td>
<td></td>
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</tr>
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</table>

Crop: Sugarcane.  
Site: Central Sugarcane Res. Stn., Cuddalore.  
Ref: M. 59(103).  
Type: 'D'.

Object: To study the efficacy of different insecticides against the early shoot borer.

1. BASAL CONDITIONS:
   (i) (a) Sugarcane—G.M.—Paddy. (b) Paddy. (c) 100 lb/ac. of N as A/S+G.L. 5 tons/ac. (ii) (a) Clayey loam. (b) Refer soil analysis, Cuddalore. (iii) 30.31959. (iv) (a) 5 ploughings. (b) N.A. (c) 15000 - 3-budded setts/ac. (d) 3.3' between rows. (e) N.A. (v) 5000 lb. of compost. (vi) CO—449. (vii) Irrigated. (viii) Weeding and earthing by once. (ix) 45.23'. (x) 25.2.1960 to 3.3.1960.

2. TREATMENTS:
   10 insecticides: C0 = Control (no treatment), C1 = DDT 0.25%, C2 = BHC 0.05%, C3 = Endrine 0.1%, C4 = Gamma BHC, C5 = Ryania 0.5%, C6 = Folidol 0.5%, C7 = Aldrin 0.1%, C8 = Dieldrin 0.1%, and C9 = Mechanical control.

3. DESIGN:
   (i) R.B.D. (ii) (a) 10. (b) 92.4' x 165'. (iii) 4. (iv) (a) 46.2' x 33'. (b) 39.6' x 26.4'. (v) 3.3' around (vi) Yes.

4. GENERAL:
   (i) Good. (ii) Early shoot borer attack noticed. (iii) Cane yield. (iv) (a) 1957—1959. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS:
   (i) 45.19 tons/ac. (ii) 5.2 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of cane in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>C0</th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>C5</th>
<th>C6</th>
<th>C7</th>
<th>C8</th>
<th>C9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>40.2</td>
<td>43.2</td>
<td>44.2</td>
<td>45.0</td>
<td>41.6</td>
<td>50.1</td>
<td>51.2</td>
<td>42.1</td>
<td>50.2</td>
<td>44.1</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>2.6 tons/ac.</td>
<td></td>
<td></td>
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</tr>
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</table>

Crop: Sugarcane.  
Site: Central Sugarcane Res. Stn., Cuddalore.  
Ref: M. 59(82).  
Type: 'D'.

Object: To study the efficacy of Chemicals for controlling weeds in Sugarcane fields.
1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Casarina. (c) Nil. (ii) (a) Clayey loam. (b) Refer soil analysis, Cuddalore. (iii) 6.3.1932. (iv) (a): 5 p.12; 1/s. (v) Planting. (c) 15000 three-budded setts/ac. (d) 3.3' between rows. (e) N.A. (f) 250 lb./ac. of N as A/S and G.N.C. in 2 : 1 ratio in 2 doses 45 and 100 days after planting. (v) CO—149 (late). (vii) Irrigated. (viii) As per treatments. (ix) 47.08'. (x) 3.3.1960.

2. TREATMENTS:
   1. Fernoxone (2-4-D Sodium salt) at 3 lb./ac. in 100 gallons of water sprayed on the 5th day of planting.
   2. Fernoxone (2-4-D Sodium salt) at 3 lb./ac. in 100 gallons of water sprayed on the 5th and 25th day of planting.
   3. M.C.P.A. at 10 lb./ac. in 100 gallons of water sprayed on 25 days after planting.
   4. Sandoz Extra-A at 4 lb./ac. in 100 gallons of water sprayed on 25 days after planting.
   5. Trash blanket—after 1 digging and 5 line weeding—Sugarcane trash spread 2” thick in between cane rows on ridges 45 days after planting.
   6. 2 hoeings and 2 diggings as per local practice.

3. DESIGN:
   (i) R.B.D. (ii) (a) 6 (b) N.A. (iii) 6. (iv) (a) 33' x 33'. (b) 26.4' x 33'. (v) One row on either side of the plot. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Cane yield. (iv) (a) 1959—1962. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 43.2' in 'a. (ii) 3.97 ton/ac. (iii) Treatment differences are not significant. (iv) Av. yield of cane in tons/ac.

---

Crop :- Cotton.  
Type :- 'M'.

Object :- To find out the optimum dose and time of application of A/S to Cotton raised rice fallows:

1. BASAL CONDITIONS:
   (i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S + 150 lb./ac. of Super. (ii) (a) Loamy. (b) Refer soil analysis, Aduthurai. (iii) 14.2.1955. (iv) (a) 3 ploughings. (b) to (c) N.A. (v) Nil. (vi) P—216 F (early). (vii) Irrigated. (viii) Weeding twice. (ix) 5.8". (x) 4.6.1955 to 20.7.1955.

2. TREATMENTS:
   1. No manure.
   2. 30 lb./ac. of N applied during 4th and 8th weeks after planting.
   3. 45 lb./ac. of N applied during 4th and 8th weeks after planting.
   4. 30 lb./ac. of N applied during 6th and 10th weeks after planting.
   5. 45 lb./ac. of N applied during 6th and 10th weeks after planting.

3. DESIGN:
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 0.73 cent. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Not satisfactory. (ii) Attack of jassids, aphids and boll-worms noticed. (iii) Yield of cotton. (iv) (a) 1955—1958. (b) No. (c) Nil. (d) Coimbatore, Palur. (v) Nil. (vi) Expt. was conducted by Cotton Specialist, Coimbatore.

5. RESULTS:
   (i) 534 lb./ac. (ii) 71.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of kapas in lb./ac.
Object: To find out the optimum dose and time of application of A/S to Cotton raised in rice fallows.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Loamy. (b) Refer soil analysis, Aduthurai. (iii) 12.2.1956. (iv) (a) 3 ploughings. (b) to (c) N.A. (v) Nil. (vi) P=216 F (early). (vii) Irrigated. (viii) Weeding twice. (ix) 9.05". (x) 1.6.1956 to 13.7.1956.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 55(86) on page 352.

3. RESULTS:
   (i) 613 lb./ac. (ii) 88.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<tr>
<td>Av. yield</td>
<td>567</td>
<td>581</td>
<td>707</td>
<td>576</td>
<td>632</td>
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</tbody>
</table>

S.E./mean = 36.0 lb./ac.

Crop: Cotton.  
Ref: M. 56(118).  
Type: ‘M’.

Object: To find out the optimum dose and time of application of A/S to Cotton.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac. of Super. (ii) (a) Loamy. (b) Refer soil analysis, Aduthurai. (iii) 8.2.1957. (iv) (a) 3 ploughings (b) to (c) N.A. (v) Nil. (vi) P=216 F (early). (vii) Irrigated. (viii) Weeding twice. (ix) 3.69". (x) 3.6.1957 to 8.7.1957.

2. TREATMENTS:
   All combinations of (1) and (2) + a control (no manure).
   (1) 4 levels of N as A/S: N1=30, N2=45, N3=60 and N4=75 lb./ac.
   (2) 2 times of application of N: I1=During 4th and 8th weeks and I2=During 6th and 10th weeks after sowing.

3. DESIGN:
   (i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 3. (iv) (a) and (b) 0.34 cent. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Kapas yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) Coimbatore, Palur. (vi) Nil. (vii) Expt. was conducted by Cotton Specialist, Coimbatore.

5. RESULTS:
   (i) 1259 lb./ac. (ii) 120 lb./ac. (iii) ‘Control vs. others’ effect alone is highly significant. (iv) Av. yield of Kapas in lb./ac.
Control = 976 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
<th>N₄</th>
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<td>1407</td>
<td>1265</td>
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<tr>
<td>Mean</td>
<td>1225</td>
<td>1257</td>
<td>1375</td>
<td>1323</td>
<td>1295</td>
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</table>

S.E. of N marginal mean = 42.4 lb./ac.
S.E. of T marginal mean = 30.0 lb./ac.
S.E. of body of table or control mean = 60.0 lb./ac.

Crop :- Cotton.
Ref. :- M. 58(145).
Type :- ‘M’.

Object :- To find out the optimum dose and time of application of A/S to Cotton.

1. BASAL CONDITIONS :
   (i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Loamy. (b) Refer soil analysis, Aduthurai. (iii) 19.2.1958. (iv) (a) 3 ploughings.

2. TREATMENTS :
   Main-plot treatments :
   2 times of application of N : T₁=During 4th and 8th weeks and T₂=During 6th and 10th weeks after sowing.
   Sub-plot treatments :
   5 levels of N as A/S : N₀=0, N₁=30, N₂=45, N₃=60 and N₄=75 lb./ac.

3. DESIGN :
   (i) Split-plot. (ii) (a) 2 main-plots/block; 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) 0.44 cent. (v) Nil. (vi) Yes.

4. GENERAL :
   (vi) Nil. (vii) Expt. was conducted by Cotton Specialist, Coimbatore.

5. RESULTS :
   (i) 1167 lb./ac. (ii) (a) 248.9 lb./ac. (b) 185.0 lb./ac. (iii) Main effect of N alone is significant. (iv) Av. yield of Kapas in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N₀</th>
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<th>N₂</th>
<th>N₃</th>
<th>N₄</th>
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<td>1204</td>
<td>1304</td>
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</tbody>
</table>

S.E. of difference of two
1. T marginal means = 124.4 lb./ac.
2. N marginal means = 92.5 lb./ac.
3. N means at the same level of T = 130.8 lb./ac.
4. T means at the same level of N = 141.0 lb./ac.
Object: —To study the effect of growing legumes with and without phosphate and ploughing them in situ, on the yield of succeeding Cotton crop.

1. BASAL CONDITIONS:

(i) (a) N.A. (b) G.M. (c) Nil. (ii) (a) Red gravelly loam. (b) N.A. (iii) 24.11.1956. (iv) (a) to (e) N.A. (v) As under treatments. (vi) MCU—1. (vii) Irrigated. (viii) One hand weeding and two mummaty hoeings. (ix) 2.52". (x) 10.4.1957.

2. TREATMENTS:

Main-plot treatments:
2 levels of P₂O₅ as Super : P₀ = 0 and P₁ = 30 lb./ac.

Sub-plot treatments:
6 G.M. crops : G₁ = Cowpea, G₂ = Sesbania, G₃ = Sannhemp, G₄ = Indigo, G₅ = Dewgram and G₆ = Dhaincha.
P₂O₅ applied to G.M. crops which were ploughed in situ. N as A/Sat 200 lb./ac. top-dressed half 40 days after sowing and half at flowering.

3. DESIGN:

(i) Split-plot. (ii) (a) 2 main-plots/block; 6 sub-plots/main-plot. (b) 132' x 72'. (iii) 4. (iv) (a) 66' x 12'. (b) 64' x 10'. (v) 1' x 1'. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Attack of jassids, top-borers and boll-worms. Endrine sprayed as a control measure. (iii) Yield of cotton. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 651 lb./ac. (ii) (a) 37.24 lb./ac. (b) 98.98 lb./ac. (iii) Main effect of G is significant. (iv) Av. yield of kapan in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>G₁</th>
<th>G₂</th>
<th>G₃</th>
<th>G₄</th>
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<td>763</td>
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<td>486</td>
<td>730</td>
<td>708</td>
<td>698</td>
<td>582</td>
<td>652</td>
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</table>

Mean

662 499 690 709 731 612 651

S.E. of difference of two

1. P marginal means = 10.8 lb./ac.
2. G marginal means = 49.5 lb./ac.
3. G means at the same level of P = 70.0 lb./ac.
4. P means at the same level of G = 64.8 lb./ac.

Crop :- Cotton.

Object: —To study the effect of growing legumes with and without phosphate and ploughing them in situ, on the yield of succeeding Cotton crop.

1. BASAL CONDITIONS:

(i) (a) N.A. (b) G.M. (c) As per treatments. (ii) (a) Red gravelly loam. (b) N.A. (iii) 17 to 19.9.1957. (iv) (a) to (e) N.A. (v) As per treatments. (vi) MCU—1. (vii) Irrigated. (viii) One hand weeding and two mummaty hoeings. (ix) 19.49". (x) 20.4.1958.

2. TREATMENTS and 3. DESIGN:

Same as in expt. no. 56(62) above.
1. BASAL CONDITIONS:
   (i) (a) N.A. (b) G.M. (c) As per treatments.  
   (ii) (a) Red gravelly loam; poor in lime, phosphate and nitrogen.  
   (b) N.A.  
   (iii) 16 and 17.9.1957.  
   (iv) (a) to (e) N.A.  
   (v) As per treatments.  
   (vi) MCU-1.  
   (vii) Irrigated.  
   (viii) Weeding twice.  
   (ix) 19.49°.  
   (x) 17.3.1958.
2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 56(61) on page 357.
4. GENERAL:
   (i) The crop was affected adversely by heavy rains.  
   (ii) Attack of jassids, aphids, top-borer and boll-worms.  
   Endrine sprayed.  
   (iii) Kapas yield.  
   (iv) (a) 1956—contd.  
   (b) Yes.  
   (c) Nil.  
   (v) (a) and (b) Nil.  
   (vi) and (vii) Nil.
5. RESULTS:
   (i) 420 lb./ac.  
   (ii) (a) 96.00 lb./ac.  
   (b) 93.87 lb./ac.  
   (iii) Main effect of L alone is highly significant.  
   (iv) Av. yield of kapas in lb./ac.

<table>
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<th>S3</th>
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<td>391</td>
<td>400</td>
<td>434</td>
<td>436</td>
<td>420</td>
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</table>

S.E. of difference of two
1. S marginal means = 33.9 lb./ac.
2. L marginal means = 29.7 lb./ac.
3. L means at the same level of S = 66.4 lb./ac.
4. S means at the same level of L = 66.8 lb./ac.

Crop :- Cotton.  
Ref :- M. 58(58).  
Type :- 'M'.
Object :- To study the effect of G.L. manuring on Cotton crop.
1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  
   (ii) (a) Red gravelly loam.  
   (b) N.A.  
   (iii) 26 to 29.9.1958.  
   (iv) (a) 2 to 3 ploughings.  
   (b) Dibbled.  
   (c) 15 to 20 lb./ac.  
   (d) 2' x 9'.  
   (e) 1.  
   (v) As per treatments.  
   (vi) MCU—1.  
   (vii) Irrigated.  
   (viii) Weeding, hoeing twice and earthing up once.  
   (ix) 10.75°.  
   (x) 14.2.1959 to 25.3.1959 (cotton pickings).
2. TREATMENTS:
   Same as in expt. no. 56(61) on page 357.
3. DESIGN:
   (i) Split-plot.  
   (ii) (a) 5 main-plots/block; 4 sub-plots/main-plot.  
   (b) N.A.  
   (iii) 4.  
   (iv) (a) 25' x 27'.  
   (b) 21' x 24'.  
   (c) 2' x 1½'.  
   (vi) Yes.
4. GENERAL:
   (i) Average.  
   (ii) Nil.  
   (iii) Yield of kapas.  
   (iv) (a) 1956—Contd.  
   (b) No.  
   (c) Nil.  
   (v) to (vii) Nil.
5. RESULTS:
   (i) 412 lb./ac.  
   (ii) (a) 93.6 lb./ac.  
   (b) 56.5 lb./ac.  
   (iii) Main effect of L alone is highly significant.  
   (iv) Av. yield of kapas in lb./ac.
### Crop:- Cotton.  
**Site:- Agri. Res. Stn., Bhavanisagar.**  
**Object:-** To study the effect of G.L. manuring on Cotton crop.

1. **BASAL CONDITIONS:**
   
   (i) (a) and (b) Nil.  (c) N.A.  (ii) (a) Red gravelly loam.  (b) N.A.  (iii) 17, 18.9.1959.  (iv) (a) 2 to ploughings.  (b) Dibbling (c) 15 to 20 lb./ac.  (d) 2'x9'.  (e) 1.  (v) As per treatments.  (vi) MCU—1.  (vii) Irrigated.  (viii) Weeding and hoeing twice, earthing up once.  (ix) 9.1'.  (x) 6.2.1960 to 1.4.1960.

2. **TREATMENTS:**
   
   Same as in expt. no. 56(61) on page 357.

3. **DESIGN:**
   
   (i) Split-plot.  (ii) (a) 5 main-plots/block ; 4 sub-plots/main-plot.  (b) N.A.  (iii) 4.  (iv) (a) 27'x25'.  (b) 23'x22'.  (v) 2'x11'.  (vi) Yes.

4. **GENERAL:**
   
   (i) Satisfactory.  (ii) Nil.  (iii) Kapas yield.  (iv) (a) 1956—contd.  (b) No.  (c) Nil.  (v) to (vii) Nil.

5. **RESULTS:**
   
   (i) 433 lb./ac.  (ii) (a) 71.4.  (b) 57.9 lb./ac.  (iii) Main effect of L alone is highly significant.  (iv) Av. yield of kapas in lb./ac.

<table>
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**Mean**

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<td>429</td>
<td>439</td>
<td>425</td>
<td>455</td>
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</table>

S.E. of difference of two

1. S marginal means = 25.2 lb./ac.
2. L marginal means = 18.3 lb./ac.
3. L means at the same level of S = 40.9 lb./ac.
4. S means at the same level of L = 43.5 lb./ac.
1. BASAL CONDITIONS:

(i) (a) N.A. (b) Sesbania. (c) Nil. (ii) (a) Red gravelly loam. (b) The soils are poor in lime, phosphate and nitrogen. The soluble salts are below 0.1%. The pH value ranges from 8 to 9. (iii) 27.11.1956. (iv) (a) 2 to 3 ploughings. (b) to (e) N.A. (v) River silt at 10 C.L./ac.+A/S at 136 lb./ac.+ Supper at 240 lb./ac. (vi) MCU—1. (vii) Irrigated. (viii) 1 hand weeding and 2 mummatty hoeings. (ix) 19.49" (x) 6.4.1957.

2. TREATMENTS:

Main-plot treatments:
4 sources of bulky manures: \( S_1 = \text{Sannhemp}, S_2 = \text{C.M}, S_3 = \text{F.W.C.}, \) and \( S_4 = \text{Glyricidia}. \)

Sub-plot treatments:
4 levels of manures; \( L_0 = 0, L_1 = 2500, L_2 = 5000 \) and \( L_3 = 7500 \) lb./ac.

3. DESIGN:

(i) Split-plot. (ii) (a) 4 main-plots/block; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 30'x24'. (b) 27'x20'. (v) 1'x2' left as border (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Affected by jassids, aphids, top-borer and boll-worm. Spraying of endrine was done to control the pests. (iii) Kapas yield. (iv) (a) 1956—1957. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:

(i) 982 lb./jac. (ii) (a) 200 lb./ac. (b) 196 lb./ac. (iii) Main effect of \( S \) alone is significant. (iv) Av. yield of Kapas. in lb./jac.

<table>
<thead>
<tr>
<th>L_0</th>
<th>L_1</th>
<th>L_2</th>
<th>Mean</th>
</tr>
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<td>999</td>
<td>1069</td>
<td>1135</td>
</tr>
<tr>
<td>( S_2 )</td>
<td>959</td>
<td>940</td>
<td>830</td>
</tr>
<tr>
<td>( S_3 )</td>
<td>877</td>
<td>1023</td>
<td>1037</td>
</tr>
<tr>
<td>( S_4 )</td>
<td>913</td>
<td>865</td>
<td>923</td>
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<tr>
<td>Mean</td>
<td>937</td>
<td>959</td>
<td>981</td>
</tr>
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</table>

S.E. of difference of two
1. S marginal means = 71 lb./ac.
2. L marginal means = 69 lb./ac.
3. L means at the same level of S = 139 lb./ac.
4. S means at the same level of L = 139 lb./ac.

Crop :- Cotton.
Ref :- M. 57(51).
Type :- 'M'.

Object :- To find out the effect of bulky organic manures applied at different levels to Cotton crop.

1. BASAL CONDITIONS:

(i) (a) N.A. (b) Ragi. (c) As per treatments. (ii) (a) Red gravelly loam. (b) Same as in expt. no. 56(59) on page 359. (iii) 19, 20.9.1957. (iv) (a) to (e) N.A. (v) River silt at 10 C.L./ac.+A/S at 136 lb./ac.+Super at 240 lb./ac. (vi) MCU—1. (vii) Irrigated. (viii) Weedings once. (ix) 19.49". (x) 22.4.1958.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 56(59) on page 359.

4. GENERAL:

(i) Not good. (ii) Nil. (iii) Kapas yield. (iv) (a) 1956—1957. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Poor yield due to adverse climatic conditions. (vii) Nil.

5. RESULTS:

(i) 380 lb./jac. (ii) (a) 4.68 lb./jac. (b) 9.36 lb./jac. (iii) Main effects and interaction are highly significant. (iv) Av. yield of kapas in lb./jac.
Object:—To study the effect of different doses of bulky manures on Cotton.

1. **BASAL CONDITIONS:**
   (i) (a) to (c) N.A. (b) Red gravelly loam. (c) N.A. (iii) 23, 24.9.1958. (iv) (a) 2 to 3 ploughings. (b) Dibbling. (c) 15 lb./ac. (d) 2’x9’. (e) N.A. (v) As per treatments. (vi) MCU—1. (vii) Irrigated. (viii) 2 weedings, hoeings and 1 earthing up. (ix) N.A. (x) 13.2.1959 to 6.4.1959.

2. **TREATMENTS:**
   Main-plot treatments:
   4 sources of bulky manures: \( S_1 = \text{Sannhemp}, S_2 = \text{Glyricidia}, S_3 = \text{F.W.C.} \) and \( S_4 = \text{Ordinary compost.} \)
   Sub-plot treatments:
   4 levels of manures: \( L_0 = 0, L_1 = 2500, L_2 = 5000 \) and \( L_3 = 7500 \) lb./ac.

3. **DESIGN:**
   (i) Split-plot. (ii) (a) 4 main-plots/block; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 30’x24’. (b) 26’x21’. (v) 2’x14’. (vi) Yes.

4. **GENERAL:**
   (i) Not satisfactory. (ii) N.A. (iii) Kapas yield. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) to (vii) Nil.

5. **RESULTS:**
   (i) 285 lb./ac. (ii) (a) 73.3 lb./ac. (b) 56.1 lb./ac. (iii) Main effects and interaction are highly significant. (iv) Av. yield of kapas in lb./ac.

<table>
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<tr>
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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>385</td>
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<td>359</td>
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<td>Mean</td>
<td>392</td>
<td>388</td>
<td>363</td>
<td>377</td>
<td>380</td>
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</table>

S.E. of difference of two
1. S marginal means = 1.6 lb./ac.
2. L marginal means = 3.3 lb./ac.
3. L means at the same level of S = 6.6 lb./ac.
4. S means at the same level of L = 6.0 lb./ac.

---

References:—M. 58(70).

Type:—'M'.

**Crop:** Cotton.

**Site:** Agri. Res. Stn., Bhavanisagar.
Crop :- Cotton.  
Object :- To study the effect of different doses of bulky manures on Cotton.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A.  (ii) (a) Red gravelly loam.  (b) N.A.  (iii) 4, 5.9.1959.  (iv) (a) 2 to 3 ploughings.  (b) Dibbling.  (c) 15 to 20 lb./ac.  (d) 2' × 6'.  (e) N.A.  (v) As per treatments.  (vi) MCU—I.  (vii) Irrigated.  (viii) Weeding and hoeing twice, earthing up once.  (ix) 9.1".  (x) 29.1.1960 to 1.4.1960.

2. TREATMENTS:
Same as in exp. no. 58(70) on page 361.

3. DESIGN:
(i) Split-plot.  (ii) (a) 4 main-plots/block ; 4 sub-plots/main-plot.  (b) N.A.  (iii) 4.  (iv) (a) 30' × 24'.  (b) 26' × 22'.  (v) 2' × 1'.  (vi) Yes.

4. GENERAL:
(i) Satisfactory.  (ii) Nil.  (iii) Kapas yield.  (iv) (a) 1956—contd.  (b) No.  (c) Nil.  (v) to (vii) Nil.

5. RESULTS:
(i) 444 lb./ac.  (ii) (a) 96.6 lb./ac.  (b) 99.0 lb./ac.  (iii) Effect of L is highly significant and effect of S is significant.  (iv) Av. yield of kapas in lb./ac.

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<th>L₂</th>
<th>L₃</th>
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<td>421</td>
<td>365</td>
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</table>

Mean = 352 | 436 | 457 | 529 | 444 |

S.E. of difference of two
1. S marginal means = 34.2 lb./ac.
2. L marginal means = 35.0 lb./ac.
3. L means at the same level of S = 17.5 lb./ac.
4. S means at the same level of L = 69.6 lb./ac.

Crop :- Cotton.  
Site :- Cotton Breeding Stn., Coimbatore.  
Object :- To determine the dosage and time of application of N to Cotton crop.

1. BASAL CONDITIONS:
(i) (a) Cotton—Paddy.  (b) Paddy.  (c) 150 lb./ac. of A/S + 150 lb./ac. of Super + B.D. of 5000 lb./ac. of G.L.  (ii) (a) Black soil.  (b) Refer soil analysis, Coimbatore.  (iii) 14.3.1955.  (iv) (a) 2 to 3 ploughings.  (b) Dibbling.  (c) 15 to 20 lb./ac.  (d) 2' × 6'.  (e) N.A.  (v) 10 to 15 C.L. of F.Y.M.+40 lb. ac. of N top dressed.  (vi) P 216. F.  (vii) Irrigated.  (viii) Hoeing and weeding twice, earthing up once.  (ix) 9.23".  (x) 5.7.1955 to 13.8.1955.

2. TREATMENTS:
1. No manure.
2. 30 lb./ac. of N applied during 4th and 8th weeks after sowing.
3. 30 lb./ac. of N applied during 6th and 10th weeks after sowing.
4. 40 lb./ac. of N applied during 4th and 8th weeks after sowing.
5. 40 lb./ac. of N applied during 6th and 10th weeks after sowing.
3. DESIGN:
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) and (b) 0.44 cents. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Jassids, leaf-rollers, aphids and boll-worm. (iii) Kapas yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 870 lb./ac. (ii) 204 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of kapas in lb./ac.

<table>
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<th>3</th>
<th>4</th>
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<td>731</td>
<td>1132</td>
<td>936</td>
<td>889</td>
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</table>
   | S.E./mean | 102 lb./ac.

\[ \text{Crop : Cotton.} \]
\[ \text{Site : Cotton Breeding Stn., Coimbatore.} \]
\[ \text{Ref : M. 56(76).} \]
\[ \text{Type : 'M'.} \]

Object : To find out the optimum dose and time of application of A/S to Cotton.

1. BASAL CONDITIONS :
   (i) (a) Cotton—Paddy. (b) Paddy. (c) 150 lb./ac. of A/S+150 lb./ac. of Super+B.D. of 5000 lb./ac. of G.L. (ii) (a) Black soil. (b) Refer soil analysis, Coimbatore. (iii) 15.3.1956. (iv) (a) 2 to 3 ploughings. (b) Dibbling. (c) 15 to 20 lb./ac. (d) 2'X6". (e) N.A. (v) 10 to 15 C.L./ac. of F.Y.M.+40 lb./ac. of N as top dressing. (vi) P—216. F. (vii) Irrigated. (viii) Hoeing and weeding twice, earthing up once. (ix) 9.7.1956 to 20.8.1956.

2. TREATMENTS:
   Same as in exp. no. 55 (86) on page 352.

3. DESIGN:
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 0.40 cents. (v) Nil. (vi) Yes.

4. GENERAL:
   Same as in exp. no. 55(86) on page 352.

5. RESULTS:
   (i) 1086 lb./ac. (ii) 173.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>853</td>
<td>1023</td>
<td>1102</td>
<td>1157</td>
<td>1297</td>
</tr>
</tbody>
</table>
   | S.E./mean | 71 lb./ac.

\[ \text{Crop : Cotton (Summer).} \]
\[ \text{Site : Cotton Breeding Stn., Coimbatore.} \]
\[ \text{Ref : M. 57(69).} \]
\[ \text{Type : 'M'.} \]

Object : To find the optimum dose and time of application of A/S to Cotton.

1. BASAL CONDITIONS :
   (i) (a) Cotton—Paddy. (b) Paddy. (c) 150 lb./ac. of A/S+150 lb./ac. of Super+B.D. of 5000 lb./ac. of G.L. (ii) (a) Black soil. (b) Refer soil analysis, Coimbatore. (iii) 5.3.1957. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 15 to 20 lb./ac. (d) 2'X6". (e) 1 seedling/hole. (v) 10 to 15 C.L./ac. of F.Y.M.+40 lb./ac. of N as top dressing. (vi) P—216. F. (vii) Irrigated. (viii) Hoeing and weeding twice, earthing up once. (ix) 9.13". (x) 2.7.1957 to 20.8 1957.
2. TREATMENTS:

All combinations of (1; and (2)+a control (no manure)
(1) 4 levels of N: N₁ =30, N₂=45, N₃=60 and N₄=75 lb./ac.
(2) 2 times of application of N: T₁=During 4th and 8th week and T₂=During 6th and 10th week
after sowing.

3. DESIGN:

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 0.66 cents. (b) 0.37 cents. (v) 2 rows on each sides. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Attack of jassids, aphids and boll-worm. (iii) Kapas yield. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) to (vi) Nil.

5. RESULTS:

(i) 1572 lb./ac. (ii) 216 lb/ac. (iii) 'Control or Others' effect alone is highly significant. (iv) Av. yield of kapas in lb./ac.

<p>| Control = 1017 lb./ac. |
|------------------------|---------------------|</p>
<table>
<thead>
<tr>
<th>T₁</th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
<th>N₄</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1614</td>
<td>1657</td>
<td>1730</td>
<td>1879</td>
<td>1720</td>
<td></td>
</tr>
<tr>
<td>1504</td>
<td>1531</td>
<td>1519</td>
<td>1697</td>
<td>1563</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>1559</td>
<td>1594</td>
<td>1624</td>
<td>1788</td>
<td>1642</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of N = 76 lb./ac.
S.E. of marginal mean of T = 54 lb./ac.
S.E. of body of table = 108 lb./ac.

Crop :- Cotton (Summer).
Site :- Cotton Breeding Stn., Coimbatore.

Object :-To find out the optimum dose and time of application of A/S.

1. BASAL CONDITIONS:

(i) (a) Cotton—Paddy. (b) Paddy. (c) 150 lb./ac. of A/S+150 lb./ac. of Super over a B.D. of 5000 lb./ac. of G.L. (i) (a) Black soil. (b) Refer soil analysis, Coimbatore. (ii) 8.3.1958. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 15 to 20 lb./ac. (d) 2'x6'. (c) N.A. (v) 10 to 15 C.L/ac. of F.Y.M.+40 lb./ac. of N as top-dressing. (vi) P—216 F. (vii) Irrigated. (viii) Hoeing and weeding twice, earthing up once. (ix) and (x) N.A.

2. TREATMENTS:

Main-plot Treatments :
2 times of application of N : T₁=During 4th and 8th weeks and T₂=During 6th and 10th weeks after
sowing.

Sub-plot treatments :
5 levels of N : N₂=0, N₁=30, N₂=45, N₃=60, and N₄=75 lb./ac.
N applied as A/S in two equal doses.

3. DESIGN:

(i) Split-plot. (ii) 2 main-plots/block ; 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 0.69 cents. (b) 0.55 cents. (v) One row left as border on each side. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Slight incidence of jassids, aphids and boll-worm. (iii) Yield of Kapas. (iv) (a) to (c) N.A. (v) to (vii) Nil.

5. RESULTS:

(i) 1566 lb./ac. (ii) (a) 562.1 lb./ac. (b) 128.9 lb./ac. (iii) Main effect of N alone is highly significant.
(iv) Av. yield of kapas in lb./ac.

Ref :- M. 58(43). Type :- 'M'.
Object:—To study the effect of A/S and plant protection measures on Cotton yield.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Red loam.  (b) N.A.  (iii) 27.8.1959.  (iv) (a) 3 ploughings.  (b) and (c) N.A.  (d) 12′ x 9′.  (e) 1.  (v) Nil.  (vi) MCU—1  (vi) Irrigated.  (vii) 1 thinning, 3 weedings and 3 hoeings.  (ix) 10.75'.  (x) 29.12.1959 to 20.2.1960.

2. TREATMENTS:
   (1) 2 levels of N as A/S: N₀=0 and N₁=40 lb./ac.
   (b) 2 levels of plant protection measures: P₀=Nil, and P₁=Application of Endrine once and Folidol twice.
   A/S applied in two doses during 6th and 10th weeks after planting.

3. DESIGN:
   (i) Fact. in R.B.D.  (ii) 4.  (b) N.A.  (iii) 4.  (iv) and (v) N.A.  (vi) Yes.

4. GENERAL:
   (i) Vigorous.  (ii) Severe attack of boll-worm, jassids and aphids in control plot.  (iv) Boll size, leaf size, boll count and kapas yield.  (iv) (a) and (b) No.  (c) Nil.  (v) to (vii) Nil.

RESULTS:
   (i) 1137 lb./ac.  (ii) 184 lb./ac.  (iii) Main effects of N and P are highly significant. Interaction is not significant.  (iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>N₀</th>
<th>N₁</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>914</td>
<td>1190</td>
<td>1052</td>
</tr>
<tr>
<td>1102</td>
<td>1341</td>
<td>1222</td>
</tr>
</tbody>
</table>

| Mean | 1008 | 1266 | 1137 |

S.E. of any marginal mean = 65.0 lb./ac.
S.E. of body of table = 92.0 lb./ac.

Crop : Cotton.
Site : Cotton Breeding Sta., Coimbatore.

Ref: M. 59(105).

Type: 'M'.

<table>
<thead>
<tr>
<th>T₁</th>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
<th>N₄</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1017</td>
<td>1499</td>
<td>1589</td>
<td>1650</td>
<td>1810</td>
<td>1513</td>
<td></td>
</tr>
<tr>
<td>1109</td>
<td>1579</td>
<td>1807</td>
<td>1734</td>
<td>1866</td>
<td>1619</td>
<td></td>
</tr>
</tbody>
</table>

Mean 1063 1539 1698 1692 1838 1566

S.E. of difference of two
1. T marginal means = 177.8 lb./ac.
2. N marginal means = .64 4 lb./ac.
3. N means at the same level of T = 91.4 lb./ac.
4. T means at the same level of N = 195.6 lb./ac.
Crop :- Cotton. Site :- Agri. Res. Stn., Koilpatti. Ref :- M. 54(85). Type :- 'M'.

Object :- To study the relative efficacy of A/S and C/N on Cotton crop.

1. BASAL CONDITIONS :
   (i) (a) No. (b) Cotton. (c) No. (ii) (a) Black soil—loamy. (b) Refer soil analysis, Koilpatti. (iii) 14.10.1954. (iv) (a) Ploughing once with monsoon plough. (b) and (c) N.A. (d) 3' x 3'. (e) N.A. (v) As per treatments. (vi) Karunganni (medium). (vii) Unirrigated. (viii) Hand weeding twice, working danti twice and thinning once. (ix) 24.58'. (x) 13.3.1955 to 25.6.1955.

2. TREATMENTS :
   9 manurial treatments: T 1 = Lime at 450 lb./ac. as B.D.+C.M. at 3 tons/ac.+Super at 30 lb./ac. of P2O5, T 2 = T 1 + A/S at 40 lb./ac. of N, T 3 = T 1 + A/S at 60 lb./ac. of N, T 4 = A/S at 40 lb./ac. of N, T 5 = A/S at 60 lb./ac. of N, T 6 = T 1 + C/N at 40 lb./ac. of N, T 7 = T 1 + C/N at 60 lb./ac. of N, T 8 = C/N at 40 lb./ac. of N and T 9 = C/N at 60 lb./ac. of N. Super applied 4" to 6" deep by placement before planting.

3. DESIGN :
   (i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a) 40' x 18'. (b) 34' x 12'. (v) One row left as border. (vi) Yes.

4. GENERAL :
   (i) Normal. (ii) Nil. (iii) Kopas yield. (iv) (a) 1932—1954. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :
   (i) 529 lb./ac. (ii) 144.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of kopus in lb./ac.
   Treatment  T 1  T 2  T 3  T 4  T 5  T 6  T 7  T 8  T 9 Av. yield  552 590 595 563 512 509 441 502 500 S.E./mean = 64.7 lb./ac.


Object :- To find out the optimum dose and time of application of A/S to Cotton raised in rice fallows.

1. BASAL CONDITIONS :
   (i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 17.2.1956. (iv) (a) 3 ploughings. (b) N.A. (c) N.A. (vi) Nil. (v) P 216 F (early). (vii) Irrigated. (viii) Thinning and weeding twice. (ix) 19.29'. (x) 7.7.1956 to 6.9.1956.

2. TREATMENTS :
   Same as in expth. no. 55(86) on page 352.

3. DESIGN :
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) and (b) 0.41 cent. (v) Nil. (vi) Yes.

4. GENERAL :
   (i) Satisfactory. (ii) Attack of jassids and aphids noticed. (iii) Yield of cotton. (iv) a) 1955—1958. (b) No. (c) Nil. (v) Coimbatore, Aduthurai. (vi) Nil. (vii) Expt. was conducted by Cotton Specialist, Coimbatore.

5. RESULTS :
   (i) 1091 lb./ac. (ii) 286 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of kopus in lb./ac.
   Treatment  1  2  3  4  5 Av. yield  1004 1094 1222 1039 1097 S.E./mean = 143 lb./ac.

Object: To find out the optimum dose and time of application of A/S to Cotton crop.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) G.L. at 5000 lb./ac. + A/S at 150 lb./ac. + Super at 150 lb./ac. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 1.1.1959. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) 20' X 6'. (c) 2. (v) G.L. at 500 lb./ac. (vi) MCU—1. (vii) Irrigated. (viii) Weeding twice. (ix) 10.5". (x) 24.4.1959 to 21.6.1959.

2. TREATMENTS:
   Main-plot treatments:
   3 times of applications of N: T1 = Full dose at planting, T2 = 1/4 at planting + 1/4 six weeks later and T3 = 1/4 at planting + 1/4 four weeks + 1/4 8 weeks after planting.

   Sub-plot treatments:
   5 levels of N as A/S: N0 = 0, N1 = 30, N2 = 45, N3 = 60 and N4 = 75 lb./ac.

3. DESIGN:
   (i) Split-plot. (ii) (a) 3 main-plots/block; 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 25' X 12'. (b) 20' X 111'. (v) 20' X 12' left as border. (vi) Yes.
2 TREATMENTS:
All combinations of (1), (2) and (3)+a control (no manure)
(1) 2 levels of N as A/S: \( N_1 =30 \) and \( N_2 =45 \) lb./ac.
(2) 2 levels of \( P_2O_5: P_0 =0 \) and \( P_1 =30 \) lb./ac.
(3) 2 levels of F.Y.M.: \( F_0 =0 \) and \( F_1 =5000 \) lb./ac.

3. DESIGN:
(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 18'x8'. (b) 13'x5'. (v) 21'x11'. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Kapas yield. (iv) (a) 1955—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 880 lb./ac. (ii) 390 lb./ac. (iii) None of the effect is significant. (iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>( N_1 )</th>
<th>( N_2 )</th>
<th>( P_0 )</th>
<th>( P_1 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( F_0 )</td>
<td>750</td>
<td>966</td>
<td>892</td>
<td>824</td>
</tr>
<tr>
<td>( F_1 )</td>
<td>1000</td>
<td>929</td>
<td>965</td>
<td>965</td>
</tr>
<tr>
<td>Mean</td>
<td>875</td>
<td>948</td>
<td>928</td>
<td>895</td>
</tr>
<tr>
<td>( P_0 )</td>
<td>810</td>
<td>1046</td>
<td>892</td>
<td>965</td>
</tr>
<tr>
<td>( P_1 )</td>
<td>940</td>
<td>849</td>
<td>965</td>
<td>137.9 lb./ac.</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 97.5 lb./ac.
S.E. of body of any table = 137.9 lb./ac.

Crop : Cotton.
Site: M.A.E. Farm, Bhavanisagar.
Ref: M. 59(MAE).
Type: 'M'.

Object:—Type II—To study the effect of applying N, P and K alone and in combination to Cotton and their interaction with F.Y.M.

1. BASAL CONDITIONS:
(i) (a) Cotton—Cholam—Groundnut. (b) Groundnut. (c) As per treatments. (ii) (a) and (b) N.A. (iii) 18.9.1959. (iv) (a) 7 ploughings. (b) Dibbling. (c) 35 lb./ac. (d) 2 x 6'. (e) N.A. (v) Nil. (vi) MCU—1. (vii) Irrigated. (viii) Weeding and hoeing 5 times. (ix) N.A. (x) 5.2.1960 to 25.3.1960.

2. TREATMENTS:
All combinations of (1), (2), (3) and (4)
(1) 3 levels of N: \( N_0 =0, N_1 =30, \) and \( N_2 =60 \) lb./ac.
(2) 3 levels of \( P_2O_5: P_0 =0, P_1 =30 \) and \( P_2 =60 \) lb./ac.
(3) 3 levels of \( K_2O: K_0 =0, K_1 =30 \) and \( K_2 =60 \) lb./ac.
(4) 2 levels of F.Y.M.: \( F_0 =0 \) and \( F_1 =5000 \) lb./ac.

3. DESIGN:
(i) 3 x 2 Fact. confd. (ii) (a) 9 plots/block; 6 blocks/replication. (b) N.A. (iii) 1. (iv) (a) 36' x 15'. (b) 34' x 13'. (v) One row on one side and 2 plants on either end of the rows left. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Top-borer, jassids, aphids and bud-worms were noticed. (iii) Kapas yield. (iv) (a) 1957—contd. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Due to heavy rains, growth was affected during early stage of the crop. (vii) Expt. was conducted by Agronomist, Coimbatore.

5. RESULTS:
(i) 805.7 lb./ac. (ii) 140.8 lb./ac. (iii) N effect is highly significant, P effect is significant while other effects are not significant. (iv) Av. yield of grain in lb./ac.
### BASAL CONDITIONS:

1. **Crop:** Cotton (Rabi).
2. **Site:** M.A.E. Farm, Bhavanisagar.
3. **Object:** To find out the best time of application of N to Cotton.

#### 1. BASAL CONDITIONS:

- (i) (a) N.A. **(b)** Tenai.
- (c) N.A. **(ii) (a)** and (b) N.A. **(iii)** 25.11.1957.
- (iv) (a) 5 ploughings. **(b)** Dibbling in lines.
- (c) 21 lb./ac. **(d)** 2'×6".
- (e) 2 plants/hole. **(v) 20 lb./ac. of P2O5 as Super and 5000 lb./ac. of F.Y.M.**
- (vi) MCU-1. **(vii) Irrigated.** **(viii) Hand weeding, hoeing and again weeding.**
- (ix) 28.06". **(x) 6 pickings from 29.3.1958 to 2.5.1958.**

#### 2. TREATMENTS:

- All combinations of (1) and (2)+ a control (no manure)
  - (1) 2 sources of 50 lb./ac. of N: S1 = Urea and S2 = A/S.
  - (2) 6 times of application of N: T1 = At sowing, T2 = At thinning, T3 = At flowering, T4 = At flowering + 1/3 at sowing + 1/3 at thinning + 1/3 at flowering and T6 = At flowering + 1 month after flowering.

#### 3. DESIGN:

- (i) R.B.D. **(ii) 13.** **(b) N.A.** **(iii) 3.** **(iv) 36.3'×15'.** **(v) 34.3'×13'.** **(vi) 1' around.** **(vi) Yes.**

#### 4. GENERAL:

- (i) No lodging. **(ii) Aphids, jassids and red cotton bug—spraying of Foliodol.** (iii) Cotton yield. **(iv) (a) 1957—contd.** **(b) and (c) No. (v) and (vi) N.A. (vii) Expt. was conducted by Agronomist, Coimbatore.**

#### 5. RESULTS:

- (i) 923 lb./ac. **(ii) 214.1 lb./ac.** **(iii) Only 'control vs. others' effect and T effect are highly significant.** **(iv) AV. yield of cotton in lb./ac.**

<table>
<thead>
<tr>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
<th>T6</th>
<th>Mean</th>
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<tr>
<td>1300</td>
<td>938</td>
<td>716</td>
<td>979</td>
<td>1086</td>
<td>749</td>
<td>961</td>
</tr>
<tr>
<td>949</td>
<td>938</td>
<td>741</td>
<td>1070</td>
<td>1300</td>
<td>724</td>
<td>953</td>
</tr>
<tr>
<td>Mean</td>
<td>1123</td>
<td>938</td>
<td>728</td>
<td>1024</td>
<td>1193</td>
<td>736</td>
</tr>
</tbody>
</table>

| S.E. of S marginal mean | = 50.5 lb./ac. |
| S.E. of T marginal mean | = 87.4 lb./ac. |
| S.E. of body of table | = 123.6 lb./ac. |
Crop :- Cotton (Rabi).
Site :- M.A.E. Farm, Bhavanisagar.

Object :- Type V — To find out the best time of application of N to Cotton.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) and (b) N.A. (iii) 3.10.1958. (iv) (a) 3 ploughings. (b) Dibbling. (c) 24 lb./ac. (d; 2' x 6'. (e) N.A. (v) 20 lb./ac. of P₂O₅ as Super and F.Y.M. at 5000 lb./ac. (vi) MCU—1. (vii) Irrigated. (viii) One weeding, two hoeings and one earthing. (ix) N.A. (x) 8 pickings on 15, 22 and 28.2.1959; 7, 14, 21 and 28.3.1959 and 4, 11.4.1959.

2. TREATMENTS and 3. DESIGN :
   Same as in expt. no. 57(MAE) Type V on page 371.

4. GENERAL :
   (i) Satisfactory. (ii) Affected by aphids, jassids at early stages—spraying of Folidol. Black-arm and root-rot noticed during the flowering period—spraying of Cupravit. (iii) Cotton yield. (iv) (a) 1957—contd. (b) No. (c) —. (v) (a) and (b) No. (vi) Nil. (vii) Expt. was conducted by Agronomist, Coimbatore.

5. RESULTS :
   (i) 1287 lb./ac. (ii) 164.76 lb./ac. (iii) Only 'control vs. others' effect and T effect are highly significant. (iv) Av. yield of cotton in lb./ac.

<table>
<thead>
<tr>
<th>Control=724 lb./ac.</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
<th>T6</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
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<td>1613</td>
<td>1284</td>
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<td>1388</td>
</tr>
<tr>
<td>S2</td>
<td>872</td>
<td>1465</td>
<td>1539</td>
<td>1185</td>
<td>1168</td>
<td>1456</td>
<td>1281</td>
</tr>
<tr>
<td>Mean</td>
<td>1034</td>
<td>1420</td>
<td>1576</td>
<td>1234</td>
<td>1333</td>
<td>1440</td>
<td>1334</td>
</tr>
</tbody>
</table>

S.E. of S marginal mean = 38.8 lb./ac.
S.E. of T marginal mean = 67.3 lb./ac.
S.E. of body of table or control mean = 95.1 lb./ac.

________

Crop :- Cotton (Rabi).
Site :- M.A.E. Farm, Bhavanisagar.

Object :- Type V — To find out the best time of application of N to Cotton.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Sannhemp. (c) Nil. (ii) (a) and (b) N.A. (iii) 29.9.1959. (iv) (a) 7 ploughings. (b) Dibbling. (c) 35 lb./ac. (d) 2' x 6'. (e) N.A. (v) 5000 lb./ac. of compost+30 lb./ac. of P₂O₅ as Super. (vi) MCU—1. (vii) Irrigated. (viii) 3 hoeings and 3 weedings. (ix) N.A. (x) Cotton pickings from 6.2.1960 to 26.3.1960.

2. TREATMENTS to 4. GENERAL :
   Same as expt. no. 57(MAE) Type V on page 371.

5. RESULTS :
   (i) 939 lb./ac. (ii) 104.73 lb./ac. (iii) 'Control vs others' and T effect are highly significant. (iv) Av. yield of cotton in lb./ac.

<table>
<thead>
<tr>
<th>Control=543 lb./ac.</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
<th>T6</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>584</td>
<td>1103</td>
<td>1053</td>
<td>946</td>
<td>979</td>
<td>1020</td>
<td>947</td>
</tr>
<tr>
<td>S2</td>
<td>848</td>
<td>971</td>
<td>1119</td>
<td>987</td>
<td>996</td>
<td>1061</td>
<td>997</td>
</tr>
<tr>
<td>Mean</td>
<td>716</td>
<td>1037</td>
<td>1086</td>
<td>966</td>
<td>987</td>
<td>1040</td>
<td>972</td>
</tr>
</tbody>
</table>
Crop :- Cotton (Summer).

Object :- To study the effect of spacing on the yield of early Cotton in rice fallows.

BASAL CONDITIONS :
(i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S + 150 lb./ac. of Super. (ii) (a) Clay loam. (b) Refer soil analysis, Aduthurai. (iii) 18.2.1956. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 200 lb./ac. of A/S as top-dressing in 2 doses. (vi) P—216. F (early). (vii) Irrigated. (viii) Thinning and 2 weedings. (ix) 9.05°. (x) 6.6.1956 to 18.7.1956.

2. TREATMENTS :
Main-plot treatments :
2 row spacings: R = 1.5' and R = 2'.
Sub-plot treatments :
All combinations of (1) and (2)
1) 3 plant spacings: S1 = 4.5", S2 = 6" and S3 = 9".
2) Number of seedlings/hole: C1 = 1 and C2 = 2.

3. DESIGN :
(i) Split-plot. (ii) (a) 2 main-plots/block; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 24' x 21'. (b) 12' x 15'. (v) 6' x 3'. (vi) Yes.

4. GENERAL :
(i) Not satisfactory. (ii) Nil. (iii) Yield of cotton. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) Palur and Coimbatore. (b) N.A. (vi) Nil. (vii) Expt. was conducted by Cotton Specialist, Coimbatore.

5. RESULTS :
(i) 422 lb./ac. (ii) (a) 67.1 lb./ac. (b) 62.0 lb./ac. (iii) Main effects of R and C are significant. (iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>Mean</th>
<th>C1</th>
<th>C2</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>491</td>
<td>482</td>
<td>468</td>
<td>480</td>
<td>447</td>
</tr>
<tr>
<td>R2</td>
<td>409</td>
<td>355</td>
<td>328</td>
<td>364</td>
<td>330</td>
</tr>
<tr>
<td>Mean</td>
<td>450</td>
<td>418</td>
<td>348</td>
<td>422</td>
<td>389</td>
</tr>
<tr>
<td>C1</td>
<td>412</td>
<td>378</td>
<td>377</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2</td>
<td>488</td>
<td>459</td>
<td>319</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. R marginal means = 19.4 lb./ac. 5. R means at the same level of S = 31.9 lb./ac.
2. S marginal means = 21.9 lb./ac. 6. C means at the same level of R = 25.3 lb./ac.
3. C marginal means = 17.9 lb./ac. 7. R means at the same level of C = 26.4 lb./ac.
4. S means at the same level of R = 31.0 lb./ac. S.E. of body of C x S table = 21.9 lb./ac.
1. BASAL CONDITIONS:
(i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Loamy. (b) Refer soil analysis, Aduthurai. (iii) 7.2.1957. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 200 lb./ac. of A/S in 2 doses. (vi) P—216. F (early). (vii) Irrigated. (viii) Weeding twice. (ix) 3.69°. (x) 1.6.1957 to 10.7.1957.

2. TREATMENTS:
Same as in expt. no. 56(117) on page 373.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 12' x 15'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Yield of cotton. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) Coimbatore and Palur. (vi) Nil. (vii) Expt. was conducted by Cotton Specialist, Coimbatore.

5. RESULTS:
(i) 1213 lb./ac. (ii) (a) 124.7 lb./ac. (b) 140.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>Mean</th>
<th>C1</th>
<th>C2</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>1214</td>
<td>1203</td>
<td>1088</td>
<td>1168</td>
<td>1157</td>
<td>1179</td>
</tr>
<tr>
<td>R2</td>
<td>1112</td>
<td>1216</td>
<td>1128</td>
<td>1152</td>
<td>1156</td>
<td>1148</td>
</tr>
<tr>
<td>Mean</td>
<td>1163</td>
<td>1210</td>
<td>1103</td>
<td>1160</td>
<td>1157</td>
<td>1164</td>
</tr>
</tbody>
</table>

S E. of difference of two
1. R marginal means = 36.8 lb./ac.
2. S marginal means = 49.5 lb./ac.
3. C marginal means = 40.4 lb./ac.
4. S means at the same level of R = 70.0 lb./ac.
5. R means at the same level of S = 68.0 lb./ac.
6. C means at the same level of R = 57.1 lb./ac.
7. R means at the same level of C = 54.6 lb./ac.
8. S means at the same level of C = 49.5 lb./ac.

Crop :- Cotton.  
Object :-To study the effect of spacing on the yield of early Cotton in rice fallows.

Ref :- M. 58(144).  
Type :- 'C'.

Object :- To study the effect of spacing on the yield of early Cotton in rice fallows.

1. BASAL CONDITIONS:
(i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Loamy. (b) Refer soil analysis, Aduthurai. (iii) 3.2.1958. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 200 lb./ac. of A/S in 2 equal doses. (vi) P—216. F (early). (vii) Irrigated. (viii) Weeding twice. (ix) 4.33°. (x) 3.6.1958 to 12.7.1958.

2. TREATMENTS:
Same as in expt. no. 56(117) on page 373.

3. DESIGN and 4. GENERAL:
Same as in expt. no. 57(118) on page 373.

5. RESULTS:
(i) 1213 lb./ac. (ii) (a) 186.2 lb./ac. (b) 156.8 lb./ac. (iii) Main effect of C alone is significant. (iv) Av. yield of cotton in lb./ac.
### BASAL CONDITIONS:
1. (a) Nil. (b) Tenai. (c) N.A. (i) (a) Sandy. (b) N.A. (iii) 8 to 10.9.1956. (iv) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) Farm compost at 4 tons/ac. (vi) G-9030. (vii) Irrigated. (viii) Thinning once and weeding twice. (x) 19.86" (x) 26.1.1957 to 27.4.1957.

### TREATMENTS:
- **Main-plot treatments:**
  - 3 row spacings: R1 = 1.5', R2 = 2' and R3 = 2.5'.
- **Sub-plot treatments:**
  - All combinations of (1) and (2)
  - (1) 2 plant spacings: S1 = 6" and S2 = 9".
  - (2) Number of seedlings/hole: C1 = 1 and C2 = 2.

### DESIGN:
- (i) Split-plot. (ii) (a) 3 main-plots/block; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 20'x5'. (v) Nil. (vi) Yes.

### GENERAL:
- (i) Satisfactory. (ii) Moderate incidence of boll-worms and jassids. Endrine and Folidol sprayed. (iii) Yield of kapas. (iv) 1955-1956. (b) No. (c) Nil. (v) (a) Coimbatore, Avanashi and Tiruchengode. (vi) Nil. (vii) Experiment was conducted by Cotton specialist, Coimbatore.

### RESULTS:
- (i) 756 lb./ac. (ii) (a) 136.0 lb./ac. (b) 112.7 lb./ac. (iii) None of the effects is significant. (iv) Average yield of cotton in lb./ac.
Crop :- Cotton.  

Ref :- M. 56(78).  
Type :- 'C'.

Object :- To find out a suitable time of sowing Cotton.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Light gravelly loam.  (b) N.A.  (iii) As per treatments.  (iv) (a) 2 to 3 ploughings.  (b) Dibbling.  (c) 15 to 20 lb./ac.  (d) 2' x 9'.  (e) N.A.  (v) 10 to 15 C.L. of F.Y.M.+40 lb./ac. of N as top dressing.  (vi) MCU—1.  (vii) Irrigated.  (viii) Hoeing, weeding twice and earthing up once.  (ix) N.A.  (x) 24.1.1957 to 25.4.1957.

2. TREATMENTS:

3. DESIGN:
   (i) R.B.D.  (ii) 3.  (b) N.A.  (iii) 6.  (iv) (a) 25' x 10'.  (b) 21' x 7'.  (v) N.A.  (vi) Yes.

4. GENERAL:
   (i) Satisfactory.  (ii) Nil.  (iii) Kapas yield.  (iv) (a) 1956—1959.  (b) No.  (c) Nil.  (v) to (vii) Nil.

5. RESULTS:
   (i) 4156 lb./ac.  (ii) 116.9 lb./ac.  (iii) Treatment differences are significant.  (iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D₁</th>
<th>D₂</th>
<th>D₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>845</td>
<td>878</td>
<td>1021</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 39 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Cotton.  

Ref :- M. 57(70).  
Type :- 'C'.

Object :- To find out a suitable time of sowing Cotton.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Light gravelly loam.  (b) N.A.  (iii) As per treatments.  (iv) (a) 2 to 3 ploughings.  (b) Dibbling.  (c) 15 to 20 lb./ac.  (d) 2' x 9'.  (e) N.A.  (v) 10 C.L. of F.Y.M.+40 lb./ac. of N as top dressing.  (vi) MCU—1.  (vii) Irrigated.  (viii) Hoeing and weeding twice and earthing up once.  (ix) N.A.  (x) 16.1.1958 to 13.2.1958.

2. TREATMENTS:

3. DESIGN:
   (i) R.B.D.  (ii) (a) 3.  (b) N.A.  (iii) 10.  (iv) (a) 42' x 16'.  (b) 40' x 14'.  (v) 1' x 1'.  (vi) Yes.

4. GENERAL:
   (i) Satisfactory.  (ii) Slight attack of jassids and aphids.  (iii) Kapas yield.  (iv) (a) 1956—1959.  (b) No.  (c) Nil.  (v) to (vii) Nil.

5. RESULTS:
   (i) 466 lb./ac.  (ii) 116.9 lb./ac.  (iii) Treatment differences are significant.  (iv) Av. yield of kapas in lb./ac.
### BASAL CONDITIONS:

(i) (a) to (c) N.A. 
(ii) (a) Light gravelly loam. 
(b) N.A. 
(iii) As per treatments. 
(iv) (a) 2 to 3 ploughings. 
(b) Dibbling. 
(c) 15 to 20 lb./ac. 
(d) $2' \times 6'$. 
(e) N.A. 
(v) 10 to 15 C.L./ac. of F.Y.M.+40 lb./ac. of N as A/S as top-dressing. 
(vi) MCU-1. 
(vii) Irrigated. 
(viii) Hoeing, weeding twice and earthing up once. 
(ix) N.A. 

### TREATMENTS:


### DESIGN:

(i) R.B.D. 
(ii) (a) 3. 
(b) N.A. 
(iii) 8. 
(iv) (a) $42' \times 16'$. 
(b) $40' \times 14'$. 
(v) $1' \times 1'$. 
(vi) Yes.

### GENERAL:

(i) Satisfactory. 
(ii) Nil. 
(iii) Yield of cotton. 
(iv) (a) 1956—1959. 
(b) No. 
(c) Nil. 
(v) to (vi) Nil.

### RESULTS:

(i) 457 lb./ac. 
(ii) 82.5 lb./ac. 
(iii) Treatment differences are highly significant. 
(iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$D_1$</th>
<th>$D_2$</th>
<th>$D_3$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>443</td>
<td>510</td>
<td>357</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>29.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

### BASAL CONDITIONS:

(i) (a) to (c) N.A. 
(ii) (a) Light gravelly loam. 
(b) N.A. 
(iii) As per treatments. 
(iv) (a) 2 to 3 ploughings. 
(b) Dibbling. 
(c) 15 to 20 lb./ac. 
(d) $2' \times 6'$. 
(e) N.A. 
(v) 10 to 15 C.L./ac. of F.Y.M.+40 lb./ac. of N as top-dressing. 
(vi) MCU-1. 
(vii) Irrigated. 
(viii) Hoeing, weeding twice and earthing up once. 
(ix) N.A. 

### TREATMENTS:


### DESIGN:

(i) R.B.D. 
(ii) (a) 3. 
(b) N.A. 
(iii) 8. 
(iv) (a) $40' \times 14'$. 
(b) $38' \times 12.5'$. 
(v) N.A. 
(vi) Yes.

### GENERAL:

(i) Satisfactory. 
(ii) Nil. 
(iii) Kapas yield. 
(iv) (a) 1956—1959. 
(b) No. 
(c) Nil. 
(v) to (vi) Nil.

### RESULTS:

(i) 1113 lb./ac. 
(ii) 86.48 lb./ac. 
(iii) Treatment differences are highly significant. 
(iv) Av. yield of kapas in lb./ac.
Crop :- Cotton.  
Site :- Cotton Breeding Stn., Coimbatore.

Object :- To study the effect of spacing on the yield of early Cotton in the rice fallows.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. +150 lb./ac. of A/S +150 lb./ac. of Super.  
   (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore.  
   (iii) 19.3.1956.  
   (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments.  
   (v) 200 lb./ac. of A/S in 2 doses.  

2. TREATMENTS:
   Same as in exp. no. 56(117) on page 373.

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block ; 6 sub-plots/main-plot. (b) N.A.  
   (iii) 4. (iv) (a) and (b) 0.37 cent. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield of cotton. (iv) (a) 1955—1958. (b) No. (c) Nil. (d) (a) Aduthurai, and Palur. (b) Nil. (vi) Nil. (vii) Expt. was conducted at Central Farm, Coimbatore.

5. RESULTS:
   (i) 1163 lb./ac. (ii) (a) 112.7 lb./ac. (b) 236.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>Mean</th>
<th>C1</th>
<th>C2</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>1223</td>
<td>1149</td>
<td>1189</td>
<td>1167</td>
<td>1191</td>
<td>1153</td>
</tr>
<tr>
<td>R2</td>
<td>1107</td>
<td>1179</td>
<td>1133</td>
<td>1139</td>
<td>1120</td>
<td>1159</td>
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<tr>
<td>Mean</td>
<td>1165</td>
<td>1164</td>
<td>1161</td>
<td>1163</td>
<td>1156</td>
<td>1171</td>
</tr>
<tr>
<td>C1</td>
<td>1204</td>
<td>1158</td>
<td>1105</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2</td>
<td>1126</td>
<td>1173</td>
<td>1217</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. R marginal means = 32.5 lb./ac.  
2. S marginal means = 83.4 lb./ac.  
3. C marginal means = 65.1 lb./ac.  
4. S means at the same level of R = 118.0 lb./ac. S.E. of body of S×C table = 83.4 lb./ac.

Crop :- Cotton.  
Site :- Cotton Breeding Stn., Coimbatore.  
Ref :- M. 57(117).  
Type :- 'C'.

Object :- To study the effect of spacing on the yield of early Cotton in the rice fallows.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. +150 lb./ac. of A/S +150 lb./ac. of Super.  
   (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore.  
   (iii) 9.3.1957.  
   (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments.  
   (v) 200 lb./ac. of A/S in 2 doses as top-dressing.  
   (vi) P—216. F (early). (vii) Irrigated. (viii) Weeding twice  
2. TREATMENTS:
Same as in expt. no. 56(117) on page 373.

3. DESIGN and 4. GENERAL:
Same as in expt. no. 56(116) on page 378.

5. RESULTS:
(i) 1062 lb./ac. (ii) (a) 285.1 lb./ac. (b) 252.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of cotton in lb./ac.


<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>Mean</th>
<th>C1</th>
<th>C2</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>933</td>
<td>1119</td>
<td>1087</td>
<td>1046</td>
<td>975</td>
<td>1118</td>
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<tr>
<td>R2</td>
<td>939</td>
<td>1115</td>
<td>1149</td>
<td>1078</td>
<td>1007</td>
<td>1149</td>
</tr>
<tr>
<td>Mean</td>
<td>936</td>
<td>1132</td>
<td>1118</td>
<td>1062</td>
<td>991</td>
<td>1133</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. R marginal means = 83.3 lb./ac. 5. R means at the same level of S = 131.7 lb./ac.
2. S marginal means = 89.1 lb./ac. 6. C means at the same level of R = 102.9 lb./ac.
3. C marginal means = 72.7 lb./ac. 7. R means at the same level of C = 109.8 lb./ac.
4. S means at the same level of R = 120.0 lb./ac. S.E. of body of SxC table = 89.1 lb./ac.

Crop : Cotton.  
Site : Cotton Breeding Stn., Coimbatore.  
Ref : M. 58(143).  
Type : 'C'.

Object : To study the effect of spacing on the yield of early Cotton in rice fallows.

1. BASAL CONDITIONS:
(i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L.+150 lb./ac. of A/S+150 lb./ac.of Super. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) 18.3.1958. (iv) (a) 3 ploughings. (b) and (c) N.A. (a) and (e) As per treatments. (v) 200 lb./ac. of A/S as top-dressing. (vi) P—216 F (early). (vii) Irrigated. (viii) Weeding twice. (ix) 10.5". (x) 20.7.1958 to 30.8.1958.

2. TREATMENTS:
Same as in expt. no. 56(117) on page 373.

3. DESIGN:
Same as in expt. no. 56(116) on page 378.

4. GENERAL:
(i) Satisfactory. (ii) Attack of jassids, aphids and boll-worm was noticed. (iii) Yield of kapas. (iv) (a) 1955—1958. (b) No. (c) Nil. (v) (a) Aduthurai, Palur. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 1103 lb./ac. (ii) (a) 50.0 lb./ac. (b) 110.2 lb./ac. (iii) Main effect of R alone is significant. (iv) Av. yield of kapas in lb./ac.


<table>
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S.E. of difference of two

1. R marginal means = 14.4 lb./ac. 5. R means at the same level of S = 47.2 lb./ac.
2. S marginal means = 39.0 lb./ac. 6. C means at the same level of R = 45.0 lb./ac.
3. C marginal means = 31.8 lb./ac. 7. R means at the same level of C = 34.9 lb./ac.
4. S means at the same level of R = 55.1 lb./ac. S.E. of body of SxC table = 39.0 lb./ac.

---

Crop :- Cotton.  Ref :- M. 56(112).
Site :- Cotton Breeding Stn., Coimbatore.  Type :- 'C'.

Object :- To find out the optimum spacing and number of seedlings per hole for Cotton.

1. BASAL CONDITIONS:
   (i) (a) Cotton—Jowar—Sannhemp. (b) Sannhemp. (c) Nil. (ii) (a) Red loamy. (b) Refer soil analysis, Coimbatore. (iii) 31.8.1956. (iv) (a) 2 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) Nil. (vi) G—9030. (vii) Irrigated. (viii) Thinning, weeding twice. (ix) 9.6'. (x) 10.1.1957 to 28.2.1957.

2. TREATMENTS:
   Same as in exppt. no. 56(115) on page 375.

3. DESIGN:
   (i) Split-plot. (ii) (a) 3 main-plots/block; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 21' x 20'. (b) 18' x 15'. (v) One row left as border. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Incidence of boll-worm noticed. Spraying of Endrine and Folidol. (iii) Kopar yield. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) (a) Avanashi, Tiruchengode and Bhavanisagar. (b) Nil. (vi, and (vii) Nil.

5. RESULTS:
   (i) 720 lb./ac. (ii) (a) 327.6 lb./ac. (b) 173.2 (iii) Main effect of C is highly significant. (iv) Av. yield of Kopar in lb./ac.

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S.E. of difference of two

1. R marginal means = 115.8 lb./ac.
2. S or C marginal means = 50.6 lb./ac.
3. S or C means at the same level of R = 87.6 lb./ac.
4. R means at the same level of S or C = 130.6 lb./ac.
S.E. of body of SxC table = 50.6 lb./ac.

---

Crop :- Cotton.  Ref :- M. 55(85).
Site :- Cotton Breeding Stn., Coimbatore.  Type :- 'C'.

Object :- To study the effect of spacing and number of seedlings per hole on the yield of Cotton.
1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Red loamy soil. (b) Refer soil analysis, Coimbatore. (iii) 12.10.1955. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 200 lb./ac. of A/S in two splits during 6th and 10th weeks after sowing. (vi) MCU-1. (vii) Thinning and weeding twice. (ix) 11.8°. (x) 6.3.1956 to 17.4.1956.

2. TREATMENTS:
   Same as in expt. no. 56(115) on page 375.

3. DESIGN:
   (i) Split-Plot. (ii) (a) 3 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 20'x15'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Incidence of jassids and boll-worm. Endrine sprayed twice. (iii) Yield of Kapas. (iv) (a) 1954-1956. (b) No. (c) Nil. (d) As per treatments. (v) Nil. (vi) Expt. was conducted at Avanasi.

5. RESULTS:
   (i) 1555 lb./ac. (ii) (a) 234.1 lb./ac. (b) 185.2 lb./ac. (iii) Main effect of C is highly significant. Main effect of S is significant. Other effects are not significant. (iv) Av. yield of Kapas in lb./ac.

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S.E. of difference of two
1. R marginal means = 82.8 lb./ac.
2. S or C marginal means = 53.5 lb./ac.
3. S or C means at the same level of R = 92.5 lb./ac.
4. R means at the same level of S or C = 105.5 lb./ac.
S.E. of body of SxC table = 53.5 lb./ac.

---

Crop :- Cotton. Ref :- M. 56(113).
Site :- Cotton Breeding Stn., Coimbatore. Type :- 'C'.

Object :- To study the effect of spacing and number of seedlings per hole on the yield of Cotton.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Ragi. (c) 20 C.L./ac. of compost. (ii) (a) Red loamy soil. (b) N.A. (iii) 10, 11.10.1956. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 20 C.L./ac. of compost+40 lb./ac. of N as A/S. (vi) G—9030. (vii) Irrigated. (viii) Thinning and weeding twice. (ix) 15.8°. (x) 22.2.1957 to 12.4.1957.

2. TREATMENTS:
   Same as in expt. no. 56(115) on page 375.

3. DESIGN:
   (i) Split-plot. (ii) (a) 3 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 24'x12'. (v) Nil. (vi) Yes.
4. GENERAL:
   (i) Satisfactory. (ii) Incidence of jassius, boll-worm, stem-weevil. Spraying of Endrine and Folidol. (iii) Kapas yield. (iv) (a) 1954-1956. (b) Nil. (v) (a) Coimbatore, Tiruchengode and Bhavanisagar. (b) Nil. (vi) Nil. (vii) Expt. was conducted at Avanashi.

5. RESULTS:
   (i) 1397 lb./ac. (ii) (a) 260.8 lb./ac. (b) 214.1 lb./ac. (iii) Main effect of C alone is significant. (iv) Av. yield of kapar in lb./ac.

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S.E. of difference of two
1. R marginal means = 92.2 lb./ac.
2. S or C marginal means = 61.8 lb./ac.
3. S or C means at the same level of R = 107.0 lb./ac.
4. R means at the same level of S or C = 119.3 lb./ac.
   S.E. of body of S×C table = 61.8 lb./ac.

Crop :- Cotton.
Site :- Cotton Breeding Stn., Coimbatore.
Object :- To study the effect of spacing and number of seedlings per hole on the yield of Cotton.

Ref :- M. 55(83).
Type :- 'C'.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Ragi. (c) 20 C.L./ac. of compost. (ii) (v) Calcareous soil. (b) N.A. (iii) 10.10.1955. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 10 C.L./ac. of C.M.+200 lb./ac. of A/S. (vi) MCU-1. (vii) Irrigated. (viii) Thinning and weeding twice. (ix) 7.98. (x) 20.2.1956 to 26.3.1956.

2. TREATMENTS:
   Same as in exp. no. 56(115) on page 375.

3. DESIGN:
   (i) Split-plot. (ii) (a) 3 main-plots/block ; 4 sub-plots/main-plot. (b) 60' x 60'. (iii) 4. (iv) (a) and (b) 20' x 15'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Kapas yield. (iv) (a) 1954-1956. (b) No. (c) Nil. (v) (a) Avanashi, Coimbatore and Bhavanisagar. (b) Nil. (vi) Nil. (vii) Expt. was conducted at Tiruchengode.

5. RESULTS:
   (i) 1339 lb./ac. (ii) (a) 170.7 lb./ac. (b) 156.7 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of kapas in lb./ac.
Crop :- Cotton.

Site :- Cotton Breeding Stn., Coimbatore.

Object :- To study the effect of spacing and number of seedlings per hole on the yield of Cotton.

1. BASAL CONDITIONS :
   (i) (a) N.A. (b) Ragi. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Red loam. (b) N.A. (iii) 24.10.1956. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 4 C.L./ac. of F.Y.M.+15 lb./ac. of P₂O₅ as Super+40 lb./ac. of N as A/S. (vi) G-9030. (vii) Irrigated. (viii) Thinning and weeding twice. (ix) 7.38°. (x) 15.3.1957 to 22.4.1957.

2. TREATMENTS :
   Same as in exp. no. 56(115) on page 375.

3. DESIGN :
   (i) Split-plot. (ii) (a) 3 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 24' X 12'. (v) Nil. (vi) Yes.

4. GENERAL :
   (i) Satisfactory. (ii) Incidence of jassids, aphids and boll-worm. Spraying of Endrine and Folidol. (iii) Kapas yield. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) (a) Coimbatore, Avarashi and Bhavanisagar. (b) Nil. (vi) Nil. (vii) Expt. was conducted at Tiruchengode.

5. RESULTS :
   (i) 1188 lb./ac. (ii) (a) 216.0 lb./ac. (b) 171.5 lb./ac. (iii) Main effect of R is significant. (iv) Av. yield of kapas in lb./ac.

\[
\begin{array}{c|c|c|c|c}
 & S_1 & S_2 & \text{Mean} & C_1 & C_2 \\
\hline
R_1 & 1374 & 1297 & 1335 & 1362 & 1309 \\
R_2 & 1318 & 1372 & 1345 & 1319 & 1371 \\
R_3 & 1314 & 1363 & 1338 & 1262 & 1414 \\
\hline
\text{Mean} & 1335 & 1344 & 1339 & 1314 & 1365 \\
C_1 & 1302 & 1327 & 1367 & 1362 \\
C_2 & 1367 & 1362 & 1367 & 1362 \\
\end{array}
\]

S.E. of difference of two

1. R marginal means = 60.3 lb./ac.
2. S or C marginal means = 45.2 lb./ac.
3. S or C means at the same level of R = 78.4 lb./ac.
4. R means at the same level of S or C = 81.9 lb./ac.
S.E. of body of SxC table = 45.2 lb./ac.
S.E. of difference of two
1. R marginal means = 76.4 lb./ac.
2. S or C marginal means = 49.5 lb./ac.
3. S or C means at the same level of R = 85.8 lb./ac.
4. R means at the same level of S or C = 97.6 lb./ac.
S.E. of body of SxC table = 49.5 lb./ac.

Crop: - Cotton (Summer).
Object: - To study the effect of spacing on the yield of early Cotton in rice fallows.

1. BASAL CONDITIONS:
(i) (a) Paddy - Cotton - Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of A/S + 150 lb./ac. of Super. (ii) (a) Clayey loam. (b, Refer soil analysis, Palur. (iii) 19.2.1956. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As pc. treatments. (v) 200 lb. ac. of A/S. (vi) P - 216. F 'early'. (vii) Irrigated. (viii) Thinning and weeding twice. (ix) 19.29. (x) 9.7.1956 to 7.9.1956.

2. TREATMENTS:
Same as in expt. no. 56(117; on page 373.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) 'a' and (b) 17'x12'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Jassids and aphids noticed. (iii) Yield of kapas. (iv) 'a' 1956-1958. (b) No. (c) Nil. (v) 6. Aduthurai and Coimbatore. (b) Nil. (vi) Nil. (vii) Expt. was conducted by Cotton Specialist, Coimbatore.

5. RESULTS:
(i) 1152 lb./ac. (ii) (a) 150.4 lb./ac. (b) 140.9 lb./ac. (iii) None of the effects is significant. (iv) Av. yield, of kapas in lb./ac.

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S.E. of difference of two
1. R marginal means = 43.5 lb./ac. 5. R means at the same level of S = 72.0 lb./ac.
2. S marginal means = 49.8 lb./ac. 6. C means at the same level of R = 57.5 lb./ac.
3. C marginal means = 40.8 lb./ac. 7. R means at the same level of C = 52.5 lb./ac.
4. S means at the same level of R = 70.5 lb./ac. S.E. of body of SxC table = 49.8 lb./ac.
1. **BASAL CONDITIONS**:
   (i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of Super + 150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 3.1957. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 200 lb./ac. of A/S. (vi) P = 216. F (early). (vii) Irrigated. (viii) Thinning and weeding twice. (ix) 9.4. (x) 6.7.1957 to 23.8.1957.

2. **TREATMENTS**:
   Same as in expt. no. 56(117) on page 373.

3. **DESIGN**:
   (i) Split-plot. (ii) (a) 2 main-pl block; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 0.33 cent. (v) Nil. (vi) Yes.

4. **GENERAL**:
   Same as in expt. no. 56(120) on page 384.

5. **RESULTS**:
   (i) 84 lb./ac. (ii) (a) 206.4 lb./ac. (b) 151.9 lb./ac. (iii) Main effect of S is highly significant and interaction S x C is significant. (iv) Av. yield of kapas in lb./ac.

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S.E. of difference of two means

1. R marginal means = 59.6 lb./ac. 5. R means at the same level of S = 86.1 lb./ac.
2. S marginal means = 53.7 lb./ac. 6. C means at the same level of R = 61.9 lb./ac.
3. C marginal means = 43.8 lb./ac. 7. R means at the same level of C = 64.1 lb./ac.
4. S means at the same level of R = 76.0 lb./ac. S.E. of body of S x C table = 53.7 lb./ac.

---

**Crop :- Cotton.**  
**Site :- Agri. Res. Stn., Palur.**  
**Ref :- M. 58(146).**  
**Type :- ‘C’.**

Object :- To study the effect of spacing on the yield of early Cotton in rice fallows.

**BASAL CONDITIONS**:
(i) (a) Paddy—Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 150 lb./ac. of Super + 150 lb./ac. of A/S. (ii) (a) Clayey loam. (b) Refer soil analysis, Palur. (iii) 19.2.1958. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 200 lb./ac. of A/S. (vi) P = 216. F (early). (vii) Irrigated. (viii) Thinning and weeding twice. (ix) 5.51°. (x) 4.6.1958 to 24.7.1958.

**TREATMENTS**:
Same as in expt. no. 56(117) on page 373.

**DESIGN**:
Same as in expt. no. 57(121) on page 384.

4. **GENERAL**:
(i) Satisfactory. (ii) Slight incidence of jassids and boll-worm. (iii) Yield of kapas. (iv) (a) 1956–1958. (b) Nil. (c) Nil. (v) Aduthurai and Coimbatore. (b) Nil. (vi) Nil. (vii) Expt. was conducted by Cotton Specialist, Coimbatore.
5. RESULTS:
(i) 1085 lb./ac. (ii) (a) 214.6 lb./ac. (b) 157.2 lb./ac. (iii) Main effect of C is significant. (iv) Av. yield of kapas in lb./ac.

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<td>1069</td>
<td>1078</td>
<td>1107</td>
<td>1085</td>
<td>1118</td>
<td>1051</td>
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<tr>
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<tr>
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<td>1064</td>
<td>1024</td>
<td>1066</td>
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</tr>
</tbody>
</table>

S.E. of difference of two
1. R marginal means = 62.0 lb./ac. 5. R means at the same level of S = 89.2 lb./ac.
2. S marginal means = 55.6 lb./ac. 6. C means at the same level of R = 64.2 lb./ac.
3. C marginal means = 45.4 lb./ac. 7. R means at the same level of C = 76.5 lb./ac.
4. S means at the same level of R = 78.6 lb./ac. S.E. of body of SXC table = 55.6 lb./ac.

---

Crop :- Cotton.
Ref :- M. 54(117).
Type :- 'C'.

Object :- To determine the optimum spacing and no. of seedlings per hole.

1. BASAL CONDITIONS:
   (i) (a) Sorghum—G.M.—Cotton. (b) G.M. (c) Nil. (ii) (a) Gravelly soil. (b) N.A. (iii) 3.10.1954.
   (iv) (a) 4 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 20 lb./ac. of N as A/S as

2. TREATMENTS:
   Same as expt. no. 56(115) on page 375.

3. DESIGN:
   (i) Split-plot. (b) (a) 3 main-plots/block; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 20’x14’.
   (b) 17’x14’. (v) N.A. (vi) Yes.

4. GENERAL:
   (b) No. (c) Nil. (v) and (vi) Nil. (vii) Expt. was conducted by Cotton Specialist, Coimbatore.

5. RESULTS:
   (i) 757 lb./ac. (ii) (a) 216.0 lb./ac. (b) 107.8 lb./ac. (iii) Main effect of C alone is highly significant.
   (iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S₁</th>
<th>S₂</th>
<th>Mean</th>
<th>C₁</th>
<th>C₂</th>
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<tr>
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<td>792</td>
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<td>791</td>
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<td>R₂</td>
<td>848</td>
<td>762</td>
<td>875</td>
<td>716</td>
<td>895</td>
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<tr>
<td>R₃</td>
<td>699</td>
<td>652</td>
<td>676</td>
<td>593</td>
<td>758</td>
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<td>677</td>
<td>837</td>
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<tr>
<td>C₁</td>
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<td>660</td>
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<tr>
<td>C₂</td>
<td>865</td>
<td>809</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop :- Cotton
Object :- To find out a suitable date of sowing Cotton crop.

1. BASAL CONDITIONS :
   (i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) Dibbling. (c) 15 to 20 lb./ac. (d) 2' x 9". (e) N.A. (v) 10 to 15 C.L. of compost + 40 lb./ac. of N as A/S as top dressing. (vi) As per treatments. (vii) Irrigated. (viii) Hoeing, weeding twice and earthing up once. (ix) 9.10". (x) N.A.

2. TREATMENTS :
   Main-plot treatments :
   Sub-plot treatments :
      2 varieties : $V_1=$ MCU-1 and $V_2=G=9030$.

3. DESIGN :
   (i) Split-plot. (ii) (a) 3 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 6 (iv) (a) and (b) 42'x16' (v) Nil. (vi) Yes.

4. GENERAL :
   (i) Not satisfactory. (ii) N.A. (iii) Kapas yield. (iv) (a) 1955-1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :
   (i) 246 lb./ac. (ii) (a) 68.1 lb./ac. (b) 55.0 lb./ac. (iii) Main effect of $D$ alone is significant. (iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$D_1$</th>
<th>$D_2$</th>
<th>$D_3$</th>
<th>Mean</th>
</tr>
</thead>
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<tr>
<td>$V_1$</td>
<td>306</td>
<td>256</td>
<td>206</td>
<td>256</td>
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<tr>
<td>$V_2$</td>
<td>271</td>
<td>249</td>
<td>189</td>
<td>236</td>
</tr>
<tr>
<td>Mean</td>
<td>288</td>
<td>252</td>
<td>197</td>
<td>246</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. $D$ marginal means $= 27.8$ lb./ac.
2. $V$ marginal means $= 18.3$ lb./ac.
3. $V$ means at the same level of $D$ $= 31.8$ lb./ac.
4. $D$ means at the same level of $V$ $= 35.8$ lb./ac.

Crop :- Cotton
Site :- Agri. Res. Stn., Bhavanisagar
Object :- To find out optimum spacing and number of seedlings per hole for different varieties of Cotton.

Ref :- M. 55(72).
Type :- 'CV'.

Crop :- Cotton
Site :- Agri. Res. Stn., Bhavanisagar
Object :- To find out a suitable date of sowing Cotton crop.

Ref :- M. 55(84).
Type :- 'CV'.

Crop :- Cotton
Site :- Agri. Res. Stn., Bhavanisagar
Object :- To find out optimum spacing and number of seedlings per hole for different varieties of Cotton.

Ref :- M. 55(84).
Type :- 'CV'.
1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Sandy loam. (b) N.A. (iii) 20.9.1955. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) River silt at 75 C.L.fac. (vi) As per treatments. (vii) Irrigated. (viii) Thinning once; weeding and hoeing thrice. (ix) 10.39°. (x) 31.1.1956 to 28.3.1956.

2. TREATMENTS:
   Main-plot treatments:
   - 3 row spacings: \( R_1 = 1.5' \), \( R_2 = 2' \) and \( R_3 = 2.5' \).
   Sob-plot treatments:
   - All combinations of (1) and (2)
     (1) 2 plant spacings: \( S_1 = 6' \) and \( S_2 = 9' \).
     (2) Number of seedlings/hole: \( C_1 = \text{Single} \) and \( C_2 = \text{Double} \).
   Sub-sub-plot treatments:
   - 2 varieties: \( V_1 = \text{MCU-1} \) and \( V_2 = \text{G-9030} \).

3. DESIGN:
   (i) Split-plot. (ii) (a) 3 main-plots/block; 4 sub-plots/main-plot; 2 sub-sub-plots/sub-plots. (b) N.A. (iii) 20' \( \times \) 14.5'. (iv) (a) and (b) N.A. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Attack of boll-worm, top-borer and jassids noticed. Endrine was sprayed thrice. (iii) Flower, boll count and yield of \text{kapas}. (iv) (a) 1954-1956. (b) No. (c) Nil. (v) and (vi) Nil. (vii) Expt. was conducted by the Cotton specialist, Coimbatore.

5. RESULTS:
   (i) 929 lb./ac. (ii) (a) 320.6 lb./ac. (b) 293.6 lb./ac. (c) 171.0 lb./ac. (iii) Interaction \( S \times V \) alone is significant. (iv) Av. yield of \text{kapas} in lb./ac.

<table>
<thead>
<tr>
<th>( V_1 )</th>
<th>( R_1 )</th>
<th>( R_2 )</th>
<th>( R_3 )</th>
<th>( C_1 )</th>
<th>( C_2 )</th>
<th>( S_1 )</th>
<th>( S_2 )</th>
<th>Mean</th>
</tr>
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<tbody>
<tr>
<td>( V_2 )</td>
<td>904</td>
<td>991</td>
<td>961</td>
<td>940</td>
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<td>916</td>
<td>944</td>
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<td>882</td>
<td>930</td>
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<td>906</td>
</tr>
<tr>
<td>( S_1 )</td>
<td>973</td>
<td>893</td>
<td>861</td>
<td>891</td>
<td>927</td>
<td>911</td>
<td>947</td>
<td>929</td>
</tr>
<tr>
<td>( S_2 )</td>
<td>858</td>
<td>994</td>
<td>995</td>
<td>932</td>
<td>966</td>
<td>911</td>
<td>947</td>
<td>929</td>
</tr>
<tr>
<td>( C_1 )</td>
<td>979</td>
<td>871</td>
<td>884</td>
<td>852</td>
<td>1016</td>
<td>952</td>
<td>60.5 lb./ac.</td>
<td></td>
</tr>
<tr>
<td>( C_2 )</td>
<td>952</td>
<td>1016</td>
<td>972</td>
<td>60.5 lb./ac.</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

S.E. of difference of two

1. R marginal means = 80.2 lb./ac. 6. V means at the same level of R = 60.5 lb./ac.
2. S or C marginal means = 59.9 lb./ac. 7. R means at the same level of V = 50.8 lb./ac.
3. V marginal means = 34.9 lb./ac. 8. V means at the same level of S or C = 42.5 lb./ac.
4. S or C means at the same level of R = 103.8 lb./ac. 9. S or C means at the same level of V = 69.3 lb./ac.
5. R means at the same level of S or C = 108.7 lb./ac. S.E. of body of \( S \times C \) table = 59.9 lb./ac.

Crop :- Cotton. 
Site :- Cotton Breeding Stn., Coimbatore. 
Object :- To find out optimum spacing and number of seedlings per hole for different varieties of Cotton.

1. BASAL CONDITIONS:
   (i) (a) Cotton—Jowar—Sannhemp. (b) Sannhemp. (c) Nil. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 6.9.1955. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) and (e) As per treatments. (v) 200 lb./ac. of A/S top-dressed in 6th and 10th week. (vi) As per treatments. (vii) Irrigated. (viii) Thinning once and 3 weedings. (ix) 9.67°. (x) 9.2.1956 to 2.3.1956.
2. **TREATMENTS:**

Same as in expt. no. 55(84) on page 387.

3. **DESIGN:**

(i) Split-plot. (ii) (a) 3 main-plots/block ; 4 sub-plots/main-plot ; 2 sub-sub-plots/sub-plot. (b) N.A. (iii) (a) 0.69 cent. (b) 0.44 cent. (iv) N.A. (v) Yes.

4. **GENERAL:**

(i) Satisfactory. (ii) Incidence of jassids, aphids and boll-worm. Spraying of Endrine once and Folidol twice. (iii) Counts of flowers, buds and kapas yield. (iv) (a) 1954-1956. (b) No. (c) Nil. (v) and (vi) Nil. (vii) Expt. was conducted by the Cotton Specialist, Coimbatore.

5. **RESULTS:**

<table>
<thead>
<tr>
<th></th>
<th>R₁</th>
<th>R₂</th>
<th>R₃</th>
<th>C₁</th>
<th>C₂</th>
<th>S₁</th>
<th>S₂</th>
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<td>810</td>
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<td>V₂</td>
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<td>647</td>
<td>673</td>
<td>640</td>
<td>652</td>
<td>661</td>
<td>656</td>
</tr>
<tr>
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<td>751</td>
<td>711</td>
<td>739</td>
<td>729</td>
<td>732</td>
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<tr>
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<td>829</td>
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<td>699</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of difference of two

1. R marginal means = 26.1 lb./ac. 6. V means at the same level of R = 43.8 lb./ac.
2. S or C marginal means = 32.8 lb./ac. 7. R means at the same level of V = 80.5 lb./ac.
3. V marginal means = 25.3 lb./ac. 8. V means at the same level of S or C = 31.0 lb./ac.
4. S or C means at the same level of R = 56.8 lb./ac. 9. S or C means at the same level of V = 41.4 lb./ac.
5. R means at the same level of S or C = 47.9 lb./ac. S.E. of body of S x C table = 32.8 lb./ac.

**Crop**: Cotton.

**Site**: Cotton Breeding Stn., Coimbatore.

**Ref**: M. 54(118).

**Type**: 'CV'.

Object: To study the effect of spacings on the yield of Cotton grown in rice fallows.

1. **BASEAL CONDITIONS:**

(i) (a) Cotton—Paddy. (b) Paddy. (c) G.M. at 5000 lb./ac.+A/S and Super at 150 lb./ac. each. (ii) (a) Clayey loam. (b) Refer soil analysis, Coimbatore. (iii) 17.2.1954. (iv) (a) 3 ploughings. (b) and (c) N.A. (d) As per treatments. (e) N.A. (v) 200 lb./ac. of A/S. (vi) As per treatments. (vii) Irrigated. (viii) Weeding and hoeing twice. (ix) 11.14. (x) 21.6.1954 to 16.8.1954.

2. **TREATMENTS:**

Main-plot treatments:

- 2 row spacings : R₁=1.5' and R₂=2'.

Sub-plot treatments:

All combinations of (1) and (2)

1. 3 plant spacings : S₁=4.5', S₂=6' and S₃=9'.
2. 2 varieties : V₁=P-216 F and V₂=P-23 F.

3. **DESIGN:**

(i) Split-plot. (ii) (a) 2 main-plots/block ; 6 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) 12'×12'. (v) Nil. (vi) Yes.
4. General:
(i) Normal. (ii) Attack of red-leaf jassids, aphids and leaf-rollers. (iii) Kapas yield. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) to (vii) Nil.

5. Results:
(i) 1258 lb./ac. (ii) (a) 330.9 lb./ac. (b) 179.5 lb./ac. (iii) Main effect of V is highly significant and main effect of R is significant. Others are not significant. (iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>R</th>
<th>S1</th>
<th>S2</th>
<th>Mean</th>
<th>V1</th>
<th>V2</th>
</tr>
</thead>
<tbody>
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<td>1411</td>
<td>1431</td>
<td>1391</td>
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<tr>
<td>R3</td>
<td>1304</td>
<td>1002</td>
<td>1153</td>
<td>1238</td>
<td>1068</td>
</tr>
</tbody>
</table>

Mean 1406 1109 1258 1308 1207

V1 1468 1149
V2 1344 1069

S.E. of difference of two
1. R marginal means = 78.0 lb./ac. 5. R means at the same level of V = 88.7 lb./ac.
2. S marginal means = 51.8 lb./ac. 6. S means at the same level of R = 73.3 lb./ac.
3. V marginal means = 42.3 lb./ac. 7. V means at the same level of R = 59.8 lb./ac.
4. R means at the same level of S = 118.1 lb./ac. S.E. of body of S x V table = 51.8 lb./ac.

Crop :- Cotton.
Site :- Cotton Breeding Stn., Coimbatore.
Ref :- M. 55(87).
Type :- 'CIM'.

Object :- To study the effect of tillage, manures and irrigation on Cotton crop.

1. Basal Conditions:
(i) (a) Cholam—Cotton—Ragi. (b) Cholam. (c) As per treatments. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) 8.9.1955. (iv) (a) As per treatments. (b) and (c) N.A. (d) 2’ x 6’. (e) N.A. (v) 5 tons/ac. of C.M. (vi) MCU—1 (medium). (vii) Irrigated. (viii) Hoeing, weeding and earthing up once. (ix) 7.39’. (x) 9.5.1956.

2. Treatments:
Strips in one direction:
3 levels of irrigation: I1=24, I2=30 and I3=36 acre-inches.

Strips in perpendicular direction:
All combinations of (1) and (2)

(1) 2 levels of ploughing: C1—Shallow and C2—Deep ploughing.

(2) 3 levels of manure: M1=30 lb./ac. of N+30 lb./ac. of P2O5, M2=60 lb./ac. of N+45 lb./ac. of P2O5+50 lb./ac. of K2O and M3=90 lb./ac. of N+60 lb./ac. of P2O5+50 lb./ac. of K2O.

3. Design:
(i) Strip-plot. (ii) (a) 18. (b) N.A. (iii) 4, (iv) (a) 32’x13’. (b) 28’x11’. (v) 2’x11’. (vi) Yes.

4. General:
(i) N.A. (ii) Crop failed due to incidence of pests. Folidol at 1 oz. in 2½ gallons of water was sprayed against mealy-bugs. (iii) Yield of kapas. (iv) (a) 1954—contd. (b) Yes. (c) Nil. (v) to (vi) Nil.

Results:
(i) 352 lb./ac. (ii) (a) 31.21 lb./ac. (b) 60.80 lb./ac. (c) 41.94 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of kapas in lb./ac.
Object: To study the effect of fungicides in controlling boll-worm disease of Cotton.

### Basal Conditions

(i) (a) Cotton—Paddy. (b) Paddy. (c) 5000 lb./ac. of G.L. + 30 lb./ac. of P₂O₅ as Super-30 lb./ac. of N as A/S. (ii) (a) Clay soil. (b) Refer soil analysis, Aduthurai. (iii) 6.3.1954. (iv) (a) Ploughed twice. (b) to (e) N.A. (v) Top-dressing with A/S at 200 lb./ac. in two doses half at the time of 1st earthing and the rest a month later. (vi) P—216 F (early). (vii) Irrigated. (viii) Earthing up twice. (ix) 9.00". (x) 29.7.1954.

### Treatments

4 fungicides: F₀ = Control (no spray), F₁ = Ekatox 0.025%, F₂ = Folidol 0.025% and F₃ = BHC 0.1%.

### Design

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 78'x48'. (b) 64'x34'. (v) 2 rows left as border. (vi) Yes.

### General

(i) No lodging. (ii) Attack of boll-worm noticed—control measures as per treatments. (iii) Cotton yield and infestation count. (iv) (a) 1952—contd. (b) and (c) No. (v) (a) Coimbatore. (b) Nil. (vi) Nil. (vii) Exp. was conducted by Entomologist.

### Results

(i) 576 lb./ac. (ii) 139.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>F₀</th>
<th>F₁</th>
<th>F₂</th>
<th>F₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>515</td>
<td>565</td>
<td>600</td>
<td>625</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>69.6 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Object: To study the effect of antibiotics on Cotton crop.
1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 11.9.1958. (iv) (a) 2 to 3 ploughings. (b) Dibbling. (c) 15 to 20 lb./ac. (d) 2'×9'. (e) 1. (v) 10 C.L./ac. of compost. (vi) MCU-1. (vii) Irrigated. (viii) Hoeing, weeding twice and earthing up once. (ix) 10.05'. (x) 19.2.1959 to 4.4.1959.

2. TREATMENTS:
   7 antibiotics: A₀=Control, A₁=Ceresan, A₂=Agrosan, A₃=Tillex, A₄=Spergon, A₅=Cermex and A₆=Flit 406.

3. DESIGN:
   (i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) 40'×12'. (b) 36'×10½'. (v) 2'×9'. (vi) Yes.

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

5. RESULTS:
   (i) 982 lb./ac. (ii) 198 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>A₀</td>
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<td>924</td>
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<tr>
<td>A₂</td>
<td>1003</td>
<td>1001</td>
</tr>
<tr>
<td>A₃</td>
<td>1053</td>
<td></td>
</tr>
<tr>
<td>A₄</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A₅</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A₆</td>
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</tr>
</tbody>
</table>

Crop :- Cotton.  
Object :- To study the effect of fungicides on Cotton crop.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 28.8.1959. (iv) (a) 2 to 3 ploughings. (b) Dibbling. (c) 15 to 20 lb./ac. (d) 2'×9'. (e) 1. (v) 10 C.L./ac. of compost. (vi) MCU-1. (vii) Irrigated. (viii) Hoeing, weeding thrice and earthing up once. (ix) 9.7'. (x) 4.2.1960 to 2.4.1960.
2. TREATMENTS:
10 fungicides: F₀=Control, F₁=Spergon, F₂=Tillex, F₃=Agrosan, F₄=Agrosan 5w, F₅=Ceremex, F₆=Dout 9 B, F₇=2% Ceresan, F₈=Flit 406 and F₉=Ceresan dry.

3. DESIGN:
(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 40'×12'. (b) 36'×10'. (v) One row left around. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) N.A. (iii) Kapas yield. (iv) (a) to (c) No. (v) to (vii) Nil.

5. RESULTS:
(i) 2332 lb/ac. (ii) 217.9 lb/ac. (iii) Treatment differences are not significant. (iv) Av. yield of kapas in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>F₀</th>
<th>F₁</th>
<th>F₂</th>
<th>F₃</th>
<th>F₄</th>
<th>F₅</th>
<th>F₆</th>
<th>F₇</th>
<th>F₈</th>
<th>F₉</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2384</td>
<td>2438</td>
<td>2206</td>
<td>2399</td>
<td>2458</td>
<td>2224</td>
<td>2175</td>
<td>2334</td>
<td>2285</td>
<td>2424</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>109 lb/ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Crop :- Cotton.  
Site :- Agri. Res. Stn., Coimbatore.  
Object :- To find out an effective insecticide for the control of spotted boll-worm of Cotton.

5. RESULTS:
(i) 980 lb/ac. (ii) 235.5 lb/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of kapas in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>I₀</th>
<th>I₁</th>
<th>I₂</th>
<th>I₃</th>
<th>I₄</th>
<th>I₅</th>
<th>I₆</th>
<th>I₇</th>
<th>I₈</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>572</td>
<td>636</td>
<td>597</td>
<td>803</td>
<td>602</td>
<td>922</td>
<td>1508</td>
<td>1424</td>
<td>1758</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>117.8 lb/ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Crop :- Cotton.  
Site :- Agri. College & Res. Instt., Coimbatore.  
Object :- To find out an effective insecticide for the control of spotted boll-worm of Cotton.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Jowar. (c) 5 tons/ac. of F.Y.M. (ii) (a) Loamy. (b) Refer soil analysis, Coimbatore. (iii) 2.9.1954. (iv) (a) to (e) N.A. (v) 10 tons/ac. of F.Y.M. and 200 lb/ac. of A/S. (vi) MCU-1. (vii) Irrigated. (viii) 16.29'. (x) Jan. 1955 to April 1955.
2. TREATMENTS:
Same as in expt. no. 54(29) on page 393.
Treatments applied in three equal doses at 15 days interval from 6 weeks after sowing.

3. DESIGN:
(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 50'x20'. (b) 40'x15'. (v) 2 rows left on all sides. (vi) Yes.

4. GENERAL:
(i) No lodging; good growth. (ii) Attack of boll-worm was noticed—control measures as per treatments. (iii) Kapas yield and infection count. (iv) (a) 1952—contd. (b) and (c) No. (v) (a) Aduthurai. (b) Nil. (vi) Nil. (vii) Expt. was conducted by Entomologist, Coimbatore.

5. RESULTS:
(i) 699 lb./ac. (ii) 144.5 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>I₁</th>
<th>I₂</th>
<th>I₃</th>
<th>I₄</th>
<th>I₅</th>
<th>I₆</th>
<th>I₇</th>
<th>I₈</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>731</td>
<td>586</td>
<td>668</td>
<td>715</td>
<td>501</td>
<td>430</td>
<td>637</td>
<td>855</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>72.3 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Cotton (Monsoon).
Site :- Agri. College & Res. Instt., Coimbatore.
Object :- To study the effect of dose and time of application of insecticides to Cotton crop.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Black loam. (b) Refer soil analysis, Coimbatore. (iii) 30.9.1958. (iv) (a) 3 ploughings. (b) Dibbled. (c) N.A. (d) 2'x1'. (e) 2. (f) 5 tons/ac. of F.Y.M. (v) M.C.U.-1. (vi) Irrigated. (vii) Weeding and interculture once. (viii) 11.87°. (ix) 17.1.1959 to 25.3.1959.

2. TREATMENTS:
All combinations of (1), (2) and (3)+2 extra treatments.
(1) 3 insecticides: I₁=Metasystox, I₂=Systox and I₃=Pestox.
(2) 2 methods of application: M₁=Spray and M₂=With irrigation.
(3) 2 intensities of application: D₁=0.2% and D₂=0.1%.
Extra treatments: T₁=Water spray and T₂=No spray (control).

3. DESIGN:
(i) R.B.D. (ii) (a) 14. (b) N.A. (iii) 4. (iv) (a) 30'x18'. (b) 25'x16'. (v) 2'x1'. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Stem-weevil, mealy-bug and boll-worm noticed. Control measures as per treatments. (iii) Kapas yield and intensity of infestation. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) and (vi) Nil. (vii) Expt. was conducted by Entomologist, Coimbatore.

5. RESULTS:
(i) 520 lb./ac. (ii) 105.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M₁</th>
<th>M₂</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>T₁</td>
<td>577</td>
<td>576</td>
<td>576</td>
</tr>
<tr>
<td>D₁</td>
<td>490</td>
<td>501</td>
<td>491</td>
</tr>
<tr>
<td>D₂</td>
<td>544</td>
<td>566</td>
<td>555</td>
</tr>
<tr>
<td>Mean</td>
<td>517</td>
<td>533</td>
<td>529</td>
</tr>
</tbody>
</table>

Ref :- M. 58(42).
Type :- 'D'.
CROP: Cotton.  
Ref.: M. 59(34).  
Type: 'D'.

Object: To study the effect of dose and time of application of insecticides to Cotton crop.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Black soil. (b) Refer soil analysis, Coimbatore. (iii) 19.9.1959. (iv) 3 ploughings. (b) and (c) N.A. (d) 2½'×1½'. (e) N.A. (v) 5 tons/ac. of F.Y.M. (vi) MCU—1. (vii) Irrigated. (viii) N.A. (ix) 53.95°. (x) 14.4.1960.

2. TREATMENTS:
   Same as in exp. no. 58(42) on page 394.

3. DESIGN:
   (i) R.B.D. (ii) (a) 14. (b) 175'×48'. (iii) 4. (iv) 25'×24'. (b) 20'×21'. (v) 2½'×1½'. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Boll-worm noticed—control measures as per treatments. (iii) Kapas yield and infestation count. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) and (vi) Nil. (vii) Expt. was conducted by Entomologist, Coimbatore.

5. RESULTS:
   (i) 2.423 lb./ac. (ii) 300.0 lb./ac. (iii) Interaction I × D and 'T vs others' effects are highly significant. Main effect of I is significant. (iv) Av. yield of Kapas in lb./ac.

   \[ T_1 = 1981 \text{ lb./ac. and } T_2 = 1835 \text{ lb./ac.} \]

   \[
   \begin{array}{c|ccc|cc}
   & I_1 & I_2 & I_3 & M_1 & M_2 & \text{Mean} \\
   \hline
   D_1 & 2720 & 2362 & 2318 & 2533 & 2399 & 2467 \\
   D_2 & 2341 & 2868 & 2293 & 2493 & 2541 & 2501 \\
   \hline
   \text{Mean} & 2530 & 2615 & 2305 & 2513 & 2470 & 2484 \\
   \hline
   M_1 & 2548 & 2677 & 2314 &  \\
   M_2 & 2563 & 2552 & 2296 &  \\
   \end{array}
   \]

   S.E. of I marginal mean = 75.0 lb./ac.  
   S.E. of D or M marginal mean = 61.2 lb./ac.  
   S.E. of body of I×D or I×M table = 106.1 lb./ac.  
   S.E. of body of D×M table = 86.6 lb./ac.  
   S.E. of T_1 or T_2 mean = 150.0 lb./ac.

CROP: Groundnut.  
Ref.: M. 54(7).  
Type: 'M'.

Object: To find out the effect of different methods of application of different manure mixtures on Groundnut.
1. BASAL CONDITIONS:
(i) (a) Groundnut—Castor. (b) Castor. (c) Mixture of red-earth-tank silt-compost in 1 : 1 : 1 proportion at 15 C.L./ac.  (ii) (a) Red loam.  (b) Refer soil analysis, Tindivanam.  (iii) 30.7.1954.  (iv) (a) 3 ploughings. (b) and (c) N.A.  (d) 12" x 6'.  (e) N.A.  (v) As per treatments.  (vi) TMV—3 (spreading, late).  (vii) Unirrigated. (viii) Hoeing and weeding twice. (ix) 24.77'. (x) 18.12.1954.

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

(1) 2 manure mixtures applied over a B.D. of 5 tons/ac. of C.M.:  
- T1 = 10 lb./ac. of N as A/S+ 20 lb./ac. of P2O5 as Super+ 50 lb./ac. of K2O as Pot. Sul. and T2 = 20 lb./ac. of N as A/S+ 30 lb./ac. of P2O5 as Super+ 50 lb./ac. of K2O as Pot. Sul.

(2) 3 methods of application of manure mixtures: M1 = Placement below the seed, M2 = Broadcasting and M3 = Placement by the side of the seed.

3. DESIGN:
(i) R.B.D.  (ii) (a) 7. (b) N.A. (iii) 6. (iv) (a) 68' X 8'. (b) 60' X 6'. (v) Yes.

4. GENERAL:
(i) Satisfactory.  (ii) Mild attack of surul poochi; controlled by DDT 5% dusting. (iii) Flower count and pod yield.  (iv) (a) 1954—contd.  (b) No.  (c) Nil.  (v) (a) and (b) Nil.  (vi) and (vii) Nil.

5. RESULTS:
(i) 381.0 lb./ac.  (ii) 71.3 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>367</td>
<td>398</td>
<td>400</td>
<td>388</td>
</tr>
<tr>
<td>T2</td>
<td>364</td>
<td>407</td>
<td>345</td>
<td>372</td>
</tr>
<tr>
<td>Mean</td>
<td>366</td>
<td>402</td>
<td>372</td>
<td>380</td>
</tr>
</tbody>
</table>

S.E. of M marginal mean = 20.6 lb./ac.
S.E. of T marginal mean = 16.8 lb./ac.
S.E. of body of table = 29.1 lb./ac.

Crop: Groundnut.  
Ref: M. 55(13).  
Type: 'M'.

Object: To find out the effect of different methods of application of different manure mixtures on Groundnut.

1. BASAL CONDITIONS:
(i) (a) N.A. (b) Groundnut.  (c) Mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion at 15 C.L./ac.  (ii) (a) Red loam.  (b) Refer soil analysis, Tindivanam.  (iii) 30.7.1955.  (iv) (a) Ploughing with tractor disc plough once, with Cooper—11 once, working gunnaka once and digging with mammatty twice. (b) N.A.  (c) 110 lb./ac.  (d) 12' x 6'. (e) 1.  (f) Nil.  (vi) TMV—3 (spreading, late).  (vii) Unirrigated. (viii) Two hoeings and weedicings. (ix) 27.09'. (x) 18.12.1955.

2. TREATMENTS:
All combinations of (1) and (2)+2 extra treatments

(1) 2 manure mixtures:  
- T1 = 10 lb./ac. of N as A/S+20 lb./ac. of P2O5 as Super+50 lb./ac. of K2O as Pot. Sul. and T2 = 20 lb./ac. of N as A/S+30 lb./ac. of P2O5 as Super+50 lb./ac. of K2O as Pot. Sul.

(2) 3 methods of application of manure mixtures: M1 = Broadcasting, M2 = Side placement and M3 = Placement below the seed.

Extra treatments: C1 = No manure and C2 = 5 tons/ac. of C.M.

3. DESIGN:
(i) R.B.D.  (ii) (a) 8. (b) N.A.  (iii) 6. (iv) (a) 68' x 8'. (b) 60' x 6'. (v) 4' x 1'. (vi) Yes.
GENERAL:
(i) Good. (ii) Mild attack of surul poochi—controlled by dusting DDT 5%. (iii) Flower count and pod yield. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

RESULTS:
(i) 754 lb./ac. (ii) 71.3 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

\[ C_1 = 691 \text{ lb./ac. and } C_2 = 796 \text{ lb./ac.} \]

<table>
<thead>
<tr>
<th></th>
<th>( M_1 )</th>
<th>( M_2 )</th>
<th>( M_3 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( T_1 )</td>
<td>756</td>
<td>792</td>
<td>751</td>
<td>766</td>
</tr>
<tr>
<td>( T_2 )</td>
<td>767</td>
<td>738</td>
<td>744</td>
<td>759</td>
</tr>
<tr>
<td>Mean</td>
<td>762</td>
<td>765</td>
<td>747</td>
<td>758</td>
</tr>
</tbody>
</table>

S.E. of \( M \) marginal mean = 20.6 lb./ac.
S.E. of \( T \) marginal mean = 16.8 lb./ac.
S.E. of body of table = 29.1 lb./ac.

Crop: Groundnut.
Object: To find out the effect of different methods of application of different manure mixtures on Groundnut.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Groundnut. (c) Manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion at 15 C.L./ac. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 22.8.1956. (iv) (a) Ploughing with Cooper—11 thrice and digging with mummatty twice. (b) N.A. (c) 80 lb./ac. (d) 12" x 6". (e) 1. (v) Nil. (vi) TMV—3 (spreading, late). (vii) Unirrigated. (viii) Two hoeings and weedings. (ix) 32.54". (x) 2.1.1957.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 55(13) on page 396.

3. RESULTS:
(i) 418 lb./ac. (ii) 48.0 lb./ac. (iii) 'Extra treatments vs rest' alone is significant. (iv) Av. yield of pod in lb./ac.

\[ C_1 = 305 \text{ lb./ac. and } C_2 = 349 \text{ lb./ac.} \]

<table>
<thead>
<tr>
<th></th>
<th>( M_1 )</th>
<th>( M_2 )</th>
<th>( M_3 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( T_1 )</td>
<td>469</td>
<td>417</td>
<td>442</td>
<td>443</td>
</tr>
<tr>
<td>( T_2 )</td>
<td>470</td>
<td>436</td>
<td>454</td>
<td>453</td>
</tr>
<tr>
<td>Mean</td>
<td>470</td>
<td>427</td>
<td>448</td>
<td>448</td>
</tr>
</tbody>
</table>

S.E. of \( M \) marginal mean = 13.9 lb./ac.
S.E. of \( T \) marginal mean = 11.3 lb./ac.
S.E. of body of table = 19.6 lb./ac.

Crop: Groundnut.
Object: To find out the effect of different methods of application of manure mixtures on Groundnut.
1. BASAL CONDITIONS:
(i) (a) N.A. (b) Groundnut. (c) Mixture of manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 3.8.1958. (iv) (a) Ploughing with Cooper—II and digging with mummatty once. (b) N.A. (c) 80 lb./ac. (d) 12* × 6*. (e) 1. (f) Nil. (vi) TMV—3 (spreading, late). (vii) Unirrigated. (viii) 2 hoeings and weedings. (ix) 29.54*. (x) 23.12.1958.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 55(13) on page 396.

4. GENERAL:
(i) Fair. (ii) Mild attack of tikka leaf-spot disease—contrib. by S. vulgar sulphur at 15 lb./ac. (iii) Flower count and pod yield. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Irregular rain fall during pod formation. (vii) Nil.

5. RESULTS:
(i) 639.6 lb./ac. (ii) 111.2 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

\[
C_1 = 525 \text{ lb./ac.} \quad \text{and} \quad C_2 = 674 \text{ lb./ac.}
\]

<table>
<thead>
<tr>
<th></th>
<th>M_1</th>
<th>M_2</th>
<th>M_3</th>
<th>Mean</th>
</tr>
</thead>
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<tr>
<td>T_1</td>
<td>725</td>
<td>577</td>
<td>660</td>
<td>654</td>
</tr>
<tr>
<td>T_2</td>
<td>644</td>
<td>645</td>
<td>667</td>
<td>652</td>
</tr>
</tbody>
</table>

Mean 685 611 664 653

S.E. of M marginal mean = 32.1 lb./ac.
S.E. of T marginal mean = 26.2 lb./ac.
S.E. of body of table = 45.4 lb./ac.

Crop :- Groundnut.
Site :- Agri. Res. Stn., Tindivanam.

Object :- To find out the effect of different methods of application of different manure mixtures on Groundnut.

Ref :- M. 58(13).
Type :- ‘M’.

1. BASAL CONDITIONS:
(i) (a) N.A. (b) Groundnut. (c) Mixture of manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion at 15 C.L./ac. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 8.5.1958. (iv) (a) Ploughing with Cooper—II twice and working junior hoe twice. (b) N.A. (c) 80 lb./ac. (d) 12* × 6*. (e) 1. (f) Nil. (vi) TMV—3 (spreading, late). (vii) Unirrigated. (viii) 2 hoeings and weedings. (ix) 29.54*. (x) 23.12.1958.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 55(13) on page 396.

5. RESULTS:
(i) 292 lb./ac. (ii) 198.0 lb./ac. (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

\[
C_1 = 260 \text{ lb./ac.} \quad \text{and} \quad C_2 = 364 \text{ lb./ac.}
\]

<table>
<thead>
<tr>
<th></th>
<th>M_1</th>
<th>M_2</th>
<th>M_3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>T_1</td>
<td>299</td>
<td>311</td>
<td>278</td>
<td>296</td>
</tr>
<tr>
<td>T_2</td>
<td>257</td>
<td>281</td>
<td>282</td>
<td>273</td>
</tr>
</tbody>
</table>

Mean 278 296 280 285

S.E. of M marginal mean = 57.2 lb./ac.
S.E. of T marginal mean = 46.7 lb./ac.
S.E. of body of table = 80.8 lb./ac.
Crop :- Groundnut.  
Site :- Agri. Res. Stn., Tindivanam.

Object :--To find out the effect of different methods of application of different manure mixtures on Groundnut.

1. BASAL CONDITIONS :
   (i) (a) N.A.  (b) Groundnut.  (c) 15 C.L./ac. of compost.  (ii) (a) Red loam.  (b) Refer soil analysis, Tindivanam.  (iii) 26.8.1959.  (iv) (a) 4 ploughings with Cooper—11 and working junior hoe twice.  (b) N.A.  (c) 80 lb./ac.  (d) 12"×6".  (e) 1.  (v) Nil.  (vi) TMV—3 (spreading, late).  (vii) Unirrigated.  (viii) 2 hoeings and weedicings.  (ix) 27.49".  (x) 7.1.1960.

2. TREATMENTS to 4. GENERAL :
   Same as in expt. no. 55(13) on page 396.

3. RESULTS :
   (i) 595 lb./ac.  (ii) 78.6 lb./ac.  (iii) No effect is significant.  (iv) Av. yield of pod in lb./ac.

   \[ C_1=532 \text{ lb./ac. and } C_2=568 \text{ lb./ac.} \]

   

<table>
<thead>
<tr>
<th>M_1</th>
<th>M_2</th>
<th>M_3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>633</td>
<td>617</td>
<td>619</td>
<td>623</td>
</tr>
<tr>
<td>634</td>
<td>549</td>
<td>608</td>
<td>597</td>
</tr>
<tr>
<td>Mean</td>
<td>634</td>
<td>583</td>
<td>614</td>
</tr>
</tbody>
</table>

   S.E. of M marginal mean = 22.7 lb./ac.
   S.E. of T marginal mean = 18.5 lb./ac.
   S.E. of body of table = 32.1 lb./ac.

Crop :- Groundnut.  
Site :- Agri. Res. Stn., Tindivanam.

Object :--To find out the effect of different methods of application of different manure mixtures on Groundnut.

1. BASAL CONDITIONS :
   (i) (a) N.A.  (b) Groundnut.  (c) 15 C.L./ac. of manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion.  (ii) (a) Red loam.  (b) Refer soil analysis, Tindivanam.  (iii) 4.8.1957.  (iv) (a) 4 ploughings with Cooper—11 and working junior hoe twice.  (b) N.A.  (c) 120 lb./ac.  (d) 6"×6".  (e) 1.  (v) Nil.  (vi) TMV—2 (bunch, early).  (vii) Unirrigated.  (viii) Hand hoeing and weedicings once.  (ix) 18.65".  (x) 18.11.1957.

2. TREATMENTS :
   Same as in expt. no. 55(13) on page 396.

3. DESIGN :
   (i) R.B.D.  (ii) 8.  (b) N.A.  (iii) 6.  (iv) (a) 68'×9'.  (b) 60'×7'.  (v) 4'×1 1/2'.  (vi) Yes.

4. GENERAL :
   (i) Satisfactory.  (ii) Nil.  (iii) Flower count, plant height measurements and yield of pod.  (iv) (a) 1957—contd.  (b) No.  (c) Nil.  (v) (a) and (b) Nil.  (vi) and (vii) Nil.

5. RESULTS :
   (i) 699 lb./ac.  (ii) 103.6 lb./ac.  (iii) No effect is significant.  (iv) Av. yield of pod in lb./ac.

   \[ C_1=642 \text{ lb./ac. and } C_2=743 \text{ lb./ac.} \]

   

<table>
<thead>
<tr>
<th>M_1</th>
<th>M_2</th>
<th>M_3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>643</td>
<td>742</td>
<td>731</td>
<td>705</td>
</tr>
<tr>
<td>694</td>
<td>677</td>
<td>719</td>
<td>697</td>
</tr>
<tr>
<td>Mean</td>
<td>669</td>
<td>710</td>
<td>725</td>
</tr>
</tbody>
</table>

   Mean

Ref :- M. 59(11).
Ref :- M. 57(5).
Crop :- Groundnut.  Ref :- M. 58(14).
Site :- Agri. Res. Stn., Tindivanam.  Type :- 'M'.

Object :- To find out the effect of different methods of application of different manure mixtures on Groundnut.

1. BASAL CONDITIONS :
   (i) (a) N.A.  (b) Groundnut. (c) Mixture of red-earth, tank silt and compost in 1:1:1 proportion at 15 C.L./ac. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 9.8.1958. (iv) (a) 3 ploughings with country plough and working junior hoe twice. (b) N.A. (c) 120 lb./ac. (d) 6" x 6". (e) 1. (v) Nil. (vi) TMV-2 (bunch, early). (vii) Unirrigated. (viii) Two hand hoeings and weedicings. (ix) 28.64°. (x) 25.11.1958.

2. TREATMENTS :
   Same as in expt. no. 55(13) on page 396.

3. DESIGN and 4. GENERAL:
   Same as in expt. no. 57(5) on page 399.

5. RESULTS:
   (i) 376 lb./ac.  (ii) 86.0 lb./ac.  (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.

\[
C_1 = 356 \text{ lb./ac. and } C_2 = 402 \text{ lb./ac.}
\]

<table>
<thead>
<tr>
<th></th>
<th>M_1</th>
<th>M_2</th>
<th>M_3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>T_1</td>
<td>398</td>
<td>374</td>
<td>359</td>
<td>377</td>
</tr>
<tr>
<td>T_2</td>
<td>399</td>
<td>364</td>
<td>359</td>
<td>374</td>
</tr>
<tr>
<td>Mean</td>
<td>399</td>
<td>369</td>
<td>359</td>
<td>376</td>
</tr>
</tbody>
</table>

S.E. of M marginal mean = 24.8 lb./ac.
S.E. of T marginal mean = 20.3 lb./ac.
S.E. of body of table = 35.1 lb./ac.

Crop :- Groundnut.  Ref :- M. 59(12).
Site :- Agri. Res. Stn., Tindivanam.  Type :- 'M'.

Object :- To find out the effect of different methods of application of different manure mixtures on Groundnut.

1. BASAL CONDITIONS :
   (i) (a) N.A. (b) Groundnut.  (c) 15 C.L./ac. of M.C. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 25.8.1959. (iv) 4 ploughings with Cooper-11 and working junior hoe twice. (b) N.A. (c) 120 lb./ac. (d) 6" x 6". (e) 1. (v) Nil. (vi) TMV-2 (bunch, early). (vii) Unirrigated. (viii) 2 hoeings and weedicings. (ix) N.A. (x) 3.12.1959.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 57(5) on page 399.

5. RESULTS:
   (i) 559 lb./ac.  (ii) 54.9 lb./ac.  (iii) No effect is significant. (iv) Av. yield of pod in lb./ac.
Crop: Groundnut (Rabi).
Centre: Madurai (c.f).

Object: Type A—To study the response of Groundnut to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) Red and medium black. (iii) N.A. (iv) February—March 1960. (v) (a) 4 to 5 ploughings. (b) to (e) N.A. (vi) Different varieties in different trials. (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) June 1960.

2. TREATMENTS:
   0 = Control.
   n = 20 lb./ac. of N as A/S.
   p = 30 lb./ac. of \( P_2O_5 \) as Super.
   np = 20 lb./ac. of N as A/S + 30 lb./ac. of \( P_2O_5 \) as Super.
   k = 30 lb./ac. of \( K_2O \) as Mur. Pot.
   nk = 20 lb./ac. of N as A/S + 30 lb./ac. of \( K_2O \) as Mur. Pot.
   pk = 30 lb./ac. of \( P_2O_5 \) as Super + 30 lb./ac. of \( K_2O \) as Mur. Pot.
   npk = 20 lb./ac. of N as A/S + 30 lb./ac. of \( P_2O_5 \) as Super + 30 lb./ac. of \( K_2O \) as Mur. Pot.

3. DESIGN:
   (i) and (ii) The district has been divided into four agriculturally homogeneous zones and one field assistant posted in each zone. The field assistant conducts the trials in one Revenue circle or Thana in the zone and the circle/Thana is changed once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year, 8 on a Kharif cereal, 8 on a Rabi cereal, 8 on cash crop, 4 on an oilseed crop and 3 on a leguminous crop. Half the number of trials conducted are of type A and the other half of type B on crops other than the legumes. The three trials on legumes are of type C. Residual effects of phosphate application are studied on type C trials in two out of the four zones in each district every year. The above experiments were laid out in randomly located fields in randomly selected villages in each of the 4 zones at the rate of one experiment per village. (iii) (a) 1/20 ac. (b) 1/80 ac. (iv) Yes.

4. GENERAL:
   (i) Normal. (ii) N.A. (iii) Pod yield. (iv) (a) 1959—contd. (b) and (c) No. (v) (a) and (b) As per design. (vi) and (vii) Nil.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>n</th>
<th>p</th>
<th>np</th>
<th>k</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2032</td>
<td>1934</td>
<td>1983</td>
<td>2148</td>
<td>1983</td>
<td>2304</td>
<td>2074</td>
<td>2279</td>
</tr>
</tbody>
</table>

G.M. = 2092 lb./ac.; S.E. = 125.6 lb./ac. and no. of trials = 5.
1. BASAL CONDITIONS:
   (i) (a) Nil. (b) and (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 120 lb./ac. (d) 9'x6'. (e) 1. (v) 10 C.L./ac. of F.Y.M. +100 lb./ac. of A/S. (vi) TMV-2 (bunch, medium). (vii) Irrigated (viii) Weeding, hoeing and earthing up once. (ix) N.A. (x) As per treatments.

2. TREATMENTS:

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) 45'x45'. (iii) 9. (iv) (a) 15' x 45'. (b) 12'x42'. (v) 1'H' x 1'H'. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Pod yield. (iv) (a) 1956-1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 674 lb./ac. (ii) 84.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1011</td>
<td>570</td>
<td>441</td>
</tr>
</tbody>
</table>

   S.E./mean = 28.0 lb./ac.

Crop :- Groundnut.  Ref :- M. 56(80).
Site :- Agri. Res. Stn., Bhavanisagar.  Type :- 'C'.

Object :- To find out the effect of different dates of sowing on the yield of Groundnut.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings (b) N.A. (c) 120 lb./ac. (d) 9'x6'. (e) 1. (v) 10 C.L./ac. of F.Y.M. +100 lb./ac. of A/S. (vi) TMV-2 (bunch, medium). (vii) Irrigated. (viii) Weeding, hoeing and earthing up once. (ix) N.A. (x) As per treatments.

2. TREATMENTS:

3. DESIGN and 4. GENERAL:
   Same as in expst. no. 56(79) on page 403.

5. RESULTS:
   (i) 1767 lb./ac. (ii) 330.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1966</td>
<td>1666</td>
<td>1670</td>
</tr>
</tbody>
</table>

   S.E./mean = 134.8 lb./ac.

Crop :- Groundnut.  Ref :- M. 57(71).
Site :- Agri. Res. Stn., Bhavanisagar.  Type :- 'C'.

Object :- To find out the effect of different dates of sowing on the yield of Groundnut.
1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Red gravelly loam.  (b) N:A.  (iii) As per treatments.  (iv) (a) 2 to 3 ploughings.  (b) N.A.  (c) 120 lb./ac.  (d) 9° x 6°.  (e) 1.  (v) 10 C.L./ac. of F.Y.M.+100 lb./ac. of A/S.  (vi) TMV—2 (bunch, medium).  (vii) Irrigated.  (viii) Weeding, hoeing and earthing up once.  (ix) N.A.  (x) As per treatments.

2. TREATMENTS:

3. DESIGN:
   (i) R.B.D.  (ii) (a) 3.  (b) N.A.  (iii) 6.  (iv) (a) 45\° x 10\'.  (b) 42\° x 7\'.  (v) 1\' x 1\'.  (vi) Yes.

4. GENERAL:
   (i) Satisfactory.  (ii) Nil.  (iii) Pod yield.  (iv) (a) 1956—1959.  (b) No.  (c) Nil.  (v) to (vii) Nil.

5. RESULTS:
   (i) 277 lb./ac.  (ii) 65.2 lb./ac.  (iii) Treatment differences are significant.  (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>386</td>
<td>278</td>
<td>167</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 26.6 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Groundnut.
Ref :- M. 57(72).
Type :- 'C'.

Object :- To find out the effect of different dates of sowing on the yield of Groundnut.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Red gravelly loam.  (b) N.A.  (iii) As per treatments.  (iv) (a) 2 to 3 ploughings.  (b) N.A.  (c) 120 lb./ac.  (d) 6° x 6°.  (e) I.  (v) 10 C.L./ac. of F.Y.M.+100 lb./ac. of A/S.  (vi) TMV—2 (bunch, medium).  (vii) Irrigated.  (viii) Weeding, hoeing and earthing up once.  (ix) and (x) N.A.

2. TREATMENTS:

3. DESIGN:
   (i) R.B.D.  (ii) (a) 3.  (b) N.A.  (iii) 9.  (iv) (a) 36° x 15°.  (b) 34° x 13°.  (v) 1° x 1°.  (vi) Yes.

4. GENERAL:
   (i) Satisfactory.  (ii) Nil.  (iii) Pod yield.  (iv) (a) 1956—1959.  (b) No.  (c) Nil.  (v) to (vii) Nil.

5. RESULTS:
   (i) 160 lb./ac.  (ii) 88.5 lb./ac.  (iii) Treatment differences are significant.  (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1681</td>
<td>1718</td>
<td>1412</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 29.5 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Groundnut (Kharif).
Ref :- M. 58(49).
Type :- 'C'.

Object :- To find out the effect of different dates of sowing on the yield of Groundnut.
1. BASAL CONDITIONS
(i) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 80 lb./ac. (d) 9' x 9'. (e) 1. (v) 10 C.L./ac. of F.Y.M.+100 lb./ac. of A/S. (vi) TMV-2 (bunch, medium). (vii) Irrigated. (viii) Weeding, hoeing and earthing up once. (ix) N.A. (x) As per treatments.

2. TREATMENTS:

3. DESIGN and 4. GENERAL:
Same as in expt. no. 57(71) on page 404.

5. RESULTS:
(i) 585 lb./ac. (ii) 117.1 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D₁</th>
<th>D₂</th>
<th>D₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>536</td>
<td>483</td>
<td>736</td>
</tr>
</tbody>
</table>

S.E./mean = 39.0 lb./ac.

Crop :- Groundnut.  Ref :- M. 59(32).
Site :- Agri. Res. Stn., Bhavanisagar.  Type :- ‘C’.

Object :- To find out the effect of different dates of sowing on the yield of Groundnut.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 120 lb./ac. (d) 8’ x 6’. (e) 1. (v) 10 C.L./ac. of F.Y.M.+100 lb./ac. of A/S. (vi) TMV-2 (bunch, medium). (vii) Irrigated. (viii) Weeding, hoeing and earthing up once. (ix) N.A. (x) As per treatments.

2. TREATMENTS:

5. RESULTS:
(i) 585 lb./ac. (ii) 117.1 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D₁</th>
<th>D₂</th>
<th>D₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>536</td>
<td>483</td>
<td>736</td>
</tr>
</tbody>
</table>

S.E./mean = 39.0 lb./ac.

Crop :- Groundnut.  Ref :- M. 59(32).
Site :- Agri. Res. Stn., Bhavanisagar.  Type :- ‘C’.

Object :- To find out the effect of different dates of sowing on the yield of Groundnut.
3. DESIGN and 4. GENERAL:
Same as in expt. no. 57(71) on page 404.

5. RESULTS:
(i) 429 lb./ac. (ii) 100.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D&lt;sub&gt;1&lt;/sub&gt;</th>
<th>D&lt;sub&gt;2&lt;/sub&gt;</th>
<th>D&lt;sub&gt;3&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>770</td>
<td>296</td>
<td>220</td>
</tr>
</tbody>
</table>

S.E./mean = 41.2 lb./ac.

Crop :- Groundnut.
Ref :- M. 59(38).
Type :- 'C'.

Object :- To find out the effect of different dates of sowing on the yield of Groundnut.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 120 lb./ac. (d) 6' x 6'. (e) 1. (v) 10 C.L./ac. of F.Y.M.+100 lb./ac. of A/S. (vi) TMV-2 (bunch, medium). (vii) Irrigated. (viii) Weeding, hoeing and earthing up once. (ix) N.A. (x) As per treatments.

2. TREATMENTS:

3 DESIGN:
(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 9. (iv) (a) 36' x 15'. (b) 35' x 14'. (v) One row left on all sides. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Pod yield. (iv) (a) 1956-1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 101 lb./ac. (ii) 160.2 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D&lt;sub&gt;1&lt;/sub&gt;</th>
<th>D&lt;sub&gt;2&lt;/sub&gt;</th>
<th>D&lt;sub&gt;3&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>859</td>
<td>1171</td>
<td>1011</td>
</tr>
</tbody>
</table>

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

---

Crop :- Groundnut.
Ref :- M. 58(47).
Type :- 'C'.

Object :- To find out the effect of different dates of sowing on the yield of Groundnut.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 120 lb./ac. (d) 6' x 6'. (e) 1. (v) 5 tons/ac. of F.Y.M.+100 lb./ac. of A/S. (vi) TMV-2 (bunch, medium). (vii) Irrigated. (viii) Weeding, hoeing and earthing up once. (ix) N.A. (x) As per treatments.

2. TREATMENTS:

3. DESIGN:
(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) and (b) 49' x 9'. (v) Nil. (vi) Yes.
4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Pod yield. (iv) (a) 1958—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 381 lb./ac. (ii) 136.2 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
<th>D5</th>
<th>D6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1062</td>
<td>667</td>
<td>291</td>
<td>155</td>
<td>101</td>
<td>12</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>68.1 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Groundnut.  
Object :-To find out the effect of different dates of sowing on the yield of Groundnut.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 80 lb./ac. (d) 9" X 9". (e) 1. (v) 10 C.L./ac. of F.Y.M.+100 lb./ac. of A/S. (vi) TMV—4 (spreading, late). (vii) Irrigated. (viii) Weeding, hoeing and earthing up once. (ix) and (x) N.A.

2. TREATMENTS:

3. DESIGN:
(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 37' X 14'. (b) 36' X 12'. (v) One row around. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) N.A. (iii) Yield of pod. (iv) (a) 1958—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 363 lb./ac. (ii) 179.7 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
<th>D5</th>
<th>D6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>891</td>
<td>685</td>
<td>240</td>
<td>165</td>
<td>88</td>
<td>106</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>89.8 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Groundnut.  
Object :-To find out the effect of different dates of sowing on the yield of Groundnut.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 120 lb./ac (d) 9" X 6". (e) 1. (v) 10 C.L./ac. of F.Y.M.+100 lb./ac. of A/S. (vi) TMV—2 (bunch, medium). (vii) Irrigated. (viii) Weeding, hoeing and earthing up once. (ix) N.A. (x) As per treatments.

2. TREATMENTS:

3. DESIGN:
(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 49' X 9'. (b) 46' X 8'. (v) 14' X 4'. (vi) Yes.
4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Pod yield. (iv) (a) 1958—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 457 lb/ac. (ii) 163.2 lb/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
<th>D5</th>
<th>D6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1274</td>
<td>795</td>
<td>349</td>
<td>187</td>
<td>120</td>
<td>19</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>81.6 lb/ac</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Groundnut.
Ref :- M. 59(41).
Type :- 'C'.

Object :- To find out the effect of different dates of sowing on the yield of Groundnut.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 80 lb/ac. (d) 9′ x 9′. (e) 1. (f) 10 C.L/ac. of F.Y.M.+100 lb/ac. of A/S. (vi) TMV—2 (spreading, late) (vii) Irrigated. (viii) Weeding, hoeing and earthing up once. (ix) and (x) N.A.

2. TREATMENTS:

3. DESIGN:
(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 49′ x 9′. (b) 47′ x 7′. (v) 1 row left around. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Dusting of DDT 5% against surul poochi. (iii) Pod yield. (iv) (a) 1958—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 812 lb/ac. (ii) 185.6 lb/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
<th>D5</th>
<th>D6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1736</td>
<td>1538</td>
<td>880</td>
<td>352</td>
<td>223</td>
<td>144</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>92.8 lb/ac</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. GENERAL:
(i) Satisfactory. (ii) Dusting of DDT 5% against surul poochi. (iii) Pod yield. (iv) (a) 1958—1959. (b) Nil. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 1144 lb./ac. (ii) 958.5 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
<th>D5</th>
<th>D6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2932</td>
<td>1792</td>
<td>960</td>
<td>672</td>
<td>384</td>
<td>64</td>
</tr>
<tr>
<td>S.E/mean</td>
<td>479.3 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Groundnut.
Ref :- M. 55(71).
Type :- 'C'.

Object :- To find out the effect of different spacings between and within rows on the yield of Groundnut.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) Red gravelly loam. (b) N.A. (iii) 10.2.1955. (iv) (a) 2 to 3 ploughings. (b) and (c) N.A. (d) As per treatments. (e) 1. (v) 10 C.L./ac. of compost. (vi) TMV-2 (bunch, medium). (vii) Irrigated. (viii) Hoeing and weeding twice; earthing up once. (ix) 2.69’. (x) 28.5.1955.

2. TREATMENTS:

3. DESIGN:

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Pod yield. (iv) (a) 1955—1960. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Crop failed in 1956.

5. RESULTS:
(i) 928 lb./ac. (ii) 96.4 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1081</td>
<td>1071</td>
<td>905</td>
<td>822</td>
<td>763</td>
</tr>
<tr>
<td>S.E/mean</td>
<td>39.3 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Groundnut.
Ref :- M. 57(74).
Type :- 'C'.

Object :- To find out the effect of different spacings between and within rows on the yield of Groundnut.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 9.1.1957. (iv) (a) 2 to 3 ploughings. (b) and (c) N.A. (d) As per treatments. (e) 1. (v) 10 C.L./ac. of compost. (vi) TMV-2 (bunch, medium). (vii) Irrigated. (viii) Hoeing and weeding twice; earthing up once. (ix) 2.58’. (x) 2.5.1957.

2. TREATMENTS:
Same as in exp. no. 55(71) above.

3. DESIGN:
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 9’×30’. (v) Nil. (vi) Yes.
4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Pod yield. (iv) (a) 1955—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 2332 lb./ac. (ii) 347.8 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2637</td>
<td>2657</td>
<td>2445</td>
<td>2018</td>
<td>1902</td>
</tr>
</tbody>
</table>

$\text{S.E./mean} = 142.0 \text{ lb./ac.}$

**Crop:** Groundnut.
**Site:** Agri. Res. Stn., Bhavanisagar.

Object: To find out the effect of different spacings between and within rows on the yield of Groundnut.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 11.1.1958. (iv) (a) 2 to 3 ploughings. (b) and (c) N.A. (d) As per treatments. (e) 1. (v) 10 C.L./ac. of compost. (vi) TMV—2 (bunch, medium). (vii) Irrigated. (viii) Hoeing and weeding twice, earthing up once. (ix) 2.85'. (x) 29.4.1958.

2. TREATMENTS:
Same as in expt. no. 55(71) on page 410.

3. DESIGN:
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 36' × 12'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Pod yield. (iv) (a) 1955—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 2221 lb./ac. (ii) 217.8 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2652</td>
<td>2485</td>
<td>2331</td>
<td>1958</td>
<td>1677</td>
</tr>
</tbody>
</table>

$\text{S.E./mean} = 88.9 \text{ lb./ac.}$

**Crop:** Groundnut.
**Site:** Agri. Res. Stn., Bhavanisagar.

Object: To find out the effect of different spacings between and within rows on the yield of Groundnut.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 5.2.1959. (iv) (a) 2 to 3 ploughings. (b) and (c) N.A. (d) As per treatments. (e) 1. (v) 10 C.L./ac. of compost. (vi) TMV—2 (bunch, early). (vii) Irrigated. (viii) Hoeing and weeding twice; earthing up once. (ix) 1.57'. (x) 22.5.1959.

2. TREATMENTS:
Same as in expt. no. 55(71) on page 410.

3. DESIGN:
Same as in expt. no. 58(60) above.

5. RESULTS:
(i) 903 lb./ac. (ii) 113.9 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of pod in lb./ac.
Crop: Groundnut.  Ref: M. 56(84).
Site: Agri. Res. Stn., Bhavanisagar. Type: 'C'.

Object:—To find out the effect of different spacings between and within rows on the yield of Groundnut.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Red gravelly loam.  (b) N.A.  (iii) 24.9.1956.  (iv) (a) 2 to 3 ploughings.  (b) and (c) N.A.  (d) As per treatments.  (e) 1.  (v) 10 C.L./ac. of compost.  (vi) TMV—4 (late).  (vii) Irrigated.  (viii) Weeding and hoeing twice; earthing up once.  (ix) 16.35°.  (x) 14.2.1957.

2. TREATMENTS:
   5 spacings:  S₁ = 9" x 9", S₂ = 9" x 12", S₃ = 12" x 12", S₄ = 12" x 15" and S₅ = 15" x 15".

3. DESIGN:
   (i) R.B.D.  (ii) (a) 5.  (b) N.A.  (iii) 6.  (iv) (a) and (b) 15" x 45".  (v) Nil.  (vi) Yes.

4. GENERAL:
   (i) Not satisfactory.  (ii) Nil.  (iii) Pod yield.  (iv) (a) 1956—1960.  (b) No.  (c) Nil.  (v) to (vii) Nil.

5. RESULTS:
   (i) 359 lb./ac.  (ii) 97.2 lb./ac.  (iii) Treatment differences are highly significant.  (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S₁</th>
<th>S₂</th>
<th>S₃</th>
<th>S₄</th>
<th>S₅</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>990</td>
<td>991</td>
<td>849</td>
<td>849</td>
<td>834</td>
</tr>
<tr>
<td>S.E./mean = 46.5 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop: Groundnut.  Ref: M. 57(77).
Site: Agri. Res. Stn., Bhavanisagar. Type: 'C'.

Object:—To find out the effect of different spacings between and within rows on the yield of Groundnut.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) and (c) N.A.  (ii) (a) Red gravelly loam.  (b) N.A.  (iii) 11, 12.9.1957.  (iv) (a) 2 to 3 ploughings.  (b) and (c) N.A.  (d) As per treatments.  (e) 1.  (v) 10 C.L./ac. of compost.  (vi) TMV—1 (late).  (vii) Irrigated.  (viii) Weeding and hoeing twice, earthing up once.  (ix) 12.35°.  (x) 8.2.1958.

2. TREATMENTS:
   Same as in expt. no. 56(84) above.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 5.  (b) N.A.  (iii) 6.  (iv) (a) and (b) 30" x 12".  (v) Nil.  (vi) Yes.

4. GENERAL:
   Same as in expt. no. 56(84) above.

5. RESULTS:
   (i) 152 lb./ac.  (ii) 39.0 lb./ac.  (iii) Treatment differences are highly significant.  (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S₁</th>
<th>S₂</th>
<th>S₃</th>
<th>S₄</th>
<th>S₅</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>218</td>
<td>156</td>
<td>145</td>
<td>117</td>
<td>126</td>
</tr>
<tr>
<td>S.E./mean = 16.0 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop :- Groundnut.  
Site :- Agri. Res. Sta., Bhavanisagar.  
Ref :- M. 58(62).  
Type :- 'C'.

Object :- To find out the effect of different spacings between and within rows on the yield of Groundnut.

1. BASAL CONDITIONS :
   (i) (a) to (c) N.A.  (ii) (a) Red gravelly loam. (b) N.A.  (iii) 13.14.9.1958.  (iv) (a) 2 to 3 ploughings. (b) and (c) N.A.  (d) As per treatments.  
   (e) 1.  (v) 10 C.L./ac. of compost. (vi) TMV−1 (late). (vii) Irrigated. (viii) Hocing and weeding twice; earthing up once. (ix) 10.25".  
2. TREATMENTS to 4. GENERAL :
   Same as in expt no. 56(84) on page 412.

3. RESULTS :
   (i) 249 lb./ac. (ii) 67.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.
   Treatment  
   S_1  S_2  S_3  S_4  S_5  
   Av. yield      293 287 260 209 195  
   S.E./mean = 27.5 lb./ac.

Crop :- Groundnut.  
Site :- Agri. Res. Sta., Bhavanisagar.  
Ref :- M. 59(51).  
Type :- 'C'.

Object :- To find out the effect of different spacings between and within rows on the yield of Groundnut.

1. BASAL CONDITIONS :
   (i) (a) to (c) N.A.  (ii) (a) Red gravelly loam. (b) N.A.  (iii) 20.9.1959.  (iv) (a) 2 to 3 ploughings. (b) and (c) N.A.  
   (d) As per treatments.  
   (e) 1.  (v) 10 C.L./ac. of compost. (vi) TMV−1 (late) (vii) Irrigated. (viii) Hocing and weeding twice; earthing up once. (ix) 9.1".  
2. TREATMENTS to 4. GENERAL :
   Same as in expt no. 56(84) on page 412.

5. RESULTS :
   (i) 313 lb./ac. (ii) 81.7 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.
   Treatment  
   S_1  S_2  S_3  S_4  S_5  
   Av. yield      326 394 368 250 228  
   S.E./mean = 33.4 lb./ac.

Crop :- Groundnut.  
Ref :- M. 57(19).  
Type :- 'C'.

Object :- To determine the optimum time of sowing Groundnut in rice fallows.

1. BASAL CONDITIONS :
   (i) (a) Paddy—Groundnut. (b) Paddy. (c) G.L. at 5000 lb./ac.+100 lb./ac. of Super+100 lb./ac. of A/S.  
   (ii) (a) Sandy loam. (b) N.A.  (iii) As per treatments. (iv) (a) 3 to 4 ploughings. (b) N.A.  
   (c) 100 lb./ac. (d) 6'×6'. (e) 1. (v) 20 C.L./ac. of F.Y.M. applied a week before sowing. (vi) TMV−2 (bunch, medium).  
   (vii) Irrigated. (viii) Hand hoeing and weeding twice. (ix) 3.56". (x) As per treatments.

2. TREATMENTS :

3. DESIGN :
   (i) R.B.D. (ii) (a) 6. (b) N.A.  (iii) 6. (iv) (a) and (b) 79′×4′6". (v) Nil. (vi) Yes.
4. GENERAL:
(i) Good. (ii) Nil. (iii) Pod yield. (iv) (a) 1957–1958. (b) No. (c) Nil. (v) (a) nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 2175 lb./ac. (ii) 460.6 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D_1</th>
<th>D_2</th>
<th>D_3</th>
<th>D_4</th>
<th>D_5</th>
<th>D_6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3634</td>
<td>2277</td>
<td>2144</td>
<td>2093</td>
<td>1674</td>
<td>1226</td>
</tr>
</tbody>
</table>

S.E./mean = 188.0 lb./ac.

---

Crop :- Groundnut. 
Type :- 'C'.

Object:—To determine the optimum time of sowing Groundnut in rice follow.

1. BASAL CONDITIONS:
(i) (a) Paddy—Groundnut. (b) Paddy. (c) G.L. at 5000 lb./ac. + 100 lb./ac. of Super + 100 lb./ac. of A/S. (ii) (a) Sandy loam. (b) N.A. (iii) As per treatments. (iv) (a) 4 ploughings. (b) Sown in furrows behind the country plough. (c) 100 lb./ac. (d) 6" x 6". (e) I. (v) 20 C.L./ac. of F.Y.M. (vi) TMV-2 (bunch, medium). (vii) Irrigated. (viii) Hand hoeing and weeding twice. (ix) 10.59". (x) N.A.

2. TREATMENTS:

3. DESIGN:
(i) R.B.D. (ii) 6. (b) N.A. (iii) 6. (iv) (a) and (b) 79' x 4'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Good. (ii) Nil. (iii) Pod yield. (iv) (a) 1957–1958. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 1655 lb./ac. (ii) 360 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D_1</th>
<th>D_2</th>
<th>D_3</th>
<th>D_4</th>
<th>D_5</th>
<th>D_6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2196</td>
<td>2088</td>
<td>1746</td>
<td>1603</td>
<td>1266</td>
<td>1031</td>
</tr>
</tbody>
</table>

S.E./mean = 147 lb./ac.

---

Crop :- Groundnut. 
Site :- Agri. Res. Stn., Tindivanam. 
Type :- 'C'.

Object:—To determine the best method of preparatory cultivation for Groundnut crop.

1. BASAL CONDITIONS:
(i) (a) Groundnut—Castor. (b) Castor. (c) Manure mixture of red-earth, tank silt and compost in 1 : 1 proportion at 20 C.L./ac. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 27.7 1954. (iv) (a) As per treatments. (b) to (e) N.A. (vi) Same as in (i) (c) above. (vii) TMV-3 (spreading, late). (viii) Unirrigated. (ix) Hoeing, weeding and thinning twice. (x) 26.42". (x) 24.12.1954.

2. TREATMENTS:
9 methods of preparatory cultivation : M_1 = Country plough twice, M_2 = Country plough 4 times, M_3 = Country plough 6 times, M_4 = Mould board plough 2 times, M_5 = Mould board plough 4 times, M_6 = Mould board plough...
3. DESIGN:
   (i) R.B.D. (ii) 9. (b) N.A. (iii) 4. (iv) (a) 82\(^\times\)12\(^\circ\). (b) 66\(^\times\)6\(^\circ\). (v) 8\(^\times\)3\(^\circ\). (vi) Yes.

4. GENERAL:
   (i) Not satisfactory. (ii) 'Surul poochi' attack was severe during the period of drought—controlled by dusting DDT 5%. (iii) Flower count and pod yield. (iv) (a) 1948—1956. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) (a) 228 lb./ac. (ii) 46.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Mt 1</th>
<th>Mt 2</th>
<th>Mt 3</th>
<th>Mt 4</th>
<th>Mt 5</th>
<th>Mt 6</th>
<th>Mt 7</th>
<th>Mt 8</th>
<th>Mt 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>229</td>
<td>236</td>
<td>212</td>
<td>229</td>
<td>209</td>
<td>199</td>
<td>269</td>
<td>222</td>
<td>249</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>23.3 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   **Crop :- Groundnut.**
   **Site :- Agri. Res. Stn., Tindivanam.**
   **Ref :- M. 55(9).**
   **Type :- 'C'.**
   **Object :-** To determine the best method of preparatory cultivation for Groundnut crop.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Groundnut. (c) Manure mixture of red earth, tank silt and compost in 1 : 1 : 1 proportion at 20 C.L./ac. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 24.7.1955. (iv) (a) As per treatments. (b) to (e) N.A. (v) Manure mixture as in (i) (c) above applied by broadcast 3 weeks before sowing. (vi) TMV—3 (spreading, late). (vii) Unirrigated. (viii) Sown with the help of sowing rods; hoeing and weeding twice. (ix) 34.2.1956. (x) 19.12.1955.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 54(13) on page 414.

5. RESULTS:
   (i) 596 lb./ac. (ii) 119.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of groundnut in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Mt 1</th>
<th>Mt 2</th>
<th>Mt 3</th>
<th>Mt 4</th>
<th>Mt 5</th>
<th>Mt 6</th>
<th>Mt 7</th>
<th>Mt 8</th>
<th>Mt 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>602</td>
<td>580</td>
<td>543</td>
<td>549</td>
<td>555</td>
<td>595</td>
<td>697</td>
<td>594</td>
<td>648</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>59.8 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   **Crop :- Groundnut.**
   **Site :- Agri. Res. Stn., Tindivanam.**
   **Ref :- M. 56(13).**
   **Type :- 'C'.**
   **Object :-** To determine the best method of preparatory cultivation for Groundnut crop.

1. BASAL CONDITIONS:
   (i) (a) Groundnut—Castor. (b) Castor. (c) Manure mixture of red earth, tank silt and compost in 1 : 1 : 1 proportion at 20 C.L./ac. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 12.8.1956. (iv) (a) As per treatments. (b) N.A. (c) 100 lb./ac. (d) 9\(^\times\)9\(^\circ\). (e) 1. (v) B.D. as in (i) (c) above applied by broadcast a fortnight before sowing. (vi) TMV—3 (spreading, late). (vii) Unirrigated. (viii) Hoeing and weeding twice. (ix) 34.2.1956. (x) 31.12.1956.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 54(13) on page 414.
5. RESULTS:
(i) 288 lb./ac. (ii) 124.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of groundnut in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</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>
<th>M₉</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>261</td>
<td>360</td>
<td>304</td>
<td>268</td>
<td>330</td>
<td>328</td>
<td>272</td>
<td>229</td>
<td>243</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>62.2 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Groundnut.  
Site:- Agri. Res. Stn., Tindivanam.  
Ref:- M. 57(9).  
Type:- 'C'.

Object:- To determine the best method of preparatory cultivation for Groundnut crop.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Groundnut. (c) 20 C.L./ac. of manure mixture of red earth, tank silt and compost in 1 : 1 : 1 proportion. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 1.8.1957. (iv) (a) As per treatments. (b) N.A. (c) 80 lb./ac. (d) 'Y' x '4'. (e) 1. (v) Same as in (i) (c) above applied 10 days before sowing. (vi) TMV—3 (spreading, late). (vii) Unirrigated. (viii) N.A. (ix) 21.87°. (x) 30.12.1957.

2. TREATMENTS:
Main-plot treatments:
All combinations of (1) and (2):
(1) 2 types of ploughs: T₁=Country plough and T₂=Mould board plough.
(2) No. of ploughings: C₁=4 and C₂=8 ploughings.

Sub-plot treatments:
Frequency of working danthis: W₁=twice and W₂=4 times.

3. DESIGN:
(i) Split-plot. (ii) (a) 4 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) Main-plot: '0' x '40' Sub-plot: '70' x '19'. (b) '70' x '18'. (v) One row on either side left. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Flower counts and pod yield. (iv) (a) 1957—1959. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 727 lb./ac. (ii) (a) 149.0 lb./ac. (b) 52.7 lb./ac. (iii) W effect alone is significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>T₁</th>
<th>T₂</th>
<th>C₁</th>
<th>C₂</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>W₁</td>
<td>805</td>
<td>715</td>
<td>752</td>
<td>768</td>
<td>770</td>
</tr>
<tr>
<td>W₂</td>
<td>699</td>
<td>687</td>
<td>681</td>
<td>706</td>
<td>693</td>
</tr>
<tr>
<td>Mean</td>
<td>752</td>
<td>701</td>
<td>716</td>
<td>737</td>
<td>727</td>
</tr>
<tr>
<td>C₁</td>
<td>713</td>
<td>720</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C₂</td>
<td>791</td>
<td>682</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of difference of two:
1. T or C marginal means = 52.7 lb./ac.
2. W marginal means = 22.8 lb./ac.
3. W means at the same level of T or C = 64.4 lb./ac.
4. T or C means at the same level of W = 57.4 lb./ac.
Crop :- Groundnut.  
Site :- Agri. Res. Stn., Tindivanan.

Object :- To determine the best method of preparatory cultivation for Groundnut crop.

1. BASAL CONDITIONS:
   (i) (a) Groundnut—Groundnut. (b) Groundnut. (c) 20 C.L./ac. of manure mixture of red-earth, compost and tank silt in 1 : 1 : 1 proportion. (ii) (a) Red loamy. (b) Refer soil analysis, Tindivanan. (iii) 9.8.1958. (iv) (a) As per treatments. (b) N.A. (c) 80 lb./ac. (d) 18" x 4". (e) 1. (v) 20 C.L./ac. of manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion applied 12 days before sowing and incorporated during the last ploughing. (vi) TMV—3 (spreading, late). (vii) Unirrigated. (viii) Intercultivated with *daunis* as per treatments. (ix) 28.59". (x) 29.12.1958.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 57(10) on page 416.

4. GENERAL:
   (i) Fair. (ii) Severe attack of *Surul poochi*; controlled by dusting DDT 5%. (iii) Flower count and pod yield. (iv) (a) 1957—1960. (b) N.A. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 728 lb./ac. (ii) (a) 50.98 lb./ac. (b) 64.99 lb./ac. (iii) Main effects of T and W and interactions T x C and T x W are highly significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>T1</th>
<th>T2</th>
<th>C1</th>
<th>C2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>W1</td>
<td>807</td>
<td>717</td>
<td>755</td>
<td>769</td>
<td>762</td>
</tr>
<tr>
<td>W2</td>
<td>701</td>
<td>689</td>
<td>682</td>
<td>708</td>
<td>695</td>
</tr>
<tr>
<td>Mean</td>
<td>754</td>
<td>703</td>
<td>718</td>
<td>739</td>
<td>728</td>
</tr>
<tr>
<td>C1</td>
<td>715</td>
<td>721</td>
<td>718</td>
<td>739</td>
<td>728</td>
</tr>
<tr>
<td>C2</td>
<td>793</td>
<td>685</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. T or C marginal means = 18.0 lb./ac.
2. W marginal means = 23.0 lb./ac.
3. W means at the same level of T or C = 32.5 lb./ac.
4. T or C means at the same level of W = 29.2 lb./ac.
Crop :- Groundnut.  
Site :- Agri. Res. Stn., Tindivanam.  

Object :- To determine the economic spacing for the bunch variety of Groundnut.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) and (c) 15 C.L./ac. of manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion.  
   (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 30.7.1957.  
   (iv) (a) Ploughing 4 times with Cooper-HI and working once with junior hoe. (b) N.A. (c) 100 lb./ac. (d) As per treatments.  
   (e) (i) 15 C.L./ac. of manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion applied 20 days before sowing and incorporated by working junior hoe.  
   (v) TMV-2 (bunch, early).  

2. TREATMENTS:

3. DESIGN:
   (i) R.B.D.  
   (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 68'x18'. (b) 60'x12'. (v) 4'x3'. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Mild attack of _sural poochi_; controlled by dusting DDT 5%. (iii) Flower count and yield of pod. (iv) (a) 1957—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 844 lb./ac.  
   (b) 98.7 lb./ac.  
   (iii) Treatment differences are significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>833</td>
<td>887</td>
<td>920</td>
<td>734</td>
</tr>
<tr>
<td>S.E./mean</td>
<td></td>
<td></td>
<td></td>
<td>40.3 lb./ac.</td>
</tr>
</tbody>
</table>

---

Crop :- Groundnut.  
Site :- Agri. Res. Stn., Tindivanam.  

Object:—To determine the economic spacing for the bunch variety of Groundnut.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Groundnut. (c) 15 C.L./ac. of manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion.  
   (ii) (a) Red loamy. (b) Refer soil analysis, Tindivanam. (iii) 11.8.1958.  
   (iv) (a) 4
ploughings with Cooper-11 and working junior hoe thrice. (b) N.A. (c) 120 lb./ac. (d) As per treatments.
(e) 1. (v) 15 C.L./ac. of manure mixture of red-earth, tank silt and compost, 1 : 1 : 1 proportion applied 18
days before sowing and incorporated into the soil by working junior hoe. (vi) TMV-2 (bunch, early). (vii)
Unirrigated. (viii) Danthis worked twice in S3 and S4 plots. Two hand hoeings and weedings in S1 and S2
plots. (ix) 28.64°. (x) 28.11.1958.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 57(10) on page 418.

5. RESULTS:
(i) 453 lb./ac. (ii) 63.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>488</td>
<td>479</td>
<td>423</td>
<td>420</td>
</tr>
</tbody>
</table>
| S.E./mean | 26.0 lb./ac.

---

Crop :- Groundnut.
Site :- Agri. Res. Stn., Tindivanam.
Ref :- M. 59(14).
Type :- 'C'.

Object :- To determine the economic spacing to be adopted for the bunch variety of Groundnut.

1. BASAL CONDITIONS:
(i) (a) Groundnut—Groundnut. (b) Groundnut. (c) 15 C.L./ac. of compost. (ii) (a) Red loam. (b) Refer
soil analysis, Tindivanam. (iii) 14.8.1959. (iv) (a) 4 ploughings with Cooper-11 and working with junior hoe
twice. (b) N.A. (c) 120 lb./ac. (d) As per treatments. (e) 1. (v) 15 C.L./ac. of M.C. applied 10 days
before sowing and incorporated in the soil by working junior hoe. (vi) TMV-2 (bunch, early). (vii)

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 57(10) on page 418.

5. RESULTS:
(i) 794 lb./ac. (ii) 64.7 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>786</td>
<td>800</td>
<td>792</td>
<td>797</td>
</tr>
</tbody>
</table>
| S.E./mean | 26.4 lb./ac.

---

Crop :- Groundnut.
Site :- Agri. Res. Stn., Tindivanam.
Ref :- M. 54(11).
Type :- 'C'.

Object :- To determine the optimum spacing to be adopted for irrigated Groundnut.

1. BASAL CONDITIONS:
(i) (a) Groundnut—Paddy. (b) Gingelly. (c) 10 C.L./ac. of compost. (ii) (a) Light clayey loam. (b) Refer
soil analysis, Tindivanam. (iii) 2.4.1954. (iv) (a) Ploughing twice with Cooper-11 plough. (b) and (c)
N.A. (d) As per treatments. (e) 1. (v) 10,000 lb./ac. of F.Y.M. applied 10 days before sowing. (vi)

2. TREATMENTS:
5 spacings: S1 =9" X 9", S2 =12" X 9", S3 =12" X 12", S4 =15" X 12" and S5 =15" X 15".

3. DESIGN:
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 38'X16.5' (for S1), 38'X17' (for S2, S3) and 38'X17.5'
(for S4, S5). (b) 30'X15'. (v) Outer rows left. (vi) Yes.
4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Groundnut yield. (iv) (a) 1953—1957. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 579.4 lb./ac. (ii) 163.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S_1</th>
<th>S_2</th>
<th>S_3</th>
<th>S_4</th>
<th>S_5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>598</td>
<td>513</td>
<td>619</td>
<td>529</td>
<td>638</td>
</tr>
</tbody>
</table>

S.E./mean = 66.6 lb./ac.

Ref. :- M. 55(10).

Type :- 'C'.

Object :- To determine the optimum spacing to be adopted for irrigated Groundnut.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Gingelly. (c) 15 C.L./ac. of compost. (ii) (a) Light clayey loam. (b) Refer soil analysis, Tindivanam. (iii) 9.4.1955. (iv) (a) Ploughing twice with Cooper—11 plough. (b) N.A. (c) 80 lb./ac. (d) As per treatments. (e) 1. (v) 10,000 lb./ac. of C.M. applied to the field 10 days before sowing. (vii) TMV—4 (spreading, late). (vii) Irrigated. (viii) Hoeing and weeding twice. (ix) 27.59°. (x) 15.9.1955.

2. TREATMENTS:
Same as in expt. no. 54(11) on page 419.

3. DESIGN:
(i) R.B.D. (ii) (a) and (b) 5. (iii) 5. (iv) (a) and (b) Same as in expt. no. 54(11) on page 419. (v) Outer rows left. (vi) Yes.

5. RESULTS:
(i) 633 lb./ac. (ii) 131.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S_1</th>
<th>S_2</th>
<th>S_3</th>
<th>S_4</th>
<th>S_5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>748</td>
<td>613</td>
<td>622</td>
<td>616</td>
<td>565</td>
</tr>
</tbody>
</table>

S.E./mean = 59.0 lb./ac.

Ref. :- M. 56(14).

Type :- 'C'.

Object :- To determine the optimum spacing to be adopted for irrigated Groundnut.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Gingelly. (c) 15 C.L./ac. of compost. (ii) (a) Light clayey loam. (b) Refer soil analysis, Tindivanam. (iii) 13.3.1956. (iv) (a) Ploughing thrice with Cooper—11 plough. (b) N.A. (c) 80 lb./ac. (d) As per treatments. (e) 1. (v) 10,000 lb./ac. of C.M. was applied a fortnight before sowing and incorporated by ploughing. (vi) TMV—4 (spreading, late). (vii) Weeding once. (ix) 7.30°. (x) 25.7.1956.

2. TREATMENTS:
Same as in expt. no. 54(11) on page 419.

3. DESIGN:
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) Varying from plot to plot. (b) 30°×15°. (v) One row left as border. (vi) Yes.
4. GENERAL:
(i) Fair. (ii) Nil. (iii) Flower count and pod yield. (iv) (a) 1953—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 578 lb./ac. (ii) 207.7 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>862</td>
<td>633</td>
<td>444</td>
<td>501</td>
<td>448</td>
</tr>
</tbody>
</table>

S.E./mean = 92.9 lb./ac.


1. BASAL CONDITIONS:
(i) (a) Paddy—Groundnut. (b) Paddy. (c) 15 C.L./ac. of C.M. + 5000 lb./ac. of G.L. + 100 lb./ac. of Super.
(ii) (a) Light clayey loam. (b) Refer soil analysis, Tindivanam. (iii) 27.12.1957. (iv) (a) Ploughing three times with Cooper-11 plough and working once with H.M. guntaka No. 2. (b) N.A. (c) 60 lb./ac. (d) As per treatments. (e) 1. (f) 10,000 lb./ac. of C.M. applied a fortnight before sowing and spreading over and incorporating by working guntaka. (vi) TMV-4 (spreading, late). (vii) Irrigated. (viii) Hoeing and weeding thrice.
(ix) 6.496. (x) 20.7.1958.

2. TREATMENTS:
5 spacings: S1 = 6' x 6', S2 = 9' x 6', S3 = 9' x 9', S4 = 12' x 9' and S5 = 12' x 12'.

3. DESIGN:
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) Varies with treatments. (b) 24' x 6'. (v) One row left around. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Pod yield. (iv) (a) 1953—1955. (b) No. (c) Nil. (v) to (vii) Nil.


1. BASAL CONDITIONS:
(i) (a) Paddy—Groundnut. (b) Paddy. (c) 15 C.L./ac. of C.M. + 5000 lb./ac. of G.L. + 100 lb./ac. of Super.
(ii) (a) Light clayey loam. (b) Refer soil analysis, Tindivanam. (iii) 27.12.1957. (iv) (a) Ploughing three times with Cooper-11 plough and working once with H.M. guntaka No. 2. (b) N.A. (c) 60 lb./ac. (d) As per treatments. (e) 1. (f) 10,000 lb./ac. of C.M. applied a fortnight before sowing and spreading over and incorporating by working guntaka. (vi) TMV-4 (spreading, late). (vii) Irrigated. (viii) Hoeing and weeding thrice.
(ix) 6.496. (x) 20.7.1958.

2. TREATMENTS:
5 spacings: S1 = 6' x 6', S2 = 9' x 6', S3 = 9' x 9', S4 = 12' x 9' and S5 = 12' x 12'.

3. DESIGN:
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) Varies with treatments. (b) 24' x 6'. (v) One row left around. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Pod yield. (iv) (a) 1953—1955. (b) No. (c) Nil. (v) to (vii) Nil.
5. RESULTS:
(i) 1162 lb./ac.  (ii) 154.1 lb./ac.  (iii) Treatment differences are significant.  (iv) Av. yield of pod in lb. ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1474</td>
<td>1172</td>
<td>1159</td>
<td>1046</td>
<td>958</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>62.9 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Groundnut.  
Site :- Agri. Res. Stn., Tindivanam.  
Ref :- M. 55(11).  
Type :- ‘C’.

Object: —To determine the optimum spacing to be adopted for irrigated Groundnut.

1. BASAL CONDITIONS:
(i) (a) Paddy—Groundnut.  (b) Paddy.  (c) 10 C.L./ac. of compost+5000 lb./ac. of G.L.+100 lb./ac. of Super.  (ii) (a) Light clayey loam.  (b) Refer soil analysis, Tindivanam.  (iii) 28.7.1954.  (iv) (a) Ploughing once with Cooper—11 plough five times, junior hoe and Cambridge roller once.  (b) N.A.  (c) 110 lb./ac.  (d) 6’x6’.  (e) 1.  (f) 13 C.L./ac. of F.Y.M. spread over the field 21 days before sowing.  (vi) TMV—2 (bunch, early).  (vii) Irrigated.  (viii) Hoeing and weeding twice.  (ix) 24.88”.  (x) 29.12.1954.

2. TREATMENTS:
Same as in expt. no. 54(12) on page 421.

3. DESIGN:
(i) R.B.D.  (ii) (a) 5.  (b) N.A.  (iii) 6.  (iv) (a) 30’x(8’ for S1, 9’ for S2, S3 and 10’ for S4, S5).  (b) 24’x6’.  (v) N.A.  (vi) Yes.

4. GENERAL:
(i) Fair.  (ii) Mild attack of surul poochi—controlled by dusting DDT 5%.  (iii) Pod yield.  (iv) (a) 1953—1955.  (b) No.  (c) Nil.  (v) to (vii) Nil.

5. RESULTS:
(i) 451 lb./ac.  (ii) 76.4 lb./ac.  (iii) Treatment differences are significant.  (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>571</td>
<td>562</td>
<td>399</td>
<td>408</td>
<td>314</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>31.2 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Groundnut.  
Site :- Agri. Res. Stn., Tindivanam.  
Ref :- M. 54(10).  
Type :- ‘C’.

Object: —To determine the economic spacing for Groundnut.

1. BASAL CONDITIONS:
(i) (a) Nil.  (b) Groundnut.  (c) 20 C.L./ac. of manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion.  (ii) (a) Red loamy soil.  (b) Refer soil analysis, Tindivanam.  (iii) 28.7.1954.  (iv) (a) Ploughing once with Cooper—11 and once with tractor drawn guntaka.  (b) N.A.  (c) 80 lb. ac.  (d) As per treatments.  (e) 1.  (f) As in (i) (c) above applied 15 days before sowing.  (vi) TMV—3 (spreading, late).  (vii) Unirrigated.  (viii) Hoeing and weeding thrice.  (ix) 24.88”.  (x) 20.12.1954.

2. TREATMENTS:
4 spacings: S1=9”x8”, S2=12”x6”, S3=18”x4” and S4=24”x3”.

3. DESIGN:
(i) R.B.D.  (ii) (a) 4.  (b) N.A.  (iii) 6.  (iv) (a) 68’x18’.  (b) 60’x12’.  (v) 4’x3’.  (vi) Yes.
4. GENERAL:
(i) Poor due to ill distribution of rainfall. (ii) Mild attack of surul poochi—controlled by dusting DDT 5%. (iii) Flower count, plant measurements and yield of pod. (iv) (a) 1954—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 323.8 lb./ac. (ii) 69.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$S_1$</th>
<th>$S_2$</th>
<th>$S_3$</th>
<th>$S_4$</th>
</tr>
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<tbody>
<tr>
<td>Av. yield</td>
<td>283</td>
<td>289</td>
<td>321</td>
<td>402</td>
</tr>
<tr>
<td>S.E./mean</td>
<td></td>
<td></td>
<td></td>
<td>28.3 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Groundnut.
Site :- Agri. Res. Stn., Tindivanam.

Object :- To determine the economic spacing for Groundnut.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Groundnut. (c) 20 C.L./ac. of manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion. (ii) (a) Red loamy. (b) Refer soil analysis, Tindivanam. (iii) 26.7.1955. (iv) (a) Ploughing with Cooper—11 plough once, with country plough once and junior hoe once. (b) N.A. (c) 80 lb./ac. (d) As per treatments. (e) 1. (v) 15 C.L./ac. of manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion applied 37 days before sowing. (vi) TMV—3 (spreading, late). (vii) Unirrigated. (viii) Working danthi 4 times and weeding twice. (ix) 27.29". (x) 22.12.1955.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 54(10) on page 422.

4. GENERAL:
(i) Poor due to unfavourable climatic conditions. (ii) Mild attack of surul poochi—controlled by dusting DDT 5%. (iii) Flower count, plant measurement and pod yield. (iv) (a) 1954—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 474 lb./ac. (ii) 52.9 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$S_1$</th>
<th>$S_2$</th>
<th>$S_3$</th>
<th>$S_4$</th>
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<tbody>
<tr>
<td>Av. yield</td>
<td>446</td>
<td>409</td>
<td>488</td>
<td>552</td>
</tr>
<tr>
<td>S.E./mean</td>
<td></td>
<td></td>
<td></td>
<td>21.6 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Groundnut.
Site :- Agri. Res. Stn., Tindivanam.

Object :- To determine the economic spacing for Groundnut.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Groundnut. (c) 20 C.L./ac. of manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 20.8.1956. (iv) (a) Ploughing with Cooper—11 plough twice and working junior hoe twice. (b) N.A. (c) 80 lb./ac. (d) Spacing as per treatments. (e) I. (v) As in (i) (c) above applied a fortnight before sowing. (vi) TMV—3 (spreading, late). (vii) Unirrigated. (viii) Danthi worked in between rows five times. (ix) 33.09". (x) 1.1.1957.

TREATMENTS:
Same as in expt. no. 54(10) on page 422.
3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 68'x18'. (b) 60'x12'. (v) 4'x3'. (vi) Yes.

4. GENERAL:
(i) Poor due to ill distribution of rainfall. (ii) Mild attack of surul poochi—controlled by dusting DDT 5%. (iii) Flower count and pod yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 399 lb./ac. (ii) 23.8 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S.E./mean</th>
</tr>
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<tbody>
<tr>
<td>Av. yield</td>
<td>398</td>
<td>376</td>
<td>423</td>
<td>400</td>
<td>9.7 lb./ac.</td>
</tr>
</tbody>
</table>

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Crop :- Groundnut.  
Site :- Agri. Res. Stn., Tindivanam.  
Object :- To determine the economic spacing for Groundnut.

1. BASAL CONDITIONS:
(i) (a) and (b) Groundnut. (c) 15 C.L./ac. of manure mixture of red-earth, tank silt and compost in 1 : 1 : 1 proportion. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 31.7.1957. (iv) (a) Working with Cooper—11 three times and junior hoe once. (b) N.A. (c) 80 lb./ac. (d) As per treatments. (e) 1. 
(iii) As in (i) (c) above applied a fortnight before sowing. (vi) TMV—3 (spreading, late). (vii) Unirrigated. 
(21.45°. (x) 27.12.1957. 

2. TREATMENTS and 3. DESIGN:
Same as in exp. no. 54(10) on page 422.

4. GENERAL:
(i) Fair. (ii) Mild attack of surul poochi; controlled by dusting DDT 5%. (iii) Flower count, plant measurements and pod yield. (iv) (a) 1954—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 551 lb./ac. (ii) 94.8 lb./ac. (iii) Treatment differences are no significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>534</td>
<td>496</td>
<td>550</td>
<td>625</td>
<td>38.7 lb./ac.</td>
</tr>
</tbody>
</table>

---

Crop :- Groundnut.  
Site :- Agri. Res. Stn., Tindivanam.  
Object :- To determine the economic spacing for Groundnut.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Groundnut. (c) 15 C.L./ac. of manure mixture as compost-tank silt-red-earth in 1 : 1 : 1 proportion. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 13.8.1958. (iv) (a) 3 ploughings with Cooper—11 and working with junior hoe twice. (b) N.A. (c) 80 lb./ac. (d) As per treatments. (e) 1. 
(iv) As in (i) (c) above applied a fortnight before sowing. (vi) TMV—3 (spreading, late). (vii) Unirrigated. 
(29.03°. (x) 2.1.1959.
2. TREATMENTS:
Same as in expt. no. 54(10) on page 422.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 68' x 18'. (b) 60' x 12'. (v) 4' x 3'. (vi) Yes.

4. GENERAL:
Same as in expt. no. 57(6) on page 424.

5. RESULTS:
(i) 368 lb./ac. (ii) 45.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of groundnut in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S₁</th>
<th>S₂</th>
<th>S₃</th>
<th>S₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>363</td>
<td>369</td>
<td>370</td>
<td>369</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>18.6 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Crop:** Groundnut.  
**Site:** Agri. Res. Stn., Tindivanam.  
**Ref:** M. 59(13).  
**Type:** 'C'.

Object:—To determine the economic spacing for Groundnut.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Groundnut. (c) 15 C.L./ac. of compost. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 26.8.1959. (iv) (a) Ploughing with Cooper—11 thrice and junior hoe twice. (b) N.A. (c) 80 lb./ac. (d) As per treatments. (e) 1. (f) 15 C.L./ac. of compost applied a fortnight before sowing; (vi) TMV-3 (spreading, late). (vii) Unirrigated. (viii) In S₁ plots two hand hoeings and weedings were given; in others *danthi* was worked twice. (ix) 27.49'. (x) 5.1.1960.

2. TREATMENTS:
Same as in expt. no. 54(10) on page 422.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 68' x 18'. (b) 60' x 12'. (v) 4' x 3'. (vi) Yes.

4. GENERAL:
Same as in expt. no. 57(6) on page 424.

5. RESULTS:
(i) 685 lb./ac. (ii) 70.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S₁</th>
<th>S₂</th>
<th>S₃</th>
<th>S₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>646</td>
<td>675</td>
<td>691</td>
<td>729</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>28.7 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Crop:** Groundnut.  
**Site:** Agri. College and Res. Instt., Coimbatore.  
**Ref:** M. 54(22).  
**Type:** 'D'.

Object:—To study the beneficial effect of insecticides on the yield of Groundnut.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Castor. (c) 5 tons/ac. of F.Y.M. (ii) (a) Red loamy soil. (b) Refer soil analysis, Coimbatore. (iii) 4.10.1954. (iv) (a) 3 ploughings. (b) to (e) N.A. (v) Nil. (vi) TMV-2 (bunch, early). (vii) Irrigated. (viii) 1 weeding. (ix) 3.3'. (x) 21.1.1955.
2. TREATMENTS:
8 insecticides: \( C_0 = \) Control, \( C_1 = \) DDT 5% dust, \( C_2 = \) DDT 0.1% spray, \( C_3 = \) BHC 5% dust, \( C_4 = \) BHC 0.1% spray, \( C_5 = \) Dieldrin 1% dust, \( C_6 = \) Dieldrin 0.05% spray, and \( C_7 = \) Folidol 0.025% spray. 1st application was done three weeks after sowing and the second a fortnight later.

3. DESIGN:
(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 6\( \times 6'\). (v) and (vi) Yes.

4. GENERAL:
(i) Good. (ii) Sural poochi was observed—control measures as per treatments. (iii) Yield of groundnut. 

5. RESULTS:
(i) 2878 lb./ac. (ii) 904.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>( C_1 )</th>
<th>( C_2 )</th>
<th>( C_3 )</th>
<th>( C_4 )</th>
<th>( C_5 )</th>
<th>( C_6 )</th>
<th>( C_7 )</th>
<th>( C_8 )</th>
<th>Av. yield</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>2528</td>
<td>2560</td>
<td>3494</td>
<td>2657</td>
<td>2930</td>
<td>2962</td>
<td>2673</td>
<td>3220</td>
<td></td>
</tr>
<tr>
<td>S.E./mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>452.1 lb./ac.</td>
</tr>
</tbody>
</table>

Object:—To determine the effect of N, P and K alone and in combinations on the yield of Castor.

1. BASAL CONDITIONS:
(i) (a) Castor—Groundnut. (b) Groundnut. (c) Manure mixture (red-earth, tank silt and compost) at 15 C.L./ac. (ii) (a) Red loamy soil. (b) Refer soil analysis, Tindivanam. (iii) 31.7.1954. (iv) (a) 5 ploughings with Cooper-11 and mummatty. (b) and (c) N.A. 3'x3'. (c) N.A. (v) As per treatments. (vi) TMV-2 (late). 3'x3'. (vii) Unirrigated. (viii) 2 hoeings and weedings. (ix) 20.82'. (x) 20.12.1954 to 30.1.1955.

2. TREATMENTS:
All combinations of (1), (2) and (3)
(1) 2 levels of \( N \) as A/S: \( N_0 = 0 \) and \( N_1 = 30 \) lb./ac.
(2) 2 levels of \( P_2O_5 \) as Super: \( P_0 = 0 \) and \( P_1 = 20 \) lb./ac.
(3) 2 levels of \( K_2O \) as Pot. Sul.: \( K_0 = 0 \) and \( K_1 = 30 \) lb./ac.
B.D. of 24 tns/ac. of F.Y.M. to all plots except control. N applied as top-dressing 1 month after planting and P, K at the time of planting.

3. DESIGN:
(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 57'x15'. (b) 51'x9'. (v) 3'x3'. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Mild attack of semi-looper—controlled by dusting DDT 5%. (iii) Yield of castor seed and plant height. (iv) (a) 1954—56. (b) and (c) N.A. (v) to (vii) Nil.

5. RESULTS:
(i) 708 lb./ac. (ii) 95 lb./ac. (iii) N effect is highly significant and interaction N x P is significant. (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>( N_0 )</th>
<th>( N_1 )</th>
<th>Mean</th>
<th>( K_0 )</th>
<th>( K_1 )</th>
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<td>678</td>
<td>669</td>
<td>636</td>
<td>701</td>
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<tr>
<td>( P_1 )</td>
<td>611</td>
<td>884</td>
<td>747</td>
<td>712</td>
<td>783</td>
</tr>
<tr>
<td>Mean</td>
<td>635</td>
<td>781</td>
<td>708</td>
<td>674</td>
<td>742</td>
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<tr>
<td>( K_0 )</td>
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<td>786</td>
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<tr>
<td>( K_1 )</td>
<td>708</td>
<td>776</td>
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</table>
Crop :- Castor.  
Site :- Agri. Res. Stn., Tindivanam.  
Ref. :- M. 55(5).  
Type :- 'M'.

Object :- To determine the effect of N, P and K alone and in combinations on the yield of Castor.

1. BASAL CONDITIONS:
   (i) (a) Castor—Groundnut. (b) Groundnut and Jowar. (c) Manure mixture (red-earth, tank silt and compost) at 20 C.L./ac.  
   (ii) (a) Red loamy soil.  
   (iii) 27.7.1955. (a) 1 ploughing with Cooper—11. 2 diggings with mummatty and levelling. (b) N.A. (c) 6 lb./ac. (d) 3' x 3'. (e) 1.  

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 54(3) on page 426.

4. GENERAL:
   (i) Fair, but yield was low due to unseasonal rains. (ii) Severe attack of castor borer—controlled by dusting BHC 5%. (iii) Castor yield and plant height. (iv) (a) 1954—1956. (b) and (c) No. (v) to (vii) Nil.

5. RESULTS:
   (i) 575 lb./ac.  
   (ii) 110.6 lb./ac.  
   (iii) Only N effect is highly significant. (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N₀</th>
<th>N₁</th>
<th>Mean</th>
<th>K₀</th>
<th>K₁</th>
</tr>
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<tbody>
<tr>
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<td>437</td>
<td>711</td>
<td>574</td>
<td>509</td>
<td>639</td>
</tr>
<tr>
<td>P₁</td>
<td>525</td>
<td>627</td>
<td>576</td>
<td>556</td>
<td>597</td>
</tr>
<tr>
<td><strong>Mean</strong></td>
<td>481</td>
<td>669</td>
<td>575</td>
<td>532</td>
<td>618</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 27.6 lb./ac.
S.E. of body of any table = 39.1 lb./ac.

Crop :- Castor.  
Site :- Agri. Res. Stn., Tindivanam.  
Ref. :- M. 56(12).  
Type :- 'M'.

Object :- To determine the effect of N, P and K alone and in combinations on the yield of Castor.

1. BASAL CONDITIONS:
   (i) (a) Castor—Groundnut. (b) Groundnut. (c) Manure mixture (Red earth+ tank silt+compost) at 20 C.L./ac.  
   (ii) (a) Red loamy soil.  
   (iii) 14.8.1956. (a) Floughing with Cooper—11 thrice and 2 hoeings with junior hoe. (b) N.A. (c) 8 to 10 lb./ac. (d) 3' x 3'. (e) 1.  

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 54(3) on page 426.

4. GENERAL:
   (i) Fair, yield was poor due to abnormal we ather. (ii) Nil. (iii) Yield of castor and plant height. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) to (vii) Nil.
5. RESULTS:

(i) 160.0 lb./ac.  (ii) 26.0 lb./ac.  (iii) N effect is highly significant.  P effect and interaction N×K are significant.  (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N₀</th>
<th>N₁</th>
<th></th>
<th>K₀</th>
<th>K₁</th>
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<tr>
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<td>169</td>
<td>148</td>
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<td>157</td>
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<tr>
<td>P₁</td>
<td>148</td>
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<td>172</td>
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<td>Mean</td>
<td>138</td>
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<tr>
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<td>195</td>
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<tr>
<td>K₁</td>
<td>150</td>
<td>171</td>
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</tbody>
</table>

S.E. of any marginal mean = 6.5 lb./ac.
S.E. of body of any table = 9.2 lb./ac.

---

**Crop:** Castor.  
**Site:** Agri. Res. Stn., Tindivanam.  
**Ref.** M. 57(3).  
**Type:** 'M'.

Object: To determine the effect of N, P and K alone and in combinations on the yield of Castor.

1. BASAL CONDITIONS:

(i) (a) Groundnut—Castor.  (b) Groundnut.  (c) Manure mixture (red-earth+tank silt+compost) at 20 C.L./ac.  (ii) (a) Red loamy soil (b) Refer soil analysis, Tindivanam.  (iii) 27.7.1957.  (iv) (a) Ploughing 4 times with Cooper—11 and 2 hoeings with junior hoe.  (b) N.A.  (c) 8 to 10 lb./ac.  (d) 3 × 3'.  (e) 1.  (v) 22 tons/ac. of C.M.  (vi) TMV-2 (late).  (vii) Unirrigated.  (viii) 1 weeding.  (ix) 27.72'.  (x) 19.11.1957.  to 10.3.1958.

2. TREATMENTS:

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

(1) 2 levels of N as A/S: N₀ = 0 and N₁ = 30 lb./ac.
(2) 2 levels of P₂O₅ as Super: P₀ = 0 and P₁ = 20 lb./ac.
(3) 2 levels of K₂O as Pot. Sul.: K₀ = 0 and K₁ = 30 lb./ac.

3. DESIGN:

(i) Fact. in R.B.D.  (ii) (a) 8.  (b) N.A.  (iii) 4.  (iv) (a) 57' × 15'.  (b) 51' × 9'.  (v) 3 × 3'.  (vi) Yes.

4. GENERAL:

(i) Satisfactory.  (ii) Mild attack of semi-looper—controlled by dusting BHC 10%.  (iii) Plant height and yield of castor.  (iv) (a) 1957—1959.  (b) Yes.  (c) Nil.  (v) (a) and (b) Nil.  (vi) and (vii) Nil.

5. RESULTS:

(i) 727 lb./ac.  (ii) 112.4 lb./ac.  (iii) Only N effect is highly significant.  (iv) Av. yield of seed in lb./ac

<table>
<thead>
<tr>
<th></th>
<th>N₀</th>
<th>N₁</th>
<th>Mean</th>
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<td>917</td>
<td></td>
<td>725</td>
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</tr>
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</table>

S.E. of any marginal mean = 28.1 lb./ac.
S.E. of body of any table = 39.7 lb./ac.
Crop :- Castor.
Site :- Agri. Res. Stn., Tindivanam.

Object :- To determine the effect of N, P and K alone and in combination on the yield of Castor.

1. BASAL CONDITIONS:
(i) (a) Castor—Groundnut. (b) Castor. (c) Nil. (ii) (a) Red loamy soil. (b) Refer soil analysis, Tindivanam. (iii) 4.6.1958. (iv) (a) 4 ploughings with Cooper—11 plough and 2 hoeings with junior hoe. (b) N.A. (c) 5 lb/ac. (d) 3’x3’. (e) 2. (v) 2½ tons/ac. of F.Y.M. (vi) TMV—2 (late). (vii) Unirrigated. (viii) 3 hoeings and weedings with junior hoe. (ix) 30.63°. (x) 25.12.1959.

2. TREATMENTS to 4. GENERAL:
Same as in exp. no. 57(3) on page 428.

5. RESULTS:
(i) 422 lb/ac. (ii) 50.9 lb/ac. (iii) Only N and K effects are highly significant. (iv) Av. yield of castor in lb/ac.

<table>
<thead>
<tr>
<th></th>
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<th>Mean</th>
<th>K₀</th>
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<tr>
<td>K₁</td>
<td>369</td>
<td>537</td>
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<td></td>
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</tbody>
</table>

S.E. of any marginal mean = 12.7 lb/ac.
S.E. of body of any table = 18.0 lb/ac.

Crop :- Castor.
Site :- Agri. Res. Stn., Tindivanam.

Object :- To determine the effect of N, P and K alone and in combinations on the yield of Castor.

1. BASAL CONDITIONS:
(i) (a) Castor—Groundnut. (b) Castor. (c) Nil. (ii) (a) Red loamy soil. (b) Refer soil analysis, Tindivanam. (iii) 15.8.1959. (iv) (a) 2 ploughings with Cooper—11 plough and 3 hoeings with junior hoe. (b) Dibbling. (c) 5 lb/ac. (d) 3’x3’. (e) 2. (v) 2½ tons/ac. of C.M. (vi) TMV—2 (late). (vii) Unirrigated. (viii) Thinning to one seedling per hole and two hoeings and weedings with junior hoe. (ix) 30.63°. (x) 25.12.1959 to 19.3.1960.

2. TREATMENTS to 4. GENERAL:
Same as in exp. no. 57(3) on page 428.

5. RESULTS:
(i) 535 lb/ac. (ii) 91.9 lb/ac. (iii) Only P effect is significant. (iv) Av. yield of castor in lb/ac.

<table>
<thead>
<tr>
<th></th>
<th>N₀</th>
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<th>Mean</th>
<th>K₀</th>
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</table>
Crop :- Gingelly.
Site :- Agri. Res. Stn., Tindivanam.

Object :- To determine the feasibility of manuring Gingelly with C/N in comparison with A/S.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Fodder cholam. (c) 15 C.L./ac. of manure mixture of red earth + tank silt + compost. (ii) (a) Red loamy soil. (b) Refer soil analysis, Tindivanam. (iii) 31.3.1954. (iv) (a) Ploughing with Cooper—11. (b) and (c) N.A. (d) 1' x 1'. (e) N.A. (v) As per treatments. (vi) TMV—3 (medium). (vii) Irrigated. (viii) Hoing and weeding twice; thinning twice. (ix) 9.06'. (x) 23.6 1954.

2. TREATMENTS:
   All combinations of (1), (2) and (3) + 2 extra treatments.
   (1) 2 levels of N: N1 = 30 lb./ac. and N2 = 45 lb./ac.
   (2) 2 sources of N: S1 = A/S and S2 = C/N.
   (3) 2 levels of B.D.: B0 = 0 and B1 = 3 tons/ac. of C.M.+30 lb./ac. of P2O5 as Super.

   Extra treatments: T1 = No manure and T2 = 3 tons/ac. of C.M.+30 lb./ac. of P2O5 as Super.

3. DESIGN:
   (i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 5. (iv) (a) 23' x 15'. (b) 21' x 13'. (v) 1' x 1'. (vi) Yes.

4. GENERAL:
   (i) Poor. (ii) Mild attack of shoot-webber (Antigastra catalaulalis). Heavy rains received during the maturity stage kept down the shoot-webber attack. (iii) Yield of gingelly seed. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 103.1 lb./ac. (ii) 38.8 lb./ac. (ii) None of the effects is significant. (iv) Av. yield of seed in lb./ac.

\[
T_1 = 107 \text{ lb./ac. and } T_2 = 132 \text{ lb./ac.}
\]

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
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<th>B0</th>
<th>B1</th>
<th>Mean</th>
</tr>
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<td>93</td>
<td>91</td>
<td>112</td>
<td>102</td>
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</tr>
<tr>
<td>B0</td>
<td>111</td>
<td>82</td>
<td>103</td>
<td>98</td>
<td></td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 8.7 lb./ac.
S.E. of body of any table = 12.3 lb./ac.
with Cooper—11 and junior hoe once. (b) and (c) N.A. (d) 1′×1′. (e) N.A. (v) As per treatments. (vi) TMV—3 (medium). (vii) Irrigated. (viii) 2 hoeings and weedings. (ix) 4.48″. (x) 14.5.1955.

2. TREATMENTS :
Same as in exp. no. 54(14) on page 430.

3. DESIGN :
(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 5. (iv) (a) 25′×15′. (b) 21′×13′. (v) 2′×1′. (vi) Yes.

4. GENERAL :
(i) Fair. (ii) Mild attack of shoot-webber pest—controlled by dusting DDT 5%. (iii) Gingelly yield. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Severe draught during capsule formation stage. (vii) Nil.

5. RESULTS :
(i) 110.9 lb./ac. (ii) 42.0 lb./ac. (ii) None of the effects is significant. (iv) Av. yield of seed in lb./ac.

\[ T_1 = 127 \text{ lb./ac. and } T_2 = 100 \text{ lb./ac.} \]

\[ \begin{array}{c|c|c|c}
   & S_1 & S_2 & \text{Mean} \\
\hline
N_1 & 103 & 110 & 107 \\
N_2 & 114 & 108 & 111 \\
Mean & 109 & 109 & 109 \\
B_0 & 106 & 103 & 107 \\
B_1 & 111 & 115 & 111 \\
\end{array} \]

\[ \text{S.E. of any marginal mean} = 9.4 \text{ lb./ac.} \]
\[ \text{S.E. of body of any table} = 13.3 \text{ lb./ac.} \]

**Crop** :- Gingelly (Summer).

**Site** :- Agri. Res. Stn., Tindivanam.

**Object** :- To determine the feasibility of manuring Gingelly with C/N in comparison with A/S.

1. BASAL CONDITIONS :
(i) (a) N.A. (b) Cholam fodder. (c) 20 C.L./ac. of manure mixture (red-earth+tank silt+compost).
(ii) (a) Red loamy soil. (b) Refer soil analysis, Tindivanam. (iii) 27.2.1956. (iv) (a) 3 ploughings with Cooper—11 and junior hoe twice. (b) N.A. (c) 5 lb./ac. (d) 1′×1′. (e) 1. (v) Nil. (vi) TMV—3 (medium). (vii) Irrigated. (viii) 3 hoeings and weedings. (ix) 1.52″. (x) 17.5.1956.

2. TREATMENTS :
Same as in exp. no. 54(14) on page 430.

3. DESIGN :
(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 5. (iv) (a) 28′×15′. (b) 21′×13′. (v) 3′×1′. (vi) Yes.

4. GENERAL :
(i) Fair. (ii) Mild attack of shoot-webber pest—controlled by dusting DDT 5%. (iii) Yield of seed. (iv) (a) 1954—1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS :
(i) 291.9 lb./ac. (ii) 73.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of seed in lb./ac.
Crop: Gingelly (Summer).


Object: To determine the feasibility of manuring Gingelly with C/N in comparison with A/S.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Cholam fodder. (c) 20 C.L./ac. of manure mixture (red-earth + tank silt + compost)
   (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 4.3.1957. (iv) (a) 4 ploughings with Copper-11
   and junior hoe once. (b) N.A. (c) 1. (d) 1' x 1'. (e) 5 lb./ac. (v) Nil. (vi) TMV-3 (medium).
   (vii) Irrigated. (viii) Hoeing and weeding thrice. (ix) 0.36'. (x) 22.5.1957.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 54 (14) on page 430.

4. GENERAL:
   Same as in expt. no. 56 (11) on page 431.

5. RESULTS:
   (i) 396.6 lb./ac. (ii) 85 lb./ac. (iii) Main effect of B and 'control vs. others' are significant. (iv) Av. yield
   of seed in lb./ac.

\[ T_1 = 339 \text{ lb./ac. and } T_2 = 276 \text{ lb./ac.} \]

<table>
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<tr>
<th></th>
<th>( S_1 )</th>
<th>( S_2 )</th>
<th>( B_0 )</th>
<th>( B_1 )</th>
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<td>( N_2 )</td>
<td>326</td>
<td>268</td>
<td>294</td>
<td>300</td>
<td>297</td>
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<td>288</td>
</tr>
<tr>
<td>( B_0 )</td>
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<td>276</td>
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<td>288</td>
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<td>266</td>
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S.E. of any marginal mean = 16.5 lb./ac.
S.E. of body of any table = 15.1 lb./ac.

<table>
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<th>( S_2 )</th>
<th>( B_0 )</th>
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<td>484</td>
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</table>

S.E. of any marginal mean = 19.0 lb./ac.
S.E. of body of any table = 26.9 lb./ac.
Crop :- Gingelly.
Site :- Agri. Res. Stn., Tindivanam.

Object :- To find out the effect of N, P and K on the yield of Gingelly.

1. BASAL CONDITIONS :
(i) (a) Gingelly—Sannhemp—Paddy. (b) Paddy. (c) 3 tons/ac. of F.Y.M. (ii) (a) Light clayey. (b) Refer soil analysis, Tindivanam. (iii) 16.3.1958. (iv) (a) 4 ploughings with Cooper—11. (b) Dibbling. (c) 4 lb/ac. (d) 1' x 1'. (e) 1. (v) 2 tons/ac. of F.Y.M. (vi) TMV—3 (early). (vii) Irrigated. (viii) Hand weeding and hoeing thrice. (ix) 0.59'. (x) 4.6.1958.

2. TREATMENTS :
All combinations of (1), (2) and (3)
(1) 2 levels of N as A/S : N₀ = 0 and N₁ = 30 lb/ac.
(2) 2 levels of P₂O₅ as Super : P₀ = 0 and P₁ = 20 lb/ac.
(3) 2 levels of K₂O as Pot. Sul. : K₀ = 0 and K₁ = 20 lb/ac.

3. DESIGN :
(i) Fact. in R.B.D. (ii) A mild attack of shoot-webber, antigastera castastanalis which was controlled by dusting DDT 5%. (iii) Flower counts and plant height measurements were taken. (iv) (a) 1958—1960. (v) Yes.

4. GENERAL :
(i) Good. (ii) A mild attack of shoot-webber, antigastera castastanalis which was controlled by dusting DDT 5%. (iii) Flower counts and plant height measurements were taken. (iv) (a) 1958—1960. (b) N.A. (c) Nil. (v) to (vii) Nil.

5. RESULTS :
(i) 562 lb/ac. (ii) 95.45 lb/ac. (iii) Main effect of N is significant. Other effects are not significant. (iv) Av. yield of seed in lb/ac.

<table>
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<tr>
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<tr>
<td>K₁</td>
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<td>518</td>
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</tbody>
</table>

Mean = 562
S.E. of any marginal mean = 21.3 lb/ac.
S.E. of body of any table = 30.2 lb/ac.

Crop :- Gingelly.
Site :- Agri. Res. Stn., Tindivanam.

Object :- To find out the effect of N, P and K on the yield of Gingelly.

1. BASAL CONDITIONS :
(i) (a) Gingelly—Paddy. (b) Paddy. (c) 3 tons/ac. of F.Y.M. (ii) (a) Light clayey. (b) Refer soil analysis, Tindivanam. (iii) 3.3.1959. (iv) (a) Ploughing with cooper—11 plough twice and working with junior hoe twice. (b) Dibbling. (c) 4 lb/ac. (d) 1' x 1'. (e) 1. (v) 2 tons/ac. of F.Y.M. (vi) TMV—3 (early). (vii) Irrigated. (viii) 2 weedings and hoeing thrice. (ix) 0.75'. (x) 23.5.1959.

2. TREATMENTS and 3. DESIGN :
Same as in exp. no. 58(17) above.
4. GENERAL:
(i) Good. (ii) A mild attack of shoot-webber; controlled by dusting DDT 5%. (iii) Flower counts, plant height measurements and gingelly yield. (iv) (a) 1958—1960. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 582 lb./ac. (ii) 64.5 lb./ac. (iii) Main effect of N is highly significant; interaction N × P is significant. Other effects are not significant. (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th></th>
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<th>K₀</th>
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</table>

S.E. of any marginal mean = 14.4 lb./ac.
S.E. of body of any table = 20.4 lb./ac.

Crop :- Gingelly.
Object :- To find out the effect of different spacings on Gingelly crop.

Ref :- M. 55(70).
Type :- 'C'.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 18, 19.11.1955. (iv) (a) 2 to 3 ploughing (b) and (c) N.A. (d) As per treatments (e) N.A. (v) 10 C.L./ac. of compost. (vi) TMV—3. (vii) Irrigated. (viii) 1 weeding. (ix) 2.09. (x) 13.3.1956.

2. TREATMENTS:
5 spacings: S₁=6" x 6", S₂=9" x 9", S₃=12" x 12", S₄=15" x 15" and S₅=18" x 18".

3. DESIGN:
(i) R.B.D. (ii) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 45° x 18°. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Not satisfactory. (ii) Nil. (iii) Yield of Gingelly. (iv) (a) 1955—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 39.6 lb./ac. (ii) 5.49 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S₁</th>
<th>S₂</th>
<th>S₃</th>
<th>S₄</th>
<th>S₅</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>44</td>
<td>48</td>
<td>49</td>
<td>30</td>
<td>27</td>
<td>44</td>
<td>2.2 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Gingelly.
Object :- To find out the effect of different spacings on Gingelly crop.

Ref :- M. 57(73).
Type :- 'C'.
1. BASAL CONDITIONS:
   (i) (a) Nil. (b) and (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 1.2.1957. (iv) 2 to 3 ploughings. (b) N.A. (c) N.A. (d) As per treatments. (e) N.A. (v) 10 C.L./ac. of compost. (vi) TMV-3. (vii) Irrigated. (viii) Hoeing and weeding once. (ix) 1.35°. (x) 28.4.1957.

2. TREATMENTS:
   Same as in exp. no 55(70) on page 434.

3. DESIGN:
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 9'×30'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield of Gingelly. (iv) (a) 1955—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 534 lb./ac. (ii) 31.6 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S_1</th>
<th>S_2</th>
<th>S_3</th>
<th>S_4</th>
<th>S_5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>506</td>
<td>533</td>
<td>635</td>
<td>519</td>
<td>479</td>
</tr>
</tbody>
</table>

S.E./mean = 12.9 lb./ac.

---

Object:—To find out the effect of different spacings on Gingelly crop.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) and (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 8.2.1958. (iv) (a) 2 to 3 ploughings. (b) and (c) N.A. (d) As per treatments. (e) N.A. (v) 10 C.L./ac. of compost. (vi) TMV-3. (vii) Irrigated. (viii) Hoeing and weeding once. (ix) 2.85°. (x) 9.5.1958.

2. TREATMENTS:
   Same as in exp. no. 55(70) on page 434.

3. DESIGN:
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 15'×30'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Not satisfactory. (ii) Nil. (iii) Yield of Gingelly. (iv) (a) 1955—1960. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 89 lb./ac. (ii) 27.5 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S_1</th>
<th>S_2</th>
<th>S_3</th>
<th>S_4</th>
<th>S_5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>107</td>
<td>105</td>
<td>101</td>
<td>67</td>
<td>65</td>
</tr>
</tbody>
</table>

S.E./mean = 11.2 lb./ac.

---

Object:—To find out the effect of different spacings on Gingelly crop.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) 13.1.1959. (iv) (a) 2 to 3 ploughings. (b) and (c) N.A. (d) As per treatments. (e) N.A. (v) 10 C.L./ac. of compost. (vi) TMV-3. (vii) Irrigated. (viii) Weeding and hoeing once. (ix) 1.57°. (x) 19.4.1959.
2. TREATMENTS:
Same as in exp. no. 55(70) on page 434.

3. DESIGN and 4. GENERAL:
Same as in exp. no. 53(59) on page 435.

5. RESULTS:
(i) 43 lb./ac.  (ii) 20 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>42</td>
<td>56</td>
<td>40</td>
<td>37</td>
<td>40</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>8.2 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

Crop :- Gingelly.
Site :- Agri. College and Res. Instt., Coimbatore.
Ref :- M. 54(18).
Type :- 'C'.

Object :- To determine the optimum time of sowing of summer crop of Gingelly.

1. BASAL CONDITIONS:
(i) (a) Nil.  (b) Groundnut.  (c) Compost at 61 tons/ac.  (ii) (a) Clayey loam.  (b) Refer soil analysis, Coimbatore.  (iii) As per treatments.  (iv) (a) O.e ploughing with mould board plough, one with country plough and levelling.  (b) Dibbling in lines.  (c) 4 to 5 lb./ac.  (d) 1'X1'.  (e) N.A.  (v) 4 tons/ac. of well decomposed F.Y.M. applied broadcast and ploughed in with country plough on 28.1.1954.  (vi) TMV-3 (improved).  (vii) Irrigated.  (viii) Hand hoeing and weeding thrice.  (ix) 9.69".  (x) N.A.

2. TREATMENTS:
6 dates of sowing:  D₁=First fortnight of February (10.2.1954), D₂=Second fortnight of February (25.2.1954), D₃=First fortnight of March (10.3.1954), D₄=Second fortnight of March (25.3.1954), D₅=First fortnight of April (10.4.1954) and D₆=Second fortnight of April (25.4.1954).

3. DESIGN:
(i) R.B.D.  (ii) 6.  (b) N.A.  (iii) 6.  (iv) (a) 22'X6'.  (b) 18'X4'.  (v) One row along the length and two rows along breadth.  (vi) Yes.

4. GENERAL:
(i) Crop sown in late March and April was comparatively poor.  (ii) Incidence of the shoot-webber and Gall fly attack severe in the later sowings. Three dustings, one spraying of BHC 5% given to control the shoot-webber pest.  (iii) Branching, length of stem and bunches, no. of capsules, period of 1st. and last flowering, no. of flowers produced and yield of seed.  (iv) (a) 1952 -1954.  (b) and (c) No.  (v) to (vii) Nil.

5. RESULTS:
(i) 393.6 lb./ac.  (ii) 88.98 lb./ac.  (iii) Treatment differences are highly significant.  (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D₁</th>
<th>D₂</th>
<th>D₃</th>
<th>D₄</th>
<th>D₅</th>
<th>D₆</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>648.6</td>
<td>600.6</td>
<td>469.1</td>
<td>317.8</td>
<td>266.8</td>
<td>58.7</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>36.3 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Crop :- Gingelly.
Site :- Agri. Res. Stn., Tindivanam.
Ref :- M. 54(72).
Type :- 'C'.

Object :- To determine the optimum cultural operations required for Gingelly raised under irrigated conditions.
1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Paddy. (c) 5 tons/ac. of F.Y.M. (ii) (a) Light clay. (b) Refer soil analysis, Tindivanam. (iii) 25.3.1954. (iv) (a) As per treatments. (b) Dibbling. (c) 4 lb./ac. (d) 1' X 1'. (e) 1. (v) 5 tons/ac. of F.Y.M. (vi) Ploughed in at the time of last ploughing. (vii) Irrigated. (viii) Hoeing and weeding with manual labour. (ix) 9.06'. (x) 15.6.1954.

2. TREATMENTS:
   1. Ploughing with country plough twice.
   2. Ploughing with country plough four times.
   3. Ploughing with country plough six times.
   4. Ploughing with mould board plough twice.
   5. Ploughing with mould board plough four times.
   6. Ploughing with mould board plough twice and junior hoe twice.
   7. Ploughing with mould board plough twice and junior hoe four times.

3. DESIGN:
   (i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) 37' X 10', (b) 33' X 6'. (v) Two rows left as border. (vi) Yes.

4. GENERAL:
   (i) Fair. (ii) Moderate attack of shoot-webber; controlled by dusting DDT 5%. (iii) Plant height measurements, flower count and gingelly yield. (iv) (a) 1954—1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 295 lb./ac. (ii) 78.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of seed in lb./ac.
   Treatment: 1 2 3 4 5 6 7
   Av. yield: 294 232 273 344 369 293 259
   S.E./mean = 39.0 lb./ac.

---

**Crop:** Gingelly.  
**Site:** Agri. Res. Stn., Tindivanam.  
**Ref:** M. 55(65).  
**Type:** ‘C’.

Object: To determine the optimum cultural operations to be given to irrigated crop of Gingelly.

---

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Paddy. (c) 5 tons/ac. of F.Y.M. (ii) (a) Light Clay. (b) Refer soil analysis, Tindivanam. (iii) 11.3.1955. (iv) (a) As per treatments. (b) Dibbling. (c) 4 lb/ac. (d) 1' X 1'. (e) 1. (v) 10,000 lb./ac. of C.M. ploughed in at the time of last ploughing. (vi) TMV—3 (early). (vii) Irrigated. (viii) Three hand hoeings and weedings. (ix) 2.41'. (x) 15.6.1955.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 54(72) on page 436.

3. RESULTS:
   (i) 162 lb./ac. (ii) 40.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of seed in lb./ac.
   Treatment: 1 2 3 4 5 6 7
   Av. yield: 145 142 146 167 184 217 136
   S.E./mean = 20.3 lb./ac.

---

**Crop:** Gingelly.  
**Site:** Agri. Res. Stn., Tindivanam.  
**Ref:** M. 56(69).  
**Type:** ‘C’.

Object: To determine the optimum cultural operations required for the irrigated crop of Gingelly.
Crop: Gingelly.

Object: To find out the effect of different dates of sowing on different varieties of Gingelly.

BASAL CONDITIONS:
(i) (a) Nil. (b) and (c) N.A. (ii) (a) Red gravelly loam. (b) N.A. (iii) As per treatments. (iv) (a) 2 to 3 ploughings. (b) N.A. (c) 3 lb./ac. (d) 9''x9''. (e) 1. (v) 10 C.L./ac. of compost. (vi) As per treatments. (vii) Irrigated. (viii) Weeding and hoeing once. (ix) 6.05.' (x) N.A.

2. TREATMENTS:
Main-plot treatments:
Sub-plot treatments:
2 varieties: V1=TMV-2 and V2=TMV-3.

3. DESIGN:
(i) Split-plot. (ii) (a) 3 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 24'x15'. (b) 21'x12'. (v) 14'x14'. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Yield of gingelly. (iv) (a) 1955-1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 218 lb./ac. (ii) (a) 38.8 lb./ac. (b) 28.3 lb./ac. (iii) Main effect of D and interaction D×V are highly significant. Effect of V is significant. (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>175</td>
<td>270</td>
<td>173</td>
<td>206</td>
</tr>
<tr>
<td>V2</td>
<td>223</td>
<td>238</td>
<td>227</td>
<td>229</td>
</tr>
<tr>
<td>Mean</td>
<td>199</td>
<td>254</td>
<td>200</td>
<td>218</td>
</tr>
</tbody>
</table>

S.E. of difference of two:
1. D marginal means = 15.8 lb./ac.
2. V marginal means = 9.4 lb./ac.
3. V means at the same level of D = 16.3 lb./ac.
4. D means at the same level of V = 19.6 lb./ac.
Crop :- Gingelly.  
Ref. :- M. 58(54).  
Type :- 'CV'.

Object :- To find out the effect of different times of sowing on different varieties of Gingelly.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Red gravelly loam. (b) N.A.  (iii) As per treatments.  (iv) (a) 2 to 3 ploughings. (b) N.A.  (c) 5 lb./ac. (d) 9"×9". (e) Nil.  (v) 15 C.L./ac. of F.Y.M. + 100 lb./ac. of A/S.  (vi) As per treatments.  (vii) Irrigated.  (viii) Weeding and hoeing once.  (ix) N.A.  (x) As per treatments.

2. TREATMENTS:
   Main-plot treatments:
   Sub-plot treatments:
   2 varieties: V₁=TMV-2 and V₂=TMV-3.

3. DESIGN:
   (i) Split-plot.  (ii) (a) 3 main-plots/block: 2 sub-plots/main-plot. (b) N.A.  (iii) 6.  (iv) (a) 24'×15'. (b) 21'×12'. (v) 2 rows left on all sides.  (vi) Yes.

4. GENERAL:
   (i) Satisfactory.  (ii) Nil.  (iii) Yield of gingelly.  (iv) (a) 1956—1959. (b) No.  (c) Nil.  (v) to (vii) Nil.

5. RESULTS:
   (i) 2478 lb./ac.  (ii) (a) 696.1 lb./ac. (b) 508.5 lb./ac.  (iii) Main effect of D is highly significant and of V is significant. Interaction D×V is not significant.  (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>D₁</th>
<th>D₂</th>
<th>D₃</th>
<th>Mean</th>
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<tr>
<td>V₁</td>
<td>1700</td>
<td>2362</td>
<td>2679</td>
<td>2247</td>
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<tr>
<td>V₂</td>
<td>1988</td>
<td>2795</td>
<td>3342</td>
<td>2708</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. D marginal means = 284.2 lb./ac.
2. V marginal means = 169.5 lb./ac.
3. V means at the same level of D = 293.5 lb./ac.
4. D means at the same level of V = 351.9 lb./ac.

Crop :- Gingelly.  
Ref. :- M. 59(48).  
Type :- 'CV'.

Object :- To find the effect of different times of sowing/harvest on different varieties.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Red gravelly loam. (b) N.A.  (iii) As per treatments.  (iv) (a) 2 to 3 ploughings. (b) N.A.  (c) 2 to 3 lb./ac. (d) 9"×9". (e) I.  (v) 10 C.L./ac. of F.Y.M. (vi) As per treatments.  (vii) Irrigated.  (viii) Weeding and hoeing once.  (ix) 1.57'.  (x) As per treatments.

2. TREATMENTS:
   Main-plot treatments:
   Sub-plot treatments:
   2 varieties: V₁=TMV—2 and V₂=TMV—3.
3. **DESIGN:**
   (i) Split-plot. (ii) (a) 3 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 24'×15'. (b) 22'×13½'. (v) One row left around the plot. (vi) Yes.

4. **GENERAL:**
   (i) Not satisfactory. (ii) N.A. (iii) Yield of gingelly. (iv) (a) 1955–1959. (b) No. (c) Nil. (v) to (vii) Nil.

5. **RESULTS:**
   (i) 94 lb./ac. (ii) (a) 36.3 lb./ac. (b) 26.2 lb./ac. (iii) Main effect of D is highly significant. Effect of V and interaction V×D are not significant. (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>D₁</th>
<th>D₂</th>
<th>D₃</th>
<th>Mean</th>
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</thead>
<tbody>
<tr>
<td>V₁</td>
<td>118</td>
<td>113</td>
<td>32</td>
<td>88</td>
</tr>
<tr>
<td>V₂</td>
<td>149</td>
<td>109</td>
<td>46</td>
<td>101</td>
</tr>
<tr>
<td>Mean</td>
<td>132</td>
<td>111</td>
<td>39</td>
<td>94</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. D marginal means = 14.8 lb./ac.
2. V marginal means = 8.7 lb./ac.
3. V means at the same level of D = 15.1 lb./ac.
4. D means at the same level of V = 18.3 lb./ac.

---

**Crop:- Cholam + Pulses.**

**Site:- Millet Breeding Stn., Coimbatore.**

Ref:- M. 54(115).

Type:- 'X'.

Object:- To find out the proper and definite system of mixed cropping.

1. **BASAL CONDITIONS:**
   (i) (a) Nil. (b) Pulses. (c) 5 tons/ac. of F.Y.M. (ii) (a) Red soil. (b) Refer soil analysis, Coimbatore. (iii) 6.8.1954. (iv) (a) 4 ploughings. (b) N.A. (c) Pulses: *Cholam=1 : 3; Cholam* at 15 lb./ac. (d) and (e) N.A. (v) 5 tons/ac. of F.Y.M. before last ploughing. (vi) *Cholam* CO—1 (late); Lab-lab: D.L.L. 231; Cow-pea; C—57; Dew garam (local). (vii) Rainfed. (viii) 2 weedings and hoeing. (ix) 14.6°. (x) 26.12.1954.

2. **TREATMENTS:**
   1. Cholam alone.
   2. Cholam+Lab-lab
   3. Cholam+Cow-pea.
   4. Cholam+Dew gram.

3. **DESIGN:**
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 33'×60'; (b) 26.4'×59.4'. (v) 3.3'×3.3'. (vi) Yes.

4. **GENERAL:**
   (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954—contd. (b) Yes. (c) Nil. (v) (a) Tirupathur. (b) Nil. (vi) In the case of pulses raised, besides grain, importance is given to straw also since they are used as fodder. (vii) Nil.

5. **RESULTS:**
   (i) 132.6 Rs./ac. (ii) 24.75 Rs./ac. (iii) Treatment differences are not significant. (iv) Av. value of produce in Rs./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. value</td>
<td>158.3</td>
<td>120.8</td>
<td>118.5</td>
<td>132.9</td>
</tr>
</tbody>
</table>

S.E./mean = 10.1 Rs./ac.
Crop: Cholam + Pulses.  
Site: Millet Breeding Stn., Coimbatore.  
Object: To find out a proper and definite system of mixed cropping.

1. BASAL CONDITIONS:
(i) (a) Nil.  (b) Pulses.  (c) 2.5 tons/ac. of farm compost.  (ii) (a) Red loam.  (b) Refer soil analysis, Coimbatore.  (iii) 13.9.1955.  (iv) (a) 4 ploughings.  (b) N.A.  (c) Pulses: Cholam = 1; Cholam at 15 lb/ac.  (d) 0.7' X 1.2'.  (e) N.A.  (v) 5 tons/ac. of F.Y.M.  (vi) Periamanj Cholam (late).  (vii) Rainfed.  (viii) Weeding and hoeing.  (ix) 8.95".  (x) 30.1.1956.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 54 (115) on page 442.

5. RESULTS:
(i) 667 lb/ac.  (ii) 142.8 lb/ac.  (iii) Treatment differences are significant.  (iv) Av. yield of cholam grain in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>717</td>
<td>794</td>
<td>512</td>
<td>644</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>58.3 lb/ac.</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Crop: Cholam + Pulses.  
Site: Millet Breeding Stn., Coimbatore.  
Object: To find out the proper and definite system of mixed cropping.

1. BASAL CONDITIONS:
(i) (a) Nil.  (b) Pulses.  (c) 2!1/2 tons/ac. of farm compost. (ii) (a) Red loam.  (b) Refer soil analysis, Coimbatore.  (iii) 8.7.1957.  (iv) (a) 4 ploughings.  (b) N.A.  (c) Pulses: Cholam = 1; Cholam at 15 lb/ac.  (d) 1.2' X 0.7'.  (e) N.A.  (v) 5 tons/ac. of F.Y.M.  (vi) Periamanj Cholam (late).  (vii) Unirrigated.  (viii) Weeding and hoeing.  (ix) 23.87".  (x) 8.1.1958.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 54 (115) on page 442.

5. RESULTS:
(i) 518 lb/ac.  (ii) 95.55 lb/ac.  (iii) Treatment differences are highly significant.  (iv) Av. yield of cholam grain in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>646</td>
<td>493</td>
<td>607</td>
<td>326</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>39.0 lb/ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop: Cotton, Groundnut, Horse gram & Coriander.  
Object: To study the effect of growing Cotton and other short duration crops as mixed crops.

1. BASAL CONDITIONS:
(i) (a) Nil.  (b) As per treatments. (c) G.N.C. at 20 lb/ac. of N+A/S at 20 lb/ac. of N.  (ii) (a) Black soil.  (b) Refer soil analysis, Koilpatti.  (iii) Sowing 15.10.1954.  (iv) (a) 3 ploughings.  (b) to (e) N.A.  (v) G.N.C. and A/S at 20 lb/ac. of N each.  (vi) Cotton: K2: Groundnut: TMV—2; Coriander—731 bulk; Horse gram: local.  (vii) Unirrigated.  (viii) Weeding once.  (ix) Cotton 15.2.1955 to 28.5.1955 and other crops 14 to 16.2.1955.
2. TREATMENTS:
2. Cotton + Groundnut.
3. Cotton + Horse gram.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) 6' x 125' . (iii) 4. (iv) (a) 6' x 31'. (b) 53' x 22'. (v) 6.5' x 4.5'. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Kasap yield. (iv) (a) 1950—1954. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 457.5 lb./ac. (ii) 91.2 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of kasap in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>620</td>
<td>505</td>
<td>135</td>
<td>570</td>
</tr>
</tbody>
</table>

S.E. mean = 45.6 lb./ac.

---

Crop :- Ragi, Cotton & Groundnut.
Ref :- M. 54(56).
Type :- 'X'.

Object :-To find out if growing Ragi, Groundnut and Cotton as mixed crops will bring in better returns than growing them alone.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Ragi. (c) 5 ton/ac. of compost. (ii) (a) Loam. (b) Refer soil analysis, Palur. (iii) Ragi : 5.12.1954—31.12.1954; Groundnut : 14.2.1955 ; Cotton : 12.1.1955. (iv) (a) 3 to 4 ploughings. (b) to (e) N.A. (v) 5 ton/ac of compost +100 lb./ac. of A/S as top-dressing. (vi) Ragi : PLR—1 ; Cotton : P. 216 F and groundnut : TMV—4. (vii) Irrigated. (viii) 2 weedings to Ragi and Groundnut and one earthing to cotton. (ix) 43.88'. (x) 56.9.1955.

2. TREATMENTS:

3. DESIGN:
(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) and (b) 25' x 35'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Cotton in T4 remained lean until the harvest of Ragi. (ii) Spraying of chemicals was done to protect cotton crop against boll-worms. (iii) General stand, growth and yields of crops. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 367.6 Rs./ac. (ii) 35.4 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. value of produce in Rs./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
<th>T6</th>
<th>T7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. value</td>
<td>234</td>
<td>282</td>
<td>359</td>
<td>333</td>
<td>518</td>
<td>413</td>
<td>434</td>
</tr>
</tbody>
</table>

S.E./mean = 17.7 Rs./ac.
Crop :- Ragi, Cotton and Groundnut.  
Ref :- M. 55(54).  
Type :- 'X'.

Object :- To find out if growing Ragi, Groundnut and Cotton as mixed crops will bring in better returns than growing them alone.

1. BASAL CONDITIONS :
(i) (a) Nil. (b) Ragi. (c) 5 tons/ac. of compost. (ii) (a) Loam. (b) Refer soil analysis, Palur.  
(iii) Ragi 5.12.1955/7.1.1956; Groundnut 29.2.1956; Cotton 13.1.1956. (iv) (a) to (e) N.A. (v) 5 tons/ac. of compost +100 lb/ac. of A/S as top-dressing. (vi) As in expt. no. 54 (56) on page 444. (vii) Irrigated. (viii) 2 weedings for ragi and groundnut and earthing to cotton. (ix) 27.54°. (x) 23.9.1956.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 54 (56) on page 444.

4. GENERAL:
(i) Satisfactory. (ii) Spraying of chemicals was done to the cotton crop against boll-worms. (iii) General stand, growth and yields of crops. (iv) 1954—1956. (v) No. (c). Nil. (v) to (vi) Nil. (vii) Raw data N.A.

5. RESULTS:
(i) 783 Rs./ac. (ii) 77.0 Rs./ac. (iii) Treatment differences are not significant. (iv) Av. value of produce in Rs./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
<th>T6</th>
<th>T7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. value</td>
<td>499</td>
<td>609</td>
<td>765</td>
<td>710</td>
<td>1287</td>
<td>564</td>
<td>1058</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>N.A.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Ragi, Cotton and Groundnut.  
Ref :- M 56(52).  
Type :- 'X'.

Object :- To find out if growing Ragi, Groundnut and Cotton as mixed crops will bring in better returns than growing them alone.

1. BASAL CONDITIONS :
(i) (a) Nil. (b) Ragi. (c) 5 tons/ac. of compost per acre. (ii) (a) Loam. (b) Refer soil analysis, Palur.  
(iii) Ragi 15.1.1956/17.1.1956; Groundnut 28.1.1957; Cotton 28.1.1957. (iv) (a) to (e) N.A. (v) 5 ton/ac. of compost + 100 lb/ac. of A/S as top-dressing. (vi) Same as in-expt. no. 54 (56) on page 444. (vii) Irrigated. (viii) 2 weedings for ragi and groundnut; earthing to cotton. (ix) 19.53°. (x) 6.8.1957.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 55(54) as above.

4. GENERAL:
Same as in expt. no. 55(54) as above.

5. RESULTS:
(i) 597 Rs./ac. (ii) 77.0 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. value of produce in Rs./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
<th>T6</th>
<th>T7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. value</td>
<td>445</td>
<td>251</td>
<td>626</td>
<td>605</td>
<td>861</td>
<td>547</td>
<td>844</td>
</tr>
</tbody>
</table>
| S.E./mean | 38.5 Rs./ac.
Object: To study the effect of growing Groundnut in rotation with other crops like Cholam, Cumbu, Varagu and Gingelly.

1. BASAL CONDITIONS:
   (i) (a) and (b) As per treatments. (c) Manure mixture consisting of red-earth, tank silt and compost at 15 C.L./ac. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 20.7.1954. (v) (a) Ploughing with Cooper-11 twice, working gunataka once, junior hoe once and tractor drawn gunataka once. (b) and (c) N.A. (d) Groundnut—9"×9"; cereals—12"×6". (c) N.A. (v) 15 C.L./ac. of manure mixture 27 days before sowing. (vi) Groundnut TMV—3 (late); Cholam local (medium); Varagu local (medium); Cumbu local (early). (vii) Unirrigated. (viii) Cereals were thinned. Two hoeings and weeding were given to Groundnut crop. (ix) 26.22." (x) Groundnut 8.12.1954; Cholam 5.1.1955; Varagu 25.1.1955; Cumbu 24.9.1954.

2. TREATMENTS:
   2. Groundnut—Cholam.
   5. Groundnut—Gingelly.
   10. Varagu—Varagu.

3. DESIGN:
   (i) R.B.D. (ii) (a) 11. (b) N.A. (iii) 4. (v) (a) 68'×13'. (b) 60'×6'. (v) 4'×3'. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Mild attack of sucul poochi was noticed—controlled by dusting DDT 5%. (iii) Grain and pod yield. (iv) (a) 1945—1956. (b) Yes. (c) No. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

I Groundnut.
   (i) 806 lb./ac. (ii) 132 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>776</td>
<td>757</td>
<td>885</td>
<td>790</td>
<td>820</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>66.0 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

II Cereals.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>410</td>
<td>424</td>
<td>310</td>
<td>363</td>
<td>104</td>
<td>153</td>
</tr>
</tbody>
</table>

---

Crop: Groundnut.

Ref: M. 55(7).


Type: ‘R’.

Object: To study the effect of growing Groundnut in rotation with other crops like Cholam, Cumbu, Varagu and Gingelly.

1. BASAL CONDITIONS:
   (i) (a) and (b) As per treatments. (c) Manure mixture consisting of red-earth, tank silt and compost at 15 C.L./ac. (ii) (a) Red loamy soil. (b) Refer soil analysis. Tindivanam. (iii) 11.7.1955. (iv) (a) Working gunataka thrice and ploughing with Cooper-11 plough four times. (b) and (c) N.A. (d) Groundnut—9"×9"; cereals—12"×6". (c) N.A. (v) Manure mixture at 15 C.L./ac. applied 29 days before sowing.
2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 54(4) on page 448.

4. GENERAL:
(i) Fair. (ii) Mild attack of sural poochi on groundnut—controlled by DDT 5%. Striga infestation in cholam—pulling out by hands. (iii) Grain and pod yield. (iv) (a) 1945—1956. (b) and (c) Yes. (v) (a) and (b) Nil. (vi) Nil. (vii) Treatments 10 and 11 failed.

5. RESULTS:

I Groundnut.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1010</td>
<td>63 lb./ac.</td>
</tr>
<tr>
<td>2</td>
<td>1181</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1161</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1225</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1104</td>
<td></td>
</tr>
</tbody>
</table>

II Cereals.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>599</td>
<td>Nil</td>
</tr>
<tr>
<td>7</td>
<td>254</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>423</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>464</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Nil</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Nil</td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Groundnut.  

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

Ref :- M. 56(74).  

Type :- ‘R’.

Object :- To study the effect of growing Groundnut in rotation with other crops like Cholam, Cumbu, Varagu and Gingelly.

1. BASAL CONDITIONS:
(i) (a) and (b) As per treatments. (c) 15 C.L./ac. of manure mixture. (ii) (a) Red loam. (b) Refer soil analysis, Tindivanam. (iii) 11.8.1956. (iv) (a) Ploughing with Cooper—11 plough five times and working junior hoe twice. (b) N.A. (c) Groundnut at 80 lb./ac.; Cholam, Cumbu and Varagu at 15 to 20 lb./ac. (d) Groundnut 9"x9" and cereals at 13"x6". (e) N.A. (v) 15 C.L./ac. of manure mixture of red earth, tank silt and compost in equal proportions. (vi) Same as in expt. no. 54(4) on page 448. (vii) Unirrigated. (viii) Two hoeings and weedings. (ix) 36.65°. (x) Cumbu and Varagu on 25.12.1956; Groundnut on 1.1.1957 and Cholam on 3.1.1957.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 54(4) on page 448.

5. RESULTS:

I Groundnut.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
<th>mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>419</td>
<td>41.3 lb./ac.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>486</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>469</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>532</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>390</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

II Cereals.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>340</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>395</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>479</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>610</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>274</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>553</td>
<td></td>
</tr>
</tbody>
</table>
Crop :- Groundnut.  
Ref :- M. 54(5).  
Site :- Agri. Res. Stn., Tindivanam.  
Type :- 'R'.

Object :- To study the effect of growing Groundnut in rotation with other crops like Cholam, Cumbu, Varagu and Gingelly.

1. BASAL CONDITIONS:
   (i) (a) and (b) As per treatments. (c) Manure mixture of tank silt, red-earth and compost at 15 C.L./ac.  
   (ii) Red loamy soil.  
   (iii) Soil analysis, Tindivanam.  
   (iv) Ploughing with tractor—11 times, working gunataka once, junior hoe once and tractor drawn gunataka once.  
   (b) and (c) N.A.  
   (d) Groundnut : 6'x6'; cereals : 1'x6'.  
   (e) N.A.  
   (f) Manure mixture at 15 C.L./ac. 27 days before sowing incorporated by working junior hoe.  
   (g) Groundnut TMV-2 (early); Cholam local (medium); Varagu local (medium); Cumbu local (early).  
   (h) Unirrigated.  
   (i) Cereals thinned; two hoeings, weedings and danthis were worked in Varagu plots.  
   (j) 26.22'.  

2. TREATMENTS:
   Same as in expt. no. 54(4) on page 443.

3. DESIGN:
   (i) R.B.D.  
   (ii) (a) 11.  
   (b) N.A.  
   (iii) 4.  
   (iv) (a) 60'x13'.  
   (b) 56'x6'.  
   (v) 2'x3'.  
   (vi) Yes.

4. GENERAL:
   (i) Satisfactory.  
   (ii) Mild attack of surul poochi—controlled by dusting DDT 5%.  
   (iii) Grain yield.  
   (iv) (a) 1945—1956.  
   (b) Yes.  
   (c) Nil.  
   (v) to (vii) Nil.

5. RESULTS:

I Groundnut.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>530</td>
<td>588</td>
<td>697</td>
<td>735</td>
<td>634</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 52.4 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

II Cereals.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>414</td>
<td>516</td>
<td>129</td>
<td>300</td>
<td>123</td>
<td>170</td>
</tr>
</tbody>
</table>

---

Crop :- Groundnut.  
Ref :- M. 55(6).  
Site :- Agri. Res. Stn., Tindivanam.  
Type :- 'R'.

Object :- To study the effect of growing groundnut in rotation with other crops like Cholam, Cumbu, Varagu and Gingelly.

1. BASAL CONDITIONS:
   (i) (a) and (b) As per treatments. (c) Manure mixture of red-earth, tank silt, and compost at 15 C.L./ac.  
   (ii) Red loam.  
   (iii) Soil analysis, Tindivanam.  
   (iv) Ploughing with disc plough once, gunataka twice and working with tractor—11 times. (b) and (c) N.A.  
   (d) Groundnut : 6'x6'; cereals : 12'x6'.  
   (e) N.A.  
   (f) Manure mixture at 15 C.L./ac. applied 29 days before sowing.  
   (g) TMV—2 (early).  
   (h) Unirrigated.  
   (i) Hoeing and weeding twice.  
   (j) 18.28'.  

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 54(5) above.

4. GENERAL:
   (i) Satisfactory.  
   (ii) Mild attack of surul poochi ; DDT dust at 5% applied. Striga infestation. Removed by hand.  
   (iii) Grain yield.  
   (iv) (a) 1945—1956. (b) Yes.  
   (c) Nil.  
   (v) to (vi) Nil.  
   (vii) Treatments 10 and 11 failed.
5. RESULTS:

I - Groundnut.

(i) 101.4 lb./ac.  (ii) 120 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of pod in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>988</td>
<td>1037</td>
<td>980</td>
<td>1088</td>
<td>979</td>
</tr>
<tr>
<td>S.E./mean = 60.0 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

II - Cereals.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>530</td>
<td>684</td>
<td>318</td>
<td>437</td>
<td>Nil</td>
<td>Nil</td>
</tr>
</tbody>
</table>

Crop: Groundnut.  
Site: Agri. Res. Sta., Tindivanam.  
Ref: M. 54(103).  
Type: 'R'.

Object: To find out the effect of introducing legumes in crop rotation with Groundnut.

1. BASAL CONDITIONS:


2. TREATMENTS:

9 four course rotational treatments with all the 4 phases in the sub-plots.

Main-plot treatments:

<table>
<thead>
<tr>
<th>I Year</th>
<th>II Year</th>
<th>III Year</th>
<th>IV Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton</td>
<td>Cholam</td>
<td>Sannhemp and Cowpea</td>
<td></td>
</tr>
<tr>
<td>2. Cotton</td>
<td>Horse gram</td>
<td>Cholam</td>
<td></td>
</tr>
<tr>
<td>3. Cotton</td>
<td>Red gram</td>
<td>Cholam</td>
<td></td>
</tr>
<tr>
<td>4. Cotton</td>
<td>Ground nut</td>
<td>Cholam</td>
<td></td>
</tr>
<tr>
<td>5. Gingelly and Red gram</td>
<td>Cowpea</td>
<td>Cholam</td>
<td></td>
</tr>
<tr>
<td>6. Gingelly and Wild indigo</td>
<td>Cotton</td>
<td>Cotton</td>
<td></td>
</tr>
<tr>
<td>7. Castor and Lab-lab</td>
<td>Cholam and Cowpea</td>
<td>Cowpea</td>
<td></td>
</tr>
<tr>
<td>8. Cholam and Cowpea</td>
<td>Gingelly and Cotton</td>
<td>Castor and Lab-lab</td>
<td></td>
</tr>
<tr>
<td>9. Cholam and Gingelly</td>
<td>Cotton</td>
<td>Sannhemp, Cowpea and Red gram</td>
<td></td>
</tr>
</tbody>
</table>

3. DESGN:

(i) Split-plot.  (ii) (a) 9 main-plots/block, 4 sub-plots/main-plot.  (b) N.A.  (iii) 4.  (iv) (a) and (b) 18' x 16'.  (v) Nil.  (vi) Yes.

4. GENERAL:

(i) Gingelly and wild indigo failed completely.  (ii) Surul poochi in groundnut, pod borer in red gram and lab-lab, jassid in cotton and semi-looper in castor.  (iii) Kapas, pod, grain and fodder yields.  (iv) (a) 1954—1956.  (b) Yes.  (c) Nil.  (v) to (vi) Nil.  (vii) Analysis was done as R.B.D.

5. RESULTS:

1954

I Cotton.

(i) 54.4 lb./ac.  (ii) 31.2 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of kapan in lb./ac.
<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>189.2</td>
<td>39.6</td>
<td>45.2</td>
<td>76.3</td>
<td>48.7</td>
<td>77.2</td>
<td>49.1</td>
<td>16.1</td>
<td>48.6</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>15.6 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**II Cholam.**

(i) 1314 lb./ac.  (ii) 407.5 lb./ac.  (iii) Treatment differences are significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1401</td>
<td>1472</td>
<td>1520</td>
<td>1855</td>
<td>1238</td>
<td>1342</td>
<td>862</td>
<td>824</td>
<td></td>
</tr>
<tr>
<td>S.E./mean</td>
<td>203.7 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**III Sannhemp.**

(i) 10008 lb./ac.  (ii) 1978 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of fodder in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>10739</td>
<td>9302</td>
<td>12138</td>
<td>9718</td>
<td>9982</td>
<td>9869</td>
<td>8621</td>
<td>10663</td>
<td>9037</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>989 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**IV Cowpea.**

(i) 19.53 lb./ac.  (ii) 17.0 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of cowpea in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>16.26</td>
<td>17.84</td>
<td>20.84</td>
<td>31.59</td>
<td>20.96</td>
<td>19.42</td>
<td>7.60</td>
<td>27.33</td>
<td>13.75</td>
</tr>
<tr>
<td>S.E./mean (treatments 1, 2, 3, 4, 6, 9)</td>
<td>8.5 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.E./mean (treatments 5, 7, 8)</td>
<td>6.0 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**V Red gram.**

(i) 644.0 lb./ac.  (ii) 160.4 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of red gram in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>3</th>
<th>5</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>731.9</td>
<td>610.2</td>
<td>589.8</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>80.2 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**VI Castor.**

(i) 265.1 lb./ac.  (ii) 146.6 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of castor in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>261.3</td>
<td>270.1</td>
<td>266.9</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>73.3 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**VII Lab-lab.**

(i) 727.1 lb./ac.  (ii) 263.1 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of lab-lab in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>744.4</td>
<td>713.6</td>
<td>723.2</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>131.6 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**1955 Cotton.**

(i) 26.3 lb./ac.  (ii) 14.6 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>30.4</td>
<td>20.0</td>
<td>36.7</td>
<td>23.3</td>
<td>20.8</td>
<td>26.3</td>
<td>38.8</td>
<td>8.8</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>7.3 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
II Cholam.

(i) 943 lb./ac.  (ii) 452.2 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of cholam in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>954</td>
<td>730</td>
<td>1464</td>
<td>773</td>
<td>858</td>
<td>1304</td>
<td>788</td>
<td>675</td>
</tr>
<tr>
<td>S.E./mean =</td>
<td>226.1 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

III Sannhemp.

(i) 3815 lb./ac.  (ii) 1160 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of fodder in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3516</td>
<td>4424</td>
<td>3706</td>
<td>3970</td>
<td>3781</td>
<td>3441</td>
<td>3706</td>
<td>3517</td>
<td>4273</td>
</tr>
<tr>
<td>S.E./mean =</td>
<td>580 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

IV Cowpea.

(i) 294 lb./ac.  (ii) 38.5 lb./ac.  (iii) Treatment differences are highly significant.  (iv) Av. yield of cowpea in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>348</td>
<td>272</td>
<td>318</td>
<td>356</td>
<td>306</td>
<td>318</td>
<td>201</td>
<td>229</td>
<td>298</td>
</tr>
<tr>
<td>S.E./mean (treatments 1, 2, 3, 4, 6, 9) =</td>
<td>19.3 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.E./mean (treatments 5, 7, 8) =</td>
<td>13.6 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

V Red gram

(i) 256 lb./ac.  (ii) 138.2 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of red gram in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>3</th>
<th>5</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>318</td>
<td>161</td>
<td>290</td>
</tr>
<tr>
<td>S.E./mean =</td>
<td>69.1 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

VI Castor.

(i) 36.54 lb./ac.  (ii) 7.65 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of castor in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>30.84</td>
<td>36.68</td>
<td>42.10</td>
</tr>
<tr>
<td>S.E./mean =</td>
<td>3.82 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

VII Lab-lab.

(i) 162.8 lb./ac.  (ii) 27.0 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of lab-lab in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>154.2</td>
<td>190.1</td>
<td>144.2</td>
</tr>
<tr>
<td>S.E./mean =</td>
<td>13.5 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1956

I Cotton.

(i) 32.8 lb./ac.  (ii) 22.8 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>29.3</td>
<td>33.7</td>
<td>32.3</td>
<td>39.7</td>
<td>34.0</td>
<td>32.8</td>
<td>20.1</td>
<td>10.6</td>
<td>63.1</td>
</tr>
<tr>
<td>S.E./mean =</td>
<td>11.4 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

II Cholam.

(i) 53.6 lb./ac.  (ii) 193.4 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of cholam in lb./ac.
### Treatment

**Av. yield**

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>479</td>
<td>505</td>
<td>637</td>
<td>553</td>
<td>486</td>
<td>431</td>
<td>527</td>
<td>671</td>
<td></td>
</tr>
</tbody>
</table>

S.E./mean = 96.7 lb./ac.

#### III Sannhemp

(i) 8852 lb./ac.  
(ii) 2366 lb./ac.  
(iii) Treatment differences are not significant.  
(iv) Av. yield of fodder in lb./ac.

**Treatment**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>9340</td>
<td>8999</td>
<td>8866</td>
<td>12365</td>
<td>7827</td>
<td>7865</td>
<td>8470</td>
<td>8697</td>
</tr>
</tbody>
</table>

S.E./mean = 1183 lb./ac.

#### IV Cowpea

(i) 71.1 lb./ac.  
(ii) 30.7 lb./ac.  
(iii) Treatment differences are highly significant.  
(iv) Av. yield of cowpea in lb./ac.

**Treatment**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>92.1</td>
<td>10.4</td>
<td>67.1</td>
<td>65.0</td>
<td>56.5</td>
<td>103.8</td>
<td>97.5</td>
<td>79.8</td>
</tr>
</tbody>
</table>

S.E./mean (treatments 1, 2, 3, 4, 6, 9) = 15.4 lb./ac.  
S.E./mean (treatments 5, 7, 8) = 10.9 lb./ac.

#### V Red gram

(i) 123 lb./ac.  
(ii) 81.8 lb./ac.  
(iii) Treatment differences are not significant.  
(iv) Av. yield of red gram in lb./ac.

**Treatment**

<table>
<thead>
<tr>
<th>3</th>
<th>5</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>160</td>
<td>142</td>
</tr>
</tbody>
</table>

S.E./mean = 40.9 lb./ac.

#### VI Castor

(i) 61.6 lb./ac.  
(ii) 167.6 lb./ac.  
(iii) Treatment differences are significant.  
(iv) Av. yield of castor in lb./ac.

**Treatment**

<table>
<thead>
<tr>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>64.4</td>
<td>40.8</td>
</tr>
</tbody>
</table>

S.E./mean = 83.8 lb./ac.

#### VII Lab-lab

(i) 73.9 lb./ac.  
(ii) 229.6 lb./ac.  
(iii) Treatment differences are significant.  
(iv) Av. yield of lab-lab in lb./ac.

**Treatment**

<table>
<thead>
<tr>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>76.7</td>
<td>41.7</td>
</tr>
</tbody>
</table>

S.E./mean = 114.8 lb./ac.

### Crop Method of sowing Variety Seed rate No. of hoeings and weedings

<table>
<thead>
<tr>
<th>Crop</th>
<th>Method of sowing</th>
<th>Variety</th>
<th>Seed rate</th>
<th>Hoeings</th>
<th>Weedicings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groundnut</td>
<td>Dibbled in holes 9&quot; apart either way.</td>
<td>TMV—3</td>
<td>80 lb./ac.</td>
<td>Twice</td>
<td></td>
</tr>
<tr>
<td>Cholam</td>
<td>Sown in lines 18&quot; apart and thinned to 8&quot; in the row.</td>
<td>CO—19</td>
<td>15 lb./ac.</td>
<td>Thrice</td>
<td></td>
</tr>
<tr>
<td>Red gram</td>
<td>Dibbling in holes 6&quot; apart with 3' S.A.—1</td>
<td>4 lb./ac.</td>
<td>Twice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Castor</td>
<td>Dibbling in holes 3' either way.</td>
<td>TMV—2</td>
<td>7 lb./ac.</td>
<td>Twice</td>
<td></td>
</tr>
<tr>
<td>Lab-lab</td>
<td>Dibbling in holes 3' apart within the row.</td>
<td>D.S. 231</td>
<td>12 lb./ac.</td>
<td>Twice</td>
<td></td>
</tr>
<tr>
<td>Cotton</td>
<td>Dibbling in holes 1½' apart with 6'</td>
<td>P 216—F</td>
<td>10 lb./ac.</td>
<td>Twice</td>
<td></td>
</tr>
<tr>
<td>Horse gram</td>
<td>Broadcast.</td>
<td>Local</td>
<td>20 lb./ac.</td>
<td>Twice</td>
<td></td>
</tr>
<tr>
<td>Gingelly</td>
<td>—do—</td>
<td>TMV—1</td>
<td>6 lb./ac.</td>
<td>Twice</td>
<td></td>
</tr>
<tr>
<td>Cowpea</td>
<td>—do—</td>
<td>CO—419</td>
<td>12 lb./ac.</td>
<td>Twice</td>
<td></td>
</tr>
<tr>
<td>Sannhemp</td>
<td>—do—</td>
<td>Local</td>
<td>15 lb./ac.</td>
<td>Once</td>
<td></td>
</tr>
<tr>
<td>Green gram</td>
<td>—do—</td>
<td>Local</td>
<td>8 lb./ac.</td>
<td>Once</td>
<td></td>
</tr>
</tbody>
</table>

*Reference for item no. (iv) to (viii) of Basal Conditions for exp. no. 54(103) on page 451.*

3 ploughings with Cooper—11 and working junior hoe twice uniformly in all plots. The field is unirrigated.
Crop: Groundnut, Redgram, Cholam, Castor, Lab-lab, Cotton and Sannhemp.


Object: To find out the effect of introduction of a legume in crop rotation with groundnut and other crop.

1. BASAL CONDITIONS:

2. TREATMENTS:
   Main-plot Treatments:
   6 three course rotations with all the 3 phases in sub-plots.

<table>
<thead>
<tr>
<th>I Year</th>
<th>II Year</th>
<th>III Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Cotton</td>
<td>Redgram</td>
<td>Cholam and Sannhemp.</td>
</tr>
<tr>
<td>3. Castor and Lab-lab</td>
<td>Groundnut</td>
<td>Cholam and Sannhemp.</td>
</tr>
<tr>
<td>4. Castor and Lab-lab</td>
<td>Redgram</td>
<td>Cholam and Sannhemp.</td>
</tr>
<tr>
<td>5. Castor and Lab-lab</td>
<td>Groundnut</td>
<td>Cotton</td>
</tr>
<tr>
<td>6. Castor and Lab-lab</td>
<td>Redgram</td>
<td>Cotton</td>
</tr>
</tbody>
</table>

3. DESIGN:
   (i) Split-plot. (ii) (a) 6 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 24'x18'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) The yield in general of all the crops was poor due to drought. (ii) Wild attack on cotton and pod-borer on lab-lab in 1957. Surul poochi in groundnut, semi-looper in castor, wilt and jassids in cotton in 1958 and 1959. (iii) Kapas, pod, grain and fodder yields. (iv) (a) 1957—1959. (b) Yes. (c) Nl. (v) to (vi) Nil. (vii) Analysis was done as R.B.D.

5. RESULTS:
   1957
   I Cotton
   (i) 36.2 lb./ac. (ii) 1.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of kapas in lb./ac.

   Treatment
<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
</table>
   Av. yield | 37.8 | 36.0 | 35.4 | 35.6 |
   S.E./mean = 0.9 lb./ac.

   II Groundnut
   (i) 323.0 lb./ac. (ii) 219.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of groundnut in lb./ac.

   Treatment
<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
</table>
   Av. yield | 270.8 | 405.3 | 293.0 |
   S.E./mean = 109.8 lb./ac.

   III Cholam
   (i) 893 lb./ac. (ii) 141.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of cholam in lb./ac.

   Treatment
<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
</table>
   Av. yield | 874 | 854 | 1017 | 828 |
   S.E./mean = 70.6 lb./ac.

   IV Red gram
   (i) 590.8 lb./ac. (ii) 257.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of red gram in lb./ac.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
</tr>
</thead>
</table>
   Av. yield | 874 | 854 |
   S.E./mean = 70.6 lb./ac.
<table>
<thead>
<tr>
<th>Treatment</th>
<th>2</th>
<th>4</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>502.3</td>
<td>632.3</td>
<td>637.7</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 128.7 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**V Castor**

(i) 182.0 lb./ac.  
(ii) 80.2 lb./ac.  
(iii) Treatment differences are not significant.  
(iv) Av. yield of castor in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>250.0</td>
<td>166.5</td>
<td>174.6</td>
<td>137.0</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 40.1 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**VI Lab-lab.**

(i) 84.4 lb./ac.  
(ii) 51.5 lb./ac.  
(iii) Treatment differences are not significant.  
(iv) Av. yield of lab-lab in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>93.1</td>
<td>79.2</td>
<td>77.3</td>
<td>88.0</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 25.8 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**1958**

**I Cotton.**

(i) 146.8 lb./ac.  
(ii) 33.9 lb./ac.  
(iii) Treatment differences are not significant.  
(iv) Av. yield of *kapar* in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>144.6</td>
<td>116.9</td>
<td>172.9</td>
<td>152.6</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 17.0 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**II Groundnut.**

(i) 386.1 lb./ac.  
(ii) 56.8 lb./ac.  
(iii) Treatment differences are not significant.  
(iv) Av. yield of groundnut in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>3</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>412.6</td>
<td>360.3</td>
<td>385.3</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 28.4 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**III Cholam.**

(i) 833 lb./ac.  
(ii) 240.4 lb./ac.  
(iii) Treatment differences are not significant.  
(iv) Av. yield of *cholam* in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>895</td>
<td>741</td>
<td>750</td>
<td>945</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 120.2 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**IV Red gram.**

(i) 719 lb./ac.  
(ii) 192.6 lb./ac.  
(iii) Treatment differences are not significant.  
(iv) Av. yield of *red gram* in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>2</th>
<th>4</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>723</td>
<td>760</td>
<td>673</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 96.3 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**V Castor.**

(i) 296 lb./ac.  
(ii) 141.2 lb./ac.  
(iii) Treatment differences are not significant.  
(iv) Av. yield of castor in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>410</td>
<td>286</td>
<td>305</td>
<td>184</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 70.6 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### I Cotton

(i) 106.1 lb./ac.  
(ii) 55.26 lb./ac.  
(iii) Treatment differences are not significant.  
(iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>106.1</td>
</tr>
<tr>
<td>2</td>
<td>114.0</td>
</tr>
<tr>
<td>3</td>
<td>108.7</td>
</tr>
<tr>
<td>4</td>
<td>73.4</td>
</tr>
<tr>
<td>5</td>
<td>119.6</td>
</tr>
</tbody>
</table>

S.E./mean = 27.6 lb./ac.

### II Groundnut

(i) 493 lb./ac.  
(ii) 164.8 lb./ac.  
(iii) Treatment differences are not significant.  
(iv) Av. yield of groundnut in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>506</td>
</tr>
<tr>
<td>2</td>
<td>546</td>
</tr>
<tr>
<td>3</td>
<td>428</td>
</tr>
</tbody>
</table>

S.E./mean = 82.4 lb./ac.

### III Cholam

(i) 1760 lb./ac.  
(ii) 291.2 lb./ac.  
(iii) Treatment differences are not significant.  
(iv) Av. yield of cholam in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1634</td>
</tr>
<tr>
<td>2</td>
<td>1592</td>
</tr>
<tr>
<td>3</td>
<td>1898</td>
</tr>
<tr>
<td>4</td>
<td>1915</td>
</tr>
</tbody>
</table>

S.E./mean = 145.6 lb./ac.

### IV Red gram

(i) 273.6 lb./ac.  
(ii) 110.3 lb./ac.  
(iii) Treatment differences are not significant.  
(iv) Av. yield of red-gram in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>320.5</td>
</tr>
<tr>
<td>3</td>
<td>268.3</td>
</tr>
<tr>
<td>4</td>
<td>232.1</td>
</tr>
</tbody>
</table>

S.E./mean = 55.2 lb./ac.

### V Castor

(i) 370 lb./ac.  
(ii) 154.7 lb./ac.  
(iii) Treatment differences are not significant.  
(iv) Av. yield of castor in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>330</td>
</tr>
<tr>
<td>4</td>
<td>439</td>
</tr>
<tr>
<td>5</td>
<td>386</td>
</tr>
<tr>
<td>6</td>
<td>326</td>
</tr>
</tbody>
</table>

S.E./mean = 77.4 lb./ac.

### VI Lab-lab

(i) 195.7 lb./ac.  
(ii) 59.4 lb./ac.  
(iii) Treatment differences are not significant.  
(iv) Av. yield of lab-lab in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>230.7</td>
</tr>
<tr>
<td>4</td>
<td>181.5</td>
</tr>
<tr>
<td>5</td>
<td>156.5</td>
</tr>
<tr>
<td>6</td>
<td>214.3</td>
</tr>
</tbody>
</table>

S.E./mean = 29.7 lb./ac.
Crop :- As per rotations.
Ref :- M. 1955 to 57 (N.A.).
Site :- Agri. Res. Stn., Koilpatti.
Type :- ‘R’.

Object :- To find out the role of legumes in crop rotation in rain fed areas of the tract for increasing soil fertility.

1. BASAL CONDITIONS :

2. TREATMENTS :
All phases of the 4 rotations

3. DESIGN :
(i) R.B.D. (ii) (a) 16. (b) N.A. (iii) 4. (iv) (a) 40’ X 18’. (b) 34’ X 12’. (v) 3’ X 3’. (vi) Yes.

4. GENERAL :
(i) 1955—Poor; 1956—Satisfactory; 1957—Pulses failed. Cotton and Cumbu were normal. (ii) No serious pests or diseases. But groundnut was a failure throughout due to tikko disease and sural poochi attack (iii) Yield of kapas and stalks, cumbu grain and straw, groundnut pods and haulums, blackgram seed and bhusa, and horsegram seed and bhusa. (iv) (a) 1954—1957. (b) As per rotations. (c) No. (v) (a) and (b) No. (vi) Nil. (vii) Expt. failed in 1954.

5. RESULTS :

1955
I Cotton.

(i) 404.5 lb./ac. (ii) 111.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>2</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>10</th>
<th>12</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>346.3</td>
<td>495.9</td>
<td>453.6</td>
<td>360.1</td>
<td>361.7</td>
<td>358.4</td>
<td>455.2</td>
</tr>
</tbody>
</table>

S.E./mean (except treatment 2) = 55.7 lb./ac.
S.E./mean (for treatment 2) = 39.4 lb./ac.

II Cumbu.

(i) 227.2 lb./ac. (ii) 58.96 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of cumbu in lb./ac.

<table>
<thead>
<tr>
<th>Crop</th>
<th>Method of sowing</th>
<th>Variety</th>
<th>Seed rate</th>
<th>No. of hoeings and weedicings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groundnut</td>
<td>Dibbled in holes 9&quot; apart in either way.</td>
<td>TMV—3</td>
<td>80 lb./ac.</td>
<td>Twice</td>
</tr>
<tr>
<td>Red gram</td>
<td>Dibbled in rows 6&quot; apart with 3&quot; within the row.</td>
<td>S.A—1</td>
<td>4 lb./ac.</td>
<td>Twice</td>
</tr>
<tr>
<td>Cholam</td>
<td>Sown in lines 18&quot; apart and thinned to 8&quot; in the row.</td>
<td>CO—19</td>
<td>15 lb./ac.</td>
<td>Thrice</td>
</tr>
<tr>
<td>Castor</td>
<td>Dibbling in holes 3&quot; apart in either way.</td>
<td>TMV—2</td>
<td>12 lb./ac.</td>
<td>Twice</td>
</tr>
<tr>
<td>Lab-lab</td>
<td>Dibbling in holes 3&quot; apart with 1&quot; within the row.</td>
<td>D.L.—231</td>
<td>12 lb./ac.</td>
<td>Twice</td>
</tr>
<tr>
<td>Cotton</td>
<td>Dibbling in holes 18&quot; apart with 6&quot; in the row.</td>
<td>MCU—2</td>
<td>10 lb./ac.</td>
<td>Twice</td>
</tr>
<tr>
<td>Sannhemp</td>
<td>Broadcast.</td>
<td>Local</td>
<td>15 lb./ac.</td>
<td>Once</td>
</tr>
</tbody>
</table>

*Reference for item nos (iv) to (vii) of basal conditions for expt. no. 57-59(68) on page 455.

Crop Method of sowing Variety Seed rate No. of hoeings and weedicings.

Groundnut Dibbled in holes 9" apart in either way. TMV—3 80 lb./ac. Twice
Red gram Dibbled in rows 6" apart with 3" within the row. S.A—1 4 lb./ac. Twice
Cholam Sown in lines 18" apart and thinned to 8" in the row. CO—19 15 lb./ac. Thrice
Castor Dibbling in holes 3" apart in either way. TMV—2 12 lb./ac. Twice
Lab-lab Dibbling in holes 3" apart with 1" within the row. D.L.—231 12 lb./ac. Twice
Cotton Dibbling in holes 18" apart with 6" in the row. MCU—2 10 lb./ac. Twice
Sannhemp Broadcast. Local 15 lb./ac. Once.

2 ploughings with Cooper—11, one each with junior hoe and country plough uniformly to all plots. The field is unirrigated.
<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>3</th>
<th>5</th>
<th>7</th>
<th>9</th>
<th>11</th>
<th>13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>7</td>
<td>9</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>Av. yield</td>
<td>250.6</td>
<td>252.7</td>
<td>224.2</td>
<td>218.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.E./mean (except treatment 1)</td>
<td>29.5 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.E./mean (for treatment 1)</td>
<td>20.8 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 1956

(i) 233.4 lb./ac.  
(ii) 55.1 lb./ac.  
(iii) Treatment differences are not significant.  
(iv) Av. yield of kapas in lb./ac.

### 1957

(i) 406.2 lb./ac.  
(ii) 73.2 lb./ac.  
(iii) Treatment differences are not significant.  
(iv) Av. yield of kapas in lb./ac.

### 1958

(i) 334.3 lb./ac.  
(ii) 38.6 lb./ac.  
(iii) Treatment differences are highly significant.  
(iv) Av. yield of cumbu in lb./ac.

### 1959

(i) 440.0 lb./ac.  
(ii) 77.0 lb./ac.  
(iii) Treatment differences are not significant.  
(iv) Av. yield of cumbu in lb./ac.

### Crop: Lucerne

**Site:** Agri. College and Res. Instit., Coimbatore.

Object: To find out a suitable manure for Lucerne grass.

### BASAL CONDITIONS:

(i) 15 C.L./ac. of F.Y.M. applied to previous crop Ragi. 4 to 5 ploughings before sowing.  
(ii) Loamy.  
(iii) N.A.  
(iv) Lucerne.  
(v) Sown on 19.8.1957 at spacing of 2' x 6".  
(vi) N.A.  
(vii) Nil.  
(viii) Weeding once a month.  
(ix) Nil.  
(x) Irrigated.  
(xi) 27.85°.  
(xii) 11 monthly harvests starting from 14.10.1957.

### TREATMENTS:

1. Control (no manure).
2. B.M. at 1 1/2 cwt./ac.
3. B.M. at 3 cwt./ac.
4. Super at 30 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
5. Super at 60 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
3. DESIGN:
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) and (v) Nil. (vi) Yes.

4. GENERAL:
(i) Poor. (ii) Nil. (iii) Yield of green grass. (iv) (a) No. (b) Nil. (v) Nil. (vi) Expt. was conducted by the Systematic Botanist, Coimbatore.

5. RESULTS:
(i) 15926 lb./ac. (ii) 2592 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grass in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>15408</td>
<td>16192</td>
<td>16336</td>
<td>16332</td>
<td>15344</td>
</tr>
</tbody>
</table>

S.E./mean = 1296 lb./ac.

Crop: Grasses. Ref: M. 57(91), 58(91), 59(70).
Site: Agri. College & Res. Instt., Coimbatore. Type: 'MV'.

Object:—To find out suitable manure to increase the yielding capacity of different perennial grasses.

1. BASAL CONDITIONS:
(i) Ragi was raised in the field in previous season and 15 C.L./ac. of F.Y.M. was applied to it. (ii) (a) Loamy. (b) N.A. (iii) Transplanted from nursery. (iv) As per treatments. (v) Planted on 26.3.1957 at a spacing of 3' x 1.5'. (vi) One month approximately. (vii) Nil. (viii) 5 to 6 times ploughed with country plough and 4 to 5 times with Victory plough. Hand weeding once in 2 or 3 months. (ix) Nil. (x) Irrigated. (xi) 1957-35.21'. (xii) Monthly harvest starting from 15th May each year to 15th April of the next year (for one year).

2. TREATMENTS:
Main-plot treatments:
5 species of grasses: V1 = Panicum antidotale, V2 = Panicum maximum, V3 = Bracharia mutica, V4 = Blou buffel and V5 = Cenchrus ciliaris.

Sub-plot treatments:
9 manures: M1 = Control (no manure), M2 = B.M. at 1 cwt./ac., M3 = A/S at 30 lb./ac. of N, M4 = Super at 30 lb./ac. of P2O5, M5 = F.Y.M. at 5 tons/ac., M6 = F.Y.M. at 5 tons/ac.+B.M. at 1 cwt./ac., M7 = F.Y.M. at 5 tons/ac.+Super at 30 lb./ac. of P2O5, M8 = F.Y.M. at 5 tons/ac.+A/S at 30 lb./ac. of N and M9 = A/S at 30 lb./ac. of N+Super at 30 lb./ac. of P2O5.

Manures applied in the month of April each year.

3. DESIGN:
(i) Split-plot. (ii) (a) 5 main-plots/block; 9 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) About 8,800 slips/ac. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grass yield. (iv) (a) 1957-1959. (b) Nil. (v) Nil. (vi) Expt. was conducted by the Botany Section.

5. RESULTS:

<table>
<thead>
<tr>
<th>Year</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>
<th>M9</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1957</td>
<td>25049</td>
<td>23738</td>
<td>25301</td>
<td>26006</td>
<td>27266</td>
<td>25150</td>
<td>24998</td>
<td>31550</td>
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<td>26031</td>
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<td>31550</td>
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<td>32609</td>
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<td></td>
<td>36742</td>
<td>20866</td>
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<td>37346</td>
<td>39161</td>
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<td>37447</td>
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<td></td>
<td>45259</td>
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<td>24646</td>
<td>26611</td>
<td>33012</td>
<td>31198</td>
<td>29518</td>
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<tr>
<td>Mean</td>
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<td>31379</td>
<td>35673</td>
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<td>35875</td>
<td>32800</td>
<td>40522</td>
<td>35865</td>
<td>35329</td>
</tr>
</tbody>
</table>
S.E. of difference of two
1. V marginal means = 2576 lb./ac.
2. M marginal means = 1735 lb./ac.
3. M means at the same level of V = 3881 lb./ac.
4. V means at the same level of M = 4473 lb./ac.

1958
(i) 28732 lb./ac. (ii) (a) 8909 lb./ac. (b) 3122 lb./ac. (iii) Main effects of M and V are highly significant. Interaction M × V is not significant. (iv) Av. yield of grass in lb./ac.

<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>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>19102</td>
<td>18547</td>
<td>21218</td>
<td>23940</td>
<td>20261</td>
<td>20916</td>
<td>19706</td>
<td>23436</td>
<td>20160</td>
</tr>
<tr>
<td>V2</td>
<td>27720</td>
<td>27317</td>
<td>30038</td>
<td>27670</td>
<td>31954</td>
<td>31097</td>
<td>29484</td>
<td>37044</td>
<td>30996</td>
</tr>
<tr>
<td>V3</td>
<td>32054</td>
<td>35482</td>
<td>35633</td>
<td>3691</td>
<td>32105</td>
<td>32407</td>
<td>33970</td>
<td>35935</td>
<td>32911</td>
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<tr>
<td>V4</td>
<td>36288</td>
<td>36792</td>
<td>41026</td>
<td>39463</td>
<td>37548</td>
<td>37901</td>
<td>34726</td>
<td>42790</td>
<td>34243</td>
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<tr>
<td>V5</td>
<td>18043</td>
<td>19324</td>
<td>21874</td>
<td>22529</td>
<td>20009</td>
<td>21218</td>
<td>20362</td>
<td>22781</td>
<td>9173</td>
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<tr>
<td>Mean</td>
<td>26641</td>
<td>27498</td>
<td>29958</td>
<td>30059</td>
<td>28375</td>
<td>28708</td>
<td>27650</td>
<td>32397</td>
<td>27297</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. V marginal means = 2100 lb./ac.
2. M marginal means = 1396 lb./ac.
3. M means at the same level of V = 2209 lb./ac.
4. V means at the same level of M = 2957 lb./ac.

1959
(i) 17198 lb./ac. (ii) (a) 5557 lb./ac. (b) 2038 lb./ac. (iii) Main effect of M alone is significant. (iv) Av. yield of grass in lb./ac.

<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>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>9773</td>
<td>9022</td>
<td>10685</td>
<td>11189</td>
<td>10685</td>
<td>11390</td>
<td>10483</td>
<td>12398</td>
<td>5292</td>
</tr>
<tr>
<td>V2</td>
<td>20462</td>
<td>18950</td>
<td>19354</td>
<td>18547</td>
<td>18446</td>
<td>9878</td>
<td>22529</td>
<td>19354</td>
<td>17186</td>
</tr>
<tr>
<td>V3</td>
<td>18950</td>
<td>21773</td>
<td>19303</td>
<td>19102</td>
<td>20412</td>
<td>21672</td>
<td>19555</td>
<td>22478</td>
<td>18547</td>
</tr>
<tr>
<td>V4</td>
<td>25402</td>
<td>24394</td>
<td>26712</td>
<td>22025</td>
<td>24192</td>
<td>25150</td>
<td>26611</td>
<td>28274</td>
<td>28426</td>
</tr>
<tr>
<td>V5</td>
<td>10786</td>
<td>10987</td>
<td>13003</td>
<td>11340</td>
<td>11138</td>
<td>12197</td>
<td>10836</td>
<td>12348</td>
<td>12650</td>
</tr>
<tr>
<td>Mean</td>
<td>17076</td>
<td>17025</td>
<td>17811</td>
<td>16441</td>
<td>16975</td>
<td>16057</td>
<td>18003</td>
<td>18970</td>
<td>16420</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. V marginal means = 1310 lb./ac.
2. M marginal means = 644 lb./ac.
3. M means at the same level of V = 1441 lb./ac.
4. V means at the same level of M = 1888 lb./ac.

Crop :- Glyricidia. Ref :- M. 54(23).
Site :- Agri. College and Res. Instt., Coimbatore. Type :- ‘D’.
Object :- To study the efficacy of the insecticides in controlling aphids on Glyricidia plants.

1. BASAL CONDITIONS :
(i) N.A. (ii) (a) Red loam. (b) Refer soil analysis, Coimbatore. (iii) N.A. (iv) Glyricidia. (v) December, 1953. (vi) N.A. (vii) to (ix) Nil. (x) Irrigated. (xi) and (xii) N.A.
2. TREATMENTS:
6 insecticides: I₀=Control, I₁=BHC 10% dust, I₂=BHC 0.1% spray, I₃=Lindane 5% dust, I₄=Lindane 0.1% spray and I₅=Bharat Pulverising Mill's Malathion 1 oz. in 10 gallons of water spray.

3. DESIGN:
(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) 4 plants/plot. (v) Two buffer plants were left in between two treatments. (vi) Yes.

4. GENERAL:
(i) Good. (ii) Aphids were noticed. Control measures as per treatments. (iii) Aphid population count were taken from 4 random twigs in each plant. (iv) (a) No. (b) Nil. (v) and (vi) Nil.

5. RESULTS:
(i) to (iv) Av. population count of aphids 48 hours after application of treatments.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>I₀</th>
<th>I₁</th>
<th>I₂</th>
<th>I₃</th>
<th>I₄</th>
<th>I₅</th>
<th>G.M.</th>
<th>S.E./plot</th>
<th>S.E./mean</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population count</td>
<td>331.00</td>
<td>3.25</td>
<td>23.25</td>
<td>50.50</td>
<td>25.50</td>
<td>1.25</td>
<td>72.46</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Transformed</td>
<td>2.4670</td>
<td>0.4758</td>
<td>0.9343</td>
<td>1.6991</td>
<td>1.3134</td>
<td>0.19-16</td>
<td>1.1807</td>
<td>0.4464</td>
<td>0.2232</td>
<td>Highly significant</td>
</tr>
</tbody>
</table>

Crop :- Banana. Ref :- M. 56(108).
Site :- Central Banana Res. Stn., Aduthurai. Type :- 'C'.

Object :- To determine the optimum cultural practice to secure a better stand and growth of Banana bunches.

1. BASAL CONDITIONS:
(i) Banana grown previously. (ii) (a) Clayey loam. (b) Refer soil analysis, Aduthurai. (iii) By suckers. (iv) Poovan. (v) 24.8.1956. Planting in rows with 8'x8' spacing. (vi) 4 months. (vii) 25 lb./pit of C.M. before planting. (viii) 4 shallow diggings and one deep digging during Jan.; fortnightly desuckering and manuring twice during 3rd and 5th month after planting and periodical weeding. (ix) Nil. (x) Irrigated. (xi) 53.10*. (xii) N.A.

2. TREATMENTS:
All combinations of (1), (2) and (3)
(1) Cutting of suckers: C₀=No cutting and C₁=Cutting.
(2) Drying of suckers: D₀=No drying and D₁=Drying in sun for 15 days.
(3) 2 levels of dipping: T₀=No dipping and T₁=Dipping in thick cowdung solution.

3. DESIGN:
(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) 6 experimental plants. (v) 60 plants were left as guard row. (vi) Yes.

4. GENERAL:
(i) Fair. (ii) Nil. (iii) Height and girth of the plants, number of leaves, weight of the bunch, number of fruit, date of flowering etc. (iv) (a) and (b) 1956-1957. (v) and (vi) Nil.

5. RESULTS:
(i) 24.6 lb./plant. (ii) 2.4 lb./plant. (iii) None of the effects is significant. (iv) Av. yield of banana in lb./plant.

<table>
<thead>
<tr>
<th></th>
<th>C₀</th>
<th>C₁</th>
<th>Mean</th>
<th>T₀</th>
<th>T₁</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25.9</td>
<td>24.1</td>
<td>25.0</td>
<td>25.1</td>
<td>24.9</td>
</tr>
<tr>
<td>D₀</td>
<td>23.8</td>
<td>24.5</td>
<td>24.1</td>
<td>23.9</td>
<td>24.4</td>
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<tr>
<td>Mean</td>
<td>24.8</td>
<td>24.3</td>
<td>24.6</td>
<td>24.5</td>
<td>24.6</td>
</tr>
<tr>
<td>T₀</td>
<td>24.8</td>
<td>24.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T₁</td>
<td>24.9</td>
<td>24.4</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
Crop :- Banana.  
Ref :- M. 56(109).  

Site :- Central Banana Res. Stn., Aduthurai.  
Type :- 'C'.

Object :- To determine the optimum spacing and depth of planting for Banana.

1. BASAL CONDITIONS :
   (i) The area was under banana previously. (ii) (a) Clayey loam. (b) Refer soil analysis, Aduthurai. (iii) By suckers. (iv) Poovan. (v) 24.8.1956. Planting of suckers in rows. (vi) 4 months. (vii) 25 lb. of C.M./pit before planting. (viii) 4 shallow diggings and one deep digging during January. Desuckering twice a month. (ix) Nil. (x) Unirrigated. (xi) 38.61". (xii) N.A.

2. TREATMENTS:
   All combinations of (1), (2) and (3)
   (1) 2 depths of planting : D1=3' and D2=11'.
   (2) Spacings : S1=9'×9' and S2=10'×10'.
   (3) 2 levels of desuckering : T1=First sucker allowed to grow and T2=First sucker produced at flowering allowed.

3. DESIGN :
   (i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) 25 trees. (v) 16 plants. (vi) Yes.

4. GENERAL :
   (i) Fair. (ii) Nil. (iii) Height and girth of the plants, weight of the bunch, no. of hands, no. of fruit, average spacing between hands, dates of flowering and date of harvest etc. (iv) (a) 1956—1961. (b) Nil. (v) and (vi) Nil.

5. RESULTS :
   (i) 13003 lb./ac. (ii) 1537 lb./ac. (iii) S effect in highly significant; T effect is significant. Other effects are not significant. (iv) Av. yield of banana in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>D1</th>
<th>D2</th>
<th>Mean</th>
<th>T1</th>
<th>T2</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>14688</td>
<td>13591</td>
<td>14139</td>
<td>13517</td>
<td>14762</td>
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<td>S2</td>
<td>12088</td>
<td>11647</td>
<td>11867</td>
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<td>12834</td>
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<tr>
<td>T2</td>
<td>14687</td>
<td>12898</td>
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<td></td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 384.2 lb./ac.
S.E. of body of any table = 543.4 lb./ac.

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Crop :- Banana.  
Ref :- M. 57(115).  

Site :- Central Banana Res. Stn., Aduthurai.  
Type :- 'C'.

Object :- To derive the optimum desuckering practice for Banana crop.

1. BASAL CONDITIONS :
   (i) The area was under banana previously. (ii) (a) Clayey loam. (b) Refer soil analysis, Aduthurai. (iii) By suckers. (iv) Poovan. (v) 25.9.1957, planted in rows with a spacing of 8'×8'. (vi) 4 months. (vii) 25 lb./pit of F.Y.M. before planting. (viii) 4 shallow diggings and 1 deep digging during January. (ix) Nil. (x) Unirrigated. (xi) 49.78°. (xii) N.A.
2. TREATMENTS:
1. All the daughter suckers are allowed to grow.
2. Removal of all except the 1st daughter sucker.
3. Removal of all except the 1st and the 3rd suckers.
4. Removal of all except the first sucker after flowering.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) 25 plants. (v) 16 plants. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Height, girth of the plants, no. of leaves, wt. of the bunches. (iv) (a) and (b) 1957—N.A. (v) Desuckering operations were being carried out periodically once in 15 days. (vi) Nil.

5. RESULTS:
(i) 12155 lb./ac. (ii) 911.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of banana in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>10132</td>
<td>13996</td>
<td>11084</td>
<td>14008</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>372.2 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Crop :- Banana.**  
**Site :- Central Banana Res. Stn., Aduthurai.**  
Object :- To compare the suitability of mother corms against the daughter corms as planting material.

1. BASAL CONDITIONS:
(i) Previously banana was grown in the field. (ii) (a) Clayey loam. (b) Refer soil analysis, Aduthurai. (iii) By suckers. (iv) Mauritius. (v) 27.9.1958/27.1.1959. (vi) 4 months. (vii) One basketpit of C.M. before planting. (viii) 5 diggings and fortnightly desuckering. (ix) Nil. (x) Unirrigated. (xi) 30.95°. (xii) N.A.

2. TREATMENTS:
4 types of planting material: T₁=Whole mother corm, T₂=Bits from mother corm, T₃=Whole daughter corm and T₄=Bits from daughter corm.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) 6. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Height and girth measurements of the plants, no. of leaves, wt. of the bunches, no. of hands and no. of fruit etc. (iv) (a) and (b) 1959. (v) and (vi) Nil.

5. RESULTS:
(i) 19.6 lb./plant. (ii) 2.4 lb./plant. (iii) Treatment differences are not significant. (iv) Av. yield of banana in lb./plant.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>18.3</td>
<td>20.1</td>
<td>19.9</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>1.0 lb./plant.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Crop :- Banana.**  
**Site :- Central Banana Res. Stn., Aduthurai.**  
**Ref :- M. 58(141).**  
**Type :- 'C'.**

Object :- To compare the suitability of mother corms against the daughter corms as planting material.
1. BASAL CONDITIONS:
(i) Banana was the previous crop. (ii) (a) Clayey loam. (b) Refer soil analysis, Aduthurai. (iii) By suckers. (iv) Rasthali. (v) 27.9.1958/27.1.1959. (vi) 4 months. (vii) One basket/pit of C.M. before planting. (viii) Five diggings and fortnightly desuckering and manuring twice during 3rd and 5th month after planting. (ix) Nil. (x) Irrigated. (xi) 30.95’. (xii) N.A.

2. TREATMENTS to 4. GENERAL:
Same as in exp. no. 58 (141) on page 464.

3. RESULTS:
(i) 22.6 lb./plant. (ii) 2.3 lb./plant.  (iii) Treatment differences are not significant. (iv) Av. yield of banana in lb./plant.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>23.7</td>
<td>21.2</td>
<td>23.0</td>
<td>22.3</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>0.9 lb./plant.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Banana.
Site :- Central Banana Res. Stn., Aduthurai.

Object :- To determine the optimum month for planting banana.

4. BASAL CONDITIONS:
(i) The area was under banana previously. (ii) (a) Clayey loam. (b) Refer soil analysis, Aduthurai. (iii) By suckers. (iv) As per treatments. (v) Planted as per treatments in rows with spacing 8’ x 8’. (vi) As per treatments. (vii) 25 lb. of C.M. applied in the pit before planting. (viii) 4 shallow diggings and one deep digging during January; desuckering twice a month. (ix) Nil. (x) Irrigated. (xi) 38.61”. (xii) Oct. 1958.

5. TREATMENTS:
Main-plot treatments: 12 dates of planting: T1 to T12 = During the months January to December, 1956.

Sub-plot treatments: All combinations of (1) and (2)
(1) 2 varieties: V1 = Rasthali and V2 = Monthan.
(2) 2 ages of suckers: A1 = 3 months and A2 = 4 months.

5. RESULTS:
See page 466 under exp. no. 57(114).*

6. BASAL CONDITIONS:
(i) Banana. (ii) (a) Clayey loam. (iii) (b) Refer soil analysis, Aduthurai. (iii) Banana by suckers. Sugarcane by setts and paddy by transplanting. (iv) Poovar banana; sugarcane CO—419; paddy CO—25. (v) 14.9.1957. (vi) 4 months old suckers. (vii) 25 lb./pit of C.M. before planting. (viii) 5 diggings and fortnightly desuckering and periodical weeding. (ix) Nil. (x) Irrigated. (xi) 1957—53.10”, 1958—30.95” and 1959—27.60”. (xii) N.A.
2. TREATMENTS:
1. Plant crop of banana followed by sugarcane, G.M. and paddy in 3½ years.
2. 2 crops of banana followed by dry sugarcane in 3½ years.
3. Sugarcane followed by banana, G.M. crop and paddy in 3½ years.
4. 2 crops of banana followed by G.M. and paddy in 3½ years.
5. 3 crops of banana in 3½ years.

3. DESIGN:
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) 36 plants. (v) and (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Yield of banana, sugarcane and paddy. (iv) (a) and (b) 1957—1961. (v) and (vi) Nil.

5 RESULTS:
(i) 2923 Rs./ac. (ii) 191.2 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. value of produce in Rs./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. value</th>
<th>S.E., mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3218</td>
<td>85.5 Rs./ac.</td>
</tr>
<tr>
<td>2</td>
<td>3628</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2968</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2109</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>2612</td>
<td></td>
</tr>
</tbody>
</table>

*S. E. of difference of two
1. T marginal means
2. V or A marginal means
3. V or A means at the same level of T
4. T means at the same level of V or A