NATIONAL INDEX
OF
AGRICULTURAL
FIELD
EXPERIMENTS
VOL. 1 PART 1
ANDHRA PRADESH
1948–53
PUBLISHED BY
INDIAN COUNCIL OF AGRICULTURAL RESEARCH
NEW DELHI
FOREWORD

It is a well recognized fact that the level of agricultural production in India is one of the lowest in the world and it is only by the exploitation of scientific methods of agriculture that we can hope to increase our agricultural production to the level necessary for providing a reasonable standard of living to the country's population. Properly planned and conducted field experiments provide a reliable basis for propagating improved agricultural techniques among farmers. A number of research institutes and other experimental centres are functioning under the Central Ministry of Agriculture, the Commodity Committees and the State Governments, in which research on agricultural problems is going on. The need for an integrated account of the researches done in these organisations and institutions in the country has been felt for a long time, particularly in the context of planning. The absence of such a unified account has often led to duplication of work and delay in the utilisation of the results for practical farming. The Institute of Agricultural Research Statistics of the Indian Council of Agricultural Research has, therefore, rendered a most timely service by preparing a compendium of all agricultural field experiments conducted in India upto 1963 and similar compendia are under preparation by the Institute for subsequent years.

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

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

A.D. PANDIT

NEW DELHI,
August 20, 1962.

Vice-President,
Indian Council of Agricultural Research.
PREFACE

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

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

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

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

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

The compendium is divided into 15 volumes one each for (1) Andhra Pradesh (2) Assam, Manipur and Tripura (3) Bihar (4) Gujarat (5) Kerala (6) Madhya Pradesh (7) Madras (8) Maharashtra (9) Mysore (10) Orissa (11) Punjab, Jammu & Kashmir and Himachal Pradesh (12) Rajasthan (13) Uttar Pradesh (14) West Bengal and (15) all Central Institutes. In each volume back-ground information of the respective State regarding its physical features, soils, rainfall and climate, agricultural production and area under different crops is given. A map showing different regions of the State, soils and agricultural research farms is also included. The experiments reported in each volume have been arranged cropwise for each State. All the experiments belonging to a particular crop at various research stations are grouped together. For a particular crop, experiments are arranged according to the following classification:

Manurial (M), Cultural (C), Irrigational (I), Diseases, Pests and Chemicals other than fertilisers (D), Rotational (R), Mixed Cropping (X) and combinations of these wherever they occur (e.g., CM as Cultural-cum-Manurial). Experiments in which crop varieties also form a factor are denoted by adding V to their symbol and are given together (e.g., MV as Manurial-cum-Varietal). The results of an experiment are given along with other basic information such as rotation of crops followed, cultural practices adopted, etc.

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

This publication is the result of the co-operative endeavour of a large number of persons both at the Centre and in the States. I should particularly mention in this connection, guidance and help rendered in the formulation of the scheme by Dr. D.J. Finney F.R.S. of Aberdeen University, Scotland, during his stay at the Institute of Agricultural Research Statistics as an F.A.O. Statistical Expert in 1952-53.
At the Institute of Agricultural Research Statistics, the work under the scheme was carried out under the supervision and guidance of Shri T.P. Abraham, Assistant Statistical Adviser. Shri G.A. Kulkarni, Statistician, looked after the detailed working of the scheme. These officers have been largely responsible for the preparation of the manuscript of the compendium and it is a pleasure to thank them for the hard work they have put in for getting this compendium ready. Messrs O.P. Kathuria, B.V. Srikantiah, M.L. Sahni, B.P. Dyundi, S.D. Bal and P.K. Jain of the statistical staff of the Institute deserve special mention for their careful scrutiny of the data and preparation of the material for the compendium. Thanks are also due to Dr. Uttam Chand, Professor of Statistics, now with the Central Statistical Organisation, Shri K.S. Avadhany, Assistant Statistician, also now with the Central Statistical Organisation, and Shri K.C. Raut, Statistician in this office who were associated with the scheme in its initial stages.

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

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

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

<table>
<thead>
<tr>
<th>Region and headquarters</th>
<th>Regional Supervisors:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. ANDHRA PRADESH (HYDERABAD)</strong></td>
<td>Shri D.V.G. Krishnamoorthi, Deputy Director of Food Production, Andhra Pradesh. Shri Jagannath Rao, Joint Director of Agriculture (Research), Andhra Pradesh. Dr. Khadruddin Khan, Joint Director of Agriculture (Research), Andhra Pradesh. Dr. Wahiddin, Headquarters Deputy Director of Agriculture (Research), Andhra Pradesh.</td>
</tr>
<tr>
<td><strong>2. ASSAM, MANIPUR AND TRIPURA (SHILLONG)</strong></td>
<td>Shri L.K. Handique, Director of Agriculture, Assam. Shri S. Majid, Director of Agriculture, Assam. Dr. S.R. Barooha, Director of Agriculture, Assam.</td>
</tr>
<tr>
<td><strong>3. BIHAR (SABOUR)</strong></td>
<td>Dr. R. Richaria, Principal, Agriculture College, Sabour. Shri R.S. Roy, Principal, Agriculture College, Sabour.</td>
</tr>
<tr>
<td><strong>4. KERALA (TRIVANDRUM)</strong></td>
<td>Shri N. Shankara Menon, Director of Agriculture, Kerala. Shri P.D. Nair, Director of Agriculture, Kerala.</td>
</tr>
<tr>
<td><strong>5. MADHYA PRADESH (GWALIOR)</strong></td>
<td>Dr. T.R. Mehta, Principal, Agriculture College, Gwalior.</td>
</tr>
<tr>
<td><strong>6. MADRAS (COIMBATURE)</strong></td>
<td>Shri C.R. Sheshadri, Vice-Principal &amp; Secretary, Research Council, Agriculture College, Coimbatore. Shri P.A. Venkateswaran, Vice-Principal &amp; Secretary, Research Council, Agriculture College, Coimbatore. Late Shri M. Bhavani Sankara Rao, Vice-Principal &amp; Secretary, Research Council, Agriculture College, Coimbatore. Shri T. Natarajan, Agronomist &amp; Secretary, Research Council, Agriculture College, Coimbatore. Shri A.H. Sarma, Extension Specialist &amp; Secretary, Research Council, Agriculture College, Coimbatore.</td>
</tr>
<tr>
<td><strong>7. MAHARASHTRA &amp; GUJRAT (FORMER BOMBAY Statistician, Department of Agriculture, State) (POONA)</strong></td>
<td>Shri D.S. Ranga Rao, Poona.</td>
</tr>
</tbody>
</table>

*Owing to transfers and other changes more than one Regional Supervisor have been shown against several states as these officers have acted as Regional Supervisors during different periods from 1955 to 1962.*
8. **MYSORE** (BANGALORE)  
   **Shri A. Anant Padmanabha Rau,**  
   State Statistician, Mysore State.

9. **Orissa** (BHUBANESHWAR)  
   **Dr. U.N. Mohanty,**  
   Dy. Director of Agriculture (H.Q.), Orissa.

10. **Punjab, Jammu & Kashmir and Himachal Pradesh (Chandigarh)**  
    **Shri P.S. Sahota,**  
    Statistician, Department of Agriculture, Punjab.

11. **Rajasthan** (JAIPUR)  
    **Shri H.C. Kothari,**  
    Statistician, Department of Agriculture, Rajasthan.

12. **Uttar Pradesh** (LUCKNOW)  
    **Dr. K. Krishen,**  
    Chief Statistician to Govt. of U.P.  
    Department of Agriculture, U.P.

13. **West Bengal** (CALCUTTA)  
    **Shri S.N. Mukherjee,**  
    Statistical Officer,  
    Directorate of Agriculture,  
    West Bengal.  
    **Dr. S. Banerjee,**  
    Statistical Officer,  
    Directorate of Agriculture,  
    West Bengal.
ABBREVIATIONS COMMON TO EXPERIMENTS ON ANNUAL AND PERENNIAL CROPS AND EXPERIMENTS ON CULTIVATORS' FIELDS

Crop :- In the top left corner is given the name of the crop on which the experiment is conducted. Within brackets alongside 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 :-

<table>
<thead>
<tr>
<th>State</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.P.</td>
<td>Andhra Pradesh</td>
</tr>
<tr>
<td>As.</td>
<td>Assam</td>
</tr>
<tr>
<td>Bh.</td>
<td>Bihar</td>
</tr>
<tr>
<td>Dl.</td>
<td>Delhi</td>
</tr>
<tr>
<td>Gj.</td>
<td>Gujarat</td>
</tr>
<tr>
<td>H.P.</td>
<td>Himachal Pradesh</td>
</tr>
<tr>
<td>J.K.</td>
<td>Jammu &amp; Kashmir</td>
</tr>
<tr>
<td>K.</td>
<td>Kerala</td>
</tr>
<tr>
<td>M.</td>
<td>Madras</td>
</tr>
<tr>
<td>Mh.</td>
<td>Maharashtra</td>
</tr>
<tr>
<td>Ms.</td>
<td>Mysore</td>
</tr>
<tr>
<td>M.P.</td>
<td>Madhya Pradesh</td>
</tr>
<tr>
<td>Or.</td>
<td>Orissa</td>
</tr>
<tr>
<td>Pb.</td>
<td>Punjab</td>
</tr>
<tr>
<td>Rj.</td>
<td>Rajasthan</td>
</tr>
<tr>
<td>Tr.</td>
<td>Tripura</td>
</tr>
<tr>
<td>U.P.</td>
<td>Uttar Pradesh</td>
</tr>
<tr>
<td>W.B.</td>
<td>West Bengal</td>
</tr>
</tbody>
</table>

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

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

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

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

- C—Cultural;
- D—Control of Diseases and Pests;
- I—Irrigation;
- M—Manurial;
- R—Rotational;
- V—Varietal and X—Mixed cropping.

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

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

Abbreviations used in the text of the experiments :-

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

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

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

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

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

DESIGN

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

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

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

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

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

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

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

C. For experiments on cultivators' fields:
   (i) Crop condition during growth. (ii) Incidence of pests and diseases with control measures taken. (iii) Quantitative observations taken. (iv) In case of repetition in successive years, (a) from what year to what year, (b) whether treatments were assigned to the same plots in the same manner every year, (c) reference to combined analysis, if any. (v) In case of repetition in other places names of places along with reference. (vi) Abnormal occurrences, like heavy rains, frost, storm etc., if any. (vii) Any other important information.
<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Name of Crop</th>
<th>Botanical name</th>
<th>Assamese</th>
<th>Bengali</th>
<th>Oriya</th>
<th>Telugu</th>
<th>Tamil</th>
<th>Malayalam</th>
<th>Kannada</th>
<th>Marathi</th>
<th>Gujarati</th>
<th>Hindi</th>
<th>Punjabi</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Paddy</td>
<td><em>Oryza sativa</em> L.</td>
<td>Dhan</td>
<td>Dhan</td>
<td>Dhano</td>
<td>Yadlu</td>
<td>Nel</td>
<td>Nello</td>
<td>Bhattu</td>
<td>Bhut</td>
<td>Dangar</td>
<td>Dhan</td>
<td>Chaul</td>
</tr>
<tr>
<td>2</td>
<td>Jowar</td>
<td><em>Andropogon sorghum</em></td>
<td>Jowar</td>
<td>Jowar</td>
<td>Juara</td>
<td>Jaya</td>
<td>Cholam</td>
<td>Cholam</td>
<td>Jola</td>
<td>Jowari</td>
<td>Jowari</td>
<td>Jowar</td>
<td>Jowar</td>
</tr>
<tr>
<td>3</td>
<td>Wheat</td>
<td><em>Triticum sativum</em></td>
<td>Gaum;</td>
<td>Gam</td>
<td>Gaham</td>
<td>Godmulu</td>
<td>Kothumai;</td>
<td>Gothambu;</td>
<td>Godhi</td>
<td>Gahru</td>
<td>Ghahu</td>
<td>Gehon</td>
<td>Kanak</td>
</tr>
<tr>
<td>4</td>
<td>Ragi</td>
<td><em>Echinocephalus caesia</em></td>
<td>—</td>
<td>Marwa</td>
<td>Mandia</td>
<td>Ragi;</td>
<td>Keppu;</td>
<td>Muthari;</td>
<td>Ragi</td>
<td>Naqli;</td>
<td>Naga;</td>
<td>Mandh</td>
<td>Mandh</td>
</tr>
<tr>
<td>5</td>
<td>Maize</td>
<td><em>Zea mays</em> L.</td>
<td>Gondhan</td>
<td>Bhutta</td>
<td>Macca</td>
<td>Makka</td>
<td>Cho am;</td>
<td>Panvaragu;</td>
<td>Cholam</td>
<td>Masukina;</td>
<td>Makka</td>
<td>Makka</td>
<td>Makka</td>
</tr>
<tr>
<td>6</td>
<td>Variga (common millet)</td>
<td><em>Panicum miliaceum</em> L.</td>
<td>Cheena;</td>
<td>China;</td>
<td>Bachari;</td>
<td>Mokka;</td>
<td>Kukhia;</td>
<td>Panvaragu;</td>
<td>Cholam</td>
<td>Masukina;</td>
<td>Makka</td>
<td>Makka</td>
<td>Makka</td>
</tr>
<tr>
<td>7</td>
<td>Gram</td>
<td><em>Cicer arietinum</em> L.</td>
<td>Butmah</td>
<td>Chola</td>
<td>—</td>
<td>Sanagalu</td>
<td>Kadaloi;</td>
<td>Sundal;</td>
<td>Kadaloi;</td>
<td>Varu</td>
<td>Varu</td>
<td>Cheno</td>
<td>Chenu</td>
</tr>
<tr>
<td>8</td>
<td>Sugarcane</td>
<td><em>Saccharum officinarum</em> L.</td>
<td>Kuhiar</td>
<td>Akh</td>
<td>—</td>
<td>Cheruku</td>
<td>Chalaku;</td>
<td>Sundal;</td>
<td>Kadaloi;</td>
<td>Varu</td>
<td>Varu</td>
<td>Cheru</td>
<td>Cheru</td>
</tr>
<tr>
<td>9</td>
<td>Cotton</td>
<td><em>Gossypium spp.</em></td>
<td>Kapah</td>
<td>Karpas;</td>
<td>Kapa</td>
<td>Pratti</td>
<td>Paruthi;</td>
<td>Paruthi</td>
<td>Katti</td>
<td>Kapus</td>
<td>Kapas</td>
<td>Kapas</td>
<td>Kapas</td>
</tr>
<tr>
<td>10</td>
<td>Tobacco</td>
<td><em>Nicotiana tabacum</em> L.</td>
<td>Dhopat</td>
<td>Tuli;</td>
<td>Tamak</td>
<td>Tamak</td>
<td>Pogaku</td>
<td>Pugayil;</td>
<td>Hoge;</td>
<td>Tampuku</td>
<td>Tampuku</td>
<td>Tampaku</td>
<td>Tampaku</td>
</tr>
<tr>
<td>11</td>
<td>Groundnut</td>
<td><em>Arachis hypogea</em> L.</td>
<td>China;</td>
<td>Cheena</td>
<td>Kadaloi</td>
<td>Nelash;</td>
<td>Nilli;</td>
<td>Nilli;</td>
<td>Kadaloi;</td>
<td>Bhui-</td>
<td>Magafali</td>
<td>Mungphali</td>
<td>Mungphali</td>
</tr>
<tr>
<td>12</td>
<td>Chillies</td>
<td><em>Capsicum frutescens</em> L.</td>
<td>Jalaiya</td>
<td>Lanza;</td>
<td>Marich</td>
<td>Mirapak-</td>
<td>Milakai</td>
<td>Mulaku;</td>
<td>Menasina;</td>
<td>Mirchi</td>
<td>Marcha</td>
<td>Laimire</td>
<td>Laimire</td>
</tr>
<tr>
<td>13</td>
<td>Potato</td>
<td><em>Solanum tuberosum</em> L.</td>
<td>Alogutu</td>
<td>Alu</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>14</td>
<td>Sweetpotato</td>
<td><em>Ipomoea batatas</em> Lam.</td>
<td>Mitha;</td>
<td>Mishi;</td>
<td>Alu</td>
<td>Alu</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>15</td>
<td>Cabbage</td>
<td><em>Brassica oleracea</em> L.</td>
<td>Bandha;</td>
<td>Bandha-</td>
<td>—</td>
<td>L.</td>
<td>Tapruku;</td>
<td>Muttakose;</td>
<td>Muttakose;</td>
<td>Yele kosu;</td>
<td>Kobi</td>
<td>Kobi;</td>
<td>Patgobi</td>
</tr>
<tr>
<td>16</td>
<td>Brinjal</td>
<td><em>Solanum melongena</em> L.</td>
<td>Bengena</td>
<td>Begun</td>
<td>—</td>
<td>Vankaya</td>
<td>Kathirakai;</td>
<td>Vazhuthana;</td>
<td>Badane;</td>
<td>Vange</td>
<td>Vengan</td>
<td>Bengan</td>
<td>Bataun</td>
</tr>
<tr>
<td>17</td>
<td>Lucerne</td>
<td><em>Medicago sativa</em> L.</td>
<td>Lucerne</td>
<td>Lucerna</td>
<td>—</td>
<td>Garam;</td>
<td>Kuthirakai;</td>
<td>Lucerne;</td>
<td>Kudure;</td>
<td>Lasan;</td>
<td>Gadab</td>
<td>Rajko</td>
<td>Lucan</td>
</tr>
<tr>
<td>18</td>
<td>Citrus Fruits</td>
<td><em>Citrus sinensis</em> Obeek</td>
<td>Malta;</td>
<td>Mosambi</td>
<td>L.</td>
<td>Battayi</td>
<td>Sathugudi;</td>
<td>Cheeni;</td>
<td>Sathkudi;</td>
<td>Mosambi;</td>
<td>Mosambi</td>
<td>Malta</td>
<td>Maumnee</td>
</tr>
<tr>
<td>19</td>
<td>Banana</td>
<td><em>Musa paradisiaca</em> L.</td>
<td>Kol</td>
<td>Paka;</td>
<td>Kaal</td>
<td>Arati;</td>
<td>Vazhai;</td>
<td>Vazha;</td>
<td>Bale;</td>
<td>Kele</td>
<td>Kela</td>
<td>Kela</td>
<td>Kela</td>
</tr>
</tbody>
</table>
CONTENTS

FOREWORD .......................................................... Page
PREFACE ............................................................ (i)
LIST OF ABBREVIATIONS ........................................ (v)
GLOSSARY OF VERNACULAR NAMES OF CROPS ................. (viii)
ANDHRA PRADESH STATE ........................................ 1
STATEMENT SHOWING DETAILS OF EXPERIMENTAL STATIONS 7

EXPERIMENTAL RESULTS (CROP-WISE)

Paddy ......................................................... 15
Jowar ......................................................... 251
Wheat ......................................................... 257
Ragi .......................................................... 257
Maize ......................................................... 267
Variga ....................................................... 274
Gram ......................................................... 275
Sugarcane .................................................... 277
Cotton ....................................................... 312
Tobacco ...................................................... 328
Groundnut .................................................... 335
Chillies ....................................................... 341
Potato ........................................................ 353
Sweet Potato ................................................ 357
Cabbage ...................................................... 358
Brinjal ......................................................... 359
Lucerne ....................................................... 360
Citrus ......................................................... 361
Banana ....................................................... 361
Mixed Cropping ............................................. 362
MAP OF ANDHRA PRADESH SHOWING AGRO-C climatic REGIONS, SOILS, AGRICULTURAL RESEARCH STATIONS ETC.

Legend:
- Dist. Boundaries
- Rivers and Tributaries
- Dist. H. Q.
- Agri. Res. Stations
- Natural Divisions
- Red Loam Soils
- Medium Black Soils
- Deep Black Soils
- Laterite Soils
- Coastal Sandy Alluvium Soils
- Eastern Ghats
ANDHRA PRADESH

1. GENERAL DESCRIPTION.

The State of Andhra Pradesh is formed out of the former State of Andhra with districts of Telangana region of the erst-while Hyderabad State bereft of Bellary and Raichur districts. It is bound on east by Bombay and Mysore states, on the south by Madras, on the north-east by Madhya Pradesh and Orissa States and on the east by the Bay of Bengal.

The State has an area of nearly 1.06 lakhs of sq. miles or 664.32 lakh acres. There are 20 districts in the State.

The net area sown in 1956-57 was 281.10 lakh acres or 42.2% of the total geographical area. Barren and uncultivable land: 63.93 lakh acres; land, put to non-agricultural uses: 37.66 lakh acres; permanent pastures and grazing lands: 30.54 lakh acres; land under miscellaneous crops and trees and land not included in the net area sown: 5.74 lakh acres; current fallow: 48.34 lakh acres; other fallow lands: 19.91 lakh acres; forests: 137.26 lakh acres. Total cropped area is 307.50 lakh acres.

2. PHYSICAL FEATURES, CLIMATE AND RAINFALL

The State has a chain of mountains viz. the Eastern Ghats, running over its length on the eastern and northern boundaries. In the far north too, the country is hilly. There are huge forest areas in Srikakulam, Visakhapatnam, Godavari, Kurnool, Warangal and Adilabad districts. The landscape is varied and rich. It ranges from ever-green plains of Godavari and Krishna deltas to the rocky drought-stricken plateau of Rayal seema, the undulating uplands of Northern Circars, to the flat sandy down in Nellore and Guntur. Physiographically the state can be divided into three natural divisions viz. (i) Rayalaseema (ii) Coastal Andhra Pradesh, and (iii) Telangana divisions.

The general elevation of Rayalaseema division which forms part of South-Deccan sub-region of the peninsular hills and plateau region is about 100.0 to 2000 ft. with a gentle slope towards east and the rivers traversing the region, drain the waters into Bay of Bengal. The districts covered by this region are Anantapur, Cuddapah, Kurnool and Chittoor. This area being practically enclosed within hill ranges of the Western and the Eastern Ghats, receives much less rainfall than its western and eastern neighbours. The annual rainfall of this division is of the order of 20” to 25”. The main rainfall is received both from the South-west monsoon during June to September and North-east Monsoon during October and November. This division is hottest with long dry summer and moderate winter resembling continental type of climate. December to February is a season of clear bright weather except occasionally in December when cloudy skies and light showers result due to incursion of North east monsoon. The early mornings are cold and fogs occur on some days.

March to May is a season of continuous increase of temperature as also the moisture content of the atmosphere and consequently the weather becomes oppressively hot. The average maximum temperature during May is of the order of 110° F.

The Coastal Andhra Pradesh division is part of the Eastern Ghats and coastal natural region. The districts in this division are Srikakulam, Visakhapatnam, East Godavari, West Godavari, Krishna, Guntur and Nellore. The average height of Eastern Ghats in this area is about 2000 ft. The division has moderate temperature and a moist climate all through the year, typical of tropical conditions. The area gets a fairly heavy rainfall after monsoon has established itself over the peninsula. The retreating North-east monsoon, beginning about the end of September gives rain to most of the area. This division which enjoys both the monsoons has a rainfall between 33”-43”. 
Telangana division includes districts of the previous Hyderabad State viz. Khammam, Hyderabad, Mahabubnagar, Adilabad, Nizamabad, Medak, Karimnagar, Warangal and Nalgonda. The country is an extensive plateau, with an average elevation of about 1250 ft. above sea level, summits here and there rising to 2500 ft. and even 3000 ft. This portion of the former Hyderabad state belongs to trappean and gneissic region and abounds in a number of tanks. Climatically the year is divided into three distinct seasons: (1) rainy season from June to October, (2) winter season from October to February and (3) summer season from February to June. Greater part of the country is under the influence of arid to semi-arid climatic conditions, the annual rainfall varying from 25" to 40". More than 60% of the annual rainfall is brought by the South-West Monsoon. Telangana division like Rayalaseema division is the hottest area.

Table 1 gives the annual rainfall for the three regions under different seasons.

**TABLE 1**

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Region</th>
<th>Monsoon (June to September)</th>
<th>Post-monsoon (October to December)</th>
<th>Winter (January to February)</th>
<th>Pre-monsoon (March to May)</th>
<th>Total for the year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Rayalaseema</td>
<td>15.84</td>
<td>7.73</td>
<td>2.58</td>
<td>26.15</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Telangana</td>
<td>27.70</td>
<td>3.63</td>
<td>0.16</td>
<td>1.72</td>
<td>33.21</td>
</tr>
<tr>
<td>3.</td>
<td>Coastal</td>
<td>20.38</td>
<td>15.77</td>
<td>0.11</td>
<td>2.58</td>
<td>38.84</td>
</tr>
</tbody>
</table>

| State (simple average) | 21.30 | 9.04 | 0.09 | 2.29 | 32.72 |

River system:—There are two major rivers in Andhra Pradesh, the Godavari and the Krishna and three medium rivers with a large number of tributaries. The Godavari flows for the major part through the State, before it falls into the Bay of Bengal. Its main tributaries are Manjira, Pranhita, Indravati, and Sabari some of which flow partly in the Telangana area. The main tributaries of Krishna are Tungabhadra, Yeria, Warna and Dudhganga. The medium rivers are Pennar, Nagavalli and Vamsadhara.

3. SOILS

**Rayalaseema Division:—** The major types of soils are the black cotton, red loam and sandy loam. The western and lower part of Cuddapah district is occupied by a bare open plain of black cotton soil, red clay is found scattered in Rajampet division, and in Cuddapah and Proddatur. Red loam exists in all taluks of the districts.

In the eastern portion of Kurnool, poor red soil predominates. The central section is rich in *regur*. In Anantapur district the northern division contains large extent of black cotton soil and the central division contains stony red soil with slight admixture of black in parts, where as, the southern division consists of red soil. The soils of Chittoor district are mainly black, red and mixed; major portion is occupied by red soils.

**Coastal Andhra Pradesh Division:—** Most parts of Visakhapatnam and Srikakulam districts are hilly. The coastal taluks include extensive sandy tracts. The soils in these districts belong chiefly to *regur* or black cotton and red ferruginous series. Near the hills the red varieties are predominant but towards the coast, the soil becomes finer and in the richest valleys there is a fertile black clay. Sandstones predominate in the central portion of the East Godavari district. There are four classes of soils in this district, viz. alluvial, black *regur*, red ferruginous and menaceous soil. The deltaic character of the
district accounts for the large extent of the alluvial soil. In West Godavari district, there are three classes of soils, viz., alluvial, black regur and red ferruginous, of which alluvial soil is most extensive. Same type of soils are also found in Krishna district where black regur is extensive. Next in extent is alluvial soil. The red soils are found in uplands and sandy soils bordering the sea coast. The general character of Guntur district is an open plain of fertile black soil broken by a few hillocks here and there. The eastern portion of the Nellore district is fairly fertile. Soils in this district are black, red and sandy.

Telangana Division:—The soils in this division are medium black largely derived from trap and gneissic parent material. They are neutral in reaction. The dominant pH ranges from 6.5 to 7.5. Usually the black soils or regur are found in the valleys and their texture and other characteristics are determined by the drainage conditions. Most of the black soils can be said to be alluvial. The sandy loams are located at higher level and are residual. The black soils vary in texture from clay to loams, depending on the situation. The deeper soils are heavier and shallow soils are lighter in texture. The sandy loams are utilized for cultivation of kharif crops while the heavy black soils are mostly used for rabi crops. In the sandy loam areas, alkali patches are developed due to bad drainage.

4. IRRIGATION

During the First Five Year Plan period six major irrigation projects viz. Tungabhadra, Krishna regulator-cum-road bridge, upper Pennar, Romperu drainage, Rollapadu (II stage) and Bhairavanitippa projects were taken up for execution to benefit an area of 290,675 acres in the districts of Krishna, Guntur, Nellore and Anantapur. Seventeen medium projects to provide irrigation facilities to 3,76,78 acres of land were taken up for execution and 4 of them were completed during the first plan period. Four of the medium projects are located in Srikakulam, three each in Nellore and Chittoor districts, two each in Cuddapah and Anantapur districts and one each in Vishakhapatnam, West Godavari and Kurnool districts.

Two major irrigation projects in Telangana are Rajoliba Diversion Scheme for providing irrigation facilities to about 1 lakh acres in Mahabubnagar districts and Kadam project benefiting an area of 67,000 acres in the Adilabad district. They are continued as spill-over schemes in second plan. Five medium irrigation projects to benefit 60,000 acres in Mahabubnagar district, Musi and Bhimanpally projects benefiting 43,860 acres in Nalgonda district and Sirala project benefiting 3000 acres in Adilabad district were taken up during the first Five Year Plan period. Total area benefited by these major and medium projects is 2,73,860 acres.

The major and medium irrigation projects included in the second plan of Andhra Pradash provide irrigation to 4.49 lakh acres of additional land during the second plan period while area ultimately expected to benefit from these amounts to 9.18 lakh acres.

Total net area irrigated in 1966-67 was 7,068,200 acres, total gross area irrigated was 8,371,172 acres. Area irrigated more than once was 1,302,972 acres.

The following statement shows the net area irrigated by different sources in 1966-67.

**TABLE 2**

<table>
<thead>
<tr>
<th>Source</th>
<th>Acres (000 acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Govt. Canals.</td>
<td>5,114</td>
</tr>
<tr>
<td>2. Private Canals.</td>
<td>35</td>
</tr>
<tr>
<td>3. Tanks.</td>
<td>2,916</td>
</tr>
<tr>
<td>4. Wells.</td>
<td>793</td>
</tr>
<tr>
<td>5. Others.</td>
<td>210</td>
</tr>
</tbody>
</table>
5. AGRICULTURAL PRODUCTION AND NORMAL CROPPING PATTERN

The table below shows the area, production and average yield per acre of principal crops of Andhra Pradesh in 1957-68.

TABLE-3

<table>
<thead>
<tr>
<th>Crops</th>
<th>Area (000 acres)</th>
<th>Production (000 tons)</th>
<th>Av. yield lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Rice.</td>
<td>6,974</td>
<td>3,468</td>
<td>1,114</td>
</tr>
<tr>
<td>2. Jowar.</td>
<td>6,180</td>
<td>1,178</td>
<td>27</td>
</tr>
<tr>
<td>3. Bajra.</td>
<td>1,613</td>
<td>425</td>
<td>590</td>
</tr>
<tr>
<td>4. Maize.</td>
<td>471</td>
<td>154</td>
<td>732</td>
</tr>
<tr>
<td>5. Ragi.</td>
<td>799</td>
<td>270</td>
<td>757</td>
</tr>
<tr>
<td>6. Small millets.</td>
<td>2,643</td>
<td>364</td>
<td>308</td>
</tr>
<tr>
<td>7. Wheat.</td>
<td>54</td>
<td>4</td>
<td>166</td>
</tr>
<tr>
<td>8. Barley.</td>
<td>9</td>
<td>2</td>
<td>498</td>
</tr>
<tr>
<td>9. Gram.</td>
<td>263</td>
<td>32</td>
<td>273</td>
</tr>
<tr>
<td>10. Tur.</td>
<td>408</td>
<td>43</td>
<td>236</td>
</tr>
<tr>
<td>11. Other pulses</td>
<td>2,837</td>
<td>202</td>
<td>159</td>
</tr>
<tr>
<td>12. Dry chillies.</td>
<td>427</td>
<td>100</td>
<td>53</td>
</tr>
<tr>
<td>13. Tobacco.</td>
<td>362</td>
<td>109</td>
<td>674</td>
</tr>
<tr>
<td>14. Sugarcane.</td>
<td>176</td>
<td>401</td>
<td>5,104</td>
</tr>
<tr>
<td>15. Groundnut.</td>
<td>3,101</td>
<td>595</td>
<td>719</td>
</tr>
<tr>
<td>16. Other oilseeds.</td>
<td>1,549</td>
<td>104</td>
<td>190</td>
</tr>
<tr>
<td>17. Cotton.</td>
<td>939</td>
<td>127*</td>
<td>53</td>
</tr>
</tbody>
</table>

* in 000 bales of 392 lb. each.

From the above table it is seen that among food grains Rice and Jowar are major crops of the state. Groundnut is an important oilseed crop. Chillies and Tobacco are important cash crops of the state.

Paddy, Jowar, Castor, Sugarcane and Groundnut are major crops of the Telangana division.

Paddy is the only main food crop of the coastal division of the state. Two crops of Paddy are raised by double cropping. Other important field crops are Tobacco, Chillies and Sugarcane.

In Rayalaseema division the main crops grown are Paddy, Potato, Chillies and Groundnut.

Rice is usually rotated with Black gram, horsegram or green manure crops in coastal region, and in Rayalaseema and Telangana regions Rice is rotated with either horsegram or Sugarcane.

6. AGRICULTURAL EXPERIMENTATION AND RESEARCH FARMS

There were 18 agricultural research stations which reported experiments for the period 1948-53. Most of these stations are working since many years. The oldest station is Agricultural Research Station at Nandyal which was established in 1906. The other principal agricultural stations are at Anakapalle, Buchhireddypalem, Himayatsagar Guntur (Lam), Maruteru, Samalkot, Rudrur and Warangal. The soils of most of these stations range from sandy loam to clayey loam. The farms at Guntur and Madira have deep black to black soils. Irrigational facilities are also available at most of these stations. The research work on agronomic problems on Paddy is mainly carried out in Buchhireddypalem, Himayatsagar, Maruteru, Rudrur, Samalkot and Warangal.
The research work on Jowar, Cotton, Tobacco, and Chillies is carried out at Lam farm in Guntur, Mudhol and Nandyal. The experiments on fruit crops are concentrated only at Anantharajapet, and Kodur. The Sugarcane Research Station at Anakapalle conducts experiments on Sugarcane crop mainly, but experiments on Paddy and Ragi are also reported from the station. Agricultural College farm at Bapatla is mainly meant for research work of students, although some portion of the land is allotted for other research projects. Madira farm carries out experiments on Tobacco.

The maximum number of experiments reported was from Maruteru station. There were 81 experiments in this farm. Out of this 79 were on Paddy alone. The next farm which reported more experiments was Anakapalle (69). Out of 69 experiments available at this farm, 47 were on Sugarcane. Research farm at Himayatsagar reported 62 experiments out of which 47 were on Paddy. There were 47 experiments available at Rudrur farm out of which 43 were on Paddy. Buchhireddipalem had 47 experiments all devoted to Paddy and the Lam farm had 49 experiments, 18 of them were on chillies and 19 on mixed cropping.

7. EXPERIMENTS

There were 490 experiments available for the period 1948—53. The distribution of these experiments according to crops and the types of the treatments studied is given in tabular form below:

<table>
<thead>
<tr>
<th>Crop</th>
<th>M</th>
<th>MV</th>
<th>C</th>
<th>CV</th>
<th>CM</th>
<th>CMV</th>
<th>I</th>
<th>IM</th>
<th>D</th>
<th>DI</th>
<th>Mixed</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paddy</td>
<td>189</td>
<td>45</td>
<td>31</td>
<td>14</td>
<td>15</td>
<td>5</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td>304</td>
</tr>
<tr>
<td>Ragi</td>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td>13</td>
</tr>
<tr>
<td>Jowar</td>
<td>7</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Pulses</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Vegetables</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Chillies</td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>Sugarcane</td>
<td>19</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
<td>5</td>
<td>3</td>
<td>5</td>
<td></td>
<td></td>
<td>47</td>
</tr>
<tr>
<td>Cotton</td>
<td>12</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>22</td>
</tr>
<tr>
<td>Tobacco</td>
<td>2</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Oilseeds</td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Other Crops</td>
<td>9</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>Mixed cropping</td>
<td>32</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>32</td>
</tr>
<tr>
<td>Fruit crops</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>270</td>
<td>50</td>
<td>59</td>
<td>20</td>
<td>18</td>
<td>10</td>
<td>5</td>
<td>18</td>
<td>5</td>
<td>32</td>
<td></td>
<td>490</td>
</tr>
</tbody>
</table>

From the table above it is seen that out of 490 experiments reported nearly 60% are on Paddy which is an important food crop of the State, occupying nearly an area of 7 million acres. Although Jowar is the next important food crop covering nearly 6 million acres under it, not much attention is paid to it so far as agronomic problems are concerned. The commercial crops which receive attention are sugarcane, cotton, chillies and tobacco. The extent of research on agronomic problems for these crops is not much but it may be that varietal trials for evolving better yielding and disease resistant varieties of these crops have been conducted.

The experiments in which manurial treatments were tried either purely or combined with varieties or cultural practices accounted for nearly 70% of the total. Purely manurial trials accounted for 55% of the total. Out of 304 experiments on Paddy crop, nearly 80% of...
the experiments had one of the treatments as manurial. On all other crops also, it is seen that manurial experiments form major group of the total.

The source of nitrogen in most of the manurial experiments was Ammonium Sulphate, Groundnut cake or their mixture. The dose of nitrogen varied from 30 lb. per acre to 60 lb. per acre. Green manures, Farm yard manures and Night soil compost were also tried to study the comparative merits of these with other artificial manures. The common green manures that were utilised for the experiments were sunnhemp, pillipesara, sesbania, dhaichha and wildindigo. The amounts of green leaf, farm yard manure and compost applied in experiments varied from 2500 lb./ac. to 7500 lb. per acre. In a few experiments the phosphatic manures such as super phosphate, bonemeal, bonedust, Rock-phosphate and Hyperphosphate were taken as sources of P<sub>2</sub>O<sub>5</sub>. The levels of P<sub>2</sub>O<sub>5</sub> varied from 30 lb. per acre to 60 lb. ac. There were only few experiments where nitrogenous and phosphatic fertilizers were tried to study their effect either singly or in combination. The manurial cum-varietal experiments were conducted mainly to study the performance of two varieties under manured and unmanured conditions. The manured plot had the treatment 2000 lb. of green leaf per acre + 112 lb. of Super per acre + 400 lb. of groundnut cake + 50 lb. nitrogen per acre as ammonium sulphate. The other type of manurial experiments commonly found was with three treatments to study the farm yard manure and compost to supply 60 lb./ac of N against control.

The design most commonly utilised was that of Randomised block. The number of plots per block varied usually from 2 to 17 although in few cases it was as much as 36. The number of replications was invariably four.

The designs having treatment as factorial combinations were not many. There was only one 3<sup>rd</sup> confounded design with 2 replications. There were no other confounded factorial designs.

The split plot design was most common in some of the manurial and varietal-cum-manurial type of experiments. The main plots had usually the bulky manures such as green leaf or green manures and sub-plots had artificial manures such as Ammonium sulphate or Groundnut cake. In other type, the varieties were in sub plots. The number of main plots varied from 2 to at the most 5 and sub-plots varied from 2 to 8.
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Experimental Stations</th>
<th>Year of establishment</th>
<th>Major crops.</th>
<th>Soil Type</th>
<th>Normal Rainfall (in inches)</th>
<th>Irrigation facilities</th>
<th>No. of experiments</th>
<th>General description of the topography of the experimental area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Anakapalle Sugarcane Res. Station</td>
<td>1913</td>
<td>Sugarcane and Paddy, Broadly of three types:</td>
<td>June 3.56 &quot;Cheruvulopo Kalva&quot; from Sarada River supplemented by wells from &quot;Cheruvulopo Kalva&quot; from Sarada River</td>
<td></td>
<td>16 Paddy</td>
<td>Information not available.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Visakhapatnam, Mixed crop Anakapalle Rly. sugarcane.</td>
<td></td>
<td>Dry land:</td>
<td>July 4.57</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 mile from ping with Anakapalle Rly. sugarcane.</td>
<td></td>
<td>Light free working soil.</td>
<td>Aug. 8.73</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Green land:</td>
<td>Sept. 6.46</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Medium loam. Improved by manuring and by lift irrigation facilities.</td>
<td>Oct. 11.53</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Wet land:</td>
<td>Nov. 1.67</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Clayey loam of a heavy type formed by successive deposition of silt brought in by water of &quot;Cheruvulopo Kalva&quot;.</td>
<td>Dec. 0.15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Soil analysis:</td>
<td>Jan. 0.40</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(i) Chemical Analysis (%) (typical clay loam)pH—7.5—7.4</td>
<td>Total 44.19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lime—0.36.</td>
<td></td>
<td></td>
<td>Average of 10 years.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>P2O5 Total—0.0820</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>P2O5 (Avl) 0.0175—0.0159</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Avl K2O 0.0234—0.0111</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>N Total 0.0392—0.0350</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(ii) Molec. analysis (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clay 27.70—24.75</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Silt 9.70—9.75</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Coarse 59.36—53.14 and fine sand.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th></th>
<th>STATEMENT SHOWING DETAILS OF EXPERIMENTAL STATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. 2. Anantharaju- Cuddapah, Rayalaseema (i) 1935 Citrus fruits, Red loamy soils upto 4' 6'</td>
</tr>
<tr>
<td></td>
<td>Fruit Res.</td>
</tr>
<tr>
<td></td>
<td>2 miles from Koduru.</td>
</tr>
<tr>
<td></td>
<td>(i) Chem. Anal.</td>
</tr>
<tr>
<td></td>
<td>Loam.</td>
</tr>
<tr>
<td></td>
<td>pH</td>
</tr>
<tr>
<td></td>
<td>Soil.</td>
</tr>
<tr>
<td></td>
<td>Salts</td>
</tr>
<tr>
<td></td>
<td>Org. matter</td>
</tr>
<tr>
<td></td>
<td>(ii) Mech Anal.</td>
</tr>
<tr>
<td></td>
<td>Range of depth 0—8'</td>
</tr>
<tr>
<td></td>
<td>(Range for constituents are given below).</td>
</tr>
<tr>
<td></td>
<td>Clay</td>
</tr>
<tr>
<td></td>
<td>Salt</td>
</tr>
<tr>
<td></td>
<td>Fine sand</td>
</tr>
<tr>
<td></td>
<td>Coarse sand.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Araku Araku Valley P.O. N.A. 1946 Wet Paddy, Red loam, Other</td>
</tr>
<tr>
<td></td>
<td>Valley Farm.</td>
</tr>
<tr>
<td></td>
<td>Visakhapatnam. 72 miles from Waltair</td>
</tr>
<tr>
<td></td>
<td>Rly. Station.</td>
</tr>
</tbody>
</table>
## STATEMENT SHOWING DETAILS OF EXPERIMENTAL STATIONS

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Location</th>
<th>Distance from Nearby Station</th>
<th>Year</th>
<th>Crop</th>
<th>Soil Type</th>
<th>Chemical Analysis</th>
<th>Rainfall</th>
<th>Drainage Facilities</th>
<th>Wet Land Problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.</td>
<td>Bapatla Agri. College Farm</td>
<td>1½ miles from Bapatla Rly. Station</td>
<td>1950</td>
<td>Paddy</td>
<td>Sandy and clay soils</td>
<td>Sandy, Sandy loam and clay</td>
<td>June 3.44, July 6.13</td>
<td>Canal water facilities available</td>
<td>About 30 acres of wet land has no proper drainage facilities. Uniformly levelled, three fourth of the area is sandy. There is about 100 acres of wet land consisting of clay and sandy loams.</td>
</tr>
<tr>
<td>(i)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Chem. Anal. %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N</td>
<td>0.064%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total</td>
<td>0.052</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P₂O₅</td>
<td>0.00047</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Av.</td>
<td>0.00047</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P₂O₅</td>
<td>0.00047</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total</td>
<td>1.28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>K₂O</td>
<td>0.51</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lime</td>
<td>1.30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>pH</td>
<td>7.85</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Clay</td>
<td>70.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Salt</td>
<td>12.45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Coarse sand</td>
<td>3.18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fine sand</td>
<td>14.80</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Buchireddipalem, Rice Res. Station</td>
<td>9 miles from Kodavalur Rly. Station</td>
<td>1937</td>
<td>Paddy</td>
<td>N.A.</td>
<td>Sandy loam</td>
<td>N.A.</td>
<td>47—Paddy</td>
<td>N.A.</td>
</tr>
<tr>
<td>No.</td>
<td>Name of Station</td>
<td>Location</td>
<td>Distance from</td>
<td>Crops</td>
<td>Soil Type</td>
<td>Soil Analysis</td>
<td>Irrigation Facilities</td>
<td>Remarks</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>----------------</td>
<td>----------</td>
<td>---------------</td>
<td>-------</td>
<td>-----------</td>
<td>--------------</td>
<td>----------------------</td>
<td>---------</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Karimnagar, Maize Res. Station</td>
<td>Karimnagar</td>
<td>N.A.</td>
<td>Maize</td>
<td>Sandy loam</td>
<td>32°</td>
<td>N.A.</td>
<td>2-Maize</td>
<td>N.A.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1922</td>
<td></td>
<td>Structure—clayey, (Chem. Anal. (%))</td>
<td>July 6.82</td>
<td>2—Jowar</td>
<td>Cotton</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Alumina 11.74</td>
<td>Aug. 6.44</td>
<td>4 Cotton</td>
<td>not available</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fe₂O₃ 6.767</td>
<td>Sep. 4.45</td>
<td>1—Groundnut</td>
<td>there is proper</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lime 2.597</td>
<td>Oct. 8.50</td>
<td>2—Tobacco</td>
<td>drainage system</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mg. 2.380</td>
<td>Nov. 2.18</td>
<td>3—Variga</td>
<td>19—Mixed cropping</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P₂O₅ 0.039</td>
<td>Dec. 0.22</td>
<td>18—Chillies</td>
<td>49—Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>K₂O 0.543</td>
<td>Jan. 0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Feb. 0.46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Moisture 8.19</td>
<td>Mar. 0.28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Coarse 2.74</td>
<td>April 0.689</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sand 11.93</td>
<td>May 2.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Silt 70.06</td>
<td>Total 34.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Silt 29.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* This Station has recently been named as Agri. Res. Institute, Rajender Nagar.
<table>
<thead>
<tr>
<th>No.</th>
<th>Station Type</th>
<th>Location</th>
<th>Year</th>
<th>Crop</th>
<th>Soil Type</th>
<th>Rainfall (mm)</th>
<th>Irrigation</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Madhol Plant breeding Stn.</td>
<td>Adilabad.</td>
<td>1934</td>
<td>Cotton</td>
<td>Black cotton soil of medium fertility.</td>
<td>June 6.30, July 12.52, Aug. 8.68, Sept. 7.33, Oct. 3.73, Nov. 0.63, Dec. 0.15, Jan. 0.11, Feb. 1.31, Mar. 0.33, April 0.41, May 0.74</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

N.A.: Not applicable

Total: 42.24
### STATEMENT SHOWING DETAILS OF EXPERIMENTAL STATIONS

<p>| | | | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<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></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i) Chem. Anal.</td>
<td>Lime 2.76%</td>
<td>July 5.90</td>
<td>7 Cotton</td>
<td>N.A.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i)</td>
<td>K₂O 0.49%</td>
<td>Sept. 6.02</td>
<td>18 TOTAL.</td>
<td>Situated in coastal plain.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i)</td>
<td>P₂O₅ 0.05%</td>
<td>Oct. 3.58</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii) Chem. Anal.</td>
<td>Avl. 0.033%</td>
<td>Nov. 0.60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii) Mech. Anal.</td>
<td>K₂O 0.033%</td>
<td>Dec. 0.08</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii)</td>
<td>N 0.033%</td>
<td>pH 9.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii)</td>
<td>P₂O₅ 0.014%</td>
<td>Clay 45.7-48.3%</td>
<td>Average of 10 years.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i) Mech. Anal.</td>
<td>N.A.</td>
<td>Aug. 4.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii) Mech. Anal.</td>
<td>N.A.</td>
<td>Sept. 6.16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii)</td>
<td>N 0.033%</td>
<td>Oct. 9.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii)</td>
<td>P₂O₅ 0.014%</td>
<td>Nov. 3.57</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii)</td>
<td>N 0.033%</td>
<td>Dec. 1.71</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii)</td>
<td>P₂O₅ 0.014%</td>
<td>Jan. 0.17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii)</td>
<td>N 0.033%</td>
<td>Feb. 0.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii)</td>
<td>P₂O₅ 0.014%</td>
<td>March 0.24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii)</td>
<td>N 0.033%</td>
<td>April 0.14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii)</td>
<td>P₂O₅ 0.014%</td>
<td>May 2.90</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii)</td>
<td>N 0.033%</td>
<td>Total 33.92</td>
<td>Average of 10 years.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>---</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>----</td>
</tr>
<tr>
<td>18.</td>
<td>Warangal, Govt. Main Agri. Farm.</td>
<td>Warangal, 8 miles from Telangana division.</td>
<td>Eastern Telangana division.</td>
<td>1953</td>
<td>Paddy, Jowar, Cotton, Pulses, etc.</td>
<td>Sandy loam and (Chalka) Regur or black cotton soil.</td>
<td>June 4.98</td>
<td>Two small tanks entirely depend- ant on rainfall, from 1933. No proper drainage system.</td>
<td>20—Paddy.</td>
<td>Plain area.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>pH 6.9—8.2</td>
<td>Sep. 8.55</td>
<td>1—Jowar.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P2O5 6.2—3.7</td>
<td>Oct. 3.54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(Avl)</td>
<td>Nov. 0.49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>K2O 80 to 178</td>
<td>Dec. 0.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(Avl)</td>
<td>Jan. 0.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Regur.</td>
<td>Feb. 0.18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>pH 8.0 to 8.2</td>
<td>March 0.51</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P2O5 0.46 to 6.4</td>
<td>Apr. 0.88</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Avl</td>
<td>May 1.76</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>K2O 164.8 to 249.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Avl</td>
<td>Total 37.06</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>---</td>
<td>---------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>--------</td>
<td>--------</td>
<td>-------</td>
<td>-----</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>July</td>
<td>12.13</td>
<td></td>
<td>2—Jowar.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Aug.</td>
<td>10.91</td>
<td>Nizamsgar Wheat.</td>
<td>1—Banana.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sept.</td>
<td>8.91</td>
<td>Canal from</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Oct.</td>
<td>3.27</td>
<td>face drainage exists.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Nov.</td>
<td>0.57</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Dec.</td>
<td>0.08</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Jan.</td>
<td>0.11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Feb.</td>
<td>0.47</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>March</td>
<td>0.48</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>April</td>
<td>0.69</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>May</td>
<td>0.53</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total 44.77 (Average of 10 years)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

|     |         |     |     |     |     | July | 8.39 |          | 2—Gram. |     |     |
|     |         |     |     |     |     | Aug. | 5.42 | No separate drainage system. |     |     |     |
|     |         |     |     |     |     | Sep. | 5.60 |          | 1—Cotton. |     |     |
|     |         |     |     |     |     | Oct. | 8.60 |          |     |     |     |
|     |         |     |     |     |     | Nov. | 1.90 |          |     |     |     |
|     |         |     |     |     |     | Dec. | 0.39 |          |     |     |     |
|     |         |     |     |     |     | Jan. | 0.27 |          |     |     |     |
|     |         |     |     |     |     | Feb. | 0.58 |          |     |     |     |
|     |         |     |     |     |     | Mar. | 0.14 |          |     |     |     |
|     |         |     |     |     |     | Apr. | 0.82 |          |     |     |     |
|     |         |     |     |     |     | May  | 0.31 |          |     |     |     |
|     |         |     |     |     |     |     |        | Total 137.42 (Average of 10 years) |     |     |     |
Crop :- Paddy (Kharij).
Site :- Sugarcane Res. Stn., Anakapalle.
Type :- 'M'.

Objecct :- To study the residual effect of green manuring from plots that received G.M. for 20 years prior to 1947.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Clay loam. (b) Refer soil analysis, Anakapalle. (iii) N.A.
   (iv) (a) 2-3 ploughings. (b) Transplanted. (c) — (d) 6'x6'. (e) 2—3. (v) Nil. (vi) GEB-24. (vii) Irrigated. (viii) One or two weedings. (ix) 33.55'. (x) N.A.

2. TREATMENTS:
   1. G.M. (Sannhemp) at 3000 lb./ac. per year prior to 1947.
   2. Not manured.

3. DESIGN:
   (i) Paired plot. (ii) (a) 2. (b) N.A. (iii) 8. (iv) (a) 140'x20'. (b) 133'x133'. (v) N.A. (vi) No.

4. GENERAL:
   (i) Not satisfactory. (ii) N.A. (iii) Grain yield data. (iv) (a) 1947—1951. (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) Raw data not traceable.

5. RESULTS:
   (i) 572 lb./ac.
   (ii) N.A.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.
   Treatment Av. yield
   1. 600
   2. 545
   S.E./mean = N.A.

Crop :- Paddy (Kharij).
Site :- Sugarcane Res. Stn., Anakapalle.
Type :- 'M'.

Objecct :- To study the residual effect of green manuring from plots that received G.M. for 20 years prior to 1947.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Clay loam. (b) Refer soil analysis, Anakapalle. (iii) 6.7.49/27 and 28.9.49. (iv) (a) 2-3 ploughings. (b) Transplanted. (c) — (d) 6'x6'. (e) 2—3. (v) Nil. (vi) GEB-24. (vii) Irrigated. (viii) One or two weedings. (ix) 42.34'. (x) 8.9.12.49.

2. TREATMENTS:
   1. G.M. (Sannhemp) at 3000 lb./ac. per year prior to 1947.
   2. Not manured.

3. DESIGN:
   (i) Paired plot. (ii) (a) 2. (b) N.A. (iii) 8. (iv) (a) 140'x20'. (b) 133'x133'. (v) N.A. (vi) No.

4. GENERAL:
   (i) Normal. (ii) N.A. (iii) Grain yield data. (iv) (a) 1947—1951. (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) Raw data not traceable.

5. RESULTS:
   (i) 2602 lb./ac.
   (ii) N.A.
   (iii) Treatments do not differ significantly.
Crop : Paddy

Ref : A.P. 50(84)/49(85).

Site : Sugarcane Res. Stn., Anakapalle. Type : 'M'.

Object : To study the residual effect of green manuring from plots that received G.M. for 20 years prior to 1947.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Clay loam. (b) Refer soil analysis, Anakapalle. (iii) 8.7.51/19, 20.8.50. (iv) 2-1 ploughings. (b) Transplanted. (c) —. (d) 6’x6’. (e) 2-3. (v) Nil. (vi) GEB-24. (vii) Irrigated. (viii) Weeding once or twice. (ix) 27.30’ (x) 6.12.50.

2. TREATMENTS :
   1. G.M. (Sannhemp) at 3000 lb/ac per year prior to 1947.
   2. Not manured.

3. DESIGN :
   (i) Paired plot (ii) 2. (b) N.A. (iii) 8. (iv) (a) 140’x20’. (b) 133’x13.5’. (v) N.A. (vi) No.

4. GENERAL :
   (i) Normal. (ii) N.A. (iii) Grain yield. (iv) (a) 1947—1951. (b) Yes. (c) Nil. (v) (a) Nil. (b) N.A. (vi) Nil. (vii) Raw data not traceable.

5. RESULTS :
   (i) 1512 lb/ac.
   (ii) N.A.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb/ac.
   Treatment Av. yield
   1. 1512
   2. 1502
   S.E./mean = N.A.

Crop : Paddy

Ref : A.P. 51(44)/50(84)/49(85)/48(85).

Site : Sugarcane Res. Stn., Anakapalle. Type : 'M'.

Object : To study the residual effect of green manuring from plots that received G.M. for 20 years prior to 1947.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Paddy. (c) Nil. (ii) Loamy soil. (b) Refer soil analysis, Anakapalle. (iii) 13.7.51/1.2.9.51. (iv) 2-1 ploughings. (b) Planting in lines. (c) —. (d) 6’x6’. (e) 2-3. (v) Nil. (vi) GEB-24. (vii) Irrigated. (viii) Weeding on 13.10.51. (ix) 9.67’. (x) 18.12.51.

2. TREATMENTS :
   1. G.M. (Sannhemp) at 3000 lb/ac per year prior to 1947.
   2. Not manured.

3. DESIGN :
   (i) R.B.D. (ii) 2. (b) N.A. (iii) 8. (iv) (a) 140’x20’. (b) 133’x13’. (v) N.A. (vi) Yes.
4. GENERAL:
(i) Good. Lodged due to cyclonic weather on 25.11.51. (ii) Nil. (iii) Grain & straw yield. (iv) (a) 1947-1951. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Raw data not traceable.

5. RESULTS:
(i) 3000 lb./ac.
(ii) N.A.
(iii) Treatments do not differ significantly.
(iv) (a) 1947-1951. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Nil.

---

Crop :- Paddy.
Site :- Sugarcane Res. Stn., Anakapalle.

Object :- To study the relative merits of night soil compost and F.Y.M.

1. BASAL CONDITIONS:
(i) (a) Sugarcane—Paddy—Paddy. (b) Paddy. (c) N.A. (ii) (a) Loam. (b) Refer soil analysis, Anakapalle. (iii) 3.8.1949/8.9.1949. (iv) (a) 2 to 3 ploughings. (b) Transplanted. (c) to (d) N.A. (e) 2 to 3. (f) Nil. (g) B.A.M. (h) Irrigated. (i) One or two weedings. (j) 36.80' (Aug. to Dec.). (k) 25.12.49.

2. TREATMENTS:
1. No manure.
2. Night soil compost to supply 60 lb./ac. of N.
3. F.Y.M. to supply 60 lb./ac. of N.

Manures applied as basal dose on 6.9.1949.

3. DESIGN:
(i) R.B.D. (ii) 3. (b) N.A. (iii) 6. (iv) (a) 64'×8'×8'. (b) 58'×4'×13'×4'. (v) N.A. (v) Yes.

4. GENERAL:
(i) Not satisfactory due to floods in October, 1949. (ii) Nil. (iii) Growth measurements and grain yield. (iv) (a) 1949 to 1950. (b) No. (c) Treatments were same for both years, but dose and crop differ in 1950). (d) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 1703 lb./ac.
(ii) 188.6 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1582</td>
</tr>
<tr>
<td>2.</td>
<td>1770</td>
</tr>
<tr>
<td>3.</td>
<td>1756</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>77.9 lb./ac.</td>
</tr>
</tbody>
</table>

---

Crop :- Paddy.
Site :- Sugarcane Res. Stn., Anakapalle.

Object :- To study the relative merits of night soil compost and F.Y.M.

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy—Sugarcane. (b) Paddy. (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Anakapalle. (iii) 7.7.1950/11.9.1950. (iv) (a) 2 or 3 ploughings. (b) Transplanted. (c) to (d) N.A. (e) 2 to 3. (f) Nil. (g) B.A.M.—3. (h) Irrigated. (i) One or two weedings. (j) 24.62' (July to Dec.). (k) 11.12.50.
2. TREATMENTS:
1. No manure.
2. Night soil compost to supply 60 lb./ac. of N.
3. F.Y.M. to supply 60 lb./ac. of N.
Manures applied as basal dressing on 17.8.1950.

3. DESIGN:
(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 64'x18'-8". (b) 58'-4"x13'-4". (v) N.A. (vi) Yes.

4. GENERAL:
(i) Not satisfactory. (ii) Nil. (iii) Grain weight, tiller count, etc. (iv) (a) 1949—1950. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 2058 lb./ac.
(ii) 235.1 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1893</td>
</tr>
<tr>
<td>2.</td>
<td>2239</td>
</tr>
<tr>
<td>3.</td>
<td>2043</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>95.9 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy.  
Site: Sugarcane Res. Stn., Anakapalle.  
Ref: A.P. 50(65).  
Type: 'M'.

Object: To study the relative merits of night soil compost and F.Y.M.

1. BASAL CONDITIONS:
(i) (a) Sugarcane—Paddy—Paddy. (b) Sugarcane. (c) Same as under treatments, but the total dose of N in lb./ac. was 250. (ii) (a) Clay loam. (b) Refer soil analysis, Anakapalle. (iii) 5.7.50/12.9 50. (iv) (a) 2 to 3 ploughings. (b) Transplanted. (c) —. (d) N.A. (e) 2 to 3. (v) Nil. (vi) BAM-3. (vii) Irrigated. (viii) One or two weedings. (ix) 24.62° (July to Dec.). (x) 12.12.50.

2. TREATMENTS:
1. No manure.
2. Night soil compost to supply 60 lb./ac. of N.
3. F.Y.M. to supply 60 lb./ac. of N.
Manures applied on 18.8.50, as basal dose.

3. DESIGN:
(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 64'x18'-8". (b) 58'-4"x13'-4". (v) N.A. (vi) Yes.

4. GENERAL:
(i) Not satisfactory. (ii) Nil. (iii) Grain weight, tiller count, etc. (iv) (a) 1949 to 1950. (b) Treatments were same every year but dose and crop differed from year to year. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 1763 lb./ac.
(ii) 367.4 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1557</td>
</tr>
<tr>
<td>2.</td>
<td>1867</td>
</tr>
<tr>
<td>3.</td>
<td>1864</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>=150.0 lb./ac.</td>
</tr>
</tbody>
</table>
Crop :- Paddy.
Site :- Sugarcane Res. Stn., Anakapalle.

Ref :- A.P. 51(41).
Type :- 'M'.

Object :- To study the effect of continuous application of A/S on the yield of Sugarcane and on its normal rotational crops (Ragi and Paddy).

1. BASAL CONDITIONS :
   (i) (a) Ragi—Paddy—Sugarcane. (b) Ragi. (c) 40 lb./ac. of N in different forms. (ii) (a) Loamy soil. (b) Refer soil analysis, Anakapalle. (iii) 31.8.51. (iv) (a) Twice ploughing with country plough, puddling, trimming bunds, and levelling. (b) Transplanted. (c) — (d) 6' x 6'. (e) 2-3. (v) Nil. (vi) GEB-24. (vii) Irrigated. (viii) Weeding once on 1.10.51. (ix) 12.80'. (x) First week of December, 1951.

2. TREATMENTS :
   1. 60 lb./ac. of N as A/S.
   2. 60 lb./ac. of N as G.N.C.
   3. 60 lb./ac. of N as F.Y.M.
   4. 60 lb./ac. of N as mixture of G.N.C. and A/S in the ratio 2 : 1.
   5. No manure.

Applied in single dose 20 days after transplanting.

3. DESIGN :
   (i) 5 x 5 L. Sq. (ii) 5. (b) N.A. (iii) 5. (iv) (a) 39.6' x 37'. (b) 33' x 26.4'. (v) N.A. (vi) Yes.

4. GENERAL :
   (i) Satisfactory. (iii) Nil. (iii) Grain and straw yield, growth measurements. (iv) (a) 1951—continued. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :
   (i) 2150 lb./ac.
   (ii) 197.0 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1510</td>
</tr>
<tr>
<td>2.</td>
<td>2530</td>
</tr>
<tr>
<td>3.</td>
<td>2370</td>
</tr>
<tr>
<td>4.</td>
<td>2200</td>
</tr>
<tr>
<td>5.</td>
<td>2140</td>
</tr>
</tbody>
</table>
S.E./mean  = 88.1 lb./ac.

Crop :- Paddy.
Site :- Sugarcane Res. Stn., Anakapalle.

Ref :- A.P. 52(51)/51(41).
Type :- 'M'.

Object :- To study the effect of continuous application of A/S on the yield of Sugarcane and on its normal rotational crops (Ragi and Paddy).

1. BASAL CONDITIONS :
   (i) (a) Ragi—Paddy—Sugarcane. (b) Ragi. (c) 40 lb./ac. of N in different forms. (ii) (a) Loamy soil. (b) Refer soil analysis, Anakapalle. (iii) 24,25.9.52. (iv) (a) 2 ploughings with country plough including one dry ploughing, puddling, trimming bunds and levelling. (b) Transplanted. (c) — (d) 6' x 6'. (e) 2-3. (v) Nil. (vi) GEB-24. (vii) Irrigated. (viii) Two weedicings. (ix) N.A. (x) 18.12.52.

2. TREATMENTS :
   1. 60 lb./ac. of N as A/S.
   2. 60 lb./ac. of N as G.N.C.
   3. 60 lb./ac. of N as F.Y.M.
   4. 60 lb./ac. of N as mixture of G.N.C. and A/S in the ratio 2 : 1.
   5. No manure.

Applied in single dose 20 days after transplanting.
3. DESIGN:
   (i) 5 x 5 L. Sq.  (ii) (a) 5. (b) N.A.  (iii) 5.  (iv) (a) 39.6' x 37'. (b) 33' x 26.4'.  (v) N.A.  (vi) Yes.
4. GENERAL:
   (i) Normal.  (ii) Mild attack of blast.  (iii) Grain and straw yield and growth measurements.  (iv) a; 1951—continued.  (b) Yes.  (c) N.A.  (v) (a) and (b) Nil.  (vi) and (vii) Nil.
5. RESULTS:
   (i) 1506 lb./ac.
   (ii) 165 5 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1650</td>
</tr>
<tr>
<td>2.</td>
<td>1903</td>
</tr>
<tr>
<td>3.</td>
<td>1178</td>
</tr>
<tr>
<td>4.</td>
<td>1805</td>
</tr>
<tr>
<td>5.</td>
<td>993</td>
</tr>
</tbody>
</table>
| S.E./mean | = 74.0 lb./ac.

Crop :- Paddy.
Ref :- A.P. 53(62)/52(51)/51(41).
Site :- Sugarcane Res. Stn., Anakapalle.  Type :- 'M'.
Object. :- To study the effect of continuous application of A/S on the yield of Sugarcane and on its normal rotational crops (Ragi and Paddy).

1. BASAL CONDITIONS:
   (i) (a) Sugarcane-Ragi-Paddy-Sugarcane. (b) Ragi. (c) 40 lb./ac. of N as A/S.  (ii) (a) Clay loam.  (b) Refer soil analysis, Anakapalle.  (iii) 1st week of Aug. 1953.  (iv) (a) 2 to 3 ploughings, puddling and levelling. (b) Transplanting. (c) — (d) 6' between rows. (e) 2 to 3. (v) Nil.  (vi) GEB-24 (vii) Irrigated.  (viii) One weeding.  (ix) 20.73'.  (x) Third week of November, 1953.

2. TREATMENTS:
   1. 60 lb./ac. of N as A/S.
   2. 60 lb./ac. of N as G.N.C.
   3. 60 lb./ac. of N as F.Y.M.
   4. 60 lb./ac. of N as mixture of A/S. and G.N.C. in the ratio 1 : 2.
   5. No manure.
   Applied in single dose 20 days after planting.

3. DESIGN:
   (i) L. Sq.  (ii) (a) 5. (b) N.A.  (iii) 5.  (iv) (a) 39.6' x 37'. (b) 33' x 26.4'.  (v) N.A.  (vi) Yes.
4. GENERAL:
   (i) Normal.  (ii) Nil.  (iii) Grain yield.  (iv) a) 1951—continued.  (b) Yes.  (c) N.A.  (v) (a) and (b) Nil.  (vi) and (vii) Nil.
5. RESULTS:
   (i) 2068 lb./ac.
   (ii) 114.0 lb./ac.
   (iii) Treatments differ highly significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2300</td>
</tr>
<tr>
<td>2.</td>
<td>2315</td>
</tr>
<tr>
<td>3.</td>
<td>1925</td>
</tr>
<tr>
<td>4.</td>
<td>2255</td>
</tr>
<tr>
<td>5.</td>
<td>1525</td>
</tr>
</tbody>
</table>
| S.E./mean | = 50.9 lb./ac.
Crop :- Paddy.  
Site :- Sugarcane Res. Stn., Anakapalle.  
Ref :- A.P. 53(61).  
Type :- 'M'.

Object :- To study the effect of continuous application of A/S (Series 2).

1. BASAL CONDITIONS:
   (i) (a) Sugarcane—Ragi—Paddy—Sugarcane.  (b) Ragi.  (c) 40 lb./ac. of N in different forms.  (ii) (a) Clay loam.  (b) Refer soil analysis, Anakapalle.  (iii) 8.8.53.  (iv) (a) 2 to 3 ploughings, levelling and puddling.  (b) Transplanting.  (c) —.  (d) 6" x 6".  (e) 2 to 3.  (v) Nil.  (vi) G.E.B. 24.  (vii) Irrigated.  (viii) Weeding once.  (ix) 20.73°.  (x) 22.11.53.

2. TREATMENTS:
   1. 60 lb./ac. of N as A/S.
   2. 60 lb./ac. of N as A/S + 1500 lb./ac. of lime prior to planting.
   3. 60 lb./ac. of N as mixture of G.N.C and A/S in the ratio of 2 : 1.
   4. Treatment (3) + lime at 1500 lb./ac., prior to planting.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 4.  (b) N.A.  (iii) 5.  (iv) (a) 39.6' x 26.4'.  (b) 33' x 19.8'.  (v) N.A.  (vi) Yes.

4. GENERAL:
   (i) Normal.  (ii) Nil.  (iii) Grain yield.  (iv) (a) 1953—1955.  (b) Yes.  (c) N.A.  (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2580 lb./ac.
   (ii) 174.7 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.
      Treatment        Av. yield
      1.                2127
      2.                2254
      3.                2427
      4.                2514
      S.E./mean          78.1 lb./ac.

Crop :- Paddy.  
Site :- Sugarcane Res. Stn., Anakapalle.  
Ref :- A.P. 53(98).  
Type :- 'M'.

Object :- To assess the direct manurial value of organic and inorganic manures and find out the necessity of liming paddy fields for correcting acidity, if any, developed.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) Paddy. (c) As under treatments.  (ii) (a) Clayey loam.  (b) Refer soil analysis, Anakapalle.  (iii) N.A.  (iv) (a) Puddling with country plough 4 times.  (b) Transplanted.  (c) —.  (d) 6" x 6".  (e) 2.  (v) Nil.  (vi) AKP 4 (medium).  (vii) Irrigated.  (viii) N.A.  (ix) 27.47°.  (x) Second week of Dec. 53.

2. TREATMENTS:
   Main-plot treatments :-
   Application of N :  N₀ = No manure, N₁ = 60 lb./ac. of N as C.M., N₂ = 60 lb./ac. of N as compost, N₃ = 60 lb./ac. of N as A/S and N₄ = 60 lb./ac. of N as G.M.
   Sub-plot treatments :-
   All combinations of (1), (2) and (3) :
   (1) 2 levels of P₂O₅ : P₀ = 0 and P₁ = 60 lb./ac.
   (2) 2 levels of K₂O : K₀ = 0 and K₁ = 60 lb./ac.
   (3) 2 levels of lime : L₀ = 0 and L₁ = 60 lb./ac.
   P₂O₅ as Super and K₂O as Pot. Sulphate. Lime as slaked lime.

3. DESIGN:
   (i) Split-plot.  (ii) (a) 5 main-plots/block; 8 sub-plots/main-plot.  (b) N.A.  (iii) 4.  (iv) (a) 35° x 15.2°.  (b) 31.7° x 12.5°.  (v) N.A.  (vi) Yes.
4. GENERAL:
(i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1952—1956 (Expt. failed in 1952). (b) Yes. (c) Nil. (v) (a) and (b) Maruteru, Samalkot. (vi) Nil. (vii) One day prior to the day of harvest, earheads were lost by theft from the standing crop in 8 plots of two replications. Hence yield of grain was taken into account from 2 replications only.

5. RESULTS:
(i) 2703 lb./ac.
(ii) (a) 524.4 lb./ac.
(b) 245.8 lb./ac.
(iii) Main effect of N alone 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>
<th>N4</th>
<th>Mean</th>
<th>L0</th>
<th>L1</th>
<th>K0</th>
<th>K1</th>
</tr>
</thead>
<tbody>
<tr>
<td>P0</td>
<td>2996</td>
<td>3147</td>
<td>3202</td>
<td>2264</td>
<td>1931</td>
<td>2708</td>
<td>2670</td>
<td>2747</td>
<td>2646</td>
<td>2772</td>
</tr>
<tr>
<td>P1</td>
<td>2907</td>
<td>3280</td>
<td>3191</td>
<td>2218</td>
<td>1892</td>
<td>2698</td>
<td>2667</td>
<td>2728</td>
<td>2719</td>
<td>2676</td>
</tr>
<tr>
<td>K0</td>
<td>2969</td>
<td>3264</td>
<td>3262</td>
<td>2037</td>
<td>1877</td>
<td>2682</td>
<td>2587</td>
<td>2777</td>
<td>2724</td>
<td>2698</td>
</tr>
<tr>
<td>K1</td>
<td>2935</td>
<td>3161</td>
<td>3130</td>
<td>2447</td>
<td>1946</td>
<td>2724</td>
<td>2750</td>
<td>2698</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L0</td>
<td>2948</td>
<td>3061</td>
<td>3263</td>
<td>2296</td>
<td>1775</td>
<td>2669</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L1</td>
<td>2954</td>
<td>3366</td>
<td>3129</td>
<td>2188</td>
<td>2048</td>
<td>2737</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>2952</td>
<td>3213</td>
<td>3196</td>
<td>2242</td>
<td>1912</td>
<td>2703</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. difference of two
1. N marginal means = 185.4 lb./ac.
2. P or K or L marginal means = 54.9 lb./ac.
3. P or K or L means at the same level of N = 122.9 lb./ac.
4. N means at the same level of P or K or L = 204.7 lb./ac.
5. means in the body of table P x L or P x K or L x K = 109.9 lb./ac.

Crop :- Paddy (main season). Ref :- A.P. 53(87).
Site :- Sugarcane Res. Stn., Anakapalle. Type :- 'M'.
Object :- To compare the effect of manuring by broadcasting and by deep placement on Paddy.

1. BASAL CONDITIONS:
(i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Anakapalle. (iii) 9, 10, 9.53. (iv) (a) to (e) N.A. (v) G.L. at 4 ton/acre. (vi) MTU—1. (vii) Irrigated. (viii) One or two weedings. (ix) 20.75". (x) 7, 8.12.53.

2. TREATMENTS:
1. Manuring by broadcasting.
2. Manuring by deep placement.
Details of manuring :- Super to supply 30 lb./ac. of P2O5 + A/S to supply 40 lb./ac. of N (manuring done by dibbling a mixture of A/S and clay 1 : 5 made into balls of uniform size).

3. DESIGN:
(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) 44' x 16'-8". (b) 44' x 16'-8". (v) Nil. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Grain and straw yield, tiller count, etc. (iv) (a) 1953—N.A. (b) N.A. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.
5. RESULTS:
   (i) 2453 lb./ac.
   (ii) 455.5 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2480</td>
</tr>
<tr>
<td>2.</td>
<td>2425</td>
</tr>
</tbody>
</table>

S.E./mean = 131.4 lb./ac.

Crop: Paddy.  Ref: A.P. 52(72).
Site: Demonstration cum Exploratory Stn., Araku Valley. Type: 'M'.

Object: To compare C/N with A/S in giving high yields for dry Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Dry paddy. (c) N.A. (ii) (a) Clayey loam. (b) Refer soil analysis, Araku Valley. (iii) 28.6.52. (iv) (a) to (c) N.A. (v) Nil. (vi) Battadhan (mass selected). (vii) Unirrigated. (viii) N.A. (ix) 34.39° (June 52 to Dec. 52). (x) 15.11.52.

2. TREATMENTS:
   1. Basal dressing of lime 450 lb./ac. + 3 ton/ac. of C.M. + Super at 30 lb./ac. of P$_2$O$_5$
   2. Treatment (1)+A/S at 40 lb./ac. of N.
   3. Treatment (1)+A/S at 60 lb./ac. of N.
   4. A/S alone at 40 lb./ac. of N.
   5. A/S alone at 60 lb./ac. of N.
   6. Treatment (1)+C/N at 40 lb./ac. of N.
   7. Treatment (1)+C/N at 60 lb./ac. of N.
   8. C/N alone to give more than 40 lb./ac. of N (50 lb.)
   9. C/N alone to give more than 60 lb./ac. of N (70 lb.)

3. DESIGN:
   (i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a) and (b) 1 cent. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1952 to 1953. (b) No. (c) No. (v) (a) and (b) N.A. (vi) Nil. (vii) Nil.

5. RESULTS:
   (i) 1040 lb./ac.
   (ii) 156.5 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>780</td>
</tr>
<tr>
<td>2.</td>
<td>1110</td>
</tr>
<tr>
<td>3.</td>
<td>1150</td>
</tr>
<tr>
<td>4.</td>
<td>1160</td>
</tr>
<tr>
<td>5.</td>
<td>1070</td>
</tr>
<tr>
<td>6.</td>
<td>780</td>
</tr>
<tr>
<td>7.</td>
<td>1040</td>
</tr>
<tr>
<td>8.</td>
<td>1060</td>
</tr>
<tr>
<td>9.</td>
<td>1240</td>
</tr>
</tbody>
</table>

S.E./mean = 70.0 lb./ac.
Crop: - Paddy.

Ref: - A.P. 53 (80)

Site: - Demonstration cum Exploratory Stn., Araku Valley. Type: - 'M'.

Object: - To compare C/N with A/S in giving high yield for dry Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Araku Valley. (iii) 22.6.53 (iv) (a) to (c) N.A. (v) Nil. (vi) Basmatian (mass selected) (vii) Unirrigated (viii) 2 or 3 weedings & hoeing (ix) 39.42° (June' 53 to Dec. '53: (x) 2.11.53.

2. TREATMENTS:
   1. Basal dressing of lime 450 lb./ac. + 3 ton/ac. of C.M. + Super at 30 lb./ac. of P₂O₅.
   2. Treatment: (i) + A/S at 40 lb./ac. of N
   3. Treatment (i) + A/S at 60 lb./ac. of N
   4. A/S alone at 40 lb./ac. of N
   5. A/S alone at 60 lb./ac. of N
   6. Treatment (i) + C/N at 40 lb./ac. of N
   7. Treatment (i) + C/N at 60 lb./ac. of N
   8. C/N alone to give more than 40 lb. ac. of N (50 lb.)
   9. C/N alone to give more than 60 lb./ac. of N (70 lb.)

3. DESIGN:
   (i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a) & (b) 1 cent (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1952 to 1953. (b) No. (c) Nil. (v) (a) & (b) N.A. (vi) Nil. (vii) Nil.

5. RESULTS:
   (i) 1322 lb./ac.
   (ii) 111.8 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>960</td>
</tr>
<tr>
<td>2.</td>
<td>1400</td>
</tr>
<tr>
<td>3.</td>
<td>1730</td>
</tr>
<tr>
<td>4.</td>
<td>1000</td>
</tr>
<tr>
<td>5.</td>
<td>1383</td>
</tr>
<tr>
<td>6.</td>
<td>1320</td>
</tr>
<tr>
<td>7.</td>
<td>1840</td>
</tr>
<tr>
<td>8.</td>
<td>1120</td>
</tr>
<tr>
<td>9.</td>
<td>1100</td>
</tr>
<tr>
<td>S.E/mean</td>
<td>50.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: - Paddy.

Ref: - A.P. 52 (16)

Site: - Agri. College Farm, Bapatla. Type: - 'M'

Object: - To study the response of organic and inorganic manures on Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) 40:30 lb./ac. of G.L. + 150 lb./ac. of Super + 150 lb./ac. of A/S. (ii) (a) Sandy loam. (b) Refer soil analysis, Bapatla. (iii) 3.6.52/12.8.52 (iv) (a) to (e) N.A. (v) Nil. (vi) MTU-7. (vii) Irrigated. (viii) 2 Weedings. (ix) 16.2° (x) 28.12.52.

2. TREATMENTS:
   1. 60 lb./ac. of N as G.N.C.
   2. 60 lb./ac. of N as Castor Cake.
   3. 60 lb./ac. of N as G.L.
   4. 60 lb./ac. of N as G.L.+ A/S.
   5. 60 lb./ac. of N as A/S.
   6. No manure.
3. DESIGN:
(i) R.B.D. (ii) P.B.Q. (iii) N.A. (iv) (a) 11.9' x 18.3' (b) 10.6' x 17.2' (v) 0.66' left as border on all sides (vi) Yes.

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

5. RESULTS:
(i) 3459 lb./ac.
(ii) 525.0 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3684</td>
</tr>
<tr>
<td>2.</td>
<td>3412</td>
</tr>
<tr>
<td>3.</td>
<td>3452</td>
</tr>
<tr>
<td>4.</td>
<td>3764</td>
</tr>
<tr>
<td>5.</td>
<td>3624</td>
</tr>
<tr>
<td>6.</td>
<td>2818</td>
</tr>
</tbody>
</table>

S.E./mean = 214.4 lb./ac.

Crop :- Paddy
Site :- Agri. College Farm, Bapatla.
Ref :- A.P. 52(6)
Type :- 'M'.

Object :- To study the effect of broadcasting and placement of A/S on Paddy.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) 150 lb./ac. of Super +150 lb./ac. of A/S. (ii) (a) Sandy loam. (b) Refer soil analysis, Bapatla. (iii) 13.6.53/2.8.53. (iv) (a) Mummatty digging once. (b) Transplanting. (c) —. (d) 6' x 6' (e) N.A. (f) Nil. (g) MTU-19. (h) Irrigated. (i) Nil. (j) Nil. (vii) Irrigated. (viii) Nil. (ix) 16.2 6. (x) 21.12;53.

2. TREATMENTS:
All combinations of (1) and (2)
(1) 2 methods of application of N :- P = Placement and B = broadcasting.
(2) 3 levels of N :- N1 = 30, N2 = 45 and N3 = 60 lb./ac.
And one control (No manure).
N applied as A/S. In case of placement, A/S is placed 2"—3" below the surface in the interspace of the seedlings, in the form of pellets.

3. DESIGN:
(i) R.B.D. (ii) P.B.Q. (iii) N.A. (iv) (a) 13.2' x 26.4'. (b) 12.2' x 25.4'. (v) 0.5' on all sides. (vi) Yes.

4. DESIGN:
(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—contd. (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) Nil. (vii) Nil.

5. RESULTS:
(i) 2587 lb./ac.
(ii) 462.0 lb./ac.
(iii) Main effects and interaction are not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Control=2553 lb./ac.</th>
<th>N1</th>
<th>N2</th>
<th>N3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>2307</td>
<td>2677</td>
<td>2677</td>
<td>2554</td>
</tr>
<tr>
<td>B</td>
<td>2763</td>
<td>2886</td>
<td>2248</td>
<td>2632</td>
</tr>
</tbody>
</table>

Mean = 2535 2781 2463 2593
S.E. of marginal mean of levels of N = 163.3 lb./ac.
S.E. of marginal mean of methods = 133.3 lb./ac.
S.E. of body of table = 231.0 lb./ac.
S.E. of control vs. any mean in the body of table = 326.7 lb./ac.
Crop :- Paddy.  
Site :- Agri. College Farm, Bapatla.

Ref :- A.P. 53(29).  
Type :- 'M'.

Object :- To study the effect of N and P on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) Fallow.  (c) Nil.  (ii) (a) Sandy loam.  (b) Refer soil analysis, Bapatla.  (iii) 13.6.53/24.7.53.
   (iv) (a) Mummery digging once.  (b) Transplanting.  (c) —.  (d) 6' x 6'.  (e) N.A.  (v) Nil.  (vi) MTU-19 (medium).  (vii) Irrigated.  (viii) 2 weedings.  (ix) 16.2' x 24.12.53.

2. TREATMENTS:
   Main-plot treatments:
   Levels of N: N_0 = 0, N_1 = 30, N_2 = 45 and N_3 = 60 lb./ac.
   Sub-plot treatments:
   Levels of P_2O_5: P_1 = 0, P_2 = 30, P_3 = 45 and P_4 = 60 lb./ac.
   N as A/S and P_2O_5 as Super.

3. DESIGN:
   (i) Split plot.  (ii) 4 main-plots/block; 4 Sub-plots/main-plot.  (b) N.A.  (iii) 4.  (iv) (a) 33' x 13.2'  (b) 32' x 12.2'  (v) 0.5' left as border on all sides.  (vi) Yes.

4. GENERAL:
   (i) Satisfactory.  (ii) Nil.  (iii) Grain and straw yield.  (iv) (a) 1953—contd.  (b) Yes.  (c) N.A.  (v) (a) and (b) Nil.  (vi) Nil.  (vii) Nil.

5. RESULTS:
   (i) 2635 lb./ac.
   (ii) (a) 742.3 lb./ac.  (b) 420.2 lb./ac.
   (iii) None of the effects is significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N_0</th>
<th>N_1</th>
<th>N_2</th>
<th>N_3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>P_3</td>
<td>2419</td>
<td>2891</td>
<td>2807</td>
<td>2551</td>
<td>2667</td>
</tr>
<tr>
<td>P_1</td>
<td>2400</td>
<td>3027</td>
<td>2468</td>
<td>2518</td>
<td>2603</td>
</tr>
<tr>
<td>P_2</td>
<td>2878</td>
<td>2764</td>
<td>2776</td>
<td>2530</td>
<td>2757</td>
</tr>
<tr>
<td>P_3</td>
<td>2617</td>
<td>2659</td>
<td>2805</td>
<td>2368</td>
<td>2612</td>
</tr>
</tbody>
</table>

Mean 2578 2835 2714 2492 | 2655

S.E. of difference of two
1. main-plot treatment means = 263.0 lb./ac.
2. sub-plot treatment means = 149.0 lb./ac.
3. sub-plot treatment means at the same level of main-plot treatment = 297.0 lb./ac.
4. main-plot treatment means at the same level of sub-plot treatment = 368.0 lb./ac.

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

Ref :- A.P. 50(16).  
Type :- 'M'.

Object :- To assess the relative merits of two kinds of P_2O_5 viz B.M. and Super each at different levels.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) Paddy.  (c) As per treatments.  (ii) (a) Sandy loam.  (b) Refer soil analysis, Buchireddipalem.  (iii) Transplanted on 3.10.50.  (iv) (a) 2 to 3 dry ploughings.  (b) Transplanting.  (c) —.  (d) 6' x 6'.  (e) 2.  (f) Nil.  (vi) BCP-2 (ste).  (vii) Irrigated.  (viii) 2 to 3 hand weedings.  (ix) 37.80'.  (x) 8.2.51.
2. TREATMENTS:

Main-plot treatments:
- 2 sources of $P_2O_5$: $S_1$ = B.M. and $S_2$ = Super.

Sub-plot treatments:
- 3 levels of $P_2O_5$: $P_0$ = 0, $P_1$ = 30 and $P_2$ = 45 lb./ac.

3. DESIGN:

(i) Split-plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 9' x 42'. (v) No. (vi) Yes.

4. GENERAL:

(i) Normal. (ii) Paddy blast and stemborer appeared in mild scale. (iii) Grain yield. (iv) 1950—contd. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) Nil.

5. RESULTS:

(i) 1827 lb./ac.
(ii) (a) 426.4 lb./ac.
(b) 151.5 lb./ac.
(iii) None of the effects is significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$P_0$</th>
<th>$P_1$</th>
<th>$P_2$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$S_1$</td>
<td>-</td>
<td>1817</td>
<td>1788</td>
<td>1830</td>
</tr>
<tr>
<td>$S_2$</td>
<td>-</td>
<td>1789</td>
<td>1897</td>
<td>1825</td>
</tr>
<tr>
<td>Mean</td>
<td>1837</td>
<td>1803</td>
<td>1842</td>
<td>1827</td>
</tr>
</tbody>
</table>

S.E. of difference of two

1. main-plot treatment means = 174.1 lb./ac.
2. sub-plot treatment means = 75.6 lb./ac.
3. sub-plot treatment means at the same level of main-plot treatment = 107.2 lb./ac.
4. main-plot treatment means at the same level of sub-plot treatment = 194.8 lb./ac.


Object: To assess the relative merits of two kinds of $P_2O_5$ viz, B.M., and Super at different levels.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Bhuchireddipalem. (iii) 25.9.53. (iv) (a) 3 dry ploughings and twice puddling. (b) Transplanted. (c)—. (d) 6' x 6'. (e) 2. (v) 4000 lb./ac. of G.L. (vi) BCP-2 (late). (vii) Irrigated. (viii) 3 weedings. (ix) 28.47'. (x) 2.2.54.

2. TREATMENTS:

All combination of (1) and (2)
(1) 2 sources of $P_2O_5$: $S_1$ = B.M. and $S_2$ = Super.
(2) 3 levels of $P_2O_5$: $P_0$ = 0, $P_1$ = 30 and $P_2$ = 45 lb./ac.

3. DESIGN:

(i) 2 x 3 Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) and (b) 8' x 42'. (v) No. (vi) Yes.

4. GENERAL:

(i) Normal. (ii) Nil. (iii) Grain yield. (iv) 1950—contd. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Nil.
5. RESULTS:
   (i) 2165 lb./ac.
   (ii) 117.1 lb./ac.
   (iii) Main effects and interaction are not significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>P0</td>
<td>—</td>
<td>—</td>
<td>2119</td>
</tr>
<tr>
<td>P1</td>
<td>2153</td>
<td>2206</td>
<td>2179</td>
</tr>
<tr>
<td>P2</td>
<td>2159</td>
<td>2236</td>
<td>2198</td>
</tr>
<tr>
<td>Mean</td>
<td>2156</td>
<td>2221</td>
<td>2165</td>
</tr>
</tbody>
</table>

S.E. of marginal mean = 41.4 lb/ac.
S.E. of body of table = 58.6 lb/ac.

Crop: Paddy.
Ref.: A. P. 50 (14).
Type: ‘M’.

Object: To study the incidence of blast on Paddy manured with lime and Super over a high dose of G.L.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) 50 lb./ac. of G.N.C.+112 lb./ac. of B.M. to 6000 lb./ac. of G.L. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 13.8.50. (iv) (a) 2 to 3 dry ploughings and two puddings. (b) Transplanting. (c)—(d) 6"x6". (e) 2. (v) Nil. (vi) BCP-1 (late). (vii) Irrigated (viii) 2 to 3 hand weeding. (ix) 37.89°. (x) 4.1.51.

2. TREATMENTS:
   1. No manure.
   2. 8000 lb./ac. of G.L.
   3. Treatment 2. 112 lb./ac. of Super.
   4. Treatment 2. 2000 lb./ac. of lime.
   5. Treatment 2. + 112 lb./ac. of Super.
   G.L. ploughed in situ and incorporated into the soil before sowing. Lime applied about a fortnight before sowing and incorporated in the soil. Super applied in puddle.

3. DESIGN:
   (i) R.B.D. (ii) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 10"x20". (v) No. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Paddy blast and Stem borers on mild scale. (iii) Grain yield and the no. of affected and healthy earheads noted. (iv) (a) 1950—1953. (b) Yes. (c) N.A. (d) and (b) Nil. (vi) Nil. (vii) Nil.

5. RESULTS:
   (i) 1599 lb./ac.
   (ii) 231.6 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1447</td>
</tr>
<tr>
<td>2.</td>
<td>1513</td>
</tr>
<tr>
<td>3.</td>
<td>1629</td>
</tr>
<tr>
<td>4.</td>
<td>1720</td>
</tr>
<tr>
<td>5.</td>
<td>1556</td>
</tr>
</tbody>
</table>

S.E./mean = 82.7 lb./ac.
Crop : Paddy.  
Ref : A.P. 52 (45)/50 (14).  
Site : Rice Res. Stn., Buchireddipalem.  
Type : 'M'.  

Object : To study the incidence of blast on Paddy manured with lime and Super over a high dose of G.L.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 1st week of August 1953. (iv) (a) 2 to 3 dry ploughings and two puddings. (b) Transplanted. (c) —. (d) 6" x 6". (e) —. (v) Nil. (vi) BCP-2 (late). (vii) Irrigated. (viii) 2 to 3 hand weedings. (ix) 28.47°. (x) 1st week of February, 1954.

2. TREATMENTS:
1. No manure.
2. 8000 lb./ac. of G.L.
3. Treatment (2)+112 lb./ac. of Super.
4. Treatment (2)+2000 lb./ac. of lime.
5. Treatment (4)+112 lb./ac. of Super.

G.L. puddled in situ before planting; lime puddled in the soil about a fortnight before planting; Super broadcast and mixed with soil just before sowing.

3. DESIGN:
(i) R.B.D. (ii) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 25' x 8'. (v) No. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Slight attack of blast. (iii) Grain yield; 20 plants were taken at random from each plot and the number of healthy and affected earheads counted. (iv) (a) 1950 to 1953. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) No experiment in the year 1951.

5. RESULTS:
(i) 1677 lb./ac.
(ii) 283.1 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1559</td>
</tr>
<tr>
<td>2.</td>
<td>1801</td>
</tr>
<tr>
<td>3.</td>
<td>1493</td>
</tr>
<tr>
<td>4.</td>
<td>1797</td>
</tr>
<tr>
<td>5.</td>
<td>1736</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>± 115.6</td>
</tr>
</tbody>
</table>

Crop : Paddy.  
Ref : A.P. 53(73)/52(45)/50(14).  
Site : Rice Res. Stn., Buchireddipalem.  
Type : 'M'.  

Object : To study the incidence of blast on Paddy manured with lime and Super over a high dose of G.L.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 1st week of August 1953. (iv) (a) 2 to 3 dry ploughings and two puddings. (b) Transplanted. (c) —. (d) 6" x 6". (e) 2. (v) Nil. (vi) BCP-2 (late). (vii) Irrigated. (viii) 2 to 3 weedings. (ix) 28.47°. (x) 1st week of February, 1954.

2. TREATMENTS:
1. No manure.
2. 8000 lb./ac. of G.L.
3. Treatment (2)+112 lb./ac. of Super.
4. Treatment (2)+2000 lb./ac. of lime.
5. Treatment (4)+112 lb./ac. of Super.

G.L. puddled in situ before planting lime puddled into the soil about a fortnight before planting. Super broadcast and mixed with soil just before planting.
3. DESIGN:
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 8' x 25'. (v) No. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Blast attack— not severe. (iii) Grain yield 20 plants were taken at random from each plot
and the number of healthy and affected ear heads counted. (iv) (a) 1950 to 1953. (b) Yes. (c) N.A. (vi)
(a) and (b) Nil. (vii) Nil. (viii) Nil.

5. RESULTS:
(i) 2455 lb./ac.
(ii) 283.1 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2419</td>
</tr>
<tr>
<td>2.</td>
<td>2598</td>
</tr>
<tr>
<td>3.</td>
<td>1858</td>
</tr>
<tr>
<td>4.</td>
<td>2337</td>
</tr>
<tr>
<td>5.</td>
<td>2387</td>
</tr>
<tr>
<td>S.E. mean</td>
<td>115.5 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Paddy.
Site :- Rice Res. Stn., Buchireddipalem.
Ref :- A.P. 49(21).
Type :- 'M'.

Object :- To assess the milling quality of rice when manured with G.N.C. alone or in combination with G.M.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) and (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) N.A.
(iv) (a) 2 to 3 dry ploughings. (b) Transplanted. (c) —. (d) 6' x 6'. (e) 2. (v) Nil. (vi) 2552,
"ate". (vii) Irrigated. (viii) 2 to 3 weedings. (ix) 25.82'. (x) N.A.

2. TREATMENTS:
All combinations of (1) and (2):
(1) 3 levels of G.N.C. : \( G_2 = 0, G_1 = 400 \) and \( G_0 = 600 \) lb./ac.
(2) 2 levels of G.M. : \( M_2 = 0 \) and \( M_1 = 4000 \) lb./ac.
G.M. applied 15 days before planting and ploughed in; G.N.C. applied as top dressing one month after
transplanting.

3. DESIGN:
(i) 3 x 2 Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) and (b) 7' x 44'. (v) No. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Grain yield (samples taken for studying milling properties). (iv) (a) 1949 to
1951. (b) N.A. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) Nil.

5. RESULTS:
(i) 2711 lb./ac.
(ii) 286.0 lb./ac.
(iii) The effects of G.N.C. and G.M are significant. Their interaction is not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>( G_2 )</th>
<th>( G_1 )</th>
<th>( G_0 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( M_0 )</td>
<td>2207</td>
<td>2647</td>
<td>2832</td>
<td>2549</td>
</tr>
<tr>
<td>( M_1 )</td>
<td>2651</td>
<td>3000</td>
<td>2967</td>
<td>2873</td>
</tr>
<tr>
<td>Mean</td>
<td>2429</td>
<td>2803</td>
<td>2899</td>
<td>2711</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of G.N.C. = 101 lb./ac.
S.E. of marginal mean of G.M. = 85.6 lb./ac.
S.E. of body of table = 14.1 lb./ac.
Object:—To ascertain the relative merits of sources of P₂O₅ along with G.N.C.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 12.8.48/22.10.48. (iv) (a) 2 to 3 ploughings. (b) Transplanting. (c)—. (d) 6"x6". (e) 2. (v) Nil. (vi) 1834. (medium). (vii) Irrigated. (viii) 2 to 3 hand-weedings. (ix) 25.56°. (x) 16.2.49.

2. TREATMENTS:
   All combinations of (1) and (2)
   (1) P₀=0. P₁=30 lb./ac. of P₂O₅ as Super, P₁'=30 lb./ac. of P₂O₅ as B.M. and P₁′′=30 lb./ac. of P₂O₅ as Calcined B.M.
   (2) N₀=0 and N₁=G.N.C. at 40 lb./ac. of N.

3. DESIGN:
   (i) 2x4 Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) and (b) 20'x12' (v) No. (vi) Yes.

4. GENERAL:
   (i) Unfavourable season. (ii) Attack of paddy blast and kodu. (iii) Grain yield. (iv) (a) 1944—1949. (b) N.A. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2060 lb./ac.
   (ii) 166.0 lb./ac.
   (iii) Main effect of N alone is significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>P₀</th>
<th>P₁</th>
<th>P₁'</th>
<th>P₁''</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₁</td>
<td>1952</td>
<td>1918</td>
<td>2034</td>
<td>2062</td>
<td>1992</td>
</tr>
<tr>
<td>N₁</td>
<td>2056</td>
<td>2130</td>
<td>2193</td>
<td>2133</td>
<td>2128</td>
</tr>
<tr>
<td>Mean</td>
<td>2034</td>
<td>2034</td>
<td>2114</td>
<td>2098</td>
<td>2060</td>
</tr>
</tbody>
</table>

   S.E. of body of table = 83.0 lb./ac.
   S.E. of marginal mean of P = 58.7 lb./ac.
   S.E. of marginal mean of N = 41.5 lb./ac.

References:

Crop:—Paddy.  Site:—Rice Res. Stn., Buchireddipalem.

Object:—To ascertain the relative merits of sources of P₂O₅ along with G.N.C.
4. GENERAL:

(i) Normal. (ii) Nil. (iii) Grain weight. (iv) (a) 1947 to 1949. (b) N.A. (c) N.A. (v) (a) and (b) Nil (vi) and (vii) Nil.

5. RESULTS:

(i) 5119 lb./ac.
(ii) 570.0 lb./ac.
(iii) Main effects and interaction are not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>P₀</th>
<th>P₁</th>
<th>Pᵢ</th>
<th>Pᵢ'</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₀</td>
<td>5237</td>
<td>5243</td>
<td>5061</td>
<td>5061</td>
<td>5150</td>
</tr>
<tr>
<td>N₁</td>
<td>5010</td>
<td>5325</td>
<td>5445</td>
<td>5375</td>
<td>5289</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of N = 142.5 lb./ac.
S.E. of marginal mean of P = 201.5 lb./ac.
S.E. of body of table = 285.0 lb./ac.

---

Crop: Paddy.
Site: Rice Res. Stn., Buchireddipalem.
Object: To find out the requirement of lime for Paddy.

---

2. TREATMENTS:
Main-plot treatments:
Levels of G.L.: G₀ = 0 and G₁ = G.L. at 6000 lb./ac.
Sub-plot treatments:
Levels of lime: L₀ = 0, L₁ = 100 lb., L₂ = 2000 and L₃ = 3000 lb./ac.

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) 9' x 19'. (v) No. (vi) Yes.

4. GENERAL:
(i) Not satisfactory. (ii) Severe attack of blast. (iii) Height measurements, tiller count and grain yield.
(iv) (a) 1948 to 1950. (b) N.A. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

<table>
<thead>
<tr>
<th></th>
<th>L₀</th>
<th>L₁</th>
<th>L₃</th>
<th>L₄</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>G₀</td>
<td>1421</td>
<td>1385</td>
<td>1429</td>
<td>1604</td>
<td>1460</td>
</tr>
<tr>
<td>G₁</td>
<td>1433</td>
<td>1421</td>
<td>1651</td>
<td>1544</td>
<td>1512</td>
</tr>
</tbody>
</table>

Mean: 1427 1403 1540 1574 1485

S.E. of difference of two
1. main-plot treatment means = 80.4 lb./ac.
2. sub-plot treatment means = 81.6 lb./ac.
3. sub-plot treatment means at the same level of main-plot treatment = 115.5 lb./ac.
4. main-plot treatment means at the same level of sub-plot treatment = 128.3 lb./ac.

---

Ref:- A.P. 48(84).
Type: 'M'.
Crop :- Paddy.
Site :- Rice Res. Sta., Buchireddipalem.

Object :- To study the need of lime for soils of the station.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 14.7.49/1.9.49. (iv) (a) 2 to 3 ploughings. (b) Transplanting. (c) —. (d) $6'\times 6'$. (e) 2. (v) Nil. (vi) BCP-2, (late). (vii) Irrigated. (viii) 2 weedings. (ix) 25.82". (x) 24.1.50.

2. TREATMENTS:
   Main-plot treatments:—
   2 levels of G.M.: $G_0=0$ and $G_1=G.M.$ at 6000 lb./ac.
   Sub-plot treatments:—
   4 levels of lime: $L_0=0$, $L_1=1000$, $L_2=2000$ and $L_3=3000$ lb./ac.

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) $18'\times 10'$. (v) No. (vi) Yes.

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

5. RESULTS:
   (i) 2761 lb./ac.
   (ii) (a) 1889.0 lb./ac.
   (b) 491.9 lb./ac.
   (iii) None of the effects is significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$L_0$</th>
<th>$L_1$</th>
<th>$L_2$</th>
<th>$L_3$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$G_0$</td>
<td>2174</td>
<td>2571</td>
<td>2488</td>
<td>3169</td>
<td>2601</td>
</tr>
<tr>
<td>$G_1$</td>
<td>2983</td>
<td>3116</td>
<td>2739</td>
<td>2847</td>
<td>2921</td>
</tr>
<tr>
<td>Mean</td>
<td>2578</td>
<td>2844</td>
<td>2613</td>
<td>3008</td>
<td>2761</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. main-plot treatment means = 667.8 lb./ac.
2. sub-plot treatment means = 245.9 lb./ac.
3. sub-plot treatment means at the same level of main-plot treatment = 347.9 lb./ac.
4. main-plot treatment means at the same level of sub-plot treatment = 732.7 lb./ac.

---

Crop :- Paddy.
Site :- Rice Res. Sta., Buchireddipalem.

Object :- To find out the requirement of lime for soils of the station.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) 50 lb./ac. of G.N.C.+112 lb./ac. of B.M.+4000 to 6000 lb./ac. of G.L. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 26.7.50/2.10.50. (iv) (a) 2 to 3 dry ploughings. (b) Transplanting. (c) —. (d) $6'\times 6'$. (e) 2. (v) Nil. (vi) BCP-2, (late). (vii) Irrigated. (viii) 2 to 3 band weedings. (ix) 37.80". (x) 8.2.51.

2. TREATMENTS:
   Main-plot treatments:—
   2 levels of G.L.: $G_0=0$ and $G_1=G.L.$ at 4000 lb./ac.
   Sub-plot treatments:—
   4 levels of lime: $L_0=0$, $L_1=1000$, $L_2=2000$ and $L_3=3000$ lb./ac.
34

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) 10'x16'.
(v) No. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Paddy blast and Stemborer appear on a mild scale. (iii) Grain and straw yield. (iv) (a) 1948—950. (b) N.A. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 1685 lb./ac.
(ii) a. 3.56 lb./ac.
(b) 162.8 lb./ac.
(iii) None of the effects is significant.
(iv) Av. yield of grains 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>G₀</td>
<td>1732</td>
<td>1740</td>
<td>1838</td>
<td>1583</td>
<td>1723</td>
</tr>
<tr>
<td>G₁</td>
<td>1482</td>
<td>1808</td>
<td>1531</td>
<td>1762</td>
<td>1646</td>
</tr>
</tbody>
</table>

Mean = 1607, 1774, 1685, 1673, 1685

S.E. of difference of two.

1. main-plot treatment means = 136.6 lb./ac.
2. sub-plot treatment means = 231.3 lb./ac.
3. sub-plot treatment means at the same level of main-plot treatment = 327.3 lb./ac.
4. main-plot treatment means at the same level of sub-plot treatment = 314.7 lb./ac.

Object: To study the maximum potentialities of Paddy with different combinations of N, P and K manures.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Burchiredipalem. (iii) 24 to 28.9.48. (iv) (a) 2 to 3 ploughings. (b) Transplanted. (c) —. (d) 6'x6'. (e) 2. (f) Nil. (vi) N.A. (vii) Irrigated. (viii) 2 to 3 hand weedings. (ix) 25.56". (x) 13.2.49.

2. TREATMENTS:
(1) 6 levels of N: N₀=0, N₁=G.L. (dose N.A.), N₂=N₁+33 lb./ac. of N, N₃=N₁+60 lb./ac. of N, N₄=N₁+93 lb./ac. of N and N₅=N₁+120 lb./ac. of N.
(2) 3 levels of P₂O₅: P₀=0, P₁=33 and P₂=60 lb./ac.
(3) 2 levels of K₂O: K₀=0 and K₁=60 lb./ac.
Other details N.A.

3. DESIGN:
(i) 2x₃x₆ Fact. in R.B.D. (ii) (a) 36. (b) N.A. (iii) 4. (iv) (a) and (b) 9'x19'. (v) No. (vi) Yes.

4. GENERAL:
(i) Not satisfactory. (ii) Severe attack of paddy blast. (iii) Grain weight, height measurements and tiller counts etc. (iv) (a) 1947—1949. (b) N.A. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 2139 lb./ac.
(ii) 276.0 lb./ac.
(iii) Main effects of N and K and interaction NK are significant. Other effects are not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>P₀</th>
<th>P₁</th>
<th>P₂</th>
<th>Mean</th>
<th>K₀</th>
<th>K₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₁</td>
<td>2147</td>
<td>2181</td>
<td>2339</td>
<td>2222</td>
<td>2316</td>
<td>2129</td>
</tr>
<tr>
<td>N₂</td>
<td>2151</td>
<td>2411</td>
<td>2038</td>
<td>2300</td>
<td>2124</td>
<td>2276</td>
</tr>
<tr>
<td>N₃</td>
<td>2129</td>
<td>2119</td>
<td>2029</td>
<td>2092</td>
<td>2107</td>
<td>2078</td>
</tr>
<tr>
<td>N₄</td>
<td>2219</td>
<td>2159</td>
<td>2221</td>
<td>2200</td>
<td>2281</td>
<td>2119</td>
</tr>
<tr>
<td>N₅</td>
<td>2137</td>
<td>2043</td>
<td>2211</td>
<td>2130</td>
<td>1966</td>
<td>2295</td>
</tr>
<tr>
<td>Mean</td>
<td>2117</td>
<td>2151</td>
<td>2151</td>
<td>2139</td>
<td>2122</td>
<td>2157</td>
</tr>
<tr>
<td>K₀</td>
<td>2107</td>
<td>2106</td>
<td>2153</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K₁</td>
<td>2127</td>
<td>2196</td>
<td>2148</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of marginal mean of N  =  56.3 lb./ac.
S.E. of marginal mean of P  =  39.8 lb./ac.
S.E. of marginal mean of K  =  32.5 lb./ac.
S.E. of body of table N X P  =  97.6 lb./ac.
S.E. of body of table N X K  =  79.7 lb./ac.
S.E. of body of table P X K  =  56.3 lb./ac.

Crop: Paddy.
Site: Rice Res. Stn., Buchireddipalem.
Object: To study the maximum potentialities of the Paddy crop, with different combinations of N, P and K manures.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) N.A.
(iv) (a) 2 to 3 ploughings. (b) Transplanted. (c) —. (d) 6° X 6°. (e) 2. (v) Nil. (vi) N.A.
(vii) Irrigated. (viii) N.A. (ix) 25.82°. (x) N.A.

2. TREATMENTS:
All combinations of (1), (2) and (3)
(1) 6 levels of N: N₀ = 0, N₁ = G.L. (dose N.A.), N₂ = N₁ + 30 lb./ac., N₃ = N₁ + 60 lb./ac. of N,
   N₄ = N₁ + 90 lb./ac. of N and N₅ = N₁ + 120 lb./ac. of N.
(2) 3 levels of P₂O₅: P₀ = 0, P₁ = 30 and P₂ = 60 lb./ac.
(3) 2 levels of K₂O: K₀ = 0 and K₁ = 60 lb./ac.
Other details N.A.

3. DESIGN:
(i) 2 X 3 X 6 Fact. in R.B.D. (ii) (a) 36. (b) N.A. (iii) 4. (iv) (a), (b) 25° X 10°. (v) No. (vi) Yes.

4. GENERAL:
(i) Pre-lodging of crop in plots receiving higher dosage of N. (ii) N.A. (iii) Grain yield. (iv) (a) 1947 to 1949. (b) N.A. (c) Nil. (v) (a), (b) Nil. (vi) Nil. (vii) Raw data and calculation sheets not traceable.

5. RESULTS:
(i) 2291 lb./ac.
(ii) N.A.
(iii) Main effect of N and interactions N X K, N X P and P X K are significant (treatments receiving G.L.).
(iv) Av. yield of grain in lb./ac.

A. For treatments averaged over 'N₀' plots (i.e. over no G.L.),

<table>
<thead>
<tr>
<th></th>
<th>P₀</th>
<th>P₁</th>
<th>P₂</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>K₀</td>
<td>2992</td>
<td>2338</td>
<td>3168</td>
<td>2586</td>
</tr>
<tr>
<td>K₁</td>
<td>2388</td>
<td>2717</td>
<td>2652</td>
<td>2833</td>
</tr>
</tbody>
</table>

Mean. 2690 2527 2910 2709

S.E. of marginal mean of P = 152.0 lb./ac.
S.E. of marginal mean of K = 125.0 lb./ac.
S.E. of body of table = 193.0 lb./ac.

B. For treatments averaged over plots receiving G.L.

<table>
<thead>
<tr>
<th></th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
<th>N₄</th>
<th>N₅</th>
<th>Mean</th>
<th>K₀</th>
<th>K₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>P₀</td>
<td>2136</td>
<td>2868</td>
<td>2369</td>
<td>2103</td>
<td>1792</td>
<td>2254</td>
<td>2422</td>
<td>2085</td>
</tr>
<tr>
<td>P₁</td>
<td>2822</td>
<td>2336</td>
<td>2603</td>
<td>1828</td>
<td>1326</td>
<td>2183</td>
<td>2154</td>
<td>2112</td>
</tr>
<tr>
<td>P₂</td>
<td>2725</td>
<td>2590</td>
<td>2186</td>
<td>1774</td>
<td>1649</td>
<td>2185</td>
<td>2043</td>
<td>2327</td>
</tr>
</tbody>
</table>

Mean 2561 2598 2386 1902 1589 2207 2175 2240

S.E. of marginal mean of N = 100.0 lb./ac.
S.E. of marginal mean of P = 77.0 lb./ac.
S.E. of marginal mean of K = 50.0 lb./ac.
S.E. of body of table N×P = 173.0 lb./ac.
S.E. of body of table N×K = 141.0 lb./ac.
S.E. of body of table P×K = 109.0 lb./ac.

Crop :- Paddy.
Site :- Rice Res. Stn., Buchireddipalem.
Ref :- A. P. 48 (28).
Type :- 'M'.

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

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A. (d) Sandy loam. (b) Refer soil analysis, Buchireddipalem (iii) 18.8.48/3.11.48. (iv) (a) 2 to 3 dry ploughings. (b) Transplanting. (c). (d) 6'×6'. (e) 2. (v) Nil. (vi) BCP-I. (vii) Irrigated. (viii) 2 to 3 hand weeding. (ix) 25.56'. (x) 22.2.49.

2. TREATMENTS:
   1. No manure.
   2. Pati manure to supply 40 lb./ac. of N.
   3. P.Y.M. at 40 lb./ac. of N.
   4. G.L. at 40 lb./ac. of N.
   5. G.N.C. at 40 lb./ac. of N.
   6. A/S at 40 lb./ac. of N.
   7. (G.N.C. + A/S) each at 40 lb./ac. of N+B.M. (details N.A.).

3. DESIGN:
   (i) R.B.D. (ii) 7. (b) N.A. (iii) 4. (iv) (a), (b) 6'×20'. (v) No. (vi) Yes.

4. GENERAL:
   (i) Unfavourable season. (ii) Severe attack of paddy blast and Kodu. (iii) Grain yield. (iv) (a) 1946 to 1948. (b) N.A. (c) N.A. (v) (a) (b) N.A. (vi) and (vii) Nil.
5. RESULTS:
(i) 1904 lb./ac.
(ii) 221.4 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1826</td>
</tr>
<tr>
<td>2</td>
<td>1713</td>
</tr>
<tr>
<td>3</td>
<td>1770</td>
</tr>
<tr>
<td>4</td>
<td>1736</td>
</tr>
<tr>
<td>5</td>
<td>1843</td>
</tr>
<tr>
<td>6</td>
<td>2098</td>
</tr>
<tr>
<td>7</td>
<td>1651</td>
</tr>
</tbody>
</table>
S.E./mean = 110.7 lb./ac.

Crop := Paddy.
Site := Rice Res. Stn., Buchireddipalem.
Object := To determine the best time of application of G.N.C. to Paddy crop.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 18.8.48/3.11.48. (iv) (a) 2 to 3 dry ploughings. (b) Transplanted. (c)--, (d) 6' x 6'. (e) 2. (v) 2000 lb./ac. of G.L. (vi) BCP-1. (vii) Irrigated. (viii) 2 to 3 hand weedings. (ix) 25.56°. (x) 22.2.49.

2. TREATMENTS:
1. 40 lb./ac. of N as G.N.C. applied at planting.
2. 40 lb./ac. of N as G.N.C. applied 15 days after planting.
3. 40 lb./ac. of N as G.N.C. applied 30 days after planting.
4. 40 lb./ac. of N as G.N.C. applied 45 days after planting.
5. 40 lb./ac. of N as G.N.C. applied 60 days after planting.
6. 40 lb./ac. of N as G.N.C. applied 75 days after planting.
7. 40 lb./ac. of N as G.N.C. applied 90 days after planting.

3. DESIGN:
(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a), (b) 6' x 20'. (v) No. (vi) Yes.

4. GENERAL:
(i) Unfavourable season. (ii) Severe attack of paddy blast and Kodu. (iii) Grain yield. (iv) (a) 1946 to 1948. (b) N.A. (c) N.A. (v) (a), (b) N.A. (vi) and (vii) Nil

5. RESULTS:
(i) 1550 lb./ac.
(ii) 272.3 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1415</td>
</tr>
<tr>
<td>2</td>
<td>1764</td>
</tr>
<tr>
<td>3</td>
<td>1446</td>
</tr>
<tr>
<td>4</td>
<td>1429</td>
</tr>
<tr>
<td>5</td>
<td>1435</td>
</tr>
<tr>
<td>6</td>
<td>1656</td>
</tr>
<tr>
<td>7</td>
<td>1702</td>
</tr>
</tbody>
</table>
S.E./mean = 136.2 lb./ac.
Crop: Paddy (Abi).

Site: Govt. Agri. Farm, Dindi.

Object: To determine the best time of application of manure to Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Charka (Sandy loam). (b) Refer soil analysis, Dindi. (iii) 20 6.53.
   (iv) (a) Dry ploughing, 2 puddlings and levelling. (b) Transplanting. (c)-(d) 6'×6'. (e) N.A. (v) Nil. (vi) H.R. 19 (medium). (vii) Irrigated. (viii) Weeding 3 times. (ix) 35.04 (during Abi, 53-54). (x) 26.10.53.

2. TREATMENTS:
   1. Control (no manure).
   2. Manure in puddle (30 lb./ac. of N as paddy fertilizer mixture).
   3. Manure split (15 lb./ac. of N at the time of puddling + 15 lb./ac. of N after one month).
   4. Manure at weeding (30 lb./ac. of N at the time of first weeding, one month after transplantation).

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 2. (iv) (a), (b) 1/40 acre. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Good. Total lodging in September and October 53 due to heavy rains. (ii) Nil. (iii) Grain weight and straw weight, height in inches and no. of tillers etc. (iv) (a) No. (b) No. (c) N.A. (v) (a), (b) Govt. Farm, Himayatsagar and Agri. Res. Stn., Rudrur. (vi) and (vii) Nil.

5. RESULTS:
   (i) 638 lb/ac.
   (ii) 84.0 lb/ac.
   (iii) Treatments differ highly significantly.
   (iv) Av. yield of grain in lb/ac.
   Treatment | Av. yield |
   ---------- | --------- |
   1.        | 460       |
   2.        | 1080      |
   3.        | 560       |
   4.        | 450       |
   S.E./mean = 59.5 lb/ac.

Crop: Paddy (Abi).


Object: To determine the manurial requirement of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Regur. (b) Refer soil analysis, Himayatsagar. (iii) 5.7.48. (iv) (a) 4 puddlings and 2 levellings. (b) Transplanted. (c) 30 lb./ac. (d) 6'×6'. (e) Nil. (vi) H.R.19. (vii) Irrigated. (viii) One weeding and roughing. (ix) 34.86. (x) 24.10.48.

2. TREATMENTS:
   1. 15 lb/ac. of P₂O₅.
   2. 30 lb./ac. of P₂O₅.
   3. 45 lb./ac. of P₂O₅.
   4. 60 lb./ac. of P₂O₅.
   A basal dose of 60 lb./ac. of N as G.N.C. given to all plots. P₂O₅ as mixture of Super and B.M. in the ratio 1:1.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 7. (iv) (a) and (b) 34'×16'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. Lodging occurred in September 1948. (ii) Slight attack of Hispa. (iii) Grain and straw yield. (iv) (a) 1947 (Abi. 47-48) to 1951 (Tabi. 51-52). (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.
5. RESULTS:
(i) 2905 lb./ac.
(ii) 76.72 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2926</td>
</tr>
<tr>
<td>2.</td>
<td>2846</td>
</tr>
<tr>
<td>3.</td>
<td>2869</td>
</tr>
<tr>
<td>4.</td>
<td>2983</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 29.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy (Tabi).
Object: To determine the manurial requirement of Paddy.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Regur. (b) Refer soil analysis, Himayatsagar. (iii) 23.1.49. (iv) 2 puddlings and levelling. (b) Transplanted. (c) 6'x4'. (d) N.A. (e) Nil. (vi) H.R. 19. (vii) Irrigated. (viii) One weeding. (ix) 1.76'. (x) 3.5.49.

2 TREATMENTS:
1. 15 lb./ac. of P\textsubscript{2}O\textsubscript{5}
2. 30 lb./ac. of P\textsubscript{2}O\textsubscript{5}
3. 45 lb./ac. of P\textsubscript{2}O\textsubscript{5}
4. 60 lb./ac. of P\textsubscript{2}O\textsubscript{5}
A basal dose of 60 lb./ac. of N as G.N.C. given to all plots, P\textsubscript{2}O\textsubscript{5} as mixture of Super and B.M. in the ratio 1:1.

3. DESIGN:
(i) R.B.D. (ii) 4. (b) N.A. (iii) 7. (iv) 36'x19'. (b) 34'x16'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947 (Abi. 47-48) to 1951 (Tabi 51-52). (b) Yes. (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 3071 lb./ac.
(ii) 266.7 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3131</td>
</tr>
<tr>
<td>2.</td>
<td>2903</td>
</tr>
<tr>
<td>3.</td>
<td>3189</td>
</tr>
<tr>
<td>4.</td>
<td>3063</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 101.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy (Abi).
Object: To determine the manurial requirement of Paddy.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Regur. (b) Refer soil analysis, Himayatsagar. (iii) 16.6.49. (iv) 2 puddlings and levelling. (b) Transplanted. (c) 6'x4'. (d) N.A. (v) Nil. (vi) H.R. 19. (vii) Irrigated. (viii) 1 hand weeding. (ix) 21.70'. (x) 9.10.49.
2. TREATMENTS:

1. 15 lb./ac. of $P_2O_5$.
2. 30 lb./ac. of $P_2O_5$.
3. 45 lb./ac. of $P_2O_5$.
4. 60 lb./ac. of $P_2O_5$.

A basal dose of 50 lb./ac. of N as G.N.C. given to all plots. $P_2O_5$ as mixture of Super and B.M. in the ratio 1:1.

3. DESIGN:

(i) R.B.D. (ii) 4. (b) N.A. (iii) 7. (iv) (a) 36'x19'; (b) 34'x16'. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947 (Abi 47-48) to 1951 (Tabi 51-52). (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

(i) 1870 lb./ac.
(ii) 321.6 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1776</td>
</tr>
<tr>
<td>2.</td>
<td>1888</td>
</tr>
<tr>
<td>3.</td>
<td>1728</td>
</tr>
<tr>
<td>4.</td>
<td>2088</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>121.8 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy (Tabi)

Ref: A.P. 50(41)/49(41, 42)/48(56).

Site: Agri. Res. Stn., Himayatsagar. Type: 'M'.

Object: To determine the manurial requirement of Paddy.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Medium black. (b) Refer soil analysis, Himayatsagar. (iii) 1.250. (iv) (a) 2 puddings and one levelling. (b) Transplanted. (c) --. (d) 6'x4'. (e) N.A. (v) Nil. (vi) H.R. 19. (vii) Irrigated. (viii) 1 hand weeding. (ix) 3.214. (x) 3.5.50.

2. TREATMENTS:

1. 15 lb./ac. of $P_2O_5$.
2. 30 lb./ac. of $P_2O_5$.
3. 45 lb./ac. of $P_2O_5$.
4. 60 lb./ac. of $P_2O_5$.

A basal dose of 60 lb./ac. of N as G.N.C. given to all plots. $P_2O_5$ as mixture of Super and B.M. in the ratio 1:1.

3. DESIGN:

(i) R.B.D. (ii) 4. (b) N.A. (iii) 7. (iv) (a) 36'x19'; (b) 34'x16'. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Crop damaged by wild bears. (iii) Grain and straw yield. (iv) (a) 1947 (Abi 47-48) to 1951 (Tabi 51-52). (b) Yes. (c) N.A. (v) (a) N.A. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

(i) 1870 lb./ac.
(ii) 321.6 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1800</td>
</tr>
<tr>
<td>2.</td>
<td>1902</td>
</tr>
<tr>
<td>3.</td>
<td>2102</td>
</tr>
<tr>
<td>4.</td>
<td>2229</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>108.3 lb./ac.</td>
</tr>
</tbody>
</table>
Crop :- Paddy (Abi)  
Site :- Agri. Res. Stn., Himayatsagar. Type :-‘M’.

Object :- To determine the manurial requirement of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Regur (b) Refer soil analysis, Himayatsagar. (iii) 28.6.50
   (iv) (a) 1 dry ploughing, 2 puddlings and one levelling (b) Transplanted. (c) —— (d) 6’×4’. (e) N.A. (vi) H.R. 19
   (vii) Irrigated. (viii) One hand weeding and one roughing (xi) 42.15” (x) 16.10.50.

2. TREATMENTS:
   1. 15 lb./ac. of P2O5.
   2. 30 lb./ac. of P2O5.
   3. 45 lb./ac. of P2O5.
   4. 60 lb./ac. of P2O5.
   A basal dose of 60 lb./ac. of N as G.N.C. given to all plots. P2O5 as mixture of Super and B.M. in
   the ratio 1 : 1.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4 (b) N.A. (iii) 7. (iv) (a) 36’×19’ (b) 34’×16’ (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Heavily attacked by Stemborer and Hispa. (iii) Grain yield. (iv) (a) 1947 (Abi 47-48) to 1951
   (Tabi 51-52) (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) & (vii) Nil.

5. RESULTS
   (i) 2411 lb./ac.
   (ii) 323.8 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.
   Treatment  | Av. yield
   1.          | 2589
   2.          | 2349
   3.          | 2257
   4.          | 2451
   S.E./mean  | 122.0 lb./ac.

---

Crop :- Paddy (Tabi)  
Site :- Agri. Res. Stn., Himayatsagar. Type :-‘M’.

Object :- To determine the manurial requirement of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Medium black. (b) Refer soil analysis, Himayatsagar. (iii) 18.1.51.
   (iv) (a) One dry ploughing, 2 puddlings and levelling. (b) Transplanted. (c) —— (d) 6’×4’. (e) N.A.
   (v) Nil. (vi) H.R. 19. (vii) Irrigated. (viii) One hand weeding. (ix) 0.88” (x) 23.4.51.

2. TREATMENTS:
   1. 15 lb./ac. of P2O5.
   2. 30 lb./ac. of P2O5.
   3. 45 lb./ac. of P2O5.
   4. 60 lb./ac. of P2O5.
   A basal dose of 60 lb./ac. of N as G.N.C. applied to all plots. P2O5 as mixture of Super and B.M. in
   the ratio 1 : 1.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4 (b) N.A. (iii) 7. (iv) (a) 36’×18’. (b) 34’×16’. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Heavy attack of Stemborer (iii) Grain yield. (iv) (a) 1947 (Abi 47-48) to 1951 (Tabi
   51-52) (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) & (vii) Nil.
5. RESULTS:

(i) 1898 lb./ac.
(ii) 355.6 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1914</td>
</tr>
<tr>
<td>2.</td>
<td>1771</td>
</tr>
<tr>
<td>3.</td>
<td>2000</td>
</tr>
<tr>
<td>4.</td>
<td>1909</td>
</tr>
<tr>
<td>S.E. mean</td>
<td>134.7 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy. (Abi)

Ref: - A.P. 51(2)/51(70)/50(41,42)/49(41,42)/48(56).


Type: 'M'.

Object: To determine the manurial requirement of Paddy.

1. BASAL CONDITIONS:

(i) (a) N.A. (b) Paddy. (c) As per treatments.
(ii) (a) Medium black. (b) Refer soil analysis, Himayatsagar.
(iii) Transplanted on 14.7.51 (date of sowing N.A.)
(iv) (a) Dry ploughing, 2 puddlings and levelling before sowing.
(b) Transplanting.
(c) -
(d) 6' x 4'.
(e) N.A.
(v) Nil.
(vi) H.R.19.
(vii) Irrigated.
(viii) Hand weeding.
(ix) 2.66' during Abi 1951-52.
(x) 23.10.51.

2. TREATMENTS:

1. 15 lb./ac. of P$_2$O$_5$.
2. 30 lb./ac. of P$_2$O$_5$.
3. 45 lb./ac. of P$_2$O$_5$.
4. 60 lb./ac. of P$_2$O$_5$.

A basal dose of 60 lb./ac. of N as G.N.C. given to all plots. P$_2$O$_5$ applied as mixture of Super and B.M. in 1 : 1 ratio.

3. DESIGN:

(i) R.B.D. (a) 4. (b) N.A. (iii) 7. (iv) (a) 35' x 15'. (b) 34' x 16'. (v) N.A. (vi) Yes.

4. GENERAL:

(i) N.A.
(ii) Attack of Hispa—The area was dusted with gammaxene and tips of leaves were removed and burnt. Attack of stemborer—affected plants removed and burnt.
(iii) Straw weight.
(iv) (a) 1947 to 1951 (Tabi 1951-52).
(b) Yes.
(c) N.A.
(v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 1922 lb./ac.
(ii) 233.6 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1904</td>
</tr>
<tr>
<td>2.</td>
<td>1909</td>
</tr>
<tr>
<td>3.</td>
<td>1834</td>
</tr>
<tr>
<td>4.</td>
<td>2040</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>88.1 lb./ac.</td>
</tr>
</tbody>
</table>
Crop: Paddy (Tabi).


Type: 'M'.

Object: To determine the manurial requirement of Paddy.

1. BASAL CONDITIONS:

(i) (a) N.A. (b) Paddy. (c) As per treatments. (ii) (a) Medium black. (b) Refer soil analysis, Himayatsagar. (iii) 28.12.51. (iv) (a) One dry ploughing, 2 puddling and levelling. (b) Transplanting. (c) -. (d) 6' x 4'. (e) N.A. (v) Nil. (vi) H.R.-19. (vii) N.A. (viii) One hand weeding. (ix) 6.23'. (during Tabi 1951-52). (x) 19.4.52.

2. TREATMENTS:

1. 15 lb./ac. of P2O5.
2. 30 lb./ac. of P2O5.
3. 45 lb./ac. of P2O5.
4. 60 lb./ac. of P2O5.

A basal dose of 60 lb./ac. of N given to all plots. P2O5 applied as mixture of B.M. and Super in the ratio 1:1.

3. DESIGN:

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 7. (iv) (a) 36' x 18'. (b) 34' x 16'. (v) N.A. (vi) Yes.

4. GENERAL:

(i) N.A. (ii) Attack of Hispa: gammaxene dusting. (iii) Grain weight. (iv) (a) 1947 to Tabi 1951-52. (b) Yes. (c) N.A. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 2500 lb./ac.
(ii) 408.8 lb./ac.

(iii) Treatments do not differ significantly.

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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2242</td>
</tr>
<tr>
<td>2.</td>
<td>2334</td>
</tr>
<tr>
<td>3.</td>
<td>2586</td>
</tr>
<tr>
<td>4.</td>
<td>2837</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>154.2 lb./ac.</td>
</tr>
</tbody>
</table>

Object: To compare the effect of application of different kinds of P2O5 manures on the yield of Paddy.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Green brown sandy clay soil. (b) Refer soil analysis, Himayatsagar. (iii) N.A. (iv) (a) Puddling and levelling. (b) Transplanting. (c) -. (d) 6' x 4'. (e) N.A. (v) G.N.C. at 30 lb./ac. of N. (vi) H.R.-19. (vii) Irrigated. (viii) One weeding. (ix) 34.86'. (x) N.A.

2. TREATMENTS:

1. No manure (control).
2. Bone dust at 15 lb./ac. of P2O5.
3. Super at 15 lb./ac. of P2O5.
4. Rock Phosphate at 15 lb./ac. of P2O5.

3. DESIGN:

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 52' x 45'. (b) 50' x 44'. (v) N.A. (vi) Yes.
4. GENERAL:
(i) Satisfactory. (ii) Slight attack of Hispa. (iii) Grain and straw yield. (iv) (a) 1948 (Abi 48-49) to 1951 (Tabi 1950-51). (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) Nil. (vii) Raw data N.A.

5. RESULTS:
(i) 2279 lb./ac.
(ii) N.A.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2140</td>
</tr>
<tr>
<td>2.</td>
<td>2080</td>
</tr>
<tr>
<td>3.</td>
<td>2540</td>
</tr>
<tr>
<td>4.</td>
<td>2355</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>N.A.</td>
</tr>
</tbody>
</table>


Object: To compare different kinds of P₂O₅ manures in giving high yield.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Regur. (b) Refer soil analysis, Himayatsagar.
(iii) Last week of January, 1949. (iv) (a) Puddling and levelling. (b) Transplanted. (c) —. (d) 6’x4’.
(e) N.A. (v) G.N.C at 10 lb./ac. of N. (vi) H.R.-19. (vii) Irrigated. (viii) One weeding. (ix) 1.76”.
(x) N.A.

2. TREATMENTS:
1. No manure control.
2. B.M. at 15 lb./ac. of P₂O₅.
3. Super at 15 lb./ac. of P₂O₅.
4. Rock Phosphate at 15 lb./ac. of P₂O₅.
Other details N.A.

3. DESIGN:
(i) R.B.D. (ii) 4. (b) N.A. (iii) 4. (iv) (a) 5’x4’. (b) 5’x4’. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948 (Abi 1948-49) to 1951 (Tabi 1950-51). (b) Yes. (c) N.A. (v) (a), (b) N.A. (vi) Nil. (vii) Raw data is not traceable.

5. RESULTS:
(i) 16 5 lb./ac.
(ii) N.A.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1530</td>
</tr>
<tr>
<td>2.</td>
<td>1535</td>
</tr>
<tr>
<td>3.</td>
<td>1933</td>
</tr>
<tr>
<td>4.</td>
<td>1705</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>N.A.</td>
</tr>
</tbody>
</table>
Crop :- Paddy (Abi).  
Site :- Agri. Res. Stn., Himayatsagar.  
Object :- To compare different kinds of P₂O₅ manures in giving high yield.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Regur. (b) Refer soil analysis, Himayatsagar.
   (iii) 18.6.49. (iv) (a) Puddling and levelling. (b) Transplanted. (c) —. (d) 6' × 4'. (e) N.A. (v) G.N.C.
   at 30 lb./ac. of N. (vi) H.R.-19. (vii) Irrigated. (viii) One hand weeding. (ix) 21.70°. (x) 11.10.49.

2. TREATMENTS:
   1. No manure (control).
   2. B.M. at 15 lb./ac. of P₂O₅.
   3. Super at 15 lb./ac. of P₂O₅.
   4. Rock Phosphate at 15 lb./ac. of P₂O₅.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 52' × 45'. (b) 50' × 44'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Mild attack of Hispa. (iii) Grain and straw yield. (iv) (a) 1948 (Abi 1948-49) to 1951
   (Tabi 1950-51). (b) Yes. (c) N.A. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1723 lb./ac.
   (ii) 178.8 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.
   Treatment | Av. yield
   1.        | 1565
   2.        | 1655
   3.        | 1985
   4.        | 1685
   S.E./mean | $9.4 lb./ac.
5. RESULTS:
   (i) 5.7.6 lb/ac.
   (ii) 247.2 lb/ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>395.0</td>
</tr>
<tr>
<td>2.</td>
<td>652.4</td>
</tr>
<tr>
<td>3.</td>
<td>34.0</td>
</tr>
<tr>
<td>4.</td>
<td>552.4</td>
</tr>
<tr>
<td>S.E. mean</td>
<td>123.6 lb/ac</td>
</tr>
</tbody>
</table>

Crop: Paddy (Tabi).
Ref: A.P. 59(47) 50(46) 49(43,44) 48(57).
Type: 'M'.

Object:—To compare different kinds of P<sub>2</sub>O<sub>5</sub> manures in giving high yield.

1. BASAL CONDITIONS:
   (i) N.4. (b) Paddy. (c) As per treatments. (ii) Regur. (b) Refer soil analysis, Himayatsagar. (iii) 26.6.50. (iv) 1'2 puddings and one levelling. (b) Transplanted. (c)—. (d) 6'×4'. (e) N.A. (v) G.N.C. at 33 lb/ac of N. (vi) H.R. 19. (vii) Irrigated. (viii) One hand weeding. (ix) 0.15. (x) 17.10.53.

2. TREATMENTS:
   1. Control (no manure)
   2. 15 lb/ac of P<sub>2</sub>O<sub>5</sub> as B.M.
   3. 15 lb/ac of P<sub>2</sub>O<sub>5</sub> as Super.
   4. 15 lb/ac of P<sub>2</sub>O<sub>5</sub> as Rock Phosphate.

3. DESIGN:
   (i) R.B.D. (ii) a: 4. (b) N.A. (iii) (iv) (a) 51'×45'. (b) 50'×44'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Slight attack of Hispa and Stemborer. (iii) Grain and straw yield. (iv) (a) 19.8 (Abi 1944–49; to 1951 (Tabi 1950–51). (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi); and (vii) Nil.

5. RESULTS:
   (i) 2259 lb/ac.
   (ii) 2260 lb/ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2050</td>
</tr>
<tr>
<td>2.</td>
<td>2255</td>
</tr>
<tr>
<td>3.</td>
<td>2395</td>
</tr>
<tr>
<td>4.</td>
<td>2215</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>114.0 lb/ac</td>
</tr>
</tbody>
</table>

Crop: Paddy (Tabi).
Ref: A.P. 51(73) 50(46,47) 49(43,44) 48(57).
Type: 'M'.

Object:—To compare different kinds of P<sub>2</sub>O<sub>5</sub> manures in giving high yield.

1. BASAL CONDITIONS:
   (i) N.4. (b) Paddy. (c) As per treatments. (ii) Medium black. (b) Refer soil analysis, Himayatsagar. (iii) 19.1.51. (iv) (a) Dry ploughing, 2 puddings and levelling. (b) Transplanted. (c)—. (d) 6'×4'. (e) N.A. (v) G.N.C. at 33 lb/ac of N. (vi) H.R. 14. (vii) Irrigated. (viii) One hand weeding. (ix) 0.88'. (x) 24.4.51.
2. TREATMENTS:
1. Control (no manure).
2. 15 lb./ac. of P₂O₅ as B.M.
3. 15 lb./ac. of P₂O₅ as Super.
4. 15 lb./ac. of P₂O₅ as Rock Phosphate.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 52'×45'. (b) 50'×44'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Not satisfactory. (ii) Heavy attack of Stemborer and Hisha. (iii) Grain and straw yield. (iv) (a) 1948 (Abi 1948-49) to 1951 (Tabi 1950-51). (b) Yes (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 1204 lb./ac.
(ii) 299.6 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1200</td>
</tr>
<tr>
<td>2</td>
<td>1014</td>
</tr>
<tr>
<td>3</td>
<td>1498</td>
</tr>
<tr>
<td>4</td>
<td>1105</td>
</tr>
</tbody>
</table>

S.E./mean = 149.8 lb./ac.

Crop :- Paddy (Abi).
Site :- Agri. Res. Stn., Himayatsagar.
Ref :- A.P. 51(4).
Type :- 'M'.

Object :- To study the residual effect of P₂O₅ applied for 6 seasons prior to Abi 1951-52.

1. BASAL CONDITIONS:
(i) (a) No. (b) Paddy. (c) As per treatments. (ii) (a) Sandy clay soil. (b) Refer soil analysis, Himayatsagar. (iii) N.A./14.7.51. (iv) (a) Dry ploughing & 2 puddlings. (b) Transplanted. (c)— (d) 6"×4". (e) N.A. (v) Nil. (vi) H.R. 19. (vii) Irrigated. (viii) Hand weeding. (ix) 20.66° (during Abi. 51-52). (x) 31.11.51.

2. TREATMENTS:
1. Control (no manure).
2. 30 lb./ac. of N as G.N.C. + residual effect of B.M. at 15 lb./ac. of P₂O₅.
3. 30 lb./ac. of N as G.N.C. + residual effect of Super at 15 lb./ac. of P₂O₅.
4. 30 lb./ac. of N as G.N.C. + residual effect of Rock Phosphate at 15 lb./ac. of P₂O₅.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 52'×45'. (b) 50'×44'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) N.A. (ii) Attacked by Stemborer. Affected plants removed and burnt. (iii) Grain and straw weight. (iv) (a) 1951 (Abi 51-52) to 1953 (Tabi 52-53). (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 1451 lb./ac.
(ii) 301.9 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1020</td>
</tr>
<tr>
<td>2</td>
<td>1542</td>
</tr>
<tr>
<td>3</td>
<td>1769</td>
</tr>
<tr>
<td>4</td>
<td>1535</td>
</tr>
</tbody>
</table>

S.E./mean = 151.0 lb./ac.
Crop :- Paddy (Tabi).
Site :- Agri. Res. Stn., Himayatsagar.
Type :- 'M'.
Ref :- A.P. 51(15),51(4).

Object—To study the residual effect of \( P_2O_5 \) applied for 6 seasons prior to \( Abi \) 1951-52.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy clay soil. (b) Refer soil analysis, Himayatsagar. (iii) N.A./21.12.51. (iv) (a) Dry ploughing, 2 puddlings and levelling. (b) Transplanted. (c) Nil. (d) 6'x4'. (e) N.A. (v) Nil. (vi) H.R. 19. (vii) Irrigated. (viii) One weeding. (ix) 6.23' (during Tabi 1951-52). (x) 26.4.52.

2. TREATMENTS :
   1. Control (no manure).
   2. 30 lb./ac. of N as G.N.C.+residual effect of B.M. at 15 lb./ac. of \( P_2O_5 \).
   3. 30 lb./ac. of N as G.N.C.+residual effect of Super at 15 lb./ac. of \( P_2O_5 \).
   4. 30 lb./ac. of N as G.N.C.+residual effect of Rock Phosphate at 15 lb./ac. of \( P_2O_5 \).

3. DESIGN :
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 52'x45'. (b) 50'x44'. (v) N.A. (vi) Yes.

4. GENERAL :
   (i) N.A. (ii) Gammaxene dusted for Hispa and Perenxt spraying for Helminthosporium. (iii) Grain yield. (iv) (a) 1951 (Abi 1951-52) to 1953 (Tabi 52-53). (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :
   (i) 1946 lb./ac.
   (ii) 634.4 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1318</td>
</tr>
<tr>
<td>2.</td>
<td>2042</td>
</tr>
<tr>
<td>3.</td>
<td>2308</td>
</tr>
<tr>
<td>4.</td>
<td>2116</td>
</tr>
</tbody>
</table>

S.E./mean = 318 0 lb./ac.

---

Crop :- Paddy (Abi).
Site :- Agri. Res. Stn., Himayatsagar.
Type :- 'M'.
Ref :- A.P. 52(34)/51(4, 15).

Object —To study the residual effect of \( P_2O_5 \) applied for 6 seasons prior to \( Abi \) 1951-52.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Paddy. (c) G.N.C. at 30 lb./ac. of N. (ii) (a) Sandy clay soil. (b) Refer soil analysis, Himayatsagar. (iii) 18.8.51. (iv) (a) Usual ploughing and levelling. (b) Transplanted. (c) Nil. (d) 6'x4'. (e) N.A. (v) Nil. (vi) H.R. 19. (vii) Irrigated. (viii) Weeding. (ix) 22.59'. (x) 11.11.52.

2. TREATMENTS :
   1. Control (no manure).
   2. 30 lb./ac. of N as G.N.C.+residual effect of B.M. at 15 lb./ac. of \( P_2O_5 \).
   3. 30 lb./ac. of N as G.N.C.+residual effect of Super at 15 lb./ac. of \( P_2O_5 \).
   4. 30 lb./ac. of N as G.N.C.+residual effect of Rock Phosphate at 15 lb./ac. of \( P_2O_5 \).

3. DESIGN :
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 52'x45'. (b) 1/20 acre. (v) N.A. (vi) Yes.

4. GENERAL :
   (i) N.A. (ii) Blast attack at the flowering stage. (iii) Straw weight and grain yield. (iv) (a) 1951 (Abi 1951-52) to 1953 (Tabi 52-53). (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) The yield is low due to blast attack at the flowering stage.
RESULTS:

(i) 308 lb./ac.
(ii) 248.0 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>120</td>
</tr>
<tr>
<td>2</td>
<td>335</td>
</tr>
<tr>
<td>3</td>
<td>440</td>
</tr>
<tr>
<td>4</td>
<td>330</td>
</tr>
</tbody>
</table>

S.E./mean = 124.0 lb./ac.

Object:—To study the residual effect of P_2O_5 applied for six seasons prior to Abi 1951-52.

1. BASAL CONDITIONS:

   (i) (a) No. (b) Paddy. (c) G.N.C. at 30 lb./ac. of N applied im' puddle. (ii) (a) Sandy clay soil. (b) Refer soil analysis, Himayatsagar. (iii) 26.1.53. (iv) (a) Usual ploughings and levelling. (b) Broadcast. (c) 30 lb./ac. (d) — (e) — (v) Nil. (vi) H.R. 19. (vii) Irrigated. (viii) Weeding. (ix) N.A. (x) 23.5.53.

2. TREATMENTS:

   1. Control (no manure).
   2. 30 lb./ac. of N as G.N.C.+residual effect of BM. at 15 lb./ac. of P_2O_5.
   3. 30 lb./ac. of N as G.N.C.+residual effect of Super at 15 lb./ac. of P_2O_5.
   4. 30 lb./ac. of N as G.N.C.+residual effect of Rock Phosphate at 15 lb./ac. of P_2O_5.

3. DESIGN:

   (i) R.B.D. (ii) 4. (b) N.A. (iii) 4. (iv) (a) 52' x 45'. (b) 1/20 acre. (v) N.A. (vi) Yes.

4. GENERAL:

   (i) Normal. (ii) N.A. (iii) Grain and straw weight. (iv) (a) 1951 (Abi' 1951-52) to 1953 (Tabi 19'2-53). (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) Standard error is not available in the Annual report. The raw data is also not traceable either with the Agricultural Chemist or in the Directorate of Agriculture.

5. RESULTS:

   (i) 613 lb./ac.
   (ii) N.A.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2/0</td>
</tr>
<tr>
<td>2</td>
<td>612</td>
</tr>
<tr>
<td>3</td>
<td>870</td>
</tr>
<tr>
<td>4</td>
<td>678</td>
</tr>
</tbody>
</table>

S.E./mean = N.A.

Object:—To compare the effects of the application of different types of P manures on yield of Paddy.

1. BASAL CONDITIONS:

   (i) (a) N.A. (b) Wheat. (c) F.Y.M. and Paddy-Fertilizer mixture. Amount N.A. (ii) (a) Black soil. (b) Refer soil analysis, Himayatsagar. (iii) 18.8.51. (iv) (a) 3 puddings and levelling before sowing. (b) Transplanted. (c) — (d) 6' x 4' Lage 4. (e) N.A. (v) G.N.C. at 30 lb./ac. of N at last puddling+ 5 lb./ac. of N as A/S one month after transplanting. (vi) H.R. 19. (vii) Irrigated. (viii) 'Hand weeding. (ix) 21.66' (during Abi' 51-52). (x) 5.12.1.
2. TREATMENTS:
1. Control (no phosphate)
2. 22 lb/ac. of P$_2$O$_5$ as Bone dust.
3. 22 lb/ac. of P$_2$O$_5$ as Rock Phosphate.
4. 22 lb/ac. of P$_2$O$_5$ as Super.
Bone dust and Rock phosphate applied at last puddling. Super applied half at last puddling and half at ear primordium.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) and (b) 72' x 27'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) N.A. (ii) Heavy attack of Stemborer. Affected plants removed and burnt. (iii) Grain yield data. (iv) (a) 1951 (Abi 51–52) to 1953 (Abi 53–54). (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Conducted by Farm section.

5. RESULTS:
(i) 223 lb/ac.
(ii) 152.0 lb/ac.
(iii) Treatments differ significantly.
(iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>157</td>
</tr>
<tr>
<td>2.</td>
<td>302</td>
</tr>
<tr>
<td>3.</td>
<td>59</td>
</tr>
<tr>
<td>4.</td>
<td>373</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 62.0 lb/ac.</td>
</tr>
</tbody>
</table>

Crop :- Paddy (Tabi).  
Ref :- A.P. 51 (10)/51 (5).  
Site :- Agri. Res. Stn., Himayatsagar.  
Type :- 'M'.  
Object :- To compare the effects of the application of different types of P manure on yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Black cotton soil. (b) Refer soil analysis, Himayatsagar. (iii) Transplanted on 10.1.1952 (As transplanting is generally done 3 weeks after sowing in the nursery; this experiments has been classified under 1951) (Date of sowing N.A.) (iv) (a) 3 puddlings and levelling before sowing. (b) Transplanted. (c) 6' x 4'. (e) N.A. (v) 30 lb/ac. of N as G.N.C. at last puddling 4.5 lb/ac. of N as A/S at ear primordium. (vi) Paddy H.R. 19. (vii) One weeding. (viii) Irrigated. (x) 26.4.1952.

2. TREATMENTS:
1. Control (no manure).
2. 22 lb/ac. of P$_2$O$_5$ as Bone dust at last puddling.
3. 22 lb/ac. of P$_2$O$_5$ as Rock Phosphate at last puddling.
4. 22 lb/ac. of P$_2$O$_5$ as Super half at last puddling and half at ear primordium.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a), (b) 72' x 27'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) N.A. (ii) Gammaexce dusting for Hispa control and Perenox spraying for Helminthosporium. (iii) Grain yield (iv) (a) 1951 (Abi. 1951–52) to 1953 (Abi. 1953–54). (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Conducted by Farm section.
5. RESULTS:
(i) 359 lb./ac.
(ii) 226.9 lb./ac.
(iii) Treatments differ significantly.
(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>156</td>
<td>93.0 lb./ac.</td>
</tr>
<tr>
<td>2.</td>
<td>174</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>141</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>141</td>
<td></td>
</tr>
</tbody>
</table>

Crop: Paddy (Abi).  
Ref: A.P. 52(32).  
Type: 'M'.

Object: To study the effects on yield, of the application of different types of P manure.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Black cotton soil. (b) Refer soil analysis, Himayatsagar. (iii) N.A. 27.7.52. (iv) (a) Usual ploughing and levelling. (b) Transplanted. (c) 6' x 4'. (d) 6' x 4'. (e) N.A. (v) G.N.C. at 30 lb./ac. of N at last puddling + 15 lb./ac. of P as A/S at weeding. (vi) H.R. 19. (vii) Irrigated. (viii) Weeding one month after transplanting. (ix) 22.59'. (x) 8.11.52.

2. TREATMENTS:
(i) No phosphate.
(ii) 22.5 lb./ac. of P₂O₅ as Bone dust.
(iii) 22.5 lb./ac. of P₂O₅ as Super.
(iv) 22.5 lb./ac. of P₂O₅ as Rock Phosphate. P₂O₅ applied at last puddling.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1/22.2 ac. (v) N.A. (vi) Yes.

4. GENERAL:
(i) N.A. (ii) Nil. (iii) Grain yield data. (iv) (a) 1951 (Abi 51-52) to 1953. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) Nil (vii) Conducted by Chemist's section.

5. RESULTS:
(i) 757 lb./ac.
(ii) 551.1 lb./ac.
(iii) Treatments differ significantly.
(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>570</td>
<td>224.0 lb./ac.</td>
</tr>
<tr>
<td>2.</td>
<td>907</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>139</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>1411</td>
<td></td>
</tr>
</tbody>
</table>

Crop: Paddy (Tabi).  
Ref: A.P. 53(47)/52(32)/51(5, 10).  
Type: 'M'.

Object: To study the effects on yield, of the application of different types of P manure.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Black cotton soil. (b) Refer soil analysis, Himayatsagar. (iii) 24.1.53. (iv) (a) Usual ploughing and levelling. (b) Broadcast. (c) 80 lb./ac. (d) --. (e) --. (f) G.N.C. at 30 lb./ac. of N at last puddling and 15 lb./ac. of P as A/S at the time of weeding. (vi) H.R. 19. (vii) Irrigated. (viii) Weeding one month after transplanting. (ix) N.A. (x) 21.5.53.
2. TREATMENTS:
1. No phosphate.
2. 22 lb./ac. of \(P_2O_5\) as Bone dust.
3. 22 lb./ac. of \(P_2O_5\) as Rock Phosphate.
4. 22 lb./ac. of \(P_2O_5\) as Super.

\(P_2O_5\) applied at last puddling.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1/22.21 ac. (v) N.A. (vi) Yes.

4. GENERAL:
(i, N.A. (ii) N.A. (iii) Grass yield data. (iv) (a) 1951 \(Abi\) 51-52) to 1953 \(Abi\) 53-54). (b) Yes. (c) N.A.
(v) N.A.; and (b) Nil. (vi) Nil. (vii) Conducted by Chemist’s section.

5. RESULTS:
(i) 430 lb./ac.
(ii) 406.7 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>218</td>
</tr>
<tr>
<td>2</td>
<td>381</td>
</tr>
<tr>
<td>3</td>
<td>99</td>
</tr>
<tr>
<td>4</td>
<td>1020</td>
</tr>
<tr>
<td>S.E., mean</td>
<td>166.0 lb./ac.</td>
</tr>
</tbody>
</table>

*Crop := Paddy \(Abi\).*
*Ref := A.P. 53(48)/53(47)/52(32)/51 (5,10)*
*Site := Agri. Res. Stn., Himayatsagar*  
*Type := \'M\'.

Object := To study the effects on yield, of the application of different types of \(P\) manure.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Black cotton soil (b) Refer soil analysis, Himayatsagar. (iii) 21.7.53. (iv) (a) Usual ploughing and levelling. (b) Transplanted. (c) \(-\). (d) 6' \times 4'.  
(e) N.A. (v) G.N.C. at 30 lb./ac. of N. at last puddling and 15 lb./ac. of N as A/S at the time of weeding. (vi) H.R. 19 (vii) Irrigated. (viii) Weeding one month after transplanting. (ix) 25 65'. (x) 30.10.53.

2. TREATMENTS:
1. No \(P_2O_5\).
2. 22 lb./ac. of \(P_2O_5\) as Bone dust.
3. 22 lb./ac. of \(P_2O_5\) as Rock Phosphate.
4. 22 lb./ac. of \(P_2O_5\) as Super.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1/22.2 ac. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Grass yield (iv) (a) 1951 \(Abi\) 1951-52) to 1953 \(Abi\) 53-54) (b) Yes. (c) N.A. (v) N.A.  
(b) Nil. (vi) Nil. (vii) Conducted by Chemist’s section.

5. RESULTS:
(i) 1167 lb./ac.
(ii) 370.2 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>862</td>
</tr>
<tr>
<td>2.</td>
<td>1078</td>
</tr>
<tr>
<td>3.</td>
<td>955</td>
</tr>
<tr>
<td>4.</td>
<td>1773</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>151.0 lb/ac.</td>
</tr>
</tbody>
</table>

Crop :- Paddy (Tabi).
Site :- Agri. Res. Stn., Himayatsagar.
Ref :- A.P. 50(13).
Type :- 'M'.

Object :- To determine the effect of different doses of N obtained from G.N.C.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) F.Y.M. (Quantity N.A.)
   (ii) (a) Medium black. (b) Refer soil analysis, Himayatsagar
   (iii) 11.2.50. (iv) (a) Ploughing, 2 puddlings and levelling. (c)—, (d) 6"x4".

2. TREATMENTS:
   1. Control (no nitrogen).
   2. G.N.C. at 20 lb/ac. of N.
   3. G.N.C. at 25 lb/ac. of N.
   4. G.N.C. at 30 lb/ac. of N.
   G.N.C. applied before transplanting and at puddling time mixed with soil.

3. DESIGN:
   (i) R.B.D. (ii) 4. (b) N.A. (iii) 4. (iv) (a) and (b) 18'x40'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Not satisfactory. (ii) Heavy attack of Stemborer. (iii) Straw and grain yield. (iv) (a) 1950 (Tabi 1949-50)
   to 1951 (Tabi 1951-52). (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5 RESULTS:
   (i) 328 lb/ac.
   (ii) 94.8 lb/ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>263</td>
</tr>
<tr>
<td>2.</td>
<td>323</td>
</tr>
<tr>
<td>3.</td>
<td>420</td>
</tr>
<tr>
<td>4.</td>
<td>368</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>47.0 lb/ac.</td>
</tr>
</tbody>
</table>

Crop :- Paddy (Abi).
Site :- Agri. Res. Stn., Himayatsagar.
Ref :- A.P. 50(45)/50(13).
Type :- 'M'.

Object :- To determine the effect of different doses of N obtained from G.N.C. on yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Regur (med.). (b) Refer soil analysis, Himayatsagar.
   (iii) 23.6.50. (iv) (a) Dry ploughing, 2 puddlings and one levelling. (b) Transplanted. (c)—, (d) 6"x4".
   (e) N.A. (v) Nil. (vi) H.R.-19. (vii) Irrigated. (viii) One hand weeding and one roguing. (ix) 42.15". (x) 25.10.50.
2. TREATMENTS:
   1. 8 C.L./ac. of F.Y.M.
   2. G.N.C. at 20 lb./ac. of N.
   3. G.N.C. at 25 lb./ac. of N.
   4. G.N.C. at 30 lb./ac. of N.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) and (b) 18'x40'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Slight attack of Stemborer and Hispa. (iii) Grain and straw yield. (iv) (a) Tab 1949-50
   to Tab 1951-52 (1951). (b) Yes. (c) N.A. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 13-0 lb./ac.
   (ii) 490.3 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1110</td>
</tr>
<tr>
<td>2.</td>
<td>1410</td>
</tr>
<tr>
<td>3.</td>
<td>1275</td>
</tr>
<tr>
<td>4.</td>
<td>1568</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>245.0 lb./ac.</td>
</tr>
</tbody>
</table>

---

Crop: Paddy (Abi).
Type: 'M'.

Object: To determine the effect of different doses of N obtained from G.N.C. on yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Medium black. (b) Refer soil analysis,
   Himayatsagar. (iii) 24.1.51. (iv) (a) Dry ploughing, two puddlings. (b) Transplanted. (c) —. (d) 6'x4'.
   (e) N.A. (v) Nil. (vi) H.R.-19. (vii) Irrigated. (viii) One hand weeding. (ix) 0.88'. (x) 30.4.51.

2. TREATMENTS:
   1. 8 C.L./ac. of F.Y.M. (control).
   2. G.N.C. at 20 lb./ac. of N.
   3. G.N.C. at 25 lb./ac. of N.
   4. G.N.C. at 30 lb./ac. of N.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) and (b) 18'x40'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Not satisfactory. (ii) Heavy attack of Stemborer. (iii) Grain and straw yield. (iv) (a) 1950 (Tab 1949-50)
   to 1951 (Tab 1951-52). (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 535 lb./ac.
   (ii) 104.4 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>600</td>
</tr>
<tr>
<td>2.</td>
<td>727</td>
</tr>
<tr>
<td>3.</td>
<td>930</td>
</tr>
<tr>
<td>4.</td>
<td>1080</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>52.0 lb./ac.</td>
</tr>
</tbody>
</table>
Crop: Paddy (Abi). Ref: A.P. 51(1)/51(71)/50(13, 45).
Site: Agri. Res. Stn., Himayatsagar. Type: 'M'.

Object: To determine the effect of different doses of N obtained from G.N.C. on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) N.A. (b) Paddy. (c) As under treatments. (ii) (a) Medium black. (b) Refer soil analysis, Himayatsagar. (iii) Transplanted on 13.7.51. (iv) (a) Dry ploughing, 2 puddlings and levelling. (b) Transplanting. (c) —. (d) 6"x4". (e) N.A. (v) Nil. (vi) H.R.—19. (vii) Irrigated. (viii) Hand weeding. (ix) 20.66'. (x) 1.11.51.

2. TREATMENTS:
1. Control (8 C.L./ac. of F.Y.M.)
2. G.N.C. at 20 lb./ac. of N.
3. G.N.C. at 25 lb./ac. of N.
4. G.N.C. at 30 lb./ac. of N.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) and (b) 40’x18’. (v) Nil. (vi) Yes.

4. GENERAL:
(i) N.A. (ii) Heavy attack of Stemborer and Hispa. Affected plants removed and burnt; area dusted with gammexene; tips of leaves removed and burnt. (iii) Straw and grain weight. (iv) (a) 1950-1951. (Tabi 1951-52) (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) Conducted by Farm section.

5. RESULTS:
(i) 1144 lb./ac.
(ii) 301.2 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>975</td>
</tr>
<tr>
<td>2.</td>
<td>1043</td>
</tr>
<tr>
<td>3.</td>
<td>1335</td>
</tr>
<tr>
<td>4.</td>
<td>1223</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>151.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy (Tabi). Ref: A.P. 51(12)/51(71, 1)/50(13, 45).
Site: Agri. Res. Stn., Himayatsagar. Type: 'M'.

Object: To determine the effect of different doses of N obtained from G.N.C. on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) N.A. (b) Paddy. (c) As under treatments. (ii) (a) Medium black. (b) Refer soil analysis, Himayatsagar. (iii) N.A./29.12.51. (iv) (a) Dry ploughing, 2 puddlings and levelling, before sowing. (b) Transplanting. (c) —. (d) 6"x4". (e) N.A. (v) Nil. (vi) H.R.—19. (vii) N.A. (viii) One hand weeding. (ix) 6.23'. (x) 26.4.52.

2. TREATMENTS:
1. Control (8 C.L./ac. of F.Y.M.)
2. G.N.C. at 20 lb./ac. of N.
3. G.N.C. at 30 lb./ac. of N.
4. G.N.C. at 40 lb./ac. of N.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) and (b) 18’x40”. (v) Nil. (vi) Yes.
4. GENERAL:
   (i) N.A. (ii) Gammaxene dusting for Hispa control and spraying of Perenox for Helminthosporium control.
   (iii) Grain yield. (iv) (a) 1950 to 1951 (Tabi 51-52). (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) Conducted by Farm section.

5. RESULTS:
   (i) 1357 lb./ac.
   (ii) 182.4 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.
   Treatment | Av. yield
   1. | 921
   2. | 1390
   3. | 1421
   4. | 1697
   S.E./mean = 91.0 lb./ac.

---

**Crop:** Paddy (Tabi).  
**Site:** Agri. Res. Str., Himayatsagar.  
**Ref:** A.P. 50(3).  
**Type:** ‘M’.

Object: To compare the effects of application of different doses of Paddy-Fertilizer mixture in giving high yield.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) F.Y.M. (Quantity N.A.) (ii) (a) Medium black. (b) Refer soil analysis, Himayatsagar. (iii) 1.2.50. (iv) (a) 2 puddlings and one levelling. (b) Transplanted. (c) 6’x4’. (d) N.A (v) Nil. (vi) H.R.-19. (vii) Irrigated. (viii) One hand weeding. (ix) 3.24’. (x) 17.5.50.

2. TREATMENTS:
   1. Control.
   2. Paddy-Fertilizer mixture at 15 lb./ac. of N.
   3. Paddy-Fertilizer mixture at 20 lb./ac. of N.
   4. Paddy-Fertilizer mixture at 25 lb./ac. of N.
   5. Paddy-Fertilizer mixture at 30 lb./ac. of N.

3. DESIGN:
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 3. (iv) (a) and (b) 18’x40’’. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Not satisfactory due to late transplanting and heavy Stemborer attack. (ii) Heavy attack of Stemborer. (iii) Grain and straw yield. (iv) (a) 1950 (Tabi 1949-50) to 1951 (Tabi 1951-52). (b) Yes. (c) N.A. (v) (a) & (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1110 lb./ac.
   (ii) 54.0 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.
   Treatment | Av. yield
   1. | 25.2
   2. | 49.8
   3. | 130.2
   4. | 130.2
   5. | 220.2
   S.E./mean = 31.20 lb./ac.
Crop: Paddy (Abi).
Ref: A.P. 50(44)/50(43).
Type: 'M'.

Object: To compare the effects of application of different doses of Paddy-Fertilizer mixture in giving high yield.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Regur (medium). (b) Refer soil analysis, Himayatsagar. (iii) 23.6.50. (iv) (a) Dry ploughing, 2 puddlings and one levelling. (b) Transplanted. (c)---. (d) 6"x4". (e) N.A. (v) Nil. (vi) H.R.-19. (vii) Irrigated. (viii) One weeding and one roguing. (ix) 42.15'. (x) 23.10.50.

2. TREATMENTS:
   1. Control.
   2. Paddy-Fertilizer mixture at 15 lb./ac. of N.
   3. Paddy-Fertilizer mixture at 20 lb./ac. of N.
   4. Paddy-Fertilizer mixture at 25 lb./ac. of N.
   5. Paddy-Fertilizer mixture at 30 lb./ac. of N.

3. DESIGN:
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 3. (iv) (a) and (b) 18'x40.3'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Slight attack of Stemborer. Heavy attack of Hispa. (iii) Grain and straw yield. (iv) (a) 1950 (Tabi 1949—50) to 1951 (Tabi 1951—52); (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vii) Nil. (vii) In Telangana area, av. paddy yield is about 1,000 lb./ac.

5. RESULTS:
   (i) 892 lb./ac.
   (ii) 176.4 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.
   Treatment | Av. yield.
   1. | 680
   2. | 910
   3. | 980
   4. | 890
   5. | 1000
   S.E./mean = 102.0 lb./ac.

Crop: Paddy (Tabi).
Ref: A.P. 51(72)/50(43,44).
Type: 'M'.

Object: To compare the effects of application of different doses of Paddy-Fertilizer mixture in giving high yield.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Medium 'black'. (b) Refer soil analysis, Himayatsagar. (iii) 24.1.51. (iv) (a) Dry ploughing, 2 puddlings and levelling. (b) Transplanted. (c)---. (d) 6"x4". (e) N.A. (v) Nil. (vi) H.R. 19. (vii) Irrigated. (viii) One hand weeding. (ix) 0.88'. (x) 30.4.51.

2. TREATMENTS:
   1. 8 C.L./ac. of F.Y.M. (control).
   2. Paddy-Fertilizer mixture at 15 lb./ac. of N.
   3. Paddy-Fertilizer mixture at 20 lb./ac. of N.
   4. Paddy-Fertilizer mixture at 25 lb./ac. of N.
   5. Paddy-Fertilizer mixture at 30 lb./ac. of N.

3. DESIGN:
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 3. (iv) (a), (b) 18'x40.3'. (v) Nil. (vi) Yes.
4. GENERAL:
(i) Not satisfactory. (ii) Heavy attack of Stemboer. (iii) Grain and straw yield. (iv) (a) 1950 (Tabi 49-50) to 1951 (Tabi 51-52), (b) Yes. (c) N.A. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 594 lb./ac.
(ii) 112.6 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 450</td>
<td>2. 550</td>
</tr>
<tr>
<td>3. 600</td>
<td>4. 660</td>
</tr>
<tr>
<td>5. 710</td>
<td></td>
</tr>
<tr>
<td>S.E., mean</td>
<td>65.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy (Abi)  
Site: Agri. Res. Stn., Himayatsagar  
Ref: A.P. 51(3)/51(72)/50(43,44).  
Type: 'M'.

Object: To compare the effect of different doses of Paddy-Fertilizer mixture on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) N.A. (b) Paddy. (c) As under treatments. (ii) (a) Medium black. (b) Refer soil analysis, Himayat-
sagar. (iii) 13.7.51. (iv) (a) Dry ploughing, 2 puddlings and levelling before sowing. (b) N.A. (c) N.A.  
(d) 6°×4°. (e) N.A. (v) Nil. (vi) H.R. 19. (vii) N.A. (viii) Hand weeding. (ix) 20.66" (during-
Abi 51-52). (x) 1:1.51.

2. TREATMENTS:
1. 8 C.L./ac. of F.Y.M. (control).
2. Paddy-Fertilizer mixture at 1 lb./ac. of N.
3. Paddy-Fertilizer mixture at 2 lb./ac. of N.
4. Paddy-Fertilizer mixture at 3 lb./ac. of N.
5. Paddy-Fertilizer mixture at 4 lb./ac. of N.

3. DESIGN:
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 3. (iv) (a), (b) 18°×40.3°. (v) Nil. (vi) Yes.

4. GENERAL:
(i) N.A. (ii) Heavy attack by Stemboer and Hipsa. Affected plants removed and burnt; area dusted with Gammaxene and tps of leaves removed and burnt. (iii) Straw and grain weight. (iv) (a) 1953 to 1955. (b) Yes. (c) N.A. (v) a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 772 lb./ac.
(ii) 243.0 lb. ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 490</td>
<td>2. 760</td>
</tr>
<tr>
<td>3. 710</td>
<td>4. 930</td>
</tr>
<tr>
<td>5. 970</td>
<td></td>
</tr>
<tr>
<td>S.E.,mean</td>
<td>142.4 lb./ac.</td>
</tr>
</tbody>
</table>
Crop : Paddy (Tabi).

Ref :- A.P. 51(14)/51(72, 3)/50(43, 44).

Site :- Agri. Res. Stn., Himayatsagar. Type :- 'M'.

Object :—To compare the effects of different doses of Paddy-Fertilizer mixture on the yield of Paddy.

1. BASAL CONDITIONS :
(i) (a) N.A. (b) Paddy. (c) As under treatments. (ii) (a) Medium black. (b) Refer soil analysis, Himayatsagar. (iii) 29.12.51. (iv) (a) Dry ploughing, 2 puddlings and levelling. (b) Transplanting. (c) —. (d) 6' x 4'. (e) N.A. (f) Nil. (g) H.R. 19. (h) N.A. (i) One weeding. (j) 6.23" (during Tabi 1951—52). (k) 26.4.52.

2. TREATMENTS :
1. 8 C.L./ac. of F.Y.M. (control).
2. Paddy-Fertilizer mixture at 15 lb./ac. of N.
3. Paddy-Fertilizer mixture at 20 lb./ac. of N.
4. Paddy-Fertilizer mixture at 25 lb./ac. of N.
5. Paddy-Fertilizer mixture at 30 lb./ac. of N.

Time and method of application — N.A.

3. DESIGN :
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 3. (iv) (a) and (b) 18' x 40.3'. (v) Nil. (vi) Yes.

4. GENERAL :
(i) N.A. (ii) Gammaxene dusting for Hispa control. Perenox spraying for Helminthosporium control. (iii) Grain yield data. (iv) (a) 1950 to 1951 (Tabi 51—52). (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) Conducted by Farm section.

5. RESULTS :
(i) 710 lb./ac.
(ii) 75.6 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>510</td>
</tr>
<tr>
<td>2.</td>
<td>624</td>
</tr>
<tr>
<td>3.</td>
<td>833</td>
</tr>
<tr>
<td>4.</td>
<td>792</td>
</tr>
<tr>
<td>5.</td>
<td>791</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>44.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop : Paddy (Abi).


Object :—To determine the green manurial requirements of Paddy.

1. BASAL CONDITIONS :
(i) (a) N.A. (b) Maize. (c) N.A. (i) (a) Red Chalka (Sandy loam). (b) Refer soil analysis, Himayatsagar. (iii) 29.7.51. (iv) (a) Dry ploughing, three puddlings and levelling before sowing. (b) Transplanting. (c) —. (d) 6' x 4'. (e) N.A. (f) Nil. (g) H.R. 19. (h) Irrigated. (i) Hand weeding. (ix) 20.66" (during Abi 51—52). (x) 20.66.51.

2. TREATMENTS :
1. Control.
2. Sannhemp followed by paddy.
3. Sannhemp receiving 15 lb./ac. of P₂O₅ as Super followed by paddy.
4. Sannhemp followed by paddy receiving 7.5 lb./ac. of P₂O₅ as Super at last puddling and 7.5 lb./ac. of P₂O₅ at ear primordium.
5. Sannhemp followed by paddy receiving 7.5 lb./ac. of P₂O₅ as Super at last puddling and 7.5 lb./ac. of P₂O₅ +15 lb./ac. of N as A/S at ear primordium.
6. Treat. (2)+15 lb./ac. of N as A/S at ear primordium.
7. Treat. (2)+15 lb./ac. of N as A/S+7.5 lb./ac. of P₂O₅ as Super at ear primordium.
8. Treat. (3)+15 lb./ac. of N as A/S at planting.
9. Treat. (3)+15 lb./ac. of N as A/S at ear primordium.
3. DESIGN:
   (i) R.B.D. (ii) (a) 9, (b) N.A. (iii) 4. (iv) (a) and (b) 38'×23'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) N.A. (ii) Attack of Stemborer. Affected plants removed and burnt. (iii) Grain yield. (iv) (a) 1951 (Abb 51-52) to 1954 (Abb 54-55). (b) Yes. (c) N.A. (iv) (a) and (b) Nil. (v) Nil. (vi) Cond. by Farm section.

5. RESULTS:
   (i) 2157 lb./ac. (ii) 227.0 lb./ac. (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.
   Treatment          Av. yield.
   1.                      2159
   2.                      2112
   3.                      1887
   4.                      2050
   5.                      2156
   6.                      2206
   7.                      2250
   8.                      2525
   9.                      2331
   S.E., mean             113.5

Crop :- Paddy (Tabi).
Ref :- A.P. 61:9) 51(7).
Site :- Agri. Res. Stn., Himayatsagar.
Type :- 'M'.

Object :- To determine the green manural requirements of Paddy.

1. BASAL CONDITIONS:
   (i) a Nil. (b) Paddy. (c) As under treatments. (ii) (a) Red Chalka (Sandy loam). (b) Ref. soil analysis, Himayatsagar. (iii) 13.12.51. (iv) a) Four puddlings and levelling before sowing. (b) Br. accast. (c) 80 lb./ac. (d) --. (e) --. (f) Nil. (g) H.R.-19. (h) Irrigated. (i) Weeding once. (j) 6.23' (during Tabi 1951-52). (k) 19.4.52.

2. TREATMENTS:
   1. Control.
   2. G.N.C. to supply 30 lb./ac. of N at last puddling.
   3. G.N.C. at 30 lb./ac. of N + 15 lb./ac. of P\textsubscript{2}O\textsubscript{5} as Super at last puddling.
   4. G.N.C. at 30 lb./ac. of N + 7.5 lb./ac. of P\textsubscript{2}O\textsubscript{5} at last puddling + 7.5 lb./ac. of P\textsubscript{2}O\textsubscript{5} at ear primordium.
   5. Treat. (4)+1 lb./ac. of N as A/S at ear primordium.
   6. G.N.C. to supply 30 lb./ac. of N at last puddling + 5 lb./ac. of N as A/S at ear primordium.
   7. G.N.C. to supply 30 lb./ac. of N at last puddling + 15 lb./ac. of N as A/S + 7.5 lb./ac. of P\textsubscript{2}O\textsubscript{5} as Super at ear primordium.
   8. G.N.C. to supply 30 lb./ac. of N + 15 lb./ac. of P\textsubscript{2}O\textsubscript{5} as Super at last puddling and 15 lb./ac. of N as A/S at ear primordium.
   9. G.N.C. to supply 30 lb./ac. of N + 15 lb./ac. of P\textsubscript{2}O\textsubscript{5} as Super at last puddling and 15 lb./ac. of N as A/S at ear primordium.

3. DESIGN:
   (i) R.B.D. (ii) (a) 9, (b) N.A. (iii) 4. (iv) (a)'b 38'×23'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Attack by H spa, Helmithosporium and Stemborer; controlled by dusting with gammaoxne, spraying of Perennox and by removing effected plants. (ii) Grain weight. (iii) (a) 1951 (Abb 51-52) to 1954 (Abb 54-55). (b) Yes. (c) N.A. (d) Nil. (e) Nil. (f) Nil. (g) A : was not possible to grow G.M. in Tabi season, G.N.C. was used instead.
5. RESULTS:
   (i) 3063 lb./ac.
   (ii) 365.0 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2169</td>
</tr>
<tr>
<td>2.</td>
<td>2769</td>
</tr>
<tr>
<td>3.</td>
<td>2931</td>
</tr>
<tr>
<td>4.</td>
<td>2775</td>
</tr>
<tr>
<td>5.</td>
<td>3131</td>
</tr>
<tr>
<td>6.</td>
<td>3456</td>
</tr>
<tr>
<td>7.</td>
<td>3338</td>
</tr>
<tr>
<td>8.</td>
<td>3306</td>
</tr>
<tr>
<td>9.</td>
<td>3688</td>
</tr>
</tbody>
</table>

S.E./mean = 183.0 lb./ac.

Crop: Paddy (Abi).
Type: 'M'.

Object: To determine the green manurial requirements of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As per treatments.
   (ii) (a) Red sandy loam (Chalka). (b) Refer soil analysis, Himayatsagar.
   (iii) 22.7.52.
   (iv) (a) Usual ploughing and levelling. (b) Transplanted. (c) —.
   (d) 6’ x 4’.

2. TREATMENTS:
   1. Control.
   2. Sannhemp G.M. followed by paddy.
   3. Sannhemp G.M. crop receiving 15 lb./ac. of P₂O₅ followed by paddy.
   4. Sannhemp followed by paddy receiving 7.5 lb./ac. of P₂O₅ at last puddle + 7.5 lb./ac. of P₂O₅ at first weeding.
   5. Treat. (4) + 15 lb./ac. of N at first weeding.
   6. Treat. (2) + 15 lb./ac. of N at first weeding.
   7. Treat. (3) + 15 lb./ac. of N and 7.5 lb./ac. of P₂O₅ at last puddle + 7.5 lb./ac. of P₂O₅ at first weeding.
   8. Treat. (3) + 15 lb./ac. of N at last puddle.
   9. Treat. (3) + 15 lb./ac. at first weeding.

N as A/S and P₂O₅ as Super.

3. DESIGN:
   (i) R.B.D. (ii) (a) 9, (b) N.A. (iii) 4. (iv) (a), (b) 46’ x 19’. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Normal till the flowering stage and to some extent below normal after that.
   (ii) Blast attack in a mild form appeared at the grain formation stage.
   (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Conducted by Chemist's section.

5. RESULTS:
   (i) 2218 lb./ac.
   (ii) 265.0 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1200</td>
</tr>
<tr>
<td>2.</td>
<td>2150</td>
</tr>
<tr>
<td>3.</td>
<td>2363</td>
</tr>
<tr>
<td>4.</td>
<td>2388</td>
</tr>
<tr>
<td>5.</td>
<td>2425</td>
</tr>
<tr>
<td>6.</td>
<td>2388</td>
</tr>
<tr>
<td>7.</td>
<td>2388</td>
</tr>
<tr>
<td>8.</td>
<td>2288</td>
</tr>
<tr>
<td>9.</td>
<td>2475</td>
</tr>
</tbody>
</table>

S.E./mean = 132.5 lb./ac.
Crop: Paddy (Tabi).
Ref: A.P. 53(50)/52(35)/51(7, 9).
Site: Agri. Res. Stn., Himayatsagar. Type: 'M'.

Object:—To determine the green manural requirement of Paddy.

1. BASAL CONDITIONS:
   (i) (a) N.S., b) Paddy. (c) As under treatments. (ii) (a) Red sandy loam. (b) Refer soil analyses, Himayatsagar. (iii) 13.1.3. (iv) a) Usual ploughings and levelling. (b) Broadcast. (c) 83 lb./ac. (d) — (e) —. (v) Nil. (vi) H.R. 19. (vii) Irrigated. (viii) Weeding. (ix) N.A. (x) 6.5 54.

2. TREATMENTS:
   1. Control.
   2. Sannhemp followed by paddy.
   3. Sannhemp receiving 15 lb./ac. of P$_2$O$_5$ followed by paddy.
   4. Sannhemp followed by paddy receiving 7.5 lb./ac. of P$_2$O$_5$ at last puddling + 7.5 lb./ac. of P$_2$O$_5$ at weeding.
   5. Sannhemp followed by paddy receiving 7.5 lb./ac. of P$_2$O$_5$ at last puddling + 7.5 lb./ac. of P$_2$O$_5$ at weeding + 5 lb. ac. of N at weeding.
   6. Sannhemp followed by paddy + 15 lb./ac. of N at first weeding.
   7. Sannhemp followed by paddy + 15 lb./ac. of N and 7.5 lb./ac. of P$_2$O$_5$ at weeding + 7.5 lb./ac. of P$_2$O$_5$ at last puddle.
   8. Sannhemp receiving 15 lb./ac. of P$_2$O$_5$ followed by paddy + 15 lb./ac. of N at last puddle.
   9. Sannhemp receiving 15 lb./ac. of P$_2$O$_5$ followed by paddy + 15 lb./ac. of N at weeding. As it was not possible to raise the G.M. crop in the Tabi season, 30 lb. N as G.N.C. was used instead of G.M. N as A.S and P$_2$O$_5$ as Super are applied.

3. DESIGN:
   (i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) and (b) 46'x19'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain weight. (iv) (a) 1951 (Abi 1951-52) to 1954 (Abi 1954-55). (b) Yes. (c) N.A. (vi) (a) and (b) Nil. (vi) Nil. (vii) Conducted by Chemist's section.

5. RESULTS:
   (i) 2000 lb./ac.
   (ii) 193.8 lb./ac.
   (iii) Treatments differ highly significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1025</td>
</tr>
<tr>
<td>2.</td>
<td>2032</td>
</tr>
<tr>
<td>3.</td>
<td>1970</td>
</tr>
<tr>
<td>4.</td>
<td>1831</td>
</tr>
<tr>
<td>5.</td>
<td>22:6</td>
</tr>
<tr>
<td>6.</td>
<td>2025</td>
</tr>
<tr>
<td>7.</td>
<td>2275</td>
</tr>
<tr>
<td>8.</td>
<td>2.8</td>
</tr>
<tr>
<td>9.</td>
<td>24.0</td>
</tr>
<tr>
<td>S.E., mean</td>
<td>19.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy (Abi).
Ref: A.P. 53(51)/53(50)/52(35)/51(7, 9).
Site: Agri. Res. Stn., Himayatsagar. Type: 'M'.

Object:—To determine the green manural requirement of Paddy.

1. BASAL CONDITIONS:
   (i) (a) N.S., b) Paddy. (c) As under treatments. (ii) (a) Red sandy loam. (b) Refer soil analysis, Himayatsagar. (iii) 27.7.3. (iv) a) Usual ploughings and levelling. (b) Transplanted. (c) —. (d) 6'x4'. (e) N.A. (v) Nil. (vi) H.R. —19. (vii) Irrigated. (viii) Weedicngs. (ix) 25.65'. (x) 27.10.33.
2. TREATMENTS:
1. Control.
2. Sannhemp followed by paddy.
3. Sannhemp receiving 15 lb./ac. of \( \text{P}_2\text{O}_5 \) followed by paddy.
4. Sannhemp followed by paddy receiving 7.5 lb./ac. of \( \text{P}_2\text{O}_5 \) at last puddling + 7.5 lb./ac. of \( \text{P}_2\text{O}_5 \) at weeding.
5. Sannhemp followed by paddy receiving 7.5 lb./ac. of \( \text{P}_2\text{O}_5 \) at last puddling + 7.5 lb./ac. of \( \text{N} \) at weeding.
6. Sannhemp followed by paddy + 15 lb./ac. of \( \text{N} \) at first weeding.
7. Sannhemp followed by paddy + 15 lb./ac. of \( \text{N} \) + 7.5 lb./ac. of \( \text{P}_2\text{O}_5 \) at last puddling.
8. Sannhemp followed by paddy receiving 7.5 lb./ac. of \( \text{P}_2\text{O}_5 \) at last puddling + 7.5 lb./ac. of \( \text{P}_2\text{O}_5 \) at weeding.
9. Sannhemp receiving 15 lb./ac. of \( \text{P}_2\text{O}_5 \) followed by paddy + 15 lb./ac. of \( \text{N} \) at weeding.
10. Sannhemp + 15 lb./ac. of \( \text{P}_2\text{O}_5 \) at first weeding.

3. DESIGN:
(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) and (b) 46' x 19'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Grain weight and yield of green matter. (iv) (a) 1951 (Abi 1951-52) to 1954 (Abi 1953-54). (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 1976 lb./ac.
(ii) 123.5 lb./ac.
(iii) Treatments differ highly significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1450</td>
</tr>
<tr>
<td>2.</td>
<td>1690</td>
</tr>
<tr>
<td>3.</td>
<td>1850</td>
</tr>
<tr>
<td>4.</td>
<td>2190</td>
</tr>
<tr>
<td>5.</td>
<td>2025</td>
</tr>
<tr>
<td>6.</td>
<td>2150</td>
</tr>
<tr>
<td>7.</td>
<td>1990</td>
</tr>
<tr>
<td>8.</td>
<td>2315</td>
</tr>
<tr>
<td>9.</td>
<td>2125</td>
</tr>
</tbody>
</table>

S.E./mean = 124.0 lb./ac.

Crop: Paddy (Abi).
Object: To determine the best time of applying \( \text{N} \) and \( \text{P}_2\text{O}_5 \) to Paddy.

1. BASAL CONDITIONS:
(i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Red black mixed Chalisa (Sandy loam). (b) Refer soil analysis, Himayatsagar. (iii) N.A. /4.8.51. (iv) (a) 2 puddlings, levelling and dry ploughing before sowing. (b) Transplanted. (c) —. (d) 6" x 4". (e) N.A. (v) Nil. (vi) H.R. 19. (vii) Irrigated. (viii) Hand weeding. (ix) 20.65" (during Abi 1951—52). (x) 5.11.51.

2. TREATMENTS:
1. 30 lb./ac. of \( \text{N} \) (20 lb./ac. of \( \text{N} \) as G.N.C.+10 lb./ac. of \( \text{N} \) as A/S)+15 lb./ac. of \( \text{P}_2\text{O}_5 \) as Super at last puddling.
2. 30 lb./ac. of \( \text{N} \) + 7.5 lb./ac. of \( \text{P}_2\text{O}_5 \) at last puddling + 7.5 lb./ac. of \( \text{P}_2\text{O}_5 \) at ear primordium.
3. 30 lb./ac. of \( \text{N} \) at last puddling + 15 lb./ac. of \( \text{P}_2\text{O}_5 \) at ear primordium.
4. 20 lb./ac. of \( \text{N} \) as G.N.C.+15 lb./ac. of \( \text{P}_2\text{O}_5 \) at last puddling + 10 lb./ac. of \( \text{N} \) as A/S at ear primordium.
5. 20 lb./ac. of \( \text{N} \) + 7.5 lb./ac. of \( \text{P}_2\text{O}_5 \) at last puddling + 7.5 lb./ac. of \( \text{P}_2\text{O}_5 \) and 10 lb./ac. of \( \text{N} \) at ear primordium.
6. 20 lb./ac. of \( \text{N} \) at last puddling + 15 lb./ac. of \( \text{P}_2\text{O}_5 \) and 10 lb./ac. of \( \text{N} \) at ear primordium.
7. 15 lb./ac. of \( \text{P}_2\text{O}_5 \) last puddling + 30 lb./ac. of \( \text{N} \) at ear primordium.
8. 7.5 lb./ac. of \( \text{P}_2\text{O}_5 \) at last puddling + 30 lb./ac. of \( \text{N} \) and 7.5 lb./ac. at ear primordium.
9. 30 lb./ac. of \( \text{N} \)+15 lb./ac. of \( \text{P}_2\text{O}_5 \) at ear primordium.

Ref: A. P. 51 (6). Type: 'M'.
3. DESIGN:
   (i) R.B.D.  (ii) 'a' 9.  (b) N.A.  (iii) 4.  (iv) (a), (b) 39'x22.3'.  (v) N.A.  (vi) Yes.

4. GENERAL:
   (i) N.A.  (ii) Attack by Stemborer.  (iii) Grain yield.  (iv) (a) 1951 (Abi. 1951--52) to 54 (Tabi 1953--54).  (b) Yes.  (c) N.A.  (v) N.A.  (vi) N.A.  (vii) Conducted by Farm section.

5. RESULTS:
   (i) 2057 lb./ac.  (ii) 263.0 lb./ac.  (iii) Treatments do not differ significantly.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1912</td>
</tr>
<tr>
<td>2.</td>
<td>2331</td>
</tr>
<tr>
<td>3.</td>
<td>2.81</td>
</tr>
<tr>
<td>4.</td>
<td>19.5</td>
</tr>
<tr>
<td>5.</td>
<td>1988</td>
</tr>
<tr>
<td>6.</td>
<td>214.</td>
</tr>
<tr>
<td>7.</td>
<td>131.5</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>2195</td>
</tr>
</tbody>
</table>

Crop :- Paddy (Tabi).
Site :- Agri. Res. Stn., Himayatsagar.
Ref :- A.P. 51 (13) 51 (6).
Type :- 'M'.

Object :- To determine the best time of applying N and P$_2$O$_5$ to Paddy.

1. BASAL CONDITIONS:
   (i) (a) N.A.  (b) Paddy.  (c) As per treatments.  (ii) a) Sandy loam.  (b) Refer soil analysis, Himayatsagar.
   (iii) 13.12.51.  (iv) (a) 3 puddings and levelling before sowing.  (b) Transplanting.  (c) 6'x4'.  (e) N.A.  (vi) H.R. 19.
   (vii) Irrigated.  (viii) One weeding.  (ix) 5.23'.  (x) 28.4.52.

2. TREATMENTS:
   1. 30 lb./ac. (20 lb./ac. of N as G.C. + 10 lb./ac. of N as A/S)+15 lb./ac. of P$_2$O$_5$ at last puddling.
   2. 30 lb./ac. of N+7.5 lb. ac. P$_2$O$_5$ at last puddling+7.5 lb./ac. of P$_2$O$_5$ at ear primordium.
   3. 30 lb./ac. of N at last puddling+15 lb./ac. of P$_2$O$_5$ at ear primordium.
   4. 20 lb./ac. of N as G N.C. + 5 lb./ac. of P$_2$O$_5$ at last puddling+10 lb./ac. of N as A/S at ear primordium.
   5. 15 lb./ac. of N at last puddling+10 lb./ac. of N as A/S and 15 lb./ac. of P$_2$O$_5$ at ear primordium.
   6. 20 lb./ac. of N at last puddling+10 lb./ac. of N as A/S and 15 lb./ac. of P$_2$O$_5$ at ear primordium.
   7. 15 lb./ac. of P$_2$O$_5$ at last puddling+30 lb./ac. of N at ear primordium.
   8. 7.5 lb./ac. of P$_2$O$_5$ at last puddling+7.5 lb./ac. of P$_2$O$_5$ and 30 lb./ac. of N at ear primordium.
   9. 30 lb./ac. of N+15 lb./ac. of P$_2$O$_5$ at ear primordium.

3. DESIGN:
   (i) R.B.D.  (ii) 'a' 9.  (b) N.A.  (iii) 4.  (iv) (a), (b) 39'x22.3'.  (v) N.A.  (vi) Yes.

4. GENERAL:
   (i) N.A.  (ii) Attack of Hispa Gammaxene dusting ; attack of Helminthosporium—Perenox spraying; attack Stemborer-affected plants removed and burnt.  (iii) Grain yield.  (iv) (a) 1951 (Abi. 51--52) to 1554 (Tabi 9.3--54).  (b) Yes.  (c) N.A.  (v) N.A.  (vi) Nil.  (vii) Conducted by Farm section.

5. RESULTS:
   (i) 2766 lb./ac.  (ii) 266.0 lb./ac.  (iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2631</td>
</tr>
<tr>
<td>2.</td>
<td>2725</td>
</tr>
<tr>
<td>3.</td>
<td>2875</td>
</tr>
<tr>
<td>4.</td>
<td>2825</td>
</tr>
<tr>
<td>5.</td>
<td>2613</td>
</tr>
<tr>
<td>6.</td>
<td>2838</td>
</tr>
<tr>
<td>7.</td>
<td>2619</td>
</tr>
<tr>
<td>8.</td>
<td>2913</td>
</tr>
<tr>
<td>9.</td>
<td>2856</td>
</tr>
</tbody>
</table>

S.E./mean = 230.0 lb./ac.

Crop: Paddy (Abi).


Ref: A.P. 52(36)/51(6,13).

Object: To determine the best time of application of N and P\textsubscript{2}O\textsubscript{5} to Paddy crop.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Himayatsagar. (iii) 24.7.52. (iv) (a) Usual ploughing and levelling. (b) Transplanted. (c) 6' x 4'. (d) N.A. (v) Nil. (vi) H.R. 19. (vii) Irrigated. (viii) Weeding. (ix) 22.59. (x) 25.10.52.

2. TREATMENTS:
1. 30 lb./ac. of N + 15 lb./ac. of P\textsubscript{2}O\textsubscript{5} at puddling.
2. 30 lb./ac. of N + 7.5 lb./ac. of P\textsubscript{2}O\textsubscript{5} at puddling and 7.5 lb./ac. of P\textsubscript{2}O\textsubscript{5} at weeding.
3. 30 lb./ac. of N at puddling + 15 lb./ac. of P\textsubscript{2}O\textsubscript{5} at weeding.
4. 20 lb./ac. of N + 15 lb./ac. of P\textsubscript{2}O\textsubscript{5} at puddling and 10 lb./ac. of N at weeding.
5. 20 lb./ac. of N + 7.5 lb./ac. of P\textsubscript{2}O\textsubscript{5} at puddling and 7.5 lb./ac. of P\textsubscript{2}O\textsubscript{5} and 10 lb./ac. of N at weeding.
6. 20 lb./ac. of N at puddling and 15 lb./ac. of P\textsubscript{2}O\textsubscript{5} and 10 lb./ac. of N at weeding.
7. 15 lb./ac. of P\textsubscript{2}O\textsubscript{5} at puddling and 30 lb./ac. of N at weeding.
8. 7.5 lb./ac. of P\textsubscript{2}O\textsubscript{5} at puddling and 7.5 lb./ac. of P\textsubscript{2}O\textsubscript{5} and 30 lb./ac. of N at weeding.
9. 15 lb./ac. of P\textsubscript{2}O\textsubscript{5} and 30 lb./ac. of N at weeding.
10. 20 lb./ac. of N as G.N.C. and 30 lb./ac. of N as A/S. P\textsubscript{2}O\textsubscript{5} as Super.

3. DESIGN:
   (i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) and (b) 46' x 19'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Mild attack of blast at flowering and at grain formation stage. (iii) Straw weight and grain weight. (iv) (a) 1951 (Abi 1951-52) to 1954 (Tabi 19:3-54). (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Conducted by Chemist Section.

5. RESULTS:
   (i) 2300 lb./ac.
   (ii) 280.0 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2300</td>
</tr>
<tr>
<td>2.</td>
<td>2400</td>
</tr>
<tr>
<td>3.</td>
<td>2125</td>
</tr>
<tr>
<td>4.</td>
<td>2263</td>
</tr>
<tr>
<td>5.</td>
<td>2288</td>
</tr>
<tr>
<td>6.</td>
<td>2238</td>
</tr>
<tr>
<td>7.</td>
<td>2300</td>
</tr>
<tr>
<td>8.</td>
<td>2425</td>
</tr>
<tr>
<td>9.</td>
<td>2363</td>
</tr>
</tbody>
</table>

S.E./mean = 140.0 lb./ac.
Crop: Paddy (Tabi).

Type: 'M'.

Object: To determine the best time of application of N and P₂O₅ to Paddy crop.

### 1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) As under treatments.  
(ii) (a) Sandy loam and sandy clay. (b) Refer soil analysis, Himayatsagar.  
(iii) 13.1.53.  
(iv) (a) Usual ploughing and levelling. (b) Broadcast. (c) 80 lb./ac.  
(d) N.A. (e) Nil.  
(v) H.R. 19.  
(vi) Irrigated.  
(vii) Weeding.  
(viii) N.A.  
(ix) 6.5.53.

### 2. TREATMENTS:

1. **30 lb./ac. of N + 15 lb./ac. of P₂O₅ at puddling.**
2. **30 lb./ac. of N + 7.5 lb./ac. of P₂O₅ at last puddling and 15 lb./ac. of P₂O₅ at weeding.**
3. **30 lb./ac. of N after puddling and 15 lb./ac. of P₂O₅ at weeding.**
4. **20 lb./ac. of N + 15 lb./ac. of P₂O₅ at last puddling and 10 lb./ac. of N at weeding.**
5. **20 lb./ac. of N + 7.5 lb./ac. of P₂O₅ at last puddling and 10 lb./ac. of N + 7.5 lb./ac. of P₂O₅ at weeding.**
6. **20 lb./ac. of N at last puddling and 15 lb./ac. of P₂O₅ at weeding.**
7. **15 lb./ac. of P₂O₅ at last puddling and 30 lb./ac. of N at weeding.**
8. **7.5 lb./ac. of P₂O₅ at last puddling and 7.5 lb./ac. of P₂O₅ + 30 lb./ac. of N at weeding.**
9. **30 lb./ac. of N + 15 lb./ac. of P₂O₅ at weeding.**
   - 20 lb./ac. of N as G.N.C. and 10 lb./ac. of N as A/S; P₂O₅ as Super.

### 3. DESIGN:

(i) R.B.D.  
(ii) (a) 9. (b) N.A.  
(iii) 4. (iv) (a) and (b) 46°19'.  
(v) Nil.  
(vi) Yes.

### 4. GENERAL:

(i) Normal.  
(ii) Nil.  
(iii) Grain weight.  
(iv) (a) 1951 (Abi 51-52) to 1954 (Tabi 53-54). (b) Yes. (c) N.A.  
(v) (a), (b); N.A.  
(vi) Nil.  
(vii) Conducted by Chemist Section.

### 5. RESULTS:

(i) 1743 lb./ac.  
(ii) 321.0 lb./ac.  
(iii) Treatments do not differ significantly.  
(iv) Av. yield of grain in lb./ac. of N and P₂O₅ to Paddy crop.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield (lb./ac.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1645</td>
</tr>
<tr>
<td>2.</td>
<td>1825</td>
</tr>
<tr>
<td>3.</td>
<td>2030</td>
</tr>
<tr>
<td>4.</td>
<td>162</td>
</tr>
<tr>
<td>5.</td>
<td>1728</td>
</tr>
<tr>
<td>6.</td>
<td>1618</td>
</tr>
<tr>
<td>7.</td>
<td>1540</td>
</tr>
<tr>
<td>8.</td>
<td>1845</td>
</tr>
<tr>
<td>9.</td>
<td>1887</td>
</tr>
</tbody>
</table>

S.E./mean = 161.0 lb./ac.

---

Crop: Paddy (Abi).

Ref: A.P. 53(53)/53(52)/52(36)/51(6,13).

Type: 'M'.

Object: To determine the best time of application of N and P₂O₅ to Paddy crop.

### 1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) As under treatments.  
(ii) (a) Sandy loam and sandy clay. (b) Refer soil analysis, Himayatsagar.  
(iii) 26.7.53.  
(iv) (a) Usual ploughings and levelling. (b) Transplanted. (c) Nil.  
(d) 6°4'. (e) N.A. (v) Nil.  
(vi) H.R.-19.  
(vii) Irrigated.  
(viii) Weeding.  
(ix) 25.65'. (x) 28.10.53.
2. TREATMENTS:

1. 30 lb./ac. of N+15 lb./ac. of P_2O_5 at last puddling.
2. 30 lb./ac. of N+7.5 lb./ac. of P_2O_5 at puddling and 7.5 lb./ac. of P_2O_5 at weeding.
3. 15 lb./ac. of N at last puddling+15 lb./ac. of P_2O_5 at weeding.
4. 20 lb./ac. of N+7.5 lb./ac. of P_2O_5 at last puddling and 10 lb./ac. of N at weeding.
5. 20 lb./ac. of N+7.5 lb./ac. of P_2O_5 at last puddling and 7.5 lb./ac. of P_2O_5+10 lb./ac. of N at weeding.
6. 15 lb./ac. of P_2O_5 at puddling+30 lb./ac. of N at weeding.
7. 7.5 lb./ac. of P_2O_5 at puddling and 7.5 lb./ac. of P_2O_5+30 lb./ac. of N at weeding.
8. 20 lb./ac. of N as G.N.C. and 10 lb./ac. of N as A/S.; P_2O_5 as Super.

3. DESIGN:

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) and (b) 46'x19'. (v) Nil. (vi) Yes.

4. GENERAL:

(i) Normal (ii) Nil. (iii) Grain yield. (iv) (a) 1951 (Abi 1951—52) to 1954 (Tabi 1953—1954). (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) Conducted by Chemist Section.

5. RESULTS:

(i) 1845 lb./ac.
(ii) 378.0 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1738</td>
</tr>
<tr>
<td>2.</td>
<td>1900</td>
</tr>
<tr>
<td>3.</td>
<td>2075</td>
</tr>
<tr>
<td>4.</td>
<td>1800</td>
</tr>
<tr>
<td>5.</td>
<td>1875</td>
</tr>
<tr>
<td>6.</td>
<td>1987</td>
</tr>
<tr>
<td>7.</td>
<td>1600</td>
</tr>
<tr>
<td>8.</td>
<td>1813</td>
</tr>
<tr>
<td>9.</td>
<td>1813</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>189.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Paddy (Tabi). Ref :- A.P. 51(11).
Site :- Agri. Res. Stn., Himayatsagar. Type :- 'M'.

Object :- To determine the efficacy of different methods of placement of manures.

1. BASAL CONDITIONS:

(i) (a) N.A. (b) Paddy. (c) N.A. (ii) (a) Medium black. (b) Refer soil analysis, Himayatsagar. (iii) December 1951/12.1.52. (iv) (a) One dry ploughing, 2 puddlings and levelling before sowing. (b) Transplanting. (c) 6"x4". (d) N.A. (e) Nil. (f) H.R.-19. (g) N.A. (h) One hand weeding. (i) 6.23" (during Tabi 1951—52). (j) 26.4.52.

2. TREATMENTS:

1. Control.
2. 30 lb./ac. of N as A/S+15 lb./ac. of P_2O_5 as Super. Broadcast, ploughed in dry and then flooded.
3. 30 lb./ac. of N+15 lb./ac. of P_2O_5 at last puddling; incorporated thoroughly.
4. Usual split application of 15 lb./ac. of N ; 7.5 lb./ac. of P_2O_5 at last puddling and the rest as top dressing.
5. 15 lb./ac. of N+7.5 lb./ac. of P_2O_5 broadcast and ploughed in dry as in Treat. (2) and 15 lb./ac. of N+7.5 lb./ac. of P_2O_5 made into balls with mud and placed at the roots of 10% of plants at weeding time.
6. 30 lb./ac. of N and 15 lb./ac. of P_2O_5 made into slush with mud and applied to the roots of the seedlings before transplanting.

3. DESIGN:

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1/50 ac. (v) N.A. (vi) Yes.

4. GENERAL:

(i) N.A. (ii) Gammaxene dusting done for Hispa control and Perenox spraying for Helminthosporangium. (iii) Grain weight. (iv) (a) No. (b) No. (c) No. (v) (a) and (b) Nil. (vi) Nil. (vii) Conducted by Farm Section.
5. RESULTS:
   (i) 408 lb/ac.
   (ii) 181.5 lb/ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>27</td>
</tr>
<tr>
<td>2.</td>
<td>504</td>
</tr>
<tr>
<td>3.</td>
<td>496</td>
</tr>
<tr>
<td>4.</td>
<td>221</td>
</tr>
<tr>
<td>5.</td>
<td>354</td>
</tr>
<tr>
<td>6.</td>
<td>842</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>74.0 lb/ac</td>
</tr>
</tbody>
</table>

Crop: Paddy (Main crop).
Ref: A.P. 50(24).
Type: ‘M’.

Object: To study the effect of a radioactive soil stimulant alphatron on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. iii) 28.4.50/ 26.6.50.
   (iv) (a) Water let in, puddled three and levelled. (b) Transplanted. (c) — (d) Bulk planting. (e) 2.
   (v) 4000 lb/ac of G.L. vi) MTU 1. (vii) Irrigated. (viii) 2 weedings; first weeding one month after transplanting. (ix) 49.63°, (x) 22.11.50.

2. TREATMENTS:
   1. Control (no manure).
   2. Alphatron at 10 lb/ac.
   3. Alphatron at 20 lb/ac.
   Applied at the time of planting.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 10, (iv) (a) and (b) 12.5’x28’. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Straw and grain yield. (iv) (a) 1950—N.A. (b) (c) N.A. (v) (a), (b) Nil.
   (vi) and (vii) Nil.

5. RESULTS:
   (i) 3776 lb/ac.
   (ii) 138.2 lb/ac.
   iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3776</td>
</tr>
<tr>
<td>2.</td>
<td>3799</td>
</tr>
<tr>
<td>3.</td>
<td>3752</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>43.7 lb/ac</td>
</tr>
</tbody>
</table>

...
Crop: Paddy (Main Crop).


Ref: A.P. 48(39).

Type: 'M'.

Object: To study the effect of P\textsubscript{2}O\textsubscript{5} in the form of Hyperphosphate, Super and B.M. over a basal dressing of G.L.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 7.1.49. (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c) —. (d) 6' x 6'. (e) 2. (v) 5000 lb/ac. of G.L. (vi) N.A. (vii) Irrigated. (viii) 2 weedings. (ix) 6.63. (x) -15.5.49.

2. TREATMENTS:

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

(i) 2 levels of P\textsubscript{2}O\textsubscript{5}: L\textsubscript{1} = 30 and L\textsubscript{2} = 45 lb/ac.

(ii) 4 sources of P\textsubscript{2}O\textsubscript{5}: S\textsubscript{1} = Hyperphosphate (26/27), S\textsubscript{2} = Hyperphosphate (28/29), S\textsubscript{3} = Super and S\textsubscript{4} = B.M.

3. DESIGN:

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a), (b) 9' x 6'. (v) No. (vi). Yes.

4. GENERAL:

(i) R.B.D. (ii) Nil. (iii) Straw and grain yield. (iv) (a) 1948 to 1949. (b), (c) N.A. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

(i) 3873 lb/ac.

(ii) 280.0 lb/ac.

(iii) None of the effects is significant.

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

<table>
<thead>
<tr>
<th></th>
<th>S\textsubscript{1}</th>
<th>S\textsubscript{2}</th>
<th>S\textsubscript{3}</th>
<th>S\textsubscript{4}</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>L\textsubscript{1}</td>
<td>3710</td>
<td>3829</td>
<td>3849</td>
<td>3849</td>
<td>3809</td>
</tr>
<tr>
<td>L\textsubscript{2}</td>
<td>3869</td>
<td>3928</td>
<td>4027</td>
<td>3908</td>
<td>3933</td>
</tr>
<tr>
<td>Mean</td>
<td>3789</td>
<td>3879</td>
<td>3938</td>
<td>3879</td>
<td>3871</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of S = 99.0 lb/ac.

S.E. of marginal mean of L = 70.0 lb/ac.

S.E. of body of table = 140.0 lb/ac.

Crop: Paddy (Second crop of 1948-49).


Ref: A.P. 49(25).

Type: 'M'.

Object: To study the effect of P\textsubscript{2}O\textsubscript{5} in the form of Hyperphosphate, Super and B.M. over a basal dressing of G.L.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 7.1.49.

(iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c) —. (d) 6' x 6'. (e) 2. (v) 5000 lb/ac. of G.L. (vi) N.A. (vii) Irrigated. (viii) 2 weedings. (ix) 6.63. (x) -15.5.49.

2. TREATMENTS:

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

(i) 2 levels of P\textsubscript{2}O\textsubscript{5}: L\textsubscript{1} = 30 and L\textsubscript{2} = 45 lb/ac.

(ii) 4 sources of P\textsubscript{2}O\textsubscript{5}: S\textsubscript{1} = hyperphosphate (26/27), S\textsubscript{2} = hyperphosphate (28/29), S\textsubscript{3} = Super and S\textsubscript{4} = B.M.

P\textsubscript{2}O\textsubscript{5} applied as top dressing about a month after transplanting.
3. DESIGN:
(i) R.B.D. (ii) (a) 9 (b) N.A. (iii) 4 (iv) (a) and (b) 9'x61' (v) No (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948 to 1949 (b) N.A. (c) N.A. (v) (a) and (b) N.A. (vi) & (vii) Nil.

5. RESULTS:
(i) 2356 lb/ac.
(ii) 276.0 lb/ac.
(iii) Main effect of 'Source' alone is highly significant. Others are not significant.
(iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th>Control=2004 lb/ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>L₁</td>
</tr>
<tr>
<td>L₂</td>
</tr>
<tr>
<td>Mean</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of S = 97.6 lb/ac.
S.E. of marginal mean of L = 69.0 lb/ac.
S.E. of body of table = 138.0 lb/ac.

Crop: Paddy (Main crop)
Ref: A.P. 49 (79).
Type: 'M'

Object: To Study the effect of P₂O₅ in the form of Hyper phosphate, Super and B.M. over a basal dressing of G.L.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Heavy black clay. (b) Refer soil analysis, Maruteru. (iii) 26.5.49.
(iv) (a) Water let in, puddled and levelled. (b) Transplanted. (c) (d) 6'x6'. (e) 2. (v) 5000 lb/ac. of G.L.
(vi) MTU-1 (vii) Irrigated (viii) One or two weedings. (ix) 41.67'. (x) 19.11.49.

2. TREATMENTS:
All combinations of (1) & (2) + a control (no manure).
(1) 2 levels of P₂O₅: L₁=30 and L₂=45 lb/ac.
(2) 4 sources of P₂O₅: S₁=Hyper phosphate (26/27), S₂=Hyper phosphate (28/29), S₃=Super and S₄=B.M.

3. DESIGN:
(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) and (b) 9'x61' (v) No (vi) Yes.

4. GENERAL:
(i) Not satisfactory due to the severe cyclone during last week of October. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948 to 1949 (b) N.A. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 1311 lb/ac.
(ii) 155.2 lb/ac.
(iii) "Control vs. others" effect is significant. Others are not significant.
(iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th>Control=1161 lb/ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>L₁</td>
</tr>
<tr>
<td>L₂</td>
</tr>
<tr>
<td>Mean</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of S = 54.9 lb/ac.
S.E. of marginal mean of L = 38.8 lb/ac.
S.E. of body of table = 77.6 lb/ac.
Crop : Paddy (Main crop.)


Ref. : A.P. 48(34).

Type : 'M'.

Object : To study the effect of different doses of catalyst on Paddy fields.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) N.A.  (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 19.5.48.
   (iv) (a) Water let in, puddled thrice and levelled. (b) Bulk planting. (c)—.  (d) —. (e) —. (v) Nil. (vi) N.A.
   (vii) Irrigated. (viii) 2 weedings. (ix) 31.87°. (x) 26.11.48.

2. TREATMENTS:
   Main-plot treatments :
   M₁ Manured: 2000 lb./ac. of G.L.+G.N.C. at 3 cwt/ac.
   M₀ Unmanured.
   Sub-plot treatments :
   1. No Catalyst.
   2. 40 lb./ac. of Catalyst.
   3. 80 lb./ac. of Catalyst.
   4. 16 lb./ac. of Potassium Permanganate.
   5. 28 lb./ac. of Ferrous sulphate.

3. DESIGN:
   (i) Split-plot.  (ii) (a) 2 main-plots/block; 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 8'×42'
   (v) No. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil.  (iii) Straw and grain yield. (iv) (a) 1947 to 1949 (b). N.A. (c) N.A. (v) (a) and (b)
   N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 3715 lb./ac.
   (ii) (a) 246.2 lb./ac.
   (b) 355.5 lb./ac.
   (iii) Only main-plot treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M₁</th>
<th>M₀</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3241</td>
<td>4344</td>
<td>3793</td>
</tr>
<tr>
<td>2</td>
<td>2950</td>
<td>4182</td>
<td>3566</td>
</tr>
<tr>
<td>3</td>
<td>3309</td>
<td>4214</td>
<td>3712</td>
</tr>
<tr>
<td>4</td>
<td>2983</td>
<td>4344</td>
<td>3664</td>
</tr>
<tr>
<td>5</td>
<td>3500</td>
<td>4182</td>
<td>3841</td>
</tr>
</tbody>
</table>

Mean | 3176 | 4253 | 3715 |

S.E. of difference of two
1. main-plot treatment means = 77.8 lb./ac.
2. sub-plot treatment means = 187.7 lb./ac.
3. main-plot treatment means at the same level of sub-plot treatment = 244.9 lb./ac.
4. Sub-plot treatment means at the same level of main-plot treatment = 258.4 lb./ac.

Crop : Paddy (Second crop).


Ref. : A.P. 49(28).

Type : 'M'.

Object : To study the effect of different doses of catalyst on Paddy fields.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) N.A.  (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) First
   week of Jan. 1949. (iv) (a) Water let in, puddled thrice and levelled. (b) Bulk planting. (c), (d) and (e)
2. TREATMENTS:

Main-plot treatments:
- M₁ Manured: 2000 lb./ac. of G.L. + G.N.C. at 3 cwt/ac.
- M₀ No manure.

Sub-plot treatments:
1. No Catalyst.
2. 40 lb./ac. of Catalyst.
3. 80 lb./ac. of Catalyst.
4. 16 lb./ac. of Potassium permanganate.
5. 28 lb./ac. of Ferrous sulphate.

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block; 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 8'x42'.
   (v) No. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1947 to 1949. (b) N.A. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2391 lb./ac.
   (ii) (a) 268.3 lb./ac.
   (b) 336.9 lb./ac.
   (iii) Main-plot treatments differ significantly. Sub-plot treatments do not differ significantly. Interaction 'Main x Sub' is significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M₁</th>
<th>M₀</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2643</td>
<td>2120</td>
<td>2382</td>
</tr>
<tr>
<td>2</td>
<td>2836</td>
<td>1972</td>
<td>2404</td>
</tr>
<tr>
<td>3</td>
<td>2731</td>
<td>2067</td>
<td>2397</td>
</tr>
<tr>
<td>4</td>
<td>2809</td>
<td>2033</td>
<td>2421</td>
</tr>
<tr>
<td>5</td>
<td>2530</td>
<td>2164</td>
<td>2374</td>
</tr>
</tbody>
</table>

Mean 2710 2071 2391

S.E. of difference of two
1. main-plot treatment means
2. sub-plot treatment means
3. sub-plot treatment means at the same level of main-plot treatment
4. main-plot treatment means at the same level of sub-plot treatment


Object: To find out the best combinations of artificial fertilizers, with and without basal dressing of G.M.

1. BASAL CONDITIONS:
   (i) (a) Nil (b) N.A. (c) N.A. (ii) (a) Heavy black clay. (b) Refer soil analysis, Maruteru. (iii) 24.5.48.
   (iv) (a) Water let in and puddled. (b) Transplanted. (c) N.A. (d) N.A. (e) 2 (v) Nil. (vi) N.A. (vii) Irrigated.
   (viii) 2 weedings. (ix) 31.87'. (x) 9.12.48.

2. TREATMENTS:
   All combinations of (1), (2) and (3)
   (1) 6 levels of N: N₅ = 0, N₁ = 5000 lb./ac. of G.L. N₂ = N₁ + 30 lb./ac. of N, N₃ = N₁ + 60 lb./ac. of N
   (2) 3 levels of P₂O₅: P₀ = 0, P₁ = 30 and P₂ = 60 lb./ac. of P₂O₅
   (3) 2 levels of K₂O: K₀ = 0 and K₁ = 60 lb./ac. of K₂O

   Other details N.A.
8. DESIGN:
(i) 2 x 3 x 6 Fact. in R.B.D. (ii) (a) 36. (b) N.A. (iii) 4. (iv) (a) and (b) 10' x 43.5'. (v) No. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948-1949. (b) N.A. (c) Nil. (v) (a) Buchireddipalem. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 2874 lb./ac.
(ii) 306.0 lb./ac.
(iii) Main effect of N and interactions 'N x K' and 'N x P x K' are significant. Others are not significant.
(iv) Av. yield of grain in lb./ac.

(A) For treatments averaged over 'No' (Not receiving G.L.)

<table>
<thead>
<tr>
<th></th>
<th>P₀</th>
<th>P₁</th>
<th>P₂</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>K₀</td>
<td>3132</td>
<td>2961</td>
<td>2925</td>
<td>3006</td>
</tr>
<tr>
<td>K₁</td>
<td>2976</td>
<td>3339</td>
<td>3075</td>
<td>3130</td>
</tr>
<tr>
<td>Mean</td>
<td>3054</td>
<td>3150</td>
<td>3000</td>
<td>3068</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of P = 109.0 lb./ac.
S.E. of marginal mean of K = 88.0 lb./ac.
S.E. of body of table = 153.0 lb./ac.

(B) For treatments receiving G.L.

<table>
<thead>
<tr>
<th></th>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
<th>N₄</th>
<th>N₅</th>
<th>Mean</th>
<th>K₀</th>
<th>K₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>P₀</td>
<td>3005</td>
<td>3086</td>
<td>2848</td>
<td>2406</td>
<td>1748</td>
<td></td>
<td>2618</td>
<td>2665</td>
<td>2571</td>
</tr>
<tr>
<td>P₁</td>
<td>3029</td>
<td>3086</td>
<td>3115</td>
<td>2562</td>
<td>2888</td>
<td></td>
<td>2739</td>
<td>2812</td>
<td>2667</td>
</tr>
<tr>
<td>Pₛ</td>
<td>3109</td>
<td>2870</td>
<td>2919</td>
<td>2507</td>
<td>2015</td>
<td></td>
<td>2684</td>
<td>2644</td>
<td>2723</td>
</tr>
<tr>
<td>Mean</td>
<td>3047</td>
<td>3026</td>
<td>2960</td>
<td>2492</td>
<td>1877</td>
<td></td>
<td>2680</td>
<td>2707</td>
<td>2654</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of N = 63.0 lb./ac.
S.E. of marginal mean of P = 49.0 lb./ac.
S.E. of marginal mean of K = 40.0 lb./ac.
S.E. of body of table N x P = 108.0 lb./ac.
S.E. of body of table N x K = 88.0 lb./ac.
S.E. of body of table P x K = 69.0 lb./ac.

Crop :- Paddy (1st crop)  
Site :- Agri. Res. Stn.; Maruteru.  
Object :- To assess the merits of ultra phosphate over super.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Heavy black clay. (b) Refer soil analysis. Maruteru. (iii) N.A. (iv) (a) Water let in, puddled and levelled. (b) Transplanted. (c) -. (d) Bulk planting. (e) 2. (f) G.L. 3000 lb/ac. (vi) MTU-15. (vii) Irrigated. (viii) One or two weedings. (ix) 41.67°. (x) N.A.
2. TREATMENTS:
   All combinations of (1) and (2) + a Control (no manure)
   (1) 2 levels of P₂O₅: P₁ = 30 and P₂ = 45 lb/ac.
   (2) 2 sources of P₂O₅: S₁ = Super and S₂ = ultra phosphate.

3. DESIGN:
   (i) R.B.D. (ii) a 5. (b) N.A. (iii) 6. (iv) (a) and (b) 7'x90'. (v) No. (vi) Yes.

4. GENERAL:
   i) Not satisfactory. Crop lodged badly and suffered by the adverse weather conditions of the cyclone, in October. ii) Nil. (iii) Grain and straw yield. (iv) (a) 1946. (1 crop) to 1949 (II crop). (b) N.A. (c) Nl. (v) (a) Nil. (b) Nil. (v) Nil. (vii) Neither the raw data nor the analysis sheets are available at the Research station. Hence only table of the means is supplied.

5. RESULTS:
   (i) 1655 lb/ac.
   (ii) N.A.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th>S₁</th>
<th>S₂</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1731</td>
<td>1689</td>
<td>1710</td>
</tr>
<tr>
<td>1622</td>
<td>1655</td>
<td>1638</td>
</tr>
</tbody>
</table>

S.E.'s = N.A.

Crop: Paddy (2nd crop).
Object: To assess the merits of ultra phosphate over super.

1. BASAL CONDITIONS:
   (i) a Nil. (b) N.A. (ii) a) Heavy black clay. (b) Refer soil analysis, Maruteru. (iii) 25.12 49. (iv) (a) Water let in, puddled and levelled. (b) Transplanted. (c) Bulk planting. (d) 2. (v) G.L. 5000 lb/ac. (vi) MTU-15. (vii) Irrigated. (viii) One or two weedings. (ix) 5.37'. (x) 1.5.50.

2. TREATMENTS:
   All combinations of (1) & (2) + a control (no manure)
   (1) 2 e.ebs of P₂O₅: P₁ = 30 and P₂ = 45 lb/ac.
   (2) 2 Sources of P₂O₅: S₁ = Super and S₂ = ultra Phosphate.

3. DESIGN:
   (i) R.B.D. (ii) a 5. (b) N.A. (iii) 6. (iv) (a), (b) 7'x90' (v) No. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Mild attack of swarming caterpillar. Gammexene dusted (iii) Grain and straw yield (iv) (a) 1949. (1 crop) to 1949 (2nd crop) (b) N.A. (c) Nil. (v) (a) Nil. (b) No. (vi) & (vii) Nil.

5 RESULTS:
   (i) 2766 lb/ac.
   (ii) 151.1 lb/ac.
   (iii) 'Control vs others' effect is highly significant. Others are not significant.
(iv) A.v. yield of grain in lb/ac.  

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>P&lt;sub&gt;1&lt;/sub&gt;</td>
<td>2783</td>
<td>2806</td>
<td>2795</td>
</tr>
<tr>
<td>P&lt;sub&gt;2&lt;/sub&gt;</td>
<td>2835</td>
<td>2841</td>
<td>2838</td>
</tr>
</tbody>
</table>

Mean = 2816

S.E. of 'Control vs. others' = 69.0 lb/ac. 
S.E. of the marginal means = 43.6 lb/ac. 
S.E. of body of table = 61.7 lb/ac.

Crop: Paddy (2nd crop).  
Ref: A.P. 49(77).  
Type: 'M'.

Object: To study the relative merits of the 'Engrais' fertilizer over a mixture of A/S and Super.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A.  
   (ii) (a) Heavy black clay. (b) Refer soil analysis, Maruteru.  
   (iii) 21.12.49.  
   (iv) (a) Water let in, puddled and levelled. (b) Transplanted. (c) 6"×6", (d) 2. (v) G.L. 5000. lb/ac.  
   (vi) N.A. (vii) Irrigated. (viii) One or two weedings. (ix) 5.37"  
   (x) 4.5.50.

2. TREATMENTS:
   1. 'Engrais' fertilizer at 300 lb/ac.  
   3. No fertilizer.

3. DESIGN:
   (i) R.B.D. (ii) 3. (b) N.A. (iii) 8. (iv) (a), (b) 10'×4V' (v) No. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Mild attack of swarming caterpillar; GammaMaxicide dusted. (iii) Grain [and straw, yield].  
   (iv) 1949 to 1950.  
   (b) N.A. (c) Nil. (v) (a) N.A. (b) Nil.  
   (vi) & (vii) Nil.  

5. RESULTS:
   (i) 2303 lb/ac.  
   (ii) 189.5 lb/ac.  
   (iii) Treatments do not differ significantly.  
   (iv) Av. yield of grain in lb/ac.  
   Treatment Av. yield  
   1. 2308  
   2. 2370  
   3. 2232  
   S.E./mean = 67.0 lb/ac.

Crop: Paddy.  
Ref: A. P. 50 (25)  
Type: 'M'.

Object: To study the relative merits of the 'Engrais' fertilizer over a mixture of A/S and Super.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A.  
   (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru.  
   (iii) 28.4.50 to 25.5.50.  
   (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c) 6"×6", (d) Bulk planting.  
   (e) 2-3.  
   (v) Nil. (vi) MTU-5 (vii) Irrigated. (viii) Weedings; first weeding one month after transplanting.  
   (ix) 49.63"  
   (x) 30.11.50.
2. **TREATMENTS:**
   1. ‘Engrais’ fertiliser at 300 lb./ac.
   2. A/S at 25 lb./ac. of N+N+Super at 40 lb./ac. of P₂O₅
   3. G.L. at 2.0J lb./ac.
   Manures applied at the time of planting.

3. **DESIGN:**
   (i) R.B.D. (a) 1. (b) N.A. (ii) 8. (iv) (a) and (b) 10'×44' (v) No. (vi) Yes.

4. **GENERAL:**
   (i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949—N.A. (b) N.A. (c) N.A. (v) (a)and (b) Nil, (vi) and (vii) Nil.

5. **RESULTS:**
   (i) 2978 lb./ac.
   (ii) 321.8 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.
   Treatment | Av. yield |
   1. | 3303 |
   2. | 3096 |
   3. | 2831 |
   S.E./mean = 113.7 lb./ac.

---

**Crop:** Paddy (Main Crop).

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

**Object:** To study the effect of organic manures on Paddy.

1. **BASAL CONDITIONS:**
   (a) Nil. (b) N.A. ‘c’ N.A. (ii) (a) Heavy black clay. (b) Refer soil analysis, Maruteru. (iii) 26.7.49. (iv) (a) Water lst in, puddled and levelled. (b) Transplanted. (c) —. (d) 6'×6' (e) 2 (v) Nil. (vi) MTU-5 (vii) Irrigated. (viii) One or two weedings. (ix) 41.67’ (x) 1.12.49.

2. **TREATMENTS:**
   1. Compost at 60 lb./ac. of N.
   2. F.Y.M. at 60 lb./ac. of N.
   3. No manure.
   Manures applied about a month before planting and mixed with soil.

3. **DESIGN:**
   (i) R.B.D. (ii) 3. (b) N.A. (iii) 6 (iv) (a) and (b) N.A. (v) No (vi) Yes.

4. **GENERAL:**
   (i) Not satisfactory due to cyclone in the last week of October, at the time of flowering. (ii) Nil. (iii) Grain and straw yield (iv) (a) 1949 to 1950 (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. **RESULTS:**
   (i) 1433 lb./ac.
   (ii) 171.8 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.
   Treatment | Av. yield |
   1. | 13’8 |
   2. | 13’8 |
   3. | 1152 |
   S.E./mean = 70.0 lb./ac.

---
Crop: - Paddy (2nd crop).

Site: - Agri Res. Stn., Maruteru.

Object: —To study the effect of organic manures on Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Heavy block clay. (b) Refer soil analysis, Maruteru. (iii) 4.2.50.
   (iv) (a) Water let in, puddled and levelled. (b) Transplanted. (c) —. (d) 6' x 6'. (e) 2. (v) Nil. (vi) MTU-15.
   (vii) Irrigated. (viii) One or two weedings. (ix) 5.37%. (x) 5.5.50.

2. TREATMENTS:
   1. No manure.
   2. Compost at 60 lb./ac. of N.
   3. F.Y.M. at 60 lb./ac. of N.
   Manures applied about a month before planting and mixed with soil.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a), (b) N.A. (v) N.A. (vi) Yes.

4. GENERAL:
   (iv) (a) 1949 to 1950. (b) Yes. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1718 lb./ac.
   (ii) 107.8 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1730</td>
</tr>
<tr>
<td>2.</td>
<td>1838</td>
</tr>
<tr>
<td>3.</td>
<td>1595</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 44.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: - Paddy (Double crop Area).


Object: —To compare compost with F.Y.M. in giving high yield.

1. BASAL CONDITIONS:
   (i) (a) No. (b) Paddy. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 28.4.50/3.6.50.
   (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c) —. (d) Bulk planting.
   (e) 2 or 3. (v) Nil. (vi) M.T.U.5. (vii) Irrigated. (viii) 2 weedings; First weeding one month after transplanting. (ix) 49.63%. (x) 29th and 30th November, 1950.

2. TREATMENTS:
   1. Compost to give 60 lb./ac. of N.
   2. F.Y.M. to give 60 lb./ac. of N.
   3. No manure.
   Manures applied prior to second puddling so as to incorporate it 3" to 4" below soil.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6 x (iv) (a), (b) 9' x 90'. (v) No. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1950 to 1952. (b) Yes. (c) Nil. (v) (a), (b) Nil.
   (vi) and (vii) Nil.
5. RESULTS:
   (i) 2972 lb./ac.
   (ii) 181.5 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2933</td>
</tr>
<tr>
<td>2.</td>
<td>3173</td>
</tr>
<tr>
<td>3.</td>
<td>2841</td>
</tr>
</tbody>
</table>
S.E./mean  = 74.1 lb./ac.

Crop: Paddy (2nd crop).

Object: To compare compost with F.Y.M. in giving high yields.

1. BASAL CONDITIONS:
   (i) (a) No. (b) Paddy. (c) As under treatments.
   (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru.
   (iii) 74.12.50. (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c) —. (d) Bulk planting. (e) 2 or 3. (v) Nil. (vi) M.T.U.15. (vii) Irrigated. (viii) 2 weedings; first weeding one month after transplanting. (ix) 6.87'. (x) 14.5.51.

2. TREATMENTS:
   1. Compost to give 63 lb./ac. of N.
   2. F.Y.M. to give 60 lb./ac. of N.
   3. No Manure.

   Manures applied prior to second puddling so as to incorporate it 3° to 4° below the soil.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a), (b) 9' x 99'. (v) No. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1950 to 1952. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1568 lb./ac.
   (ii) 253.6 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1613</td>
</tr>
<tr>
<td>2.</td>
<td>1694</td>
</tr>
<tr>
<td>3.</td>
<td>1398</td>
</tr>
</tbody>
</table>
S.E./mean  = 103.5 lb./ac.
2. TREATMENTS:
   1. Compost to give 60 lb./ac. of N.
   2. F.Y.M. to give 60 lb./ac. of N.
   3. No manure.
      Manures applied prior to second puddling so as to incorporate it 3" to 4" below the soil.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3, (b) N.A. (iii) 6. (iv) (a) and (b) 9'×90'. (v) No. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1950 to 1952. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 377 lb./ac.
   (ii) 201.7 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.
      Treatment     Av. yield
          1.    3269
          2.    3095
          3.    3169
      S.E./mean = 82.3 lb./ac.

---

Crop :- Paddy (2nd crop of 1951-52). Ref :- A.P. 52(56)/51(54)/50(19,20),
Site :- Agri. Res. Stn., Maruteru Type :- 'M'.

Object :- To compare compost with F.Y.M. in giving higher yields.

1. BASAL CONDITIONS:
   (i) (a) No. (b) Paddy. (c) Same as the treatments. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 1.1.52. (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c) Bulk planting. (e) 2 or 3. (v) Nil. (vi) N.A. (vii) Irrigated. (viii) 2 weedings; first weeding one month after transplanting. (ix) N.A. (x) 18.5.52.

2. TREATMENTS:
   1. Compost at 60 lb./ac. of N.
   2. F.Y.M. at 60 lb./ac. of N.
   3. No manure.
      Manures applied prior to second puddling so as to incorporate it 3" to 4" below the soil.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3, (b) N.A. (iii) 6. (iv) (a) and (b) 9'×90'. (v) No. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1950 to 1952. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1577 lb./ac.
   (ii) 113.5 lb./ac.
   (iii) Treatments differ highly significantly.
   (iv) Av. yield of grain in lb./ac.
      Treatment     Av. yield
          1.    1719
          2.    1705
          3.    1306
      S.E./mean = 46.3 lb./ac.
Crop: Paddy (Double crop Area). Ref: A.P. 52(57)/52(56)/51(54)/50(19,20).
Site: Agri. Res. Stn., Maruteru. Type: 'M'.

Object: To compare compost with F.Y.M. in giving high yields.

1. BASAL CONDITIONS:
   (i) (a) No. (b) Paddy. (c) As per treatments. (ii) (a) Deep black clay. (b) Refer soil analysis Maruteru. (iii) 28.4.50. (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c) --. (d) Bulk planting. (e) 2 or 3. (v) Nil. (vi) MTU-5. (vii) Irrigated. (viii) 2 weedings; first weeding one month after transplanting. (ix) N.A. (x) 6.12.52.

2. TREATMENTS:
   1. Compost at 60 lb/ac. of N.
   2. F.Y.M. at 60 lb/ac. of N.
   3. No manure.

   Manures applied prior to second puddling so as to incorporate it 3" to 4" below the soil.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 5. (iv) (a) and (b) 9° x 90°. (v) No. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1950 to 1952. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi and vii) Nil.

5. RESULTS:
   (i) 35.7 lb/ac.
   (ii) 143.6 lb/ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>355</td>
</tr>
<tr>
<td>2</td>
<td>3796</td>
</tr>
<tr>
<td>3</td>
<td>3746</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>58.6 lb/ac.</td>
</tr>
</tbody>
</table>

Site: Agri. Res. Stn., Maruteru. Type: 'M'.

Object: To compare compost with F.Y.M. giving high yields.

1. BASAL CONDITIONS:
   (i) (a) No. (b) Paddy. (c) N.A. (iii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iv) 28.4.50. (v) (a) Water let in, puddled thrice, and levelled. (b) Transplanted. (c) --. (d) Bulk planting. (e) 2 or 3. (v) Nil. (vi) MTU-5. (vii) Irrigated. (viii) 2 weedings; first weeding one month after transplanting. (ix) 4.16.32. (x) 27.11.50.

2. TREATMENTS:
   1. Compost at 60 lb/ac. of N.
   2. F.Y.M. at 60 lb/ac. of N.
   3. Control (no manure).

   Manures applied prior to second puddling so as to incorporate it 3" to 4" below the soil.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 5. (iv) (a) and (b) 15° x 72°. (v) No. (vi) Yes.

4. GENERAL:
   (i) Normal. (i) Nil. (iii) Grain and straw yield. (iv) (a) 1950 to 1951. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.
5. RESULTS:

(i) 3188 lb./ac.
(ii) 109.6 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3186</td>
</tr>
<tr>
<td>2.</td>
<td>3287</td>
</tr>
<tr>
<td>3.</td>
<td>3092</td>
</tr>
</tbody>
</table>

S.E./mean = 44.7 lb./ac.

Crop: Paddy (Single crop area).

Object: To compare compost with F.Y.M. in giving high yields.

1. BASAL CONDITIONS:

(i) (a) No. (b) Paddy. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 5.5.51.
(iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c) —. (d) Bulk planting. (e) 2 or 3.
(v) Nil. (vi) MTU-5. (vii) Irrigated. (viii) 2 weedings; first weeding one month after transplanting.

2. TREATMENTS:

1. Compost at 60 lb./ac. of N.
2. F.Y.M. at 60 lb./ac. of N.
3. No manure.

Manures applied one month prior to planting and puddled in.

3. DESIGN:

(i) R.B.D. (ii) (a) 3, (b) N.A. (iii) 6, (iv) (a) and (b) 12' x 90'. (v) No. (vi) Yes.

4. GENERAL:

(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1950 to 1951. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 2961 lb./ac.
(ii) 225.4 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2975</td>
</tr>
<tr>
<td>2.</td>
<td>3049</td>
</tr>
<tr>
<td>3.</td>
<td>2059</td>
</tr>
</tbody>
</table>

S.E./mean = 92.1 lb./ac.

Crop: Paddy (Single crop area).

Object: To study the residual effect of compost and F.Y.M. applied to the previous crop.

1. BASAL CONDITIONS:

(i) (a) No. (b) Paddy. (c) As per treatments. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru.
(iii) 30.4.52/8.7.52. (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c) —. (d) Bulk planting. (e) 2 or 3. (v) Nil. (vi) MTU-5. (vii) Irrigated. (viii) 2 weedings; first weeding one month after transplanting. (ix) N.A. (x) 5.12.52.
2. TREATMENTS:
1. Compost at 60 lb./ac. of N.
2. F.Y.M. at 60 lb./ac. of N.
3. No manure.
These manures are applied to the previous crop.

3. DESIGN:
(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) and (b) 12' × 90' (v) No. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) N.A. (b) N.A. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 3044 lb./ac.
(ii) 132.1 lb./ac.
(iii) Treatments do not differ significantly.
(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>3118</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>3061</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>2944</td>
<td>53.9 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Paddy (Double crop area), Site :- Agri. Res. Stn., Maruteru.
Ref :- A.P. 52(54).
Type :- 'M'.

Object :- To study the residual effect of compost and F.Y.M. applied to previous crop.

1. BASAL CONDITIONS:
(i) (a) No. (b) Paddy. (c) As under treatments. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 30.4.52/7.7.52. (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c) —, (d) Bulk planting. (e) 2 or 3. (v) Nil. (vi) MTU-19. (vii) Irrigated. (viii) 2 weedings; first weeding one month after transplanting (ix) N.A. (x) 18.12.52.

2. TREATMENTS:
1. Compost at 60 lb./ac. of N.
2. F.Y.M. at 60 lb./ac. of N.
3. No manure.
Treatments applied to previous crop.

3. DESIGN:
(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) and (b) 9' × 90'. (v) No. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) N.A. (b) and (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 3298 lb./ac.
(ii) 145.2 lb./ac.
(iii) Treatments do not differ significantly.
(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>3378</td>
<td>59.2 lb./ac.</td>
</tr>
<tr>
<td>2.</td>
<td>3343</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>3173</td>
<td></td>
</tr>
</tbody>
</table>
Crop :- Paddy.


Ref :- A.P. 50(18).

Type :- 'M'.

Object :- To study the effect of P manures on Paddy crop and on succeeding GM crop.

1. BASAL CONDITIONS:
   (i) (a) Paddy—G.M. (b) Paddy. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 28.45/21.65. (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c) —. (d) Bulk planting. (e) 2 or 3. (v) Nil. (vi) MTU—1. (vii) Irrigated. (viii) 2 weedings; first weeding one month after transplanting. (ix) 49.63°. (x) 22.11.50.

2. TREATMENTS:
   1. Supper at 30 lb./ac. of \( \text{P}_2\text{O}_5 \).
   2. B.M. at 30 lb./ac. of \( \text{P}_2\text{O}_5 \).
   3. No manure. \( \text{P}_2\text{O}_5 \) applied at the time of planting.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) and (b) 28' x 30'. (v) No. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1950 to 1951. (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) Nil. (vii) Just before the harvest of paddy crop sannhemp was sown to study the effect if any of the phosphatic manure applied to the preceding paddy crop. Due to a severe out-break of leaf-eating caterpiller damaging the standing crop of sannhemp, no reliable data could be collected.

5. RESULTS:
   (i) 3561 lb./ac.
   (ii) 195.5 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3522</td>
</tr>
<tr>
<td>2.</td>
<td>3501</td>
</tr>
<tr>
<td>3.</td>
<td>3660</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>79.8 lb./ac.</td>
</tr>
</tbody>
</table>

---

Crop :- Paddy (second crop).


Ref :- A.P. 50(26).

Type :- 'M'.

Object :- To study the effect of P manures on the succeeding rice crop when they are applied to green manure crop which is puddled in.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 15.12.50/21.1.51. (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c) —. (d) Bulk planting. (e) 2 or 3. (v) Nil. (vi) MTU—15. (vii) Irrigated. (viii) 2 weedings; first weeding one month after transplanting. (ix) 6.87°. (x) N.A.

2. TREATMENTS:
   1. Super at 30 lb./ac. of \( \text{P}_2\text{O}_5 \).
   2. B.M. at 30 lb./ac. of \( \text{P}_2\text{O}_5 \).
   3. No manure. Applied to the green manure crop Sannhemp about one month before sowing of paddy and puddled in.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) and (b) 12' x 35'. (v) No. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949 to 1950. (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) Nil. (vii) The preceding sannhemp crop sown in plots treated with phosphatic manure failed to germinate.
5. RESULTS:
(i) 2051 lb./ac.
(ii) 173.9 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2026</td>
</tr>
<tr>
<td>2.</td>
<td>2096</td>
</tr>
<tr>
<td>3.</td>
<td>2030</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>71.1 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy.
Ref: A.P. 51(53).
Type: 'M'.

Object: To study the effect of P manures on Paddy and on the succeeding green manure crop.

1. BASAL CONDITIONS:
(i) (a) Paddy—G M. (b) Paddy. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 5.5.51. (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c)—. (d) Bulk planting. (e) 2 to 3. (v) Nil. (vi) M.T.U.-1. (vii) Irrigated. (viii) 2 weedings; first weeding one month after transplanting. (ix) 44.99°. (x) 20.11.51.

2. TREATMENTS:
1. No manure.
2. Super at 60 lb./ac. of P2O5.
3. Super at 30 lb./ac. of P2O5.

Manures applied at the time of planting.

3. DESIGN:
(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 5. (iv) (a), (b) 28' x 30'. (v) No. (vi) Yes.

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

5. RESULTS:
(i) 3.41 lb./ac.
(ii) 146.1 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3616</td>
</tr>
<tr>
<td>2.</td>
<td>3616</td>
</tr>
<tr>
<td>3.</td>
<td>3691</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>59.6 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy.
Ref: A.P. 52(61).
Type: 'M'.

Object: To study the effect of P manures on rice crop when applied directly to rice crop or through preceding G.M. crop Daincha.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) G.M. (c) As per treatments. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 29.5.52/12.7.52. (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c)—. (d) Bulk planting. (e) 2 or 3. (v) Nil. (vi) M.T.U.-1. (vii) Irrigated. (viii) 6 weedings; first weeding one month after transplanting. (ix) N.A. (a) 27.11.52.
2. TREATMENTS:
   1. No manure.
   2. G.M. crop alone.
   3. 30 lb./ac. of P₂O₅ to G.M. crop.
   4. G.M. + 30 lb./ac. of P₂O₅ to rice crop.
   5. 45 lb./ac. of P₂O₅ to G.M. crop.
   6. G.M. crop + 45 lb./ac. of P₂O₅ to rice crop.
   7. 60 lb./ac. of P₂O₅ to G.M. crop.
   8. G.M. crop + 60 lb./ac. of P₂O₅ to rice crop.
   G.M. sown on 3.3.52, and resown on 28.3.52. Green matter at 35,000 lb./ac. on average puddled in.

3. DESIGN:
   (i) R.B.O. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a), (b) 10'×22'. (v) No. (vi) Yes.

4. GENERAL:
   (i) Rank growth in manured plots. Crop in manured plots lodged. Date of lodging not available. (ii) Nil. (iii) Grain and straw yield. (iv) (a) No. (b) No. (c) No. (v) (a) Samalkot. (b) No. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2885 lb./ac.
   (ii) 301.5 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.
   
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3761</td>
</tr>
<tr>
<td>2.</td>
<td>2567</td>
</tr>
<tr>
<td>3.</td>
<td>2661</td>
</tr>
<tr>
<td>4.</td>
<td>2679</td>
</tr>
<tr>
<td>5.</td>
<td>2698</td>
</tr>
<tr>
<td>6.</td>
<td>2834</td>
</tr>
<tr>
<td>7.</td>
<td>3084</td>
</tr>
<tr>
<td>8.</td>
<td>2785</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 151.7 lb./ac.</td>
</tr>
</tbody>
</table>

   Crop : Paddy.  

   Object:—To study the effect of P manures on rice crop when applied direct to rice crop or through preceding G.M. crop.

6. BASAL CONDITIONS:
   (i) (a) Nil. (b) Pillipesara. (c) As per treatments. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 3.3.52 for G.M. 29.5.52/10, 12.7.'2 for paddy. (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c) —. (d) Bulk planting (e) 2 or 3. (v) Nil. (vi) MTU—. (vii) Irrigated. (viii) 2 weedings, first weeding one month after transplanting. (ix) N.A. (x) 27.11.52.

2. TREATMENTS:
   1. No manure.
   2. G.M. crop alone.
   3. 30 lb./ac. of P₂O₅ to G.M. crop.
   4. G.M. crop + 30 lb./ac. of P₂O₅ to rice crop.
   5. 45 lb./ac. of P₂O₅ to G.M. crop.
   6. G.M. crop + 45 lb./ac. of P₂O₅ to rice crop.
   7. 60 lb./ac. of P₂O₅ to G.M. crop.
   8. G.M. crop + 60 lb./ac. of P₂O₅ to rice crop.
   Pillipesara green matter at 21,000 lb./ac. on an average puddled in.

3. DESIGN:
   (i) R.B.O. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) and (b) 10'×22'. (v) No. (vi) 28
Manured plots, crop in manured plots lodged. Date of lodging not available. (ii) Nil. (iii) Wt. yield. (iv) (a) No. (b) No. (c) No. (v) (a) Samalkot. (b) N.A. (vi) and (vii) Nil.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3698</td>
</tr>
<tr>
<td>2.</td>
<td>3323</td>
</tr>
<tr>
<td>3.</td>
<td>3316</td>
</tr>
<tr>
<td>4.</td>
<td>3171</td>
</tr>
<tr>
<td>5.</td>
<td>3740</td>
</tr>
<tr>
<td>6.</td>
<td>3341</td>
</tr>
<tr>
<td>7.</td>
<td>3161</td>
</tr>
<tr>
<td>8.</td>
<td>3007</td>
</tr>
<tr>
<td>S.E./mean = 223.7 lb./ac.</td>
<td></td>
</tr>
</tbody>
</table>

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


Object :- To study the residual effect of phosphatic manures applied to green manure crop.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) G.M. (c) As per treatments. (ii) (a) Heavy black clay. (b) Refer soil analysis, Maruteru. (iii) 1.1.50/6.2.50. (iv) (a) Water let in, puddled and levelled. (b) Transplanted. (c) —. (d) Bulk planting. (e) 2. (v) Nil. (vi) MTU—15. (vii) Irrigated. (viii) One or two weedings. (ix) 5.37'. (x) 9.5.50.

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

Sannhemp crop was sown on 8.12.49 in plots treated with phosphates and the effect of puddling this crop on succeeding Paddy crop was studied.

3. DESIGN:
(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) and (b) 12'×35'. (v) No. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Mild attack of swarming caterpillar. (iii) Grain and straw yield. (iv) (a) N.A. (b) N.A. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 2476 lb./ac.  
(ii) 174.5 lb./ac.  
(iii) Treatments differ significantly.  
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2630</td>
</tr>
<tr>
<td>2.</td>
<td>2407</td>
</tr>
<tr>
<td>3.</td>
<td>2392</td>
</tr>
<tr>
<td>S.E./mean = 61.7 lb./ac.</td>
<td></td>
</tr>
</tbody>
</table>

BASAL CONDITIONS:
(i) (a) Nil. (b) G.M. (c) As per treatments. (ii) (a) Heavy black clay. (b) Refer soil analysis, Maruteru. (iii) 1.1.50/6.2.50. (iv) (a) Water let in, puddled and levelled. (b) Transplanted. (c) —. (d) Bulk planting. (e) 2. (v) Nil. (vi) MTU—15. (vii) Irrigated. (viii) One or two weedings. (ix) 5.37'. (x) 9.5.50.

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

Sannhemp crop was sown on 8.12.49 in plots treated with phosphates and the effect of puddling this crop on succeeding Paddy crop was studied.

DESIGN:
(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) and (b) 12'×35'. (v) No. (vi) Yes.

GENERAL:
(i) Normal. (ii) Mild attack of swarming caterpillar. (iii) Grain and straw yield. (iv) (a) N.A. (b) N.A. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

RESULTS:
(i) 2476 lb./ac.  
(ii) 174.5 lb./ac.  
(iii) Treatments differ significantly.  
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2630</td>
</tr>
<tr>
<td>2.</td>
<td>2407</td>
</tr>
<tr>
<td>3.</td>
<td>2392</td>
</tr>
<tr>
<td>S.E./mean = 61.7 lb./ac.</td>
<td></td>
</tr>
</tbody>
</table>
Crop :- Paddy (Main crop season).

Ref :- A.P. 52(58).

Type :- 'M'.

Object :- To study the utility of Sesbania-speciosa in the dry form on Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 30.4.52/10.7.52. (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c)—. (d) Bulk planting. (e) 2. (v) Nil. (vi) 2MTU—5. (vii) Irrigated. (viii) 2 weedicings, first weeding one month after planting. (ix) N.A. (x) 6.12.52.

2. TREATMENTS:
   1. Sesbania leaf—covered.
   2. Sesbania leaf—stocked.
   3. Sesbania leaf—fresh.
   4. No manure.

   Sesbania leaf applied at 4000 lb./ac. when fresh.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) and (b) 24'×98'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Satisfactory (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1952 to 1953. (b) No. (c) N.A. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 3041 lb./ac.
   (ii) 426.3 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.

   Treatment | Av. yield
   ----------------
   1. | 3329
   2. | 3287
   3. | 3681
   4. | 2866
   S.E./mean = 213.2 lb./ac.

Crop :- Paddy (2nd crop of 52-53).

Ref :- A.P. 53(66).

Type :- 'M'.

Object :- To study the utility of Sesbania-speciosa in the dry form on Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 2.1.53/10.2.53. (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c)—. (d) Bulk planting. (e) 2. (v) Nil. (vi) 2MTU—15. (vii) Irrigated. (viii) Weeding twice, first weeding one month after transplanting. (ix) N.A. (x) 8.5.53.

2. TREATMENTS:
   1. Sesbania leaf covered.
   2. Sesbania leaf stocked.
   3. Sesbania leaf fresh.
   4. No manure.

   Sesbania leaf applied at 4000 lb./ac. when fresh.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) and (b) 17'×30'. (v) No. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1952 to 1953. (b) No. (c) N.A. (v) (a), (b) N.A. (vi) and (vii) Nil.
5. RESULTS:

(i) 1791 lb./ac.
(ii) 168.2 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1780</td>
</tr>
<tr>
<td>2.</td>
<td>1855</td>
</tr>
<tr>
<td>3.</td>
<td>1868</td>
</tr>
<tr>
<td>4.</td>
<td>1663</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>68.6 lb./ac.</td>
</tr>
</tbody>
</table>

Crop : Paddy (1st crop).

Object : To find out the utility of sesbania speciosa in the dry form on Paddy.

1. BASAL CONDITIONS:

(i) (a) Paddy—Paddy. (b) Paddy. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru.
(iii) 15.5.53/11.7.53. (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c)—. (d) Bulk planting. (e) N.A. (v) Nil. (vi) MTU-1. (vii) Irrigated. (viii) Weeding thrice, first weeding one month after transplanting. (ix) 38.06'. (x) 23.11.53.

2. TREATMENTS:

1. Sesbania leaf covered.
2. Sesbania leaf stooked.
3. Sesbania leaf fresh.
4. No manure.

Sesbania leaf applied at 4000 lb./ac.

3. DESIGN:

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a), (b) 25'x30'. (v) No. (vi) Ye.

4. GENERAL:

(i) Normal. (ii) Affected by leaf-roller. Gammaxene dusted. (iii) Grain and straw yield. (iv) (a) 1952 to 1953. (b) No. (c) N.A. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

(i) 323 lb./ac.
(ii) 117.9 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3281</td>
</tr>
<tr>
<td>2.</td>
<td>3155</td>
</tr>
<tr>
<td>3.</td>
<td>3281</td>
</tr>
<tr>
<td>4.</td>
<td>3232</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>48.1 lb./ac.</td>
</tr>
</tbody>
</table>

Crop : Paddy (1st crop).

Object : To study the placement effect of A/S on Rice.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 30.4.52/1 and 2.7.52. (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c)—. (d) 9'x6'. (e) 3 to 4 (v) G.L at 4000 lb./ac. (vi) MTU-1. (vii) Irrigated. (viii) 2 weeding, first weeding one month after transplanting. (ix) N.A. (x) 27.11.52.
2. TREATMENTS:
   All combinations of (1) and (2)
   (1) 5 levels of N and their method of application.:
   \( N_0 = 0 \), \( N_1 = 30 \text{ lb./ac. of N as A/S (Placed)} \), \( N_2 = 30 \text{ lb./ac. of N as A/S (Broadcast)} \), \( N_3 = 45 \text{ lb./ac. of N as A/S (Placed)} \) and \( N_4 = 45 \text{ lb./ac. of N as A/S (Broadcast)} \).
   (2) 2 levels of \( P_2O_5 \): \( P_0 = 0 \) and \( P_1 = 45 \text{ lb./ac. of } P_2O_5 \) as Super.
   For \( N_1 \) and \( N_2 \), A/S applied in a single dose before planting and *mummarty* hoe worked to a depth of 2" to 3". For \( N_3 \) and \( N_4 \), A/S broadcast one month after planting.

3. DESIGN:
   (i) 2x5 Fact. in R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a), (b) 45°9ˡ×8ˡ. (v) No. (vi) Yes.

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

5. RESULTS:
   (i) 3515 lb./ac.
   (ii) 306.4 lb./ac.
   (iii) The N effect is highly significant. P effect and interaction ‘NP’ are not significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>( N_0 )</th>
<th>( N_1 )</th>
<th>( N_2 )</th>
<th>( N_3 )</th>
<th>( N_4 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>( P_0 )</td>
<td>3530</td>
<td>3769</td>
<td>3530</td>
<td>2920</td>
<td>3769</td>
</tr>
<tr>
<td>( P_1 )</td>
<td>3620</td>
<td>3590</td>
<td>3620</td>
<td>3218</td>
<td>3590</td>
</tr>
<tr>
<td>Mean</td>
<td>3575</td>
<td>3678</td>
<td>3575</td>
<td>3069</td>
<td>3679</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of \( N \) = 108.3 lb./ac.
S.E. of marginal mean of \( P \) = 68.5 lb./ac.
S.E. of body of table = 153.2 lb./ac.

**Crop:** Paddy.
**Site:** Agri. Res. Stn., Maruteru.
**Ref:** A.P. 51(56).
**Type:** M².

Object: To gauge the relative merits of fused phosphate fertilizer.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 5.5.51.
   (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c) —. (d) Bulk planting. (e) —.
   (v) Nil. (vi) MTU-1. (vii) Irrigated. (viii) 2 weedings, first weeding one month after transplanting.
   (ix) 44.99°. (x) 21.11.51.

2. TREATMENTS:
   All combinations of (1) and (2)
   (1) 3 levels of \( N \) : \( N_2 \) = G.L. at 2500 lb./ac., \( N_3 \) = A/S at 30 lb./ac. of N and \( N_9 \) = G.L. at 2500 lb./ac. + A/S at 30 lb./ac. of N.
   (2) 3 levels of \( P_2O_5 \) : \( P_0 = 0 \), \( P_1 = \text{Super at 30 lb./ac. of } P_2O_5 \) and \( P_3 = \text{Fused phosphate at 30 lb./ac. of } P_2O_5 \).

3. DESIGN:
   (i) 3x3 Fact. in R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) and (b) 45.5°×8°. (v) No. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) No. (b) No. (c) No. (v) (a) and (b) Nil (vi) and (vii) Nil.
5. RESULTS:

(i) 3474 lb. ac.
(ii) 224.0 lb./ac.
(iii) Only main effect of N is highly significant.
(iv) Av. yield of grain in lb./ac.

\[ \begin{array}{c|ccc|c}
 & P_1 & P_2 & P_3 & \text{Mean} \\
 N_1 & 3338 & 3306 & 3321 & 3318 \\
 N_2 & 3583 & 3470 & 3470 & 3508 \\
 N_3 & 3635 & 3553 & 3605 & 3598 \\
 \hline
 \text{Mean} & 3515 & 3443 & 3465 & 3474 \\
\end{array} \]

S.E. of marginal mean = 64.7 lb./ac.
S.E. of body of table = 112.0 lb./ac.

---

Crop: Paddy (2nd crop of 52-53).

Object: To study the effect of placement of A/S on Rice.

1. BASAL CONDITIONS:

(i) Nil. (b) Paddy. (a) N.A. (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 2.1.53/11.2.53. (iv) a. Water let in, puddled thrice and levelled. (b) Transplanted. (c) 9"×6". (e) 2. (v) 400 lb./ac. of G.L. +30 lb./ac. of P_2O_5 as Super. Super applied in furrow during the last puddling. (vi) MTU-15. (vii) Irrigated. (viii) 2 weedings, first weeding one month after transplanting. (ix) N.A. (x) 5.5.53.

2. TREATMENTS:

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

(i) 3 levels of N: N_1=30, N_2=45 and N_3=60 lb./ac.
(ii) 2 methods of application of N: M_1=Placed and M_2=Broadcast.

N as A.A. 'Placed' plots receiving ½ N in the form of balls mixed with earth placed at depth of 6" between lines after planting and the rest ½ N similarly placed 4 weeks after.

DESIGN:

(i) R.B.D. (ii) 7. (b) N.A. (iii) 4. (iv) (a) and (b) 44.5′×11.5′. (v) No. (vi) Yes.

4. GENERAL:

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

5. RESULTS:

(i) 2479 lb./ac.
(ii) 196.3 lb./ac.

(iii) The differences in yield due to "control vs. others" and due to differences in methods of applying manures are significant. The effects 'N' and 'NM' are not significant.

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

\[ \begin{array}{c|ccc|c}
 & N_1 & N_2 & N_3 & \text{Mean} \\
 M_1 & 2346 & 2511 & 2405 & 2421 \\
 M_2 & 2617 & 2628 & 2579 & 2608 \\
 \hline
 \text{Mean} & 2481 & 2569 & 2492 & 2514 \\
\end{array} \]

S.E. of marginal mean of N = 69.4 lb./ac.
S.E. of marginal mean of M = 56.7 lb./ac.
S.E. of body of table = 98.1 lb./ac.
S.E. of control vs. any mean in the body of table = 106.0 lb./ac.
Crop: Paddy (Second Crop of 51-52).

Object: To study the effect of G.M., crops and also application of P\textsubscript{2}O\textsubscript{5} through G.M. crops on Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) N.A.
   (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru.
   (iii) 13.1.52.
   (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted.
   (c) Bulk planting. (d) 2.
   (v) Nil.
   (vi) MTU-15.
   (vii) Irrigated.
   (viii) 2 weedings; first weeding one month after transplanting.
   (ix) N.A.
   (x) 12.5.52.

2. TREATMENTS:
   Main-plot treatments:
   2 G.M. crops: G\textsubscript{1} = Dhaincha and G\textsubscript{2} = Sannhemp.
   Sub-plot treatments:
   Application of P\textsubscript{2}O\textsubscript{5} and G.M.
   1. Control (no manure).
   2. G.M. crop alone.
   3. 30 lb./ac. of P\textsubscript{2}O\textsubscript{5} to G.M. crop.
   4. G.M. without P\textsubscript{2}O\textsubscript{5} + 30 lb./ac. of P\textsubscript{2}O\textsubscript{5} to paddy.
   5. 45 lb./ac. of P\textsubscript{2}O\textsubscript{5} to G.M. crop.
   6. G.M. without P\textsubscript{2}O\textsubscript{5} + 45 lb./ac. of P\textsubscript{2}O\textsubscript{5} to paddy.
   7. 60 lb./ac. of P\textsubscript{2}O\textsubscript{5} to G.M. crop.
   8. G.M. without P\textsubscript{2}O\textsubscript{5} + 60 lb./ac. of P\textsubscript{2}O\textsubscript{5} to paddy.

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block; 8 sub-plots/main-plot. (b) N.A.
   (iii) 4. (iv) (a) and (b) 10' x 44'.
   (v) No. (vi) Yes.

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

5. RESULTS:
   (i) 2934 lb./ac.
   (ii) (a) 129.6 lb./ac.
   (b) 159.1 lb./ac.
   (iii) All effects are significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>G\textsubscript{1}</th>
<th>G\textsubscript{2}</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2344</td>
<td>2405</td>
<td>2374</td>
</tr>
<tr>
<td>2</td>
<td>2492</td>
<td>3311</td>
<td>2901</td>
</tr>
<tr>
<td>3</td>
<td>2839</td>
<td>3323</td>
<td>3081</td>
</tr>
<tr>
<td>4</td>
<td>2704</td>
<td>3273</td>
<td>2988</td>
</tr>
<tr>
<td>5</td>
<td>2765</td>
<td>3435</td>
<td>3100</td>
</tr>
<tr>
<td>6</td>
<td>2679</td>
<td>3286</td>
<td>2982</td>
</tr>
<tr>
<td>7</td>
<td>2679</td>
<td>3410</td>
<td>3045</td>
</tr>
<tr>
<td>8</td>
<td>2604</td>
<td>3398</td>
<td>3001</td>
</tr>
<tr>
<td>Mean</td>
<td>2638</td>
<td>3230</td>
<td>2934</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. main-plot treatment means = 32.4 lb./ac.
2. sub-plot treatment means = 80.5 lb./ac.
3. sub-plot treatment means at the same level of main-plot treatment = 112.5 lb./ac.
4. main-plot treatment means at the same level of sub-plot treatment = 110.1 lb./ac.
Crop: Paddy.

Object: To study the effect of G.M. crops and also application of P\textsubscript{2}O\textsubscript{5} through G.M. crops on Paddy.

1. BASAL CONDITIONS:
(i) (a) Paddy - G.M. crop - Paddy. (b) G.M. crop.
(ii) Super applied to G.M. crop as per schedule.

2. TREATMENTS:

Main-plot treatments:
3 G.M crops: G\textsubscript{1} = Pellipesara, G\textsubscript{2} = Sesbania and G\textsubscript{3} = Wild Indigo.

Sub-plot treatments:
(1) G.M. crop alone.
(2) G M. crop + 44 lb/ac. of P\textsubscript{2}O\textsubscript{5} to Rice crop.
(3) 45 lb/ac. of P\textsubscript{2}O\textsubscript{5} to G.M. Crop

3. DESIGN:
(i) Split-plot.

4. GENERAL:
(i) Growth of wild indigo unsatisfactory - Failed completely.
(ii) Attack of leaf roller. Gammarus showed.
(iii) Grain and straw yields, plant height and tiller counts.
(iv) 1953 to 1956.
(v) Yes.
(vi) N.A.
(vii) Nil.

5. RESULTS:
(i) 2450 lb/ac.
(ii) (a) 362.4 lb/ac.
(b) 180.9 lb/ac.
(iii) None of the effects is significant.
(iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th>G\textsubscript{1}</th>
<th>G\textsubscript{2}</th>
<th>G\textsubscript{3}</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>2540</td>
<td>2488</td>
<td>2084</td>
<td>2371</td>
</tr>
<tr>
<td>2540</td>
<td>26.6</td>
<td>2246</td>
<td>2467</td>
</tr>
<tr>
<td>2585</td>
<td>2708</td>
<td>2246</td>
<td>2513</td>
</tr>
<tr>
<td>Mean</td>
<td>2555</td>
<td>2604</td>
<td>2192</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. main-plot treatment means = 147.9 lb/ac.
2. sub-plot treatment means = 75.8 lb/ac.
3. sub-plot treatment means at the same level of main-plot treatment = 127.9 lb/ac.
4. main-plot treatment means at the same level of sub-plot treatment = 181.1 lb/ac.

Crop: Paddy.

Object: To find out the economic dose of N and P\textsubscript{2}O\textsubscript{5} for Paddy.

1. BASAL CONDITIONS:
(i) (a) Heavy black clay. (b) Refer soil analysis, Maruteru.
(ii) 4.5.1953/5.1953
(iv) a Water let in, puddled three times and levelled.
(b) Transplanted.
(c) Bulk Planting (e) 2. Nil. (vii) MTU-1. (viii) Irrigated.
(viii) Weeding twice, first weeding one month after transplanting. Crop topped to prevent premature lodging. (ix) 38.06°. (x) 17.11.1953.
2. TREATMENTS:
All combinations of (1) and (2)
(1) 4 levels of N: $N_0=0$, $N_1=30$, $N_2=45$ and $N_3=60$ lb./ac.
(2) 4 levels of $P_2O_5$: $P_0=0$, $P_1=30$, $P_2=45$ and $P_3=60$ lb./ac.

N as A/S and $P_2O_5$ as Super.

3. DESIGN:
(i) 4 x 4 Factorial in R.B.D.
(ii) (a) 16. (b) N.A.
(iii) 4. (iv) (a), (b) 14'x38'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Rank vegetative growth. (ii) Affected by leaf-roller. Gammaxene dusted. (iii) Grain and straw yield, plant height, tiller counts. (iv) (a) 1953. (From 1954 the expt was converted into a split-plot design with two varieties in sub-plots) to 1956. (b) Yes. (c) N.A. (v) (a) Agri.Res. Stn. Samalkot. (b) N.A.

5. RESULTS:
(i) 3153 lb./ac.
(ii) 307.9 lb./ac.
(iii) Main effect of N alone is highly significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$N_0$</th>
<th>$N_1$</th>
<th>$N_2$</th>
<th>$N_3$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$P_0$</td>
<td>3356</td>
<td>3233</td>
<td>3213</td>
<td>2844</td>
<td>3162</td>
</tr>
<tr>
<td>$P_1$</td>
<td>3601</td>
<td>3377</td>
<td>3193</td>
<td>2783</td>
<td>3239</td>
</tr>
<tr>
<td>$P_2$</td>
<td>3295</td>
<td>3274</td>
<td>2926</td>
<td>2926</td>
<td>3106</td>
</tr>
<tr>
<td>$P_3$</td>
<td>3233</td>
<td>3397</td>
<td>2947</td>
<td>2844</td>
<td>3106</td>
</tr>
<tr>
<td>Mean</td>
<td>3372</td>
<td>3321</td>
<td>3070</td>
<td>2850</td>
<td>3153</td>
</tr>
</tbody>
</table>

S.E. of marginal means = 77.0 lb./ac.
S.E. of body of table = 153.9 lb./ac.

Crop: Paddy.
Ref: A.P. 53(65).
Type: M.

Object: To determine the organic matter requirements of the soil in the form of C.M., G.M. and compost with a basal dose of super and A/S.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Heavy black clay. (b) Refer soil analysis, Maruteru. (iii) 4.5.53/5.7.53.
(iv) (a) Water let in, puddled thrice, levelled. (b) Transplanted. (c) —. (d) Bulk planting. (e) —.
(v) 60 lb./ac. of $P_2O_5$ as super and 45 lb./ac. of N as top dressing after transplantation. (vi) M.T.U. 1.
(vii) Irrigated. (viii) Weeding twice, first weeding one month after transplanting. (ix) 38.06". (x) 17.11.53.

2. TREATMENTS:
All combinations of (1) and (2) + one Control (no manure).
(1) 3 levels of organic matter: $L_1=2500$, $L_2=5000$ and $L_3=7500$ lb./ac.
(2) 3 sources: $O_1=C.M.$, $O_2=G.L.$ and $O_3=compost$.
G.I. and Compost applied in terms of organic matter of C.M. which is applied at the above rates.

3. DESIGN:
(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) and (b) 38'x24'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Rank growth. (ii) Attack by leaf-roller. Gammaxene dusted. (iii) Grain and straw yield. (iv) (a) 1953 to 1-55. (b) Yes. (c) N.A. (v) (a) and (b) Agri. Res. Stn., Samalkot. (vi) and (vii) Nil.
5. RESULTS:

(i) 3449 lb./ac.
(ii) 37.4 lb./ac.
(iii) None of the effects is significant.
(iv) Av. yield of grain in lb./ac.

Control = 3546 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>L₁</th>
<th>L₂</th>
<th>L₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>O₁</td>
<td>3522</td>
<td>3534</td>
<td>3832</td>
<td>3629</td>
</tr>
<tr>
<td>O₂</td>
<td>3449</td>
<td>3356</td>
<td>3044</td>
<td>3283</td>
</tr>
<tr>
<td>O₃</td>
<td>3438</td>
<td>3414</td>
<td>3356</td>
<td>3403</td>
</tr>
</tbody>
</table>

S.E. of the body of table = 185.7 lb./ac.
S.E. of marginal means = 107.2 lb./ac.

Crop: Paddy.
Ref: A.P. 53(71).
Type: ‘M’.

Object: To find out the best method of application of P manures to Rice either by direct application to Rice or by indirect application through preceding green manure crop. (Double crop area)

1. BASAL CONDITIONS:

(i) (a) Paddy—G.M.—Paddy.
(b) G.M. crops.
(c) Super applied to G.M. crops as per schedule.
(ii) (a) Clay.
(b) Refer soil analysis, Maruteru.
(iii) 2.5.53/15.7.53.
(iv) (a) Ploughing thrice, trimming bunds digging corners, levelling.
(b) Transplanting.
(c) —.
(d) Bulk planting.
(e) 2.
(v) Nil.
(vi) MTU—5.
(vii) Irrigated.
(viii) 2 weedings, first weeding one month after transplanting.
(ix) 38.06°.
(x) 30.11.53.

2. TREATMENTS:

Main-plot treatments: —
2 G.M. crops: G₁ = Daincha and G₂ = Sannhemp.
Sub-plot treatments: —
Application of P₂O₅,
1. G.M. crop alone (No P₂O₅).
2. G.M. + 45 lb./ac. of P₂O₅ to Paddy crop.
3. 45 lb./ac. of P₂O₅ to G.M. crop.

3. DESIGN:

(i) Split-plot.
(ii) (a) 2 main-plots/block; 3 sub-plots/main-plot.
(b) N.A.
(iii) 4.
(iv) (a) and (b) 22°x90°.
(v) No.
(vi) Yes.

4. GENERAL:

(i) Sannhemp failed to establish though the germination was good. The seedlings withered away due to severe summer. The growth of Daincha though very slow and stunted in the beginning on account of prolonged drought, had vigorous growth soon after the rain in June.
(ii) Attack of leaf-roller. Gamma xane dusted.
(iii) Grain and straw yield, tiller count and plant height.
(iv) (a) 1953 to 1956.
(b) Yes.
(c) N.A.
(b) N.A.
(vi) and (vii) Nil.

5. RESULTS:

(i) 3008 lb./ac.
(ii) (a) 154.7 lb./ac.
(b) 121.4 lb./ac.
(iii) None of the effects is significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>G&lt;sub&gt;1&lt;/sub&gt;</td>
<td>3106</td>
<td>3062</td>
<td>3090</td>
<td>3086</td>
</tr>
<tr>
<td>G&lt;sub&gt;2&lt;/sub&gt;</td>
<td>2970</td>
<td>2942</td>
<td>2875</td>
<td>2929</td>
</tr>
<tr>
<td>Mean</td>
<td>3038</td>
<td>3002</td>
<td>2983</td>
<td>3008</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. main-plot treatment means = 63.1 lb./ac.
2. sub-plot treatment means = 60.7 lb./ac.
3. sub-plot treatment means at the same level of main-plot treatment = 85.9 lb./ac.
4. main-plot treatment means at the same level of sub-plot treatment = 94.3 lb./ac.

Crop: Paddy (2nd crop).
Ref.: A.P. 53(89)/53(71).
Type: 'M'.

Object: To find the best method of application of P manures to Rice crop either by direct application to Rice or by indirect application through preceding G.M. manure crop.

1. BASAL CONDITIONS:
(i) (a) Paddy — G.M. = Paddy. (b) G.M. crops. (c) Super applied to G.M. crops as per treatment. (ii) (a) Clay. (b) Refer soil analysis, Maruteru. (iii) 19.12.53/6.2.54. (iv) (a) 3 ploughings, trimming bunds, digging corners, levelling etc. (b) Transplanted. (c) —. (d) Bulk planting. (e) 2. (v) Nil. (vi) MTU=15. (vii) Irrigated. (viii) 2 weedings, first weeding one month after transplanting. (ix) 0.22°.
(x) 4.5.54.

2. TREATMENTS:
Main-plot treatments:
1. 2 G.M. crops: G<sub>1</sub>=Daincha and G<sub>2</sub>=Sannhemp.
Sub-plot treatments:
Application of P<sub>2</sub>O<sub>5</sub>.
1. G.M. crop alone (No P<sub>2</sub>O<sub>5</sub>).
2. G.M. crop+45 lb./ac. of P<sub>2</sub>O<sub>5</sub> to Paddy.
3. 45 lb./ac. of P<sub>2</sub>O<sub>5</sub> to G.M.
G.M. puddled in situ after estimation in each plot. P<sub>2</sub>O<sub>5</sub> as Super.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block, 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 21'x90'. (v) No. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Grain & straw yield, plant height and tiller count. (iv) (a) 1953 to 1956. (b) Yes. (c) Nil. (v) (a) Agri. Res. Stn., Samalkot. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 2844 lb./ac.
(ii) (a) 325.6 lb./ac.
(b) 241.8 lb./ac.
(iii) Only main-plot treatments differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>G_1</td>
<td>2771</td>
<td>2337</td>
<td>2363</td>
<td>2324</td>
</tr>
<tr>
<td>G_2</td>
<td>3371</td>
<td>3352</td>
<td>3366</td>
<td>3363</td>
</tr>
</tbody>
</table>

Mean 2821 2845 2865 2844

S.E. of difference of two
1. main-plot treatment means = 132.7 lb./ac.
2. sub-plot treatment means = 1.09 lb./ac.
3. sub-plot treatment means at the same level of main-plot treatment = 171.0 lb./ac.
4. main-plot treatment means at the same level of sub-plot treatment = 19.8 lb./ac.

---

Crop: Paddy (1st crop).
Ref: A.P. 53(97).
Type: ‘M’.

Object: To find out the direct manurial value of organic manures and inorganic fertilizers and to find out the necessity of liming the soils for correcting the acidity, if any, that may be developed.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) NA. (c) NA. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 12.5.53-14.7.53. (iv) a) Water let in, puddled thrice and levelled. (b) Transplanted. (c) —. (d) Bulk planting. (e) 2. (f) Nil. (vi) MTU-10. (vii) Irrigated. (viii) 2 weedings. (ix) 38.06’. (x) 28.29.11.53.

2. TREATMENTS:
   main-plot treatments:
   Application of N:
   N_0 = 0, N_1 = 60 lb./ac. of N as A/S; N_2 = 60 lb./ac. of N as compost.
   N_3 = 0 lb./ac. of N as C.M.; and N_4 = 60 lb./ac. of N as G.M.

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

3. DESIGN:
   (i) Split-plot. (ii) 5 main-plots/block; 8 sub-plots/main-plot. (b) NA. (iii) 4. (iv) (a) and (b) 11’ x 43’.
   (v) No. (vi) Yes.

4. GENERAL:
   (i) Rank growth in A/S plots and hence crop topped. Satisfactory for other plots. (ii) A/S plots badly infested with jassids, leaf-roller and fulgond bug; Gammaxene dusted. (iii) Height measurements, tiller count and yield. (iv) (a) 1953-NA. (b) Yes. (c) Nil. (v) (a) Anakapalle, Samalkot. (b) NA. (vi) and (vii) vil.

5. RESULTS:
   (i) 3251 lb./ac.
   (ii) (a) 1083.0 lb./ac.
   (b) 252.8 lb./ac.
   (iii) Main effect of N alone is significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
<th>Mean</th>
<th>L₀</th>
<th>L₁</th>
<th>K₀</th>
<th>K₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>T₀</td>
<td>3321</td>
<td>2722</td>
<td>3370</td>
<td>3351</td>
<td>3577</td>
<td>3260</td>
<td>3192</td>
<td>3328</td>
<td>3309</td>
</tr>
<tr>
<td>T₁</td>
<td>3022</td>
<td>2764</td>
<td>3420</td>
<td>3432</td>
<td>3662</td>
<td>3256</td>
<td>3338</td>
<td>3130</td>
<td>3186</td>
</tr>
<tr>
<td>K₀</td>
<td>3051</td>
<td>2764</td>
<td>3395</td>
<td>3381</td>
<td>3649</td>
<td>3248</td>
<td>3327</td>
<td>3169</td>
<td></td>
</tr>
<tr>
<td>K₁</td>
<td>3233</td>
<td>2722</td>
<td>3395</td>
<td>3402</td>
<td>3591</td>
<td>3269</td>
<td>3428</td>
<td>3289</td>
<td></td>
</tr>
<tr>
<td>L₀</td>
<td>3221</td>
<td>2784</td>
<td>3378</td>
<td>3400</td>
<td>3653</td>
<td>3287</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L₁</td>
<td>3062</td>
<td>272</td>
<td>3411</td>
<td>3383</td>
<td>3586</td>
<td>3229</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>3142</td>
<td>2743</td>
<td>3395</td>
<td>3392</td>
<td>3620</td>
<td>3258</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. N marginal means = 270.0 lb./ac.
2. P or K or L marginal means = 39.9 lb./ac.
3. P or K or L means at the same level of N = 89.3 lb./ac.
4. N means at the same level of P or K or L = 277.3 lb./ac.
5. Means in the body of table P×K or P×L or L×K = 56.5 lb./ac.

Crop.—Paddy (2nd crop).
Ref.—A.P. '53(96).
Type:—‘M’.

Object:—To find out the direct manurial value of organic and inorganic manures and to find out the necessity of liming the soils for correcting the acidity, if any, that may be developed.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As per treatments.
   (ii) (a) Deep black Clay. (b) Refer soil analysis, Maruteru.
   (iii) 19.12.53/15.2.54.
   (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted.
   (c) Bulk planting. (e) 2. (v) Nil. (vi) MTU-15. (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 11.5/5/4.

2. TREATMENTS:
   Main-plot treatments:
   Application of N: N₀=0, N₁=60 lb./ac. of N as A/S, N₂=60 lb./ac. of N as compost, N₃=60 lb./ac. of N as C.M. and N₄=60 lb./ac. of N as G.M.

   Sub-plot treatments:
   All combinations of (1), (2) and (3)
   (1) 2 levels of P₂O₅ as Super: P₀=0, and P₃=60 lb./ac.
   (2) 2 levels of K₂O as Pot. Sul.: K₀=0 and K₄=60 lb./ac.
   (3) 2 levels of lime:
        L₀=0 and L₄=1500 lb./ac.

3. DESIGN:
   (i) Split-plot. (ii) 5 main-plots/block; 8 sub-plot/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 11’×43’.
   (v) No. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Height measurements, tiller counts and grain and straw yield. (iv) (a) 1953—N.A. (b) Yes. (c) Nil. (d) Anakapalle, Samalkot. (b) N.A. (v) (vi) and (vii) Nil.

5. RESULTS:
   (i) 2965 lb./ac.
   (ii) (a) 1061.0 lb./ac.
        (b) 509.8 lb./ac.
   (iii) Only main effect of N is significant.
Crop :- Paddy (2nd crop season of 48-49).  
Type :- 'M'.  

Object :- To find out the time and best method of incorporation of P$_\text{2O}_5$ into the soil for Paddy crop.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) N.A.  (c) N.A.  (ii) (a) Deep black clay.  (b) Refer soil analysis, Maruteru.  (iii) $.1.49.$
   (iv) (a) Water let in, puddled thrice and levelled.  (b) Transplanted.  (c) -.  (d) Bulk planting.  (e) 2.  
   (v) N.A.  (vi) Irrigated.  (vii) 2 weedings, first weeding one month after transplanting.  (ix) N.A.  (x)  
   16.5.49.

2. TREATMENTS:
   1. Super applied, levelled and seedlings planted.
   2. Super applied, puddled, levelled and then seedlings planted.
   3. No manure.
      Other details N.A.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 3.  (b) N.A.  (iii) 8.  (iv) (a) and (b) 14' x 62.5'.  (v) No.  (vi) Yes.

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

5. RESULTS:
   (i) 2328 lb./ac.
   (ii) 99.0 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.
      Treatment  Av. yield
      1.  2406
      2.  2248
      3.  2331
      S.E./mean = 35.0 lb./ac.
Crop - Paddy (Tabi).

Object: To find out a suitable dose of G.N.C. and Paddy fertilizer mixture.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) 15 C.L./ac. of compost+720 lb./ac. of G.N.C. (ii) (a) Black cotton soil. (b) Refer soil analysis, Rudur.
   (iii) 4.2.50. (iv) (a) One ploughing and puddling three times. (b) Transplanted. (c) - , (d) 9". (e) N.A. (v) Nil. (vi) H.R. 19 (early). (vii) Irrigated. (viii) 5 times weeding. (ix) 1.91. (x) 2.25.50.

2. TREATMENTS:
   All combinations of (1) and (2)
   (i) 4 levels of N: N₁=15, N₂=20, N₃=25 and N₄=30 lb./ac.
   (ii) 2 sources of N: S₁=G.N.C. and S₂=Paddy fertilizer mixture.

3. DESIGN:
   (i) 2x4 Fact. in R.B.D. (ii) 8. (b) N.A. (iii) 3: (iv) (a) 59'x23'; (b) 52'x2'. (v) N.A. (vi) Yes.

4. GENERAL
   (i) Normal, except or stem-borer attack. (ii) Severe stem-borer attack. (iii) Grain and straw yield.
   (iv) (a) 1950 (Tabi 1949-1950) to 1951 (Tabi 1950-1951). (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) Nil.

5. RESULTS:
   (i) 185 lb./ac.
   (ii) 86.0 lb./ac.
   (iii) None of the effects 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>N₄</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
<td>159</td>
<td>127</td>
<td>147</td>
<td>273</td>
<td>177</td>
</tr>
<tr>
<td>S₂</td>
<td>168</td>
<td>193</td>
<td>173</td>
<td>232</td>
<td>192</td>
</tr>
<tr>
<td>Mean</td>
<td>164</td>
<td>160</td>
<td>160</td>
<td>253</td>
<td>185</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of S = 24.8 lb./ac.
S.E. of marginal mean of N = 35.3 lb./ac.
S.E. of body of table = 49.0 lb./ac.

Crop - Paddy (Abb).

Object: To find out a suitable dose of G.N.C. and Paddy fertilizer mixture.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Fallow. (c) No. (i) (a) Chalka (Sandy loam). (b) Refer soil analysis, Rudur. (ii) 13.7.50. (iv) (a) Ploughing between 13.50 and 27.6.50. (b) Transplanted. (c) - , (d) N.A. (e) N.A. (v) Nil. (vi) H.R. 19 (early) (vii) Irrigated. (viii) Weeding between 23.8.50 and 25.8.50. (ix) 40.60. (x) 25.10.50.

2. TREATMENTS:
   All combinations of (1) and (2)+a control (no manure).
   (i) 4 levels of N: N₁=15, N₂=20, N₃=25 and N₄=30 lb./ac.
   (ii) 2 sources of N: S₁=G.N.C. and S₂=Paddy fertilizer mixture.
3. DESIGN:
   (i) R.B.D.  (ii) 'a'. 9.  (b) N.A.  (iii) 3.  (iv) (a) 59' x 23'.  (b) 52' x 21'.  (v) N.A.  (vi) Yes.

4. GENERAL:
   (iv) (a) 1950 (Tabi 49-50) to 1951 (Tabi 50-51).  (b) No.  (c) N.A.  (v) (a), (b) Nil.  (vi) Nil.  
   (vii) Nil.

5. RESULTS:
   (i) 1306 lb./ac.  (ii) 242.0 lb./ac.  (iii) Only "Control vs others" effect is significant.

\[
\begin{array}{cccc}
\text{Control} & N_1 & N_2 & N_3 & N_4 \\
2 & 1204 & 1184 & 1380 & 1364 & 1283 \\
2 & 1400 & 1364 & 1440 & 1400 & 1401 \\
\text{Mean} & 1302 & 1274 & 1410 & 1382 & 1342 \\
\end{array}
\]

S.E. of marginal mean of S = 60.5 lb./ac.
S.E. of marginal mean of N = 85.5 lb./ac.
S.E. of body of table = 121.0 lb./ac.

Crop: Paddy (Abi 50-51).  
Ref: A.P. 50 (48).  
Type: 'M'.

Object: To determine the optimum dose and ratio of N and P<sub>2</sub>O<sub>5</sub> for Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) N.A.  (c) N.A.  (ii) (a) Sandy loam.  (b) Refer soil analysis, Rudrur.  
   (viii) 2 to 3 weedicings.  (ix) 35.10'.  (x) 3rd week of October, 1950.

2. TREATMENTS:
   1. Control (no manure).  10. 45 lb./ac. of N + 45 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
   2. 15 lb./ac. of N + 15 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
   3. 15 lb. ac. of N + 11 £ lb./ac. of P<sub>2</sub>O<sub>5</sub>.
   4. 15 lb./ac. of N + 7 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
   5. 15 lb./ac. of N + 3 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
   6. 30 lb./ac. of N + 30 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
   7. 30 lb./ac. of N + 22 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
   8. 30 lb./ac. of N + 15 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
   9. 30 lb./ac. of N + 7 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
   11. 45 lb./ac. of N + 33 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
   12. 45 lb./ac. of N + 22 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
   13. 45 lb./ac. of N + 11 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
   14. 60 lb./ac. of N + 60 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
   15. 60 lb./ac. of N + 45 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
   16. 60 lb./ac. of N + 30 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
   17. 60 lb./ac. of N + 15 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
   18. 60 lb./ac. of N + 7 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
   19. 60 lb./ac. of N + 3 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
   20. 60 lb./ac. of N + 1 lb./ac. of P<sub>2</sub>O<sub>5</sub>.

The first half dose of A/S and Super applied on 31.7.50. The second dose of A/S applied on 24.3.50. 
and that of Super on 6.9.50.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 17.  (b) N.A.  (iii) 4.  (iv) (a) N.A.  (b) 1/60 ac.  (v) N.A.  (vi) Yes.

4. GENERAL:
   (i) Good.  (ii) In last week of July, a 'moderate attack of Hispa which was controlled by dusting with 
gammaxene. Mild attack of gallfly.  (iii) Grain and straw yield.  (iv) (a) 1950—1953.  (b) Yes.  
(c) N.A.  (v) (a) Warangal.  (b) N.A.  (vi) Nil.  (vii) Conducted by Soil Res. Sta.
5. RESULTS:

(i) 1862 lb./ac.
(ii) 1668 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1185</td>
<td>10.</td>
<td>2100</td>
</tr>
<tr>
<td>2.</td>
<td>1740</td>
<td>11.</td>
<td>2085</td>
</tr>
<tr>
<td>3.</td>
<td>1545</td>
<td>12.</td>
<td>1920</td>
</tr>
<tr>
<td>4.</td>
<td>1425</td>
<td>13.</td>
<td>2070</td>
</tr>
<tr>
<td>5.</td>
<td>1395</td>
<td>14.</td>
<td>2340</td>
</tr>
<tr>
<td>6.</td>
<td>1875</td>
<td>15.</td>
<td>2355</td>
</tr>
<tr>
<td>7.</td>
<td>1755</td>
<td>16.</td>
<td>2460</td>
</tr>
<tr>
<td>8.</td>
<td>1665</td>
<td>17.</td>
<td>2115</td>
</tr>
<tr>
<td>9.</td>
<td>1620</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E./mean = 68.4 lb./ac.

Crop: Paddy (Tabi 50-51).
Ref.: A.P. 51(75)/50(48).
Type: 'M'.

Object: To determine the optimum dose and ratio of N and P₂O₅ for Paddy.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) As under treatments.
(ii) (a) Sandy loam. (b) Refer soil analysis, Rudur.
(iii) Third week of January, 1951.
(iv) (a) to (e) N.A.
(v) Nil. (vi) H.R.-19.
(vii) Irrigated.
(viii) 2 to 3 weedings.
(ix) 2:06*.

2. TREATMENTS:

1. Control (no manure).
2. 15 lb./ac. of N + 15 lb./ac. of P₂O₅.
3. 15 lb./ac. of N + 11 lb./ac. of P₂O₅.
4. 15 lb./ac. of N + 7 lb./ac. of P₂O₅.
5. 15 lb./ac. of N + 3 lb./ac. of P₂O₅.
6. 30 lb./ac. of N + 30 lb./ac. of P₂O₅.
7. 30 lb./ac. of N + 22 lb./ac. of P₂O₅.
8. 30 lb./ac. of N + 15 lb./ac. of P₂O₅.
9. 30 lb./ac. of N + 7 lb./ac. of P₂O₅.

The first half dose of A/S and Superphosphate applied at the time of transplanting. Second half dose of A/S applied on 2.3.51 and Super on 16.3.51 just when flowering started.

3. DESIGN:

(i) R.B.D. (ii) (a) 17. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/60 acre. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Not satisfactory due to borer attack. (ii) Soon after transplanting, severe attack of borer, which persisted throughout.
(iii) Grain and straw yield. (iv) (a) 1950 to 1953. (b) Yes. (c) N.A. (v) (a) Warangal.
(b) N.A. (vi) Nil. (vii) Conducted by Soil Res. Section.

5. RESULTS:

(i) 1099 lb./ac.
(ii) 98.4 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>585</td>
<td>10.</td>
<td>1245</td>
</tr>
<tr>
<td>2.</td>
<td>900</td>
<td>11.</td>
<td>1275</td>
</tr>
<tr>
<td>3.</td>
<td>765</td>
<td>12.</td>
<td>1185</td>
</tr>
<tr>
<td>4.</td>
<td>735</td>
<td>13.</td>
<td>1170</td>
</tr>
<tr>
<td>5.</td>
<td>735</td>
<td>14.</td>
<td>1575</td>
</tr>
<tr>
<td>6.</td>
<td>1030</td>
<td>15.</td>
<td>1470'</td>
</tr>
<tr>
<td>7.</td>
<td>1050'</td>
<td>16.</td>
<td>1440</td>
</tr>
<tr>
<td>8.</td>
<td>1125</td>
<td>17.</td>
<td>1395</td>
</tr>
</tbody>
</table>

S.E./mean = 49.2 lb./ac.
Crop: Paddy (Abb 1951-52).  
Ref.: A.P. 51 (25)/51(25)/50(48).  
Type: ‘M’.

Object: To determine the optimum ratio of N and P2O5 for high yield of Paddy.

1. BASAL CONDITIONS:

(i) (a) Nil.  
(b) Sugarcane and Sannbhemp.  
(c) 225 lb./ac. of A/S.  
(ii) (a) Black cotton soil.  
(b) Refer soil analysis, Rudrur.  
(iii) Last week of July, 1951.  
(iv) (a) 2 dry ploughings, 3 puddlings and levelling.  
(b) Transplanted.  
(c) 6' x 4'.  
(d) N.A.  
(e) Nil.  
(f) H.R.-19.  
(g) Irrigated.  
(h) Weeded once or twice.  
(i) 2.50' (December 51 to May, 1952.  
(j) 1st week of May 1952.

2. TREATMENTS:

1. Control (no manure):  
2. 15 lb./ac. of N + 15 lb. ac. of P2O5.  
3. 15 lb./ac. of N + 15 lb. ac. of P2O5.  
4. 15 lb./ac. of N + 7 lb. ac. of P2O5.  
5. 15 lb./ac. of N + 7 lb. ac. of P2O5.  
6. 30 lb. ac. of N + 30 lb. ac. of P2O5.  
7. 30 lb. ac. of N + 22 lb. ac. of P2O5.  
8. 30 lb. ac. of N + 15 lb. ac. of P2O5.  
9. 30 lb. ac. of N + 15 lb. ac. of P2O5.  
10. 45 lb./ac. of N + 45 lb./ac. of P2O5.  
11. 45 lb./ac. of N + 33 lb./ac. of P2O5.  
12. 45 lb./ac. of N + 22 lb./ac. of P2O5.  
13. 45 lb./ac. of N + 11 lb./ac. of P2O5.  
14. 60 lb./ac. of N + 60 lb./ac. of P2O5.  
15. 60 lb./ac. of N + 60 lb./ac. of P2O5.  
16. 60 lb./ac. of N + 60 lb./ac. of P2O5.  
17. 60 lb./ac. of N + 30 lb./ac. of P2O5.  
18. 60 lb./ac. of N + 30 lb./ac. of P2O5.  
19. 30 lb. ac. of N + 15 lb. ac. of P2O5.  
20. 30 lb. ac. of N + 15 lb. ac. of P2O5.  
21. 30 lb. ac. of N + 7 lb. ac. of P2O5.  
22. 60 lb./ac. of N + 60 lb./ac. of P2O5.  
23. 60 lb./ac. of N + 45 lb./ac. of P2O5.  
24. 60 lb./ac. of N + 30 lb./ac. of P2O5.  
25. 60 lb./ac. of N + 30 lb./ac. of P2O5.  
26. 60 lb./ac. of N + 15 lb./ac. of P2O5.  
27. 60 lb./ac. of N + 15 lb./ac. of P2O5.  
28. 60 lb./ac. of N + 7 lb./ac. of P2O5.  
29. 60 lb./ac. of N + 7 lb./ac. of P2O5.  
30. 30 lb. ac. of N + 7 lb. ac. of P2O5.  

N as A/S and P2O5 as Super. Half the quantity of N and P2O5 were applied in the puddle and the other half one month after transplanting.

3. DESIGN:

(i) R.B.D.  
(ii) (a) 17.  
(iii) (a) N.A.  
(iv) (a) N.A.  
(v) N.A.  
(vi) Yes.

4. GENERAL:

(i) Normal; but growth uneven.  
(ii) Unidentified disease.  
(iii) Grain and straw yield.  
(iv) (a) 1951 (Abb 1951-52) to 1954 (Abb 1953-54).  
(b) Yes.  
(c) N.A.  
(v) (a) Warangal.  
(b) N.A.  
(vi) Nil.  
(vii) Conducted by Soil Res. Section.

5. RESULTS:

(i) 1236 lb./ac.  
(ii) 228.5 lb./ac.  
(iii) Treatments differ significantly.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield of grain in lb./ac.</th>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 737</td>
<td>10. 1662</td>
<td>2. 837</td>
<td>11. 1637</td>
</tr>
<tr>
<td>3. 937</td>
<td>12. 1237</td>
<td>4. 937</td>
<td>13. 1350</td>
</tr>
<tr>
<td>5. 887</td>
<td>14. 1662</td>
<td>6. 400</td>
<td>15. 1437</td>
</tr>
<tr>
<td>7. 1037</td>
<td>16. 1550</td>
<td>8. 1050</td>
<td>17. 1262</td>
</tr>
<tr>
<td>9. 125</td>
<td>S.E./mean = 114.5 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop: Paddy (Abb 51-52)  
Ref.: A.P. 52(25)/51(25)  
Type: ‘M’.  

Object: To determine the optimum ratio of N and P2O5 for high yield of Paddy.

1. BASAL CONDITIONS:

(i) (a) Nil.  
(b) Paddy.  
(c) As under treatments.  
(ii) (a) Black cotton soil.  
(b) Refer soil analysis, Rudrur.  
(iii) 21.1.52.  
(iv) 2 ploughings, 3 puddlings and levelling.  
(v) Broadcast.  
(c) 60 lb./ac.  
(d) N.A.  
(e) Nil.  
(f) H.R.-19.  
(g) Irrigated.  
(h) Weeded once or twice.  
(i) 2.50' (December 51 to May, 1952.  
(j) 1st week of May 1952.
2. TREATMENTS:

1. Control (no manure)
2. 15 lb./ac. of N + 15 lb./ac. of P₂O₅
3. 15 lb./ac. of N + 11½ lb./ac. of P₂O₅
4. 15 lb./ac. of N + 7½ lb./ac. of P₂O₅
5. 15 lb./ac. of N + 3½ lb./ac. of P₂O₅
6. 30 lb./ac. of N + 30 lb./ac. of P₂O₅
7. 30 lb./ac. of N + 22½ lb./ac. of P₂O₅
8. 30 lb./ac. of N + 15 lb./ac. of P₂O₅
9. 30 lb./ac. of N + 7½ lb./ac. of P₂O₅

N as A/S and P₂O₅ as Super. Half the quantity of N and P₂O₅ were applied in the puddle and the other half one month after sowing.

3. DESIGN:
   (i) R.B.D. (ii) (a) 17. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 46′×19′. (v) N.A. (vi) Yes.

4. GENERAL:
   (iv) ’a’ 1931 (Abi 51-52) to 1954 (Tabi 1955-58) (b) Yes. (c) N.A. (v) (a) Warangal. (b) N.A. (vi) Nil
   (vii) Conducted by Soil Res. Section.

5. RESULTS:
   (i) 1955 lb./ac.
   (ii) 30.0 lb./ac.
   (iii) Treatments differ significantly.

   Treatment | Av. yield | Treatment | Av. yield
   1. 500      | 10.    | 6. 2288  | 15. 2775  
   2. 1463    | 11.    | 7. 1725  | 16. 2563  
   3. 1450    | 12.    | 8. 1575  | 17. 2163  
   4. 1188    | 13.    |         |         
   5. 1000    | 14.    |         |         
   6. 2288    | 15.    |         |         
   7. 1725    | 16.    |         |         
   8. 1575    | 17.    |         |         
   9. 1563    |         |         |         

   S.E/mean = 165.0 lb./ac.

Crop: Paddy (Abi 52-53)

Ref: A.P. 52(27)/52(25)/51(25)
Type: ‘M’.

Object: To determine the optimum ratio of N and P₂O₅ for high yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil (b) Paddy. (c) As under treatments. (ii) (a) Black cotton soil. (b) Refer soil analysis, Rudrur.
   (iii) 19 to 22.7.52 (iv) (a) 2 ploughings, 3 puddlings and levelling. (b) Transplanted. (c) — (d) 6′×4′ (e) N.A.
   (v) Nil. (vi) H.R. 19 (early) (vii) Irrigated. (viii) Weeding once or twice. (ix) 33.11′ (x) 25 to 27.10.52.

2. TREATMENTS:

   1. Control (no manure)
   2. 15 lb./ac. of N + 15 lb./ac. of P₂O₅
   3. 15 lb./ac. of N + 11½ lb./ac. of P₂O₅
   4. 15 lb./ac. of N + 7½ lb./ac. of P₂O₅
   5. 15 lb./ac. of N + 3½ lb./ac. of P₂O₅
   6. 30 lb./ac. of N + 30 lb./ac. of P₂O₅
   7. 30 lb./ac. of N + 22½ lb./ac. of P₂O₅
   8. 30 lb./ac. of N + 15 lb./ac. of P₂O₅
   9. 30 lb./ac. of N + 7½ lb./ac. of P₂O₅

N as A/S and P₂O₅ as Super. Half the quantity of N and P₂O₅ were applied in the puddle and the other half one month after planting.
3. DESIGN:
(i) R.B.D. (ii) (a) 17. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 46' x 19'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Slight attack of gall-fly, borer and unidentified tip-drying disease. (iii) Grain and straw yield. (a) 1951 'Ahi S'-55' to 1954 (Tabi 1952-54) (b) Yes (c) N.A. (v) (a) Warangal (b) N.A. (v) Nil (vii) Conducted by Soil Res. Section.

5. RESULTS:
(i) 1579 lb./ac.
(ii) 45.0 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>500</td>
</tr>
<tr>
<td>2.</td>
<td>1088</td>
</tr>
<tr>
<td>3.</td>
<td>888</td>
</tr>
<tr>
<td>4.</td>
<td>625</td>
</tr>
<tr>
<td>5.</td>
<td>1773</td>
</tr>
<tr>
<td>6.</td>
<td>1325</td>
</tr>
<tr>
<td>7.</td>
<td>1113</td>
</tr>
<tr>
<td>8.</td>
<td>1200</td>
</tr>
</tbody>
</table>

S.E./mean = 220.0 lb./ac.

Crop : Paddy (Tabi 52-53).
Ref : A.P. 53(13) 52(27,15) 51(25).
Type : 'M'.

Object :—To determine the optimum ratio of N and P2O5 for high yield of Paddy.

5. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Black cotton soil. (b) Refer soil analysis, Rudrur. (iii) 8.1.53. (iv) (a) 2 ploughings, 3 puddlings and levelling. (b) Broadcast. (c) 80 lb./ac. (d) N.A. (e) —. (v) Nil. (vi) H.R.-19. (vii) Irrigated. (viii) Weeding once or twice. (ix) N.A. (x) 1st week of May, 1953.

2. TREATMENTS:
1. Control (no manure).
2. 15 lb./ac. of N+ 15 lb./ac. of P2O5. 
3. 15 lb./ac. of N+ 11.4 lb./ac. of P2O5.
4. 15 lb./ac. of N+ 7.4 lb./ac. of P2O5.
5. 15 lb./ac. of N+ 3.9 lb./ac. of P2O5.
6. 30 lb./ac. of N+ 30 lb./ac. of P2O5.
7. 30 lb./ac. of N+ 22.3 lb./ac. of P2O5.
8. 30 lb./ac. of N+ 15 lb./ac. of P2O5.
9. 30 lb./ac. of N+ 7.4 lb./ac. of P2O5.

N as A/S and P2O5 as Super. Half the quantity of N and P2O5 were applied in the puddle and the other half one month after sowing.

3. DESIGN:
(i) R.B.D. (ii) (a) 17. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 46' x 19'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Not satisfactory. (ii) Severe attack of tip-drying disease and borer. (iii) Grain and straw yield. (iv) (a) 1951. 'Ahi '91'-52' to 1954 (Tabi 1953-54). (b) Yes. (c) N.A. (v) (a) Warangal. (b) N.A. . (vi) Nil. (vii) Conducted by Soil Res. Section.

5. RESULTS:
(i) 771 lb./ac.
(ii) 234.0 lb./ac.
(iii) Treatments differ significantly.
Object:—To determine the optimum ratio of N and \(\text{P}_2\text{O}_5\) for high yield of Paddy.

### BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Black cotton soil. (b) Refer soil analysis, Rudrur. (iii) 14,15.7.53. (iv) (a) 2 ploughings, 3 puddlings and levelling. (b) Transplanted. (c)—. (d) \(6^\circ\times 4^\circ\). (e) N.A. (v) Nil. (vi) H.R.—19 (early). (vii) Irrigated. (viii) Weeding once. (ix) 63.07". (x) 14.1053.

### TREATMENTS:

1. Control (no manure).
2. 15 lb./ac. of N+15 lb./ac. of \(\text{P}_2\text{O}_5\).
3. 15 lb./ac. of N+11 lb./ac. of \(\text{P}_2\text{O}_5\).
4. 15 lb./ac. of N+ 7 lb./ac. of \(\text{P}_2\text{O}_5\).
5. 15 lb./ac. of N+ 3 lb./ac. of \(\text{P}_2\text{O}_5\).
6. 33 lb./ac. of N+30 lb./ac. of \(\text{P}_2\text{O}_5\).
7. 30 lb./ac. of N+22 lb./ac. of \(\text{P}_2\text{O}_5\).
8. 30 lb./ac. of N+15 lb./ac. of \(\text{P}_2\text{O}_5\).
9. 30 lb./ac. of N+ 7 lb./ac. of \(\text{P}_2\text{O}_5\).

N as A/S and \(\text{P}_2\text{O}_5\) as Super. Half the quantity of N and \(\text{P}_2\text{O}_5\) were applied in the puddle and the other half one month after planting.

### DESIGN:

(i) R.B.D. (ii) (a) 17. (b) N.A. (iii) 4. (iv) (a) N.A. (b) \(46^\circ\times 19^\circ\). (v) N.A. (vi) Yes.

### GENERAL:

(i) Due to heavy rains (10"—15") in the month of September, the crop lodged badly. Growth normal.
(ii) Mild attack of tip-drying disease in the last week of August. (iii) Grain and straw weight. (iv) (a) 1951 (Abi 1951—52) to 1954 (Tobi 1953—54). (b) Yes. (c) N.A. (v) (a) Warangal. (b) N.A. (vi) Nil. (vii) Conducted by Soil Res. Section.

### RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1213</td>
</tr>
<tr>
<td>2.</td>
<td>2325</td>
</tr>
<tr>
<td>3.</td>
<td>2625</td>
</tr>
<tr>
<td>4.</td>
<td>2300</td>
</tr>
<tr>
<td>5.</td>
<td>1963</td>
</tr>
<tr>
<td>6.</td>
<td>3413</td>
</tr>
<tr>
<td>7.</td>
<td>2930</td>
</tr>
<tr>
<td>8.</td>
<td>2663</td>
</tr>
<tr>
<td>9.</td>
<td>2600</td>
</tr>
</tbody>
</table>

Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.</td>
<td>3375</td>
</tr>
<tr>
<td>11.</td>
<td>3950</td>
</tr>
<tr>
<td>12.</td>
<td>3300</td>
</tr>
<tr>
<td>13.</td>
<td>2975</td>
</tr>
<tr>
<td>14.</td>
<td>3788</td>
</tr>
<tr>
<td>15.</td>
<td>3850</td>
</tr>
<tr>
<td>16.</td>
<td>3338</td>
</tr>
<tr>
<td>17.</td>
<td>3275</td>
</tr>
</tbody>
</table>

S.E./mean = 241.0 lb./acre.
Object:—To determine the optimum ratio of N and P₂O₅ required for Paddy.

1. BASAL CONDITIONS:
   (i) a: N.A.    b: N.A.    c: N.A.    (ii) (a) Chalka soil (sandy loam.) (b) Refer soil analysis, Rudrur.

2. TREATMENTS:
   1. Control (no manure.)
   2. 15 lb. ac. of N+15 lb. ac. of P₂O₅
   3. 15 lb. ac. of N+14 lb. ac. of P₂O₅
   4. 15 lb. ac. of N+7 lb. ac. of P₂O₅
   5. 15 lb. ac. of N+3 lb. ac. of P₂O₅
   6. 30 lb. ac. of N+30 lb. ac. of P₂O₅
   7. 30 lb. ac. of N+22 lb. ac. of P₂O₅
   8. 30 lb. ac. of N+15 lb. ac. of P₂O₅
   9. 30 lb. ac. of N+7 lb. ac. of P₂O₅
   
   First dose of manuring applied before transplantation at the time of puddling. Second dose of A/S applied on 23.6.51 and second dose of Super on 7.9.51.

3. DESIGN:

4. GENERAL:
   (i) The plots which received 45 lb/ac. of N+30 lb.ac. of P₂O₅ and above were excellent and the plots that received less than the above levels were stunted in growth. (ii) Severe attack of stem-borer. Control measures taken N.A. (iii) Grain and straw yield. (iv) (a) 1951 (Abi 1951-52) to 1953 (Abi 1953-54). (b) N.A. (c) N.A. (v) a Main farm, warangal; Agri. Res. Stn., Rudrur and Soil Res. Section, Rudrur. (b) N.A. (vi) Nil. (vii) Conducted by Farm Section.

5. RESULTS:
   (i) 1632 lb.ac. 
   (ii) 3132 lb/ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>945</td>
<td>10.</td>
<td>1980</td>
</tr>
<tr>
<td>2.</td>
<td>1425</td>
<td>11.</td>
<td>1755</td>
</tr>
<tr>
<td>3.</td>
<td>1440</td>
<td>12.</td>
<td>1455</td>
</tr>
<tr>
<td>4.</td>
<td>1320</td>
<td>13.</td>
<td>1590</td>
</tr>
<tr>
<td>5.</td>
<td>1320</td>
<td>14.</td>
<td>2310</td>
</tr>
<tr>
<td>6.</td>
<td>1875</td>
<td>15.</td>
<td>2085</td>
</tr>
<tr>
<td>7.</td>
<td>1560</td>
<td>16.</td>
<td>2010</td>
</tr>
<tr>
<td>8.</td>
<td>1515</td>
<td>17.</td>
<td>1575</td>
</tr>
<tr>
<td>9.</td>
<td>1290</td>
<td>S.E./mean</td>
<td>156.6 lb/ac.</td>
</tr>
</tbody>
</table>

Crop :- Paddy (Abi 1951-52). 
Ref :- A.P. 52(11), 51(19).

Type :- ‘M’.

Object :—To determine the optimum ratio of N and P₂O₅ required for Paddy.

1. BASAL CONDITIONS:
   (i) (a) N.A.    (b) N.A.    (c) N.A.    (ii) (a) Chalka (sandy loam). (b) Refer soil analysis, Rudrur.
   (ix) 2.50". (x) 30.4.52.
2. TREATMENTS:

1. Control (no manure).
2. 15 lb./ac. of N+15 lb./ac. of P2O5.
3. 15 lb./ac. of N+11 lb./ac. of P2O5.
4. 15 lb./ac. of N+7½ lb./ac. of P2O5.
5. 15 lb./ac. of N+3½ lb./ac. of P2O5.
6. 30 lb./ac. of N+30 lb./ac. of P2O5.
7. 30 lb./ac. of N+3 parts lb./ac. of P2O5.
8. 30 lb./ac. of N+15 lb./ac. of P2O5.
9. 30 lb./ac. of N+7½ lb./ac. of P2O5.

First dose of manure applied at the time of last puddling and before planting. Second dose of A/S applied on 8.5.52 and Second dose of Super on 24.3.52.

3. DESIGN:

(i) R.B.D. (ii) [a] 17. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/60 acre. (v) N.A. (vi) Yes.

4. GENERAL:

(i) N.A. (ii) Severe attack of paddy-borer pest. Nursery dusted with gammaxene and light traps were used. At the time of transplantation, seedlings were dipped in 50% D.D.T. solution. After transplantation, crop dusted with gammaxene twice and light traps arranged when moths were seen emerging.

(iii) Grain and straw yield. (iv) (a) 1952 (Abi 1951-52) to 1953 (Abi 1953-54) (b) N.A. (c) N.A. (v) (a) Govt. Main Farm, Warangal. (b) N.A. (vi) Nil. (vii) Conducted by Farm Section.

RESULTS:

(i) 708 lb./ac.
(ii) 161.4 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>360</td>
<td>10.</td>
<td>855</td>
</tr>
<tr>
<td>2.</td>
<td>555</td>
<td>11.</td>
<td>810</td>
</tr>
<tr>
<td>3.</td>
<td>510</td>
<td>12.</td>
<td>630</td>
</tr>
<tr>
<td>4.</td>
<td>450</td>
<td>13.</td>
<td>690</td>
</tr>
<tr>
<td>5.</td>
<td>435</td>
<td>14.</td>
<td>1080</td>
</tr>
<tr>
<td>6.</td>
<td>900</td>
<td>15.</td>
<td>1140</td>
</tr>
<tr>
<td>7.</td>
<td>735</td>
<td>16.</td>
<td>915</td>
</tr>
<tr>
<td>8.</td>
<td>660</td>
<td>17.</td>
<td>660</td>
</tr>
<tr>
<td>9.</td>
<td>690</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E./mean = 80.7 lb./ac.

Crop: Paddy (Abi 52-53).
Object: To determine the optimum dose of N and P2O5 for Paddy.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Chalka (sandy loam). (b) Refer soil analysis, Rudrur. (iii) 22 to 14.7.52. (iv) (a) 3 ploughings including one dry ploughing. Two puddlings and once levelling. (b) Transplanted. (c) — (d) 6" × 4". (e) N.A. (v) Nil. (vi) H.R.-19. (vii) Irrigated. (viii) 2 weedicings. (ix) 33.11". (x) 23, 24, 10.52.

2. TREATMENTS:

1. Control (no manure).
2. 15 lb./ac. of N + 15 lb./ac. of P2O5.
3. 15 lb./ac. of N + 11 lb./ac. of P2O5.
4. 15 lb./ac. of N + 7½ lb./ac. of P2O5.
5. 15 lb./ac. of N + 3½ lb./ac. of P2O5.
6. 30 lb./ac. of N + 30 lb./ac. of P2O5.
7. 30 lb./ac. of N + 3 parts lb./ac. of P2O5.
8. 30 lb./ac. of N + 15 lb./ac. of P2O5.
9. 30 lb./ac. of N + 7½ lb./ac. of P2O5.

N as A/S and P2O5 as.P.
3. DESIGN:

(i) R.B.D. (ii) 17. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 56'x13'. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Not satisfactory. (ii) Severely attacked by stem borers, crabs and rats. (iii) Grain yield. (iv) (a) 1951 (Apr 1951-52) to 1953 (Tabi 1953-54). (b) Yes. (c) N.A. (v) (a) Warangal. (b) N.A. (vi) Nil. (vii) Conducted by Farm Section.

5. RESULTS:

(i) 1211 lb./ac.
(ii) 1410 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>885</td>
</tr>
<tr>
<td>2.</td>
<td>1080</td>
</tr>
<tr>
<td>3.</td>
<td>1320</td>
</tr>
<tr>
<td>4.</td>
<td>1080</td>
</tr>
<tr>
<td>5.</td>
<td>855</td>
</tr>
<tr>
<td>6.</td>
<td>1275</td>
</tr>
<tr>
<td>7.</td>
<td>135</td>
</tr>
<tr>
<td>8.</td>
<td>1110</td>
</tr>
<tr>
<td>9.</td>
<td>975</td>
</tr>
</tbody>
</table>

S.E./mean = 70.5 lb./ac.

---

Crop: Paddy (Tabi 52-53).
Ref: A.P. 53(45), 52(11,22)/51(19).
Type: "M".

Obj ct: To determine the optimum dose of N and P₂O₅ for Paddy.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Chalka (sandy loam). (b) Refer soil analysis, Rudrur. (iii) 4.2.53. (iv) a: 3 ploughings including one dry ploughing. 2 puddlings and once levelling.
(b) Transplanted. (c) —. (d) 6"x4". (e) N.A. (v) Nil. (vi) H.R.-19 (early). (vii) Irrigated. (viii) One weeding. (ix) 1.30'. (x) 5.5'x10.

2. TREATMENTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Control (no manure)</td>
<td>45 lb./ac. of N + 45 lb./ac. of P₂O₅</td>
</tr>
<tr>
<td>2. 15 lb./ac. of N + 15 lb./ac. of P₂O₅</td>
<td>45 lb./ac. of N + 5 lb./ac. of P₂O₅</td>
</tr>
<tr>
<td>3. 15 lb./ac. of N + 114 lb./ac. of P₂O₅</td>
<td>45 lb./ac. of N + 114 lb./ac. of P₂O₅</td>
</tr>
<tr>
<td>4. 15 lb./ac. of N + 7 lb./ac. of P₂O₅</td>
<td>45 lb./ac. of N + 7 lb./ac. of P₂O₅</td>
</tr>
<tr>
<td>5. 15 lb./ac. of N + 33 lb./ac. of P₂O₅</td>
<td>45 lb./ac. of N + 33 lb./ac. of P₂O₅</td>
</tr>
<tr>
<td>6. 30 lb./ac. of N + 33 lb./ac. of P₂O₅</td>
<td>45 lb./ac. of N + 33 lb./ac. of P₂O₅</td>
</tr>
<tr>
<td>7. 33 lb./ac. of N + 22 lb./ac. of P₂O₅</td>
<td>45 lb./ac. of N + 22 lb./ac. of P₂O₅</td>
</tr>
<tr>
<td>8. 33 lb./ac. of N + 15 lb./ac. of P₂O₅</td>
<td>45 lb./ac. of N + 15 lb./ac. of P₂O₅</td>
</tr>
<tr>
<td>9. 30 lb./ac. of N + 7 lb./ac. of P₂O₅</td>
<td>45 lb./ac. of N + 7 lb./ac. of P₂O₅</td>
</tr>
</tbody>
</table>

N as A/S and P₂O₅ as Super.

3. DESIGN:

(i) R.B.D. (ii) 17. (b) N.A. (iii) 4. (iv) (a) 58'x15', (b) 56'x13'. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Not satisfactory. (ii) Severe attack of stemborer and crab. Seedlings dipped in 5% D.D.T. before transplanting. (iii) Grain weight. (iv) (a) 1951 (Apr 1951-52) to 1953 (Tabi 1953-54). (b) Yes. (c) N.A. (v) (a) Warangal. (b) N.A. (vi) Nil. (vii) Conducted by Farm Section.

5. RESULTS:

(i) 850 lb./ac.
(ii) 78.6 lb./ac.
(iii) Treatments differ significantly.

Object: To determine the best ratio of N and P₂O₅ for Paddy:

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Paddy. (c) As under treatments. (ii) (a) Chaika (sandy Loam). (b) Refer soil analysis, Rudur. (iii) 21.7.53. (iv) (a) to (e) N.A. (v) N.A. (vi) H.R. 19. (vii) N.A. (viii) Weeding; gap-filling on 8.8.53 and 15.8.53. (ix) N.A. (x) 19.10.53.

2. TREATMENTS:
   1. Control (no manure).
   2. 15 lb./ac. of N+15 lb./ac. of P₂O₅.
   3. 15 lb./ac. of N+11 lb./ac. of P₂O₅.
   4. 15 lb./ac. of N+7 lb./ac. of P₂O₅.
   5. 15 lb./ac. of N+3 lb./ac. of P₂O₅.
   6. 30 lb./ac. of N+30 lb./ac. of P₂O₅.
   7. 30 lb./ac. of N+22 lb./ac. of P₂O₅.
   8. 30 lb./ac. of N+15 lb./ac. of P₂O₅.
   9. 30 lb./ac. of N+7 lb./ac. of P₂O₅.

First dose of manure applied at the time of last puddling (half of N as A/S and entire P as super); Second dose viz. other half of N as A/S given on 17.8.53.

3. DESIGN:
   (i) R.B.D. (ii) (a) 17. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/60 acre. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) During the last week of August, a disease peculiar to the tract known as tip-drying was noticed. This gradually disappeared by the end of September, 1953. (iii) Grain yield. (iv) (a) 1951 (Abi 1911-52) to 1953 (Abi 52-54). (b) Yes. (c) N.A. (v) (a) Govt. Main Farm, Warangal, and Agri. Res. Stn., Rudur (Soil Res. Section). (vi) NIL. (vii) Conducted by Farm Section.

5. RESULTS:
   (i) 1722 lb./ac.
   (ii) 618.0 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>630</td>
<td>10.</td>
<td>2142</td>
</tr>
<tr>
<td>2.</td>
<td>1662</td>
<td>11.</td>
<td>1752</td>
</tr>
<tr>
<td>3.</td>
<td>1812</td>
<td>12.</td>
<td>1812</td>
</tr>
<tr>
<td>4.</td>
<td>1398</td>
<td>13.</td>
<td>1422</td>
</tr>
<tr>
<td>5.</td>
<td>1122</td>
<td>14.</td>
<td>2244</td>
</tr>
<tr>
<td>6.</td>
<td>1824</td>
<td>15.</td>
<td>1992</td>
</tr>
<tr>
<td>7.</td>
<td>1824</td>
<td>16.</td>
<td>2364</td>
</tr>
<tr>
<td>8.</td>
<td>1554</td>
<td>17.</td>
<td>2136</td>
</tr>
<tr>
<td>9.</td>
<td>1584</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E./mean = 309.0 lb./ac.
Objective: To find out the effect of G.M. on the yield of paddy in combination with G.N.C. and to determine how much of A/S and G.N.C. needs to be cut down if green manuring is recommended as a regular practice.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Rudrur. (iii) Second week of Aug. 1950. (iv) (a) to (e) N.A. (v) Nil. (vi) H.R. 35. (vii) Irrigated. (viii) 2 to 3 weedings. (ix) 35 lb./ac. (x) Second week of December, 1950.

2. TREATMENTS:
   1. Control (no manure).
   2. G M. alone (G.M. will receive 7.5 lb./ac. of P₂O₅).
   3. Treat. (2)+15 lb./ac. of N as G.N.C. + 7.5 lb./ac. of P₂O₅ as Super.
   4. Treat. (2)+30 lb./ac. of N as G.N.C. + 15 lb./ac. of P₂O₅ as Super.
   5. Treat. (2)+45 lb./ac. of N as G.N.C. + 30 lb./ac. of P₂O₅ as Super.
   6. 30 lb./ac. of N as G.N.C. +15 lb./ac. of P₂O₅ as Super.

Only 60 lb. of green manure will be applied in each treatment. Sannhemp grown elsewhere was buried at 650 lb./ac. The first half dose of G.N.C. and Super applied at the time of transplanting. Second half dose of G.N.C. applied on 29.9.50 and that of Super applied on 21.10.50 when the crop just started flowering.

3. DESIGN:
   (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 1/25 acre. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) In last week of August, a minor attack of hispa and gall-fly controlled by Gamma-xene dusting. In the last week of Sept., an unidentified disease caused immature drying of leaves from tips downwards. (iii) Grain weight. (iv) (a) 1950—contd. (b) N.A. (c) N.A. (v) (a) and (b) N.A. (vi) Nil. (vii) Conducted by Soil Res. Section.

5. RESULTS:
   (i) 2327 lb./ac.
   (ii) 331.0 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1775</td>
</tr>
<tr>
<td>2.</td>
<td>2205</td>
</tr>
<tr>
<td>3.</td>
<td>2445</td>
</tr>
<tr>
<td>4.</td>
<td>2480</td>
</tr>
<tr>
<td>5.</td>
<td>2720</td>
</tr>
<tr>
<td>6.</td>
<td>2335</td>
</tr>
<tr>
<td>S.E /mean=148.0 lb./ac.</td>
<td></td>
</tr>
</tbody>
</table>


Object: To find out the value of green manuring and therefore, how much one can economise on the artificials if green manuring becomes an established practice.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Black cotton soil. (b) Refer soil analysis, Rudrur. (iii) 14 to 16.8.51. (iv) (a) 2 ploughings, 3 puddlings and levelling. (b) Transplanted. (c) (d) 6' x 4' (e) N.A. (v) Nil. (vi) H.R. 35 (vii) Irrigated (viii) Weeding twice. (ix) 30.81' (x) 7 to 13.12.51.
2. TREATMENTS:

1. Control no (manure).
2. G.M. (*Pilipesara*) receiving 7.5 lb./ac. of P₂O₅ grown in situ.
3. Treat. (2) + 15 lb./ac. of N + 7.5 lb./ac. of P₂O₅.
4. Treat. (2) + 30 lb./ac. of N + 15 lb./ac. of P₂O₅.
5. Treat. (2) + 45 lb./ac. of N + 22.5 lb./ac. of P₂O₅.
6. 30 lb./ac. of N + 15 lb./ac. of P₂O₅. P₂O₅ as Super and N as G.N.C.

P₂O₅ as Super and N as G.N.C. Green matter was incorporated in the soil at the rate of 6000 lb./ac. *Pilipesara* was the G.M. crop.

3. DESIGN:

(i) R.B.D. (ii) (a) 6 (b) N.A. (iii) 6. (iv) (a) N.A. (b) 46' × 19'. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Normal (ii) Nil (iii) Grain and straw yield. (iv) (a) 1951 to 1953. (b) Yes (c) N.A. (v) (a) & (b) Nil (vi) Nil (vii) Conducted by Soil Res. Section.

5. RESULTS:

(i) 1424 lb./ac.
(ii) 1730 lb./ac.
(iii) Treatments differ highly significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>908</td>
</tr>
<tr>
<td>2.</td>
<td>1316</td>
</tr>
<tr>
<td>3.</td>
<td>1375</td>
</tr>
<tr>
<td>4.</td>
<td>1791</td>
</tr>
<tr>
<td>5.</td>
<td>1908</td>
</tr>
<tr>
<td>6.</td>
<td>1241</td>
</tr>
</tbody>
</table>

S.E./mean = 70.5 lb./ac.

---

Crop :- Paddy.  
Type :- 'M'.  
Ref :- A.P. 52(29)/51(27).

Object :- To find out the value of green manuring and therefore, how much one can economise on the artificials if green manuring becomes an established practice.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (In *Tabi* 51-52 the plots were left fallow) (c) As under treatments (ii) (a) Black Cotton soil. (b) Refer Soil analysis, Rudur (iii) 2.4.7.52 (iv) (a) 2 ploughings, 3 puddlings & levelling. (b) Trans- planted. (c) (d) 6' × 4' (e) N.A. (v) Nil (vi) H.R. 35. (late) (vii) Irrigated (viii) Weeding once or twice. (ix) 33.11" (x) 1st December, 1952.

2. TREATMENTS:

1. No manure.
2. G.M. receiving 7.5 lb./ac. of P₂O₅.
3. Treat. (2) + 15 lb./ac. of N + 7.5 lb./ac. of P₂O₅.
4. Treat. (2) + 30 lb./ac. of N + 15 lb./ac. of P₂O₅.
5. Treat. (2) + 45 lb./ac. of N + 22.5 lb./ac. of P₂O₅.
6. 30 lb./ac. of N + 15 lb./ac. of P₂O₅. P₂O₅ as Super and N as G.N.C. Green matter was incorporated in the soil at the rate of 6000 lb./ac. *Pilipesara* was the G.M. crop.

3. DESIGN:

(i) R.B.D. (ii) (a) 6 (b) N.A. (iii) 6. (iv) (a) N.A. (b) 46' × 19'. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Normal (ii) Nil (iii) Grain and straw yield. (iv) (a) 1951 to 1953. (b) Yes (c) N.A. (v) (a), (b) Nil (vi) Nil (vii) Conducted by Soil Res. Section.
5. RESULTS:

(i) 2267 lb./ac.
(ii) 409.5 lb./ac.
(iii) Treatments differ highly significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1329</td>
</tr>
<tr>
<td>2.</td>
<td>1473</td>
</tr>
<tr>
<td>3.</td>
<td>2009</td>
</tr>
<tr>
<td>4.</td>
<td>3.67</td>
</tr>
<tr>
<td>5.</td>
<td>3484</td>
</tr>
<tr>
<td>6.</td>
<td>1909</td>
</tr>
</tbody>
</table>

S.E., mean = 220.0 lb./ac.

Crop: Paddy.
Object: To find out the value of G.M. and therefore how much one can economise on the artificial if G.M. becomes an established practice.

1. BASAL CONDITIONS:
   (i) a) Nil. b) Paddy. c) As under treatments.
   (ii) a) Black Cotton soil. b) Refer soil analysis, Rudrur. c) 11.7.53.
   (iv) a) 2 ploughings, 3 puddlings and levelling. (b) Transplanted. (c) 6' x 4'.
   (v) N.A. (vi) Nil. (viii) Irrigated. (ix) Weeding once or twice. (x) N.A.
   (x) 4.12.53.

2. TREATMENTS:
   1. No measure.
   2. G.M. receiving 7.5 lb./ac. of P₂O₅.
   3. Treatment (2)+15 lb./ac. of N+7.5 lb./ac. of P₂O₅.
   4. Treatment (2)+30 lb./ac. of N+15 lb./ac. of P₂O₅.
   5. Treatment (2)+45 lb./ac. of N+22.5 lb./ac. of P₂O₅.
   6. 30 lb./ac. of N + 15 lb./ac. of P₂O₅.
   N as G.N.C. and P₂O₅ as Super. 10,000 lb./ac. of green matter (Pillipesara) was incorporated in the soil in the first week of July.

3. DESIGN:

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1951 to 1953. (b) Yes. (c) N.A. (v) Nil.
   (b) Nil. (vi) Yes. (vii) Conducted by Soil Res. Section.

5. RESULTS:
   (i) 3150 lb./ac.
   (ii) 540 0 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1742</td>
</tr>
<tr>
<td>2.</td>
<td>2625</td>
</tr>
<tr>
<td>3.</td>
<td>3592</td>
</tr>
<tr>
<td>4.</td>
<td>3684</td>
</tr>
<tr>
<td>5.</td>
<td>4075</td>
</tr>
<tr>
<td>6.</td>
<td>3184</td>
</tr>
</tbody>
</table>

S.E., mean = 220.0 lb./ac.
Crop : Paddy (Abi. 51-52)  
Ref : A.P. 51(18).

Type : ‘M’.

Object : To find out the effect of G.M. in combination with G.N.C. and to determine how much of A/S and G.N.C. needs be cut down if G.M. manuring is recommended as a regular practice.

1. BASAL CONDITIONS:

(i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Chalka soil (Sandy loam). (b) Refer soil analysis, Rudrur.  
(iii) 14.7.51.  
(iv) (a) to (e) N.A. (v) N.A. (vi) H.R.-35. (vii) Irrigated. (viii) Hand weeding on 28.7.51.  
(ix) 30.09. (a) N.A.

2. TREATMENTS:

1. No manure.  
2. G.M. at 6000 lb./ac.  
3. G.M. at 6000 lb./ac. + 15 lb./ac. of N + 7.5 lb./ac. of P2O5.  
4. G.M. at 4800 lb./ac. + 30 lb./ac. of N + 15 lb./ac. of P2O5.  
5. G.M. at 4800 lb./ac. + 45 lb./ac. of N + 22.5 lb./ac. of P2O5.  
6. 30 lb./ac. of N + 15 lb./ac. of P2O5.

3. DESIGN:

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 43.5’x40’. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Normal; good especially in plots under treatments (4) and (5). (ii) N.A. (iii) Grain yield. (iv) (a) to (c) N.A. (v) (a) and (b) N.A. (vi) Nil. (vii) Conducted by Farm Section.

5. RESULTS:

(i) 1290. lb./ac.  
(ii) 1373. lb./ac.  
(iii) Treatments differ significantly.  
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>763</td>
</tr>
<tr>
<td>2.</td>
<td>1220</td>
</tr>
<tr>
<td>3.</td>
<td>1180</td>
</tr>
<tr>
<td>4.</td>
<td>1560</td>
</tr>
<tr>
<td>5.</td>
<td>1700</td>
</tr>
<tr>
<td>6.</td>
<td>1315</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>61.3 lb./ac</td>
</tr>
</tbody>
</table>

Crop : Paddy  
Ref : A.P. 52(24).

Type : ‘M’.

Object : To find out the effect of G.M. in combination with G.N.C. on the yield of Paddy and to determine how much of A/S and G.N.C. needs be cut down if G.M. is recommended as a regular practice.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) Same as treatments. (ii) (a) Mixture of both regur and Chalka (Sandy loam). (b) Refer soil analysis, Rudrur.  
(iii) 6.8.52.  
(iv) (a) 3 ploughings including one dry ploughing. Twice puddling and one levelling. (b) Transplanting. (c)→. (d) 6’x4’. (e) N.A. (v) Nil. (vi) H.R.-35. (vii) Irrigated. (viii) Weeding once. (ix) 33.11”. (x) 15.12.52.

2. TREATMENTS:

1. No manure.  
2. G.M.+7.5 lb./ac. of P2O5.  
3. G.M.+15 lb./ac. of N+7.5 lb./ac. of P2O5.  
4. G.M.+30 lb./ac. of N+15 lb./ac. of P2O5.  
5. G.M.+45 lb./ac. of N+22.5 lb./ac. of P2O5.  
6. 30 lb./ac. of N+15 lb./ac. of P2O5.  
N as G.N.C. and P2O5 as Super.
3. DESIGN:
   (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 43'5 x 60'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1951 to 1952. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) Conductor by Farm Section.

5. RESULTS:
   (i) 915 lb/ac.  
   (ii) 73.63 lb/ac.  
   (iii) Treatments differ significantly.  
   (iv) Av. yield of grain in lb/ac.  
   Treatment  | Av. yield  | S.E./mean  
   1.           | 700        |           
   2.           | 735        |           
   3.           | 975        |           
   4.           | 980        |           
   5.           | 1180       |           
   6.           | 925        |           
   S.E./mean   | 32.64 lb/ac.

Ref := A.P. 50(49).  
Type := 'M'.

Objective := To study the feasibility of raising two G.M. crops a year i.e., one between Tabi and Añ and the other between Añ and Tabi and at the same time to determine the time of application of P.O₃, to Paddy crop.

1. BASAL CONDITIONS:
   (i) Nil. (b) N.A. (c) N.A. (d) Black Soil. (b) Refer soil analysis, Rudrur. (iii) 7 and 9.8.50.  
   (iv) After rotting in irrigations, plots puddled and leveled. (b) to (c) N.A. (v) Dhaícha sown on 20.5.50.  
   (vi) 9 lb/ac. ploughed under +15 lb/ac. of N as A/S : G.N C. in 1/2 applied on 6.9.50.  

2. TREATMENTS:
   1. 7.5 lb/ac of P.O₃ in two doses i at planting & ii at flowering.  
   2. 7 lb/ac of P.O₃ in one dose at planting.  
   3. 7.5 lb/ac. of P.O₃ in one dose at flowering.  
   P.O₃ as Super.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/70 ac. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Not satisfactory. (ii) About a fortnight after transplanting, moderate attack of hispa, which was controlled by an insecticide dusting. Unidentified disease in the middle of September damaged the crops heavily by fras : the leaves from tip down wards. Borer attack was severe. (iii) Grain and straw yield. (iv) 'Añ 1950-51 to 1951 (Tabi 1950-51). (b) Yes. (c) N.A. (v) (a) N.A. (b) N.A. (vi) Nil. (vii) Conducted by Soil Res. Section.

5. RESULTS:
   (i) 1992 lb/ac.  
   (ii) 291.7 lb/ac.  
   (iii) Treatments do not differ significantly.  
   (iv) Av. yield of grain in lb/ac.  
   Treatment  | Av. yield  
   1.           | 1299       
   2.           | 1157       
   3.           | 1120       
   S.E./mean   | 145.9 lb/ac.

Object: —To study the feasibility of raising two G. M. crops a year i.e. one between Tai and Abi and other between Abi and Tai and at the same time to determine the time of application of P₂O₅ to Paddy crop.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy.  (c) As per treatments. (ii) (a) Black soil. (b) Refer soil analysis, Rudur. (iii) 18.1.51. (iv) (a) to (e) N.A. (v) Green matter at 700—800 lb./ac.+ 30 lb./ac. N as A/S: G.N.C. in 1:3. (vi) H. R. 19. (vii) Irrigated. (viii) 2 to 3 weeding. (ix) 2.06'

2. TREATMENTS:
   1. 15 lb./ac. of P₂O₅ in two doses (! at planting+! at flowering).
   2. 15 lb./ac. of P₂O₅ in one dose at planting.
   3. 15 lb./ac. of P₂O₅ in one dose at flowering.

Green Manure:
A week prior to the harvest of Abi crop, Sann hemp seed was broadcast on 6.11.50 in standing Paddy crop. Good germination but stunted in growth. It was ploughed under in the second week of January. It added only 700 to 800 lb./ac. of green matter. Hence Paddy crop was given 30 lb./ac. of N (G.N.C.+! A/S.)+ 15 lb./ac. of P₂O₅. G.N.C. and Super applied at last puddling as per programme.

When the crop was two months old, A/S applied. Second dose of Super as per programme applied in the first week of April.

3. DESIGN:
   (i) R.B.D. (ii) (a) 1. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/70. acre. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1950 (Abi 1950—51) to 1951 (Tai 1950—51). (b) Yes. (c) N.A. (v) (a), (b) N.A. (vi) Nil. (vii) Conducted by Soil Res. Section.

5. RESULTS:
   (i) 1890 lb./ac.
   (ii) 190.5 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2117</td>
</tr>
<tr>
<td>2.</td>
<td>1974</td>
</tr>
<tr>
<td>3.</td>
<td>1679</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>95.3 lb./ac.</td>
</tr>
</tbody>
</table>


Object: —To determine the best time of applying of N and P₂O₅ to Paddy crop particularly whether a single application of entire manure in the puddle is superior to a split application.

1. BASAL CONDITIONS:
   (i) (a) No. (b) Sugarcane. (c) N.A. (ii) (a) Black cotton soil. (b) Refer soil analysis, Rudur. (iii) 1 and 2.8.1951. (iv) (a) 2 ploughings, 3 puddlings and levelling. (b) Transplanted. (c)—(d) 6" x4". (e) N.A. (v) Nil. (vi) H.R. 19. (vii) Irrigated. (viii) Weeding twice. (ix) 30.81". (x) 8.11.51.

2. TREATMENTS:
   All combinations of (1) and (2)
   (1) 3 times of application of N : T₁=45 lb./ac. of N (i. e. 30 lb./ac. of N as G.N.C.+15 lb./ac. of N as A/S) at last puddle: T₂=30 lb./ac. of N as G.N.C. at last puddle+15 lb./ac. of N as A/S at weeding: T₃=45 lb./ac. of N at weeding.
   (2) 3 times of application of Super: T₁'=30 lb./ac. of P₂O₅ at last puddle, T₂'=15 lb./ac. of P₂O₅ at last puddle+15 lb./ac. of P₂O₅ at weeding and T₃'=30 lb./ac. of P₂O₅ at weeding.
3. DESIGN:
(i) 3x3 Fact. in R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 46'x19'. (v) N.A. (vi) Yes.

4. GENERAL:

5. RESULTS:
(i) 1032 lb./ac. (ii) 105.0 lb./ac.
(iii) Only main effect of 'application of N' is highly 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>
</tr>
</thead>
<tbody>
<tr>
<td>T₁</td>
<td>1262</td>
<td>1162</td>
<td>1075</td>
<td>1166</td>
</tr>
<tr>
<td>T₂</td>
<td>1112</td>
<td>1112</td>
<td>1050</td>
<td>1091</td>
</tr>
<tr>
<td>T₃</td>
<td>975</td>
<td>1025</td>
<td>962</td>
<td>987</td>
</tr>
<tr>
<td>Mean</td>
<td>1116</td>
<td>1100</td>
<td>1029</td>
<td>1082</td>
</tr>
</tbody>
</table>

S.E. of marginal mean = 30.3 lb./ac.
S.E. of body of table = 52.5 lb./ac.

Crop :- Paddy (Tabi 51–52).
Ref :- A.P. 52(26), 51(26).
Type :- 'M'.

Object :- To determine the best time of applying of N and P₂O₅ to Paddy crop particularly whether a single application of entire manure in the puddle is superior to the split application.

1. BASAL CONDITIONS:
(i) (a) Nil. (v) Paddy. (c) As under treatments. (ii) (a) Black cotton soil. (b) Refer soil analysis, Rudrur. (iii) 19.1.52. (v) (a) 2 ploughings, 3 puddlings and levelling. (b) Broadcast. (c) 80 lb./ac. (d) N.A. (e)—. (v) Nil. (vi) H.R.-19. (vii) Irrigated. (viii) Weeding twice. (ix) 2.50'. (x) 2nd week of May, 1952.

2. TREATMENTS
All combinations of (1) and (2):
(1) 3 times of application of N: T₁=45 lb./ac. of N (i.e. 30 lb./ac. of N as G.N.C.+15 lb./ac. of N as A/S) at last puddle., T₂=30 lb./ac. of N as G.N.C. at last puddle+15 lb./ac. of N as A/S at weeding and T₃=45 lb./ac. of N at weeding.
(2) 3 times of application of Super: T₁=30 lb./ac. of P₂O₅ at last puddle., T₂=15 lb./ac. of P₂O₅ at last puddle+15 lb./ac. of P₂O₅ at weeding, and T₃=30 lb./ac. of P₂O₅ at weeding.

3. DESIGN:
(i) 3x3 Fact. in R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 46'x19'. (v) N.A. (vi) Yes.

4. GENERAL:

5. RESULTS:
(i) 2772 lb./ac. (ii) 257.0 lb./ac.
(iii) None of the effects 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>
</tr>
</thead>
<tbody>
<tr>
<td>T'1</td>
<td>2975</td>
<td>2850</td>
<td>2788</td>
<td>2871</td>
</tr>
<tr>
<td>T'2</td>
<td>2888</td>
<td>2915</td>
<td>2675</td>
<td>2829</td>
</tr>
<tr>
<td>T'3</td>
<td>2663</td>
<td>2738</td>
<td>2450</td>
<td>2617</td>
</tr>
<tr>
<td>Mean</td>
<td>2842</td>
<td>2838</td>
<td>2638</td>
<td>2772</td>
</tr>
</tbody>
</table>

S.E. of marginal mean = 74.5 lb./ac.
S.E. of body of table =128.5 lb./ac.

Crop: Paddy. (Abi 52-53);
Object: To determine the best time of applying N and P2O5 to Paddy crop particularly whether a single application of entire manure in the puddle is superior to the split application.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As per treatments.
   (ii) (a) Black cotton soil. (b) Refer soil analysis, Rudrur.
   (iii) 15/16.52. (iv) (a) 2 ploughings, 3 puddlings and levelling. (b) Transplanted. (c) N.A. (d) 6′ x 4′.

2. TREATMENTS:
   All combinations of (1) and (2)
   (1) 3 times of application of N: T1 = 45 lb./ac. of N (i.e. 30 lb./ac. of N as G.N.C.+15 lb./ac. of N as A/S) at last puddle. T2 = 30 lb./ac. of N as G.N.C. at last puddle+15 lb./ac. of N as A/S at weeding. T3 = 45 lb./ac. of N at weeding.
   (2) 3 times of application of Super: T'1 = 30 lb./ac. of P2O5 at last puddle. T'2 = 15 lb./ac. of P2O5 at puddle+15 lb./ac. of P2O5 at weeding and T'3 = 30 lb./ac. of P2O5 at weeding.

3. DESIGN:
   (i) 3 x 3 Fact. in R.B.D. (ii) (a) N.A. (iii) 4. (iv) (a) N.A. (b) 46′ x 19′. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1951 (Abi 1951-52) to 1954 (Tibi 1953-54) (b) Yes.
   (c) N.A. (v) (a) Himayatsagar. (b) N.A. (vi) Nil. (vii) Nil.

5. RESULTS:
   (i) 3034 lb./ac.
   (ii) 342.5 lb./ac.
   (iii) Main effects of T, T' are highly significant. Interaction T x T' is not 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>
</tr>
</thead>
<tbody>
<tr>
<td>T'1</td>
<td>3750</td>
<td>2663</td>
<td>2763</td>
<td>3059</td>
</tr>
<tr>
<td>T'2</td>
<td>3563</td>
<td>3488</td>
<td>3013</td>
<td>3355</td>
</tr>
<tr>
<td>T'3</td>
<td>2975</td>
<td>2725</td>
<td>2363</td>
<td>2688</td>
</tr>
<tr>
<td>Mean</td>
<td>3429</td>
<td>2959</td>
<td>2713</td>
<td>3034</td>
</tr>
</tbody>
</table>

S.E. of marginal mean = 98.9 lb./ac.
S.E. of body of table = 171.2 lb./ac.
Crop :- Paddy (Abi 1952-53).  
Ref :- A.P. 53(42);52(26, 28)/51(26).  
Type :- 'M'.

Object :- To determine the best time of applying N and P<sub>2</sub>O<sub>5</sub> to Paddy crop particularly whether a single application of the entire manure in puddle is superior to the split application.

1. BASAL CONDITIONS :
   (i) (a) Nil.  (b) Paddy.  (c) As under treatments.  (ii) (a) Black cotton soil.  (b) Refer soil analysis, Rudrur.  (iii) 9.1.53.  (iv) (a) 2 ploughings, 3 puddlings and levelling.  (b) Broadcast.  (c) 80 lb./ac.  (d) N.A.  (e) ---.  (f) Nil  (g) H.R.-19.  (h) Irrigated.  (i) Weeding twice.  (ix) 1.30'.  (x) 1st week of May, 1953.

2. TREATMENTS:
   All combinations of (1) and (2)
   (1) 3 times of application of N:  
        \[ T_1 = 45 \text{ lb./ac. of N (i.e. 30 lb./ac. of N as G.N.C.+15 lb./ac. of N as A/S; at last puddle),} \]
        \[ T_2 = 30 \text{ lb./ac. of N as G.N.C. at last puddle+15 lb./ac. of N as A/S at weeding.} \]
   (2) 3 times of application of Super:  
        \[ T_1 = 30 \text{ lb./ac. of P}_2\text{O}_5 \text{ at last puddle,} \]
        \[ T_2 = 15 \text{ lb./ac. of P}_2\text{O}_5 \text{ at last puddle+15 lb./ac. of P}_2\text{O}_5 \text{ at weeding. and} \]
        \[ T_3 = 30 \text{ lb./ac. of P}_2\text{O}_5 \text{ at weeding.} \]

3. DESIGN:
   (i) 3x3 Fact. in R.B.D.  (ii) (a) 9. (b) N.A.  (iii) 4.  (iv) (a) N.A.  (b) 4'x19'.  (v) N.A.  (vi) Yes.

4. GENERAL:
   (i) Normal.  (ii) Severe attack of tip-drying disease and stemborer.  (iii) Grain and straw yield.  (iv) (a) 1951-52 to 1954 (Abi 1953-54).  (b) Yes.  (c) N.A.  (d) Himayatsagar.  (e) N.A.  (f) Nil.

5. RESULTS:
   (i) 1446 lb./ac.
   (ii) 168.5 lb./ac.
   (iii) Only main effect of application of N is significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>1200</th>
<th>1550</th>
<th>1575</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( T_1 )</td>
<td></td>
<td></td>
<td></td>
<td>1442</td>
</tr>
<tr>
<td>( T_2 )</td>
<td></td>
<td></td>
<td>1475</td>
<td>1463</td>
</tr>
<tr>
<td>( T_3 )</td>
<td>1325</td>
<td>1518</td>
<td>1438</td>
<td>1434</td>
</tr>
</tbody>
</table>

Mean 1263 1579 1496 1446

S.E. of marginal mean = 48.8 lb./ac.
S.E. of body of table = 84.2 lb./ac.

Crop :- Paddy (Abi 1953-54).  
Ref :- A.P. 53(43)/53(42)/52(26, 28)/51 26).  
Type :- 'M'.

Object :- To determine the best time of applying of N and P<sub>2</sub>O<sub>5</sub> to Paddy crop particularly whether a single application of the entire manure in puddle is superior to the split application.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) Paddy.  (c) As under treatments.  (ii) (a) Black cotton soil.  (b) Refer soil analysis, Rudrur.  (iii) 29.7.  (iv) (a) 2 ploughings, 3 puddlings and levelling.  (b) Transplanted.  (c) ---.  (d) 6"x4".  (e) N.A.  (f) Nil.  (g) H.R. 19 (early).  (h) Irrigated.  (i) Weeding.  (ix) N.A.  (x) 28 and 31.10.53.
TREATMENTS:

All combinations of (1) and (2):

(1) 3 times of application of N: T\(_1\) = 45 lb./ac. of N (i.e. 30 lb./ac. of N as G.N.C.+ 15 lb./ac. of N as A/S) at last puddle, T\(_2\) = 30 lb./ac. of N as G.N.C. at last puddle, and T\(_3\) = 45 lb./ac. of N at weeding.

(2) 3 times of application of Super: T'\(_1\) = 30 lb./ac. of P\(_2\)O\(_5\) at last puddle, T'\(_2\) = 15 lb./ac. of P\(_2\)O\(_5\) at last puddle, and T'\(_3\) = 45 lb./ac. of P\(_2\)O\(_5\) at weeding.

D. DESIGN:

(i) 3 x 3 Fact. in R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 46 x 19'. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Due to heavy rains in Sept. and Oct. 1953 the crop lodged in most of the plots. (ii) Mild attack of gall-fly and tip-drying disease in August, 1953. (iii) Grain and straw yield. (iv) (a) 1951 (Abi 1951-52) to 1954 (Tabi 1953-54). (b) Yes. (c) N.A. (v) (a) Himayatsagar. (b) N.A. (vi) Nil. (vii) Conducted by Soil Res. Section.

5. RESULTS:

(i) 2527 lb./ac.

(ii) 236.0 lb./ac.

(iii) Main effects of T, T' are significant. Interaction T x T' is 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>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>T(_1)</td>
<td>2938</td>
<td>2038</td>
<td>2325</td>
<td>2634</td>
</tr>
<tr>
<td>T(_2)</td>
<td>3340</td>
<td>2750</td>
<td>2538</td>
<td>2709</td>
</tr>
<tr>
<td>T(_3)</td>
<td>2375</td>
<td>2075</td>
<td>2263</td>
<td>2238</td>
</tr>
<tr>
<td>Mean</td>
<td>2717</td>
<td>2488</td>
<td>2375</td>
<td>2527</td>
</tr>
</tbody>
</table>

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

S.E. of body of table = 118.0 lb./ac.

Object:—To determine the best method and optimum depth of manuring.

BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Red sandy loam. (b) Refer soil analysis, Rudrur.

(iii) 19.6.52. (iv) (a) Two puddlings and levelling. (b) to (e) N.A. (v) Nil. (vi) H.R.19 (medium duration). (vii) Irrigated. (viii) 2 to 3 weedings. (ix) 33.11''. (x) 25.10.32.

TREATMENTS:

1. No manure.
2. 30 lb./ac. of N + 15 lb./ac. of P\(_2\)O\(_5\) broadcasting manure in dry field and then puddling.
3. 30 lb./ac. of N+ 15 lb./ac. of P\(_2\)O\(_5\) at last puddling incorporated thoroughly.
4. (15 lb./ac. of N+7.5 lb./ac. of P\(_2\)O\(_5\)) at last puddling and an equal dose as top dressing.
5. (15 lb./ac. of N+7.5 lb./ac. of P\(_2\)O\(_5\)) broadcast and ploughed dry as in treat. (2) and an equal dose made into balls with mud and placed at the roots of 10% of the plants at the time of weeding.
6. 30 lb./ac. of N + 15 lb./ac. of P\(_2\)O\(_5\) made into slush and applied at the roots of plants before transplanting.

N as A/S, P\(_2\)O\(_5\) as Super.
3. DESIGN
(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1/50 ac. (v) N.A. (vi) Yes.

4. GENERAL:
(i) No appreciable difference noticed in the stand of the crop. (ii) Nil. (iii) Grain yield. (iv) (a) 1952 (Tabi 1951-52) to 1952 (Abi 1952-53). (b) Yes. (c) N.A. (d) and (b) N.A. (e) and (vii) Nil.

5. RESULTS:
(i) 1086 lb/ac.
(ii) 152.0 lb/ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>905</td>
</tr>
<tr>
<td>2.</td>
<td>1170</td>
</tr>
<tr>
<td>3.</td>
<td>1120</td>
</tr>
<tr>
<td>4.</td>
<td>1115</td>
</tr>
<tr>
<td>5.</td>
<td>1160</td>
</tr>
<tr>
<td>6.</td>
<td>1145</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>62.1 lb/ac.</td>
</tr>
</tbody>
</table>

Site: Agri. Res. Stn., Rudrur. Type: 'M'.

Object: To study the effect of C/N on Paddy in increasing the yield and to study its deleterious effects on soil.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Pili/pepsara and Mung. (c) Nil. (ii) (a) Black cotton soil. (b) Refer soil analysis, Rudrur. (iii) 10.2.53. (iv) at 3 ploughings including one dry ploughing, puddlings twice and levelling once.
(b) Broadcast. (c) 60 lb/ac. (d) N.A. (e) Nil. (f) Nil. (ii) H.R. 19 (early). (vii) Irrigated. (viii) Weeding on 14.3.53. (ix) 63.07", annual rainfall. (x) 30.5.57.

2. TREATMENTS:
1. Control (no manure).
2. A S at 20 lb/ac. of N+15 lb/ac. of P2O5 as Super.
3. Amm. Chloride at 30 lb/ac. of N+15 lb/ac. of P2O5 as Super.
4. C N at 20 lb/ac. of N+15 lb/ac. of P2O5 as Super.
5. A S at 40 lb/ac. of N+30 lb/ac. of P2O5 as Super.
6. Amm. Chloride at 40 lb/ac. of N+30 lb/ac. of P2O5 as Super.
7. C'N at 40 lb/ac. of N+30 lb/ac. of P2O5 as Super.
Manures applied on 10.2.53.

3. DESIGN:
(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 64' x 12'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) N.A (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953 (Tabi 1952-53) - N.A. (b) Yes. (c) N.A. (v) a and (b) Nil. (vi) Nil. (vii) Conducted by Farm Section.

5. RESULTS:
(i) 7:2 lb/ac.
(ii) 13.6 lb/ac.
(iii) Treatments differ significantly.
(iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>429</td>
</tr>
<tr>
<td>2.</td>
<td>834</td>
</tr>
<tr>
<td>3.</td>
<td>706</td>
</tr>
<tr>
<td>4.</td>
<td>634</td>
</tr>
<tr>
<td>5.</td>
<td>941</td>
</tr>
<tr>
<td>6.</td>
<td>765</td>
</tr>
<tr>
<td>7.</td>
<td>694</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>13.7 lb/ac.</td>
</tr>
</tbody>
</table>
**Crop:** Paddy (Abi 1953-54); **Ref.: A. P. 53 (12)/53 (36).
**Site:** Agri. Res. Stn., Rudrur. **Type:** ‘M’.

Object: --To study the effect of C/N on Paddy in increasing the yield and to study its deleterious effects on soil.

1. **BASAL CONDITIONS:**
   (i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Black Cotton soil (Regur soil). (b) Refer soil analysis, Rudrur.
   (iii) 24.7.53. (iv) (a) to (e) N.A. (v) N.A. (vi) H.R. 19. (vii) N.A. (viii) Weeding on 17.8.53. (ix) 63.09" (annual rainfall) (x) 29.10.53.

2. **TREATMENTS:**
   1. No manure
   2. 20 lb./ac. of N as A/S+15 lb./ac. of P₂O₅ as Super.
   3. 20 lb./ac. of N as Amm. Chloride+15 lb./ac. of P₂O₅ as Super.
   4. 20 lb./ac. of N as C/N+15 lb./ac. of P₂O₅ as Super.
   5. 40 lb./ac. of N as A/S+30 lb./ac. of P₂O₅ as Super.
   6. 40 lb./ac. of N as Amm. Chloride+30 lb./ac. of P₂O₅ as Super.
   7. 40 lb./ac. of N as C/N+30 lb./ac. of P₂O₅ as Super.

   First dose of manure applied before transplanting and second dose on 17.8.1953.

3. **DESIGN:**
   (i) R.B.D. (iii) (a) 7. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 66’x12’. (v) N.A. (vi) Yes.

4. **GENERAL:**
   (i) Good growth except in plots where C/N was applied. Due to rains the plots receiving A/S were lodged in September. (ii) A sort of peculiar disease known as Tip-blades-drying disease making the tips of the leaf brown was noticed, till the end of Sept. 1951, which gradually disappeared as the season advanced.
   (iii) Grain weight. (iv) (a) 1953—N.A. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Conducted by Farm Section.

5. **RESULTS:**
   (i) 2147 lb./ac.
   (ii) 332.8 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.

   **Treatments**
   **Av. yield**
   1. 503
   2. 2083
   3. 2333
   4. 1568
   5. 3236
   6. 2956
   7. 2159
   8. 135.8 lb./ac.

---

**Crop:** Paddy (Second crop of 48-49); **Ref.: A. P. 48 (41).
**Site:** Agri. Res. Stn., Samalkot. **Type:** ‘M’.

Object: --To compare ultraphosphate with Super for giving high yields.

1. **BASAL CONDITIONS:**
   (i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Heavy alluvial clay. (b) Refer soil analysis, Samalkot.
   (iii) 20.12.1948/22.2.1949. (iv) (a) 2 or 3 ploughings. (b) Transplanting. (c) Nil. (iv) N.A. (v) Nil. (vi) SLO-12. (vii) Irrigated. (viii) 2 or 3 seedings. (ix) 3.72°. (x) 13.5.1949.

2. **TREATMENTS:**
   All combinations of (1) and (2)+a Control (no manure)
   (1) 2 levels of N : N₀=0, N₁=30 lb./ac.
   (2) 2 sources of P₂O₅ : S₁=Super at 30 lb./ac. of P₂O₅, S₂=Ultra phosphate at 30 lb./ac. of P₂O₅.
3. DESIGN:
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 22'x15'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Not satisfactory due to shortage of water. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948 to 1949. (b) N.A. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Neither the raw data nor the analysis sheets is available at the Research Station. Hence only the table of means is supplied.

5. RESULTS:
(i) 1856 lb./ac.
(ii) N.A. (iii) N.A.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Control</th>
<th>N2</th>
<th>N1</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>1757</td>
<td>1925</td>
<td>1841</td>
</tr>
<tr>
<td>S2</td>
<td>1777</td>
<td>2065</td>
<td>1921</td>
</tr>
<tr>
<td>Mean</td>
<td>1767</td>
<td>1995</td>
<td></td>
</tr>
</tbody>
</table>

Crop: Paddy.
Object: To determine the relative merits of ultraphosphate and super in giving high yield.

1. BASAL CONDITIONS:
(i) (a) Paddy-Gram. Paddy. (b) Paddy. (c) As per treatments. (ii) (a) Heavy alluvial clay. (b) Ref to soil analysis, Samalkot. (iii) 13.5.49/5.7.49. (iv) (a) 2 ploughings. (b) Transplanting. (c) — . (d) Bulk planting. (e) N.A. (v) G.L at 5000 lb./ac applied one week before planting. (vi) SLO-13. (vii) Irrigated. (viii) 2 weedings, (ix) N.A. (x) 20.11.49.

2. TREATMENTS
All combinations of (1) and (2) + a Control (no manure).
(1) 2 sources of \( P_2O_5 \): \( S_1 = \text{Super} \) and \( S_2 = \text{Ultraphosphate} \).
(2) 2 levels of \( P_2O_5 \): \( P_1 = 30 \) and \( P_2 = 45 \) lb./ac. \( P_2O_5 \) applied at the time of planting.

3. DESIGN:
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 26.4'x23.1'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Moderate growth. (ii) Yellowing of leaf blades noticed. (iii) Grain weight, tiller counts and plant height. (iv) (a) 1948 to 1949. (b) N.A. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) Nil.

5. RESULTS:
(i) 3706 lb./ac.
(ii) 3213.3 lb./ac.
(iii) None of the effects is significant.
Crop :- Paddy (2nd crop of 49-50).

Object :- To compare ultraphosphate with super in giving high yields.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Heavy alluvial clay. (b) Refer soil analysis, Samalkot. (iii) 24.12.49/17.2.50. (iv) (a) 2 ploughings. (b) Transplanted. (c) Bulk planting. (e) N.A. (v) G.L. at 5000 lb./ac. applied one week before planting. (vi) SLO-12 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) 18.97". (x) 11.5.50.

2. TREATMENTS:
   All combinations of (1) and (2)+a Control (no manure).
   (1) 2 sources of P_2O_5 : S_1=Super and S_2=Ultraphosphate.
   (2) 2 levels of P_2O_5 : P_1=30 and P_2=45 lb./ac. P_2O_5 applied at the time of planting.

DESIGN:
(i) R.B.D. (ii) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 19.8' x 23.1'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain weight and tiller counts. (iv) (a) 1948 (2nd crop of 1948-49) to 1949 (2nd crop of 1949-50). (b) N.A. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) Neither the raw data, nor the analysis sheets are available at the Research Station. Hence only the table of means is supplied.

5. RESULTS:
   (i) 2158 lb./ac.
   (ii) N.A.
   (iii) N.A.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S_1</th>
<th>S_2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>2066 lb./ac.</td>
<td>2122</td>
<td>2111</td>
</tr>
<tr>
<td>S_1</td>
<td>2262</td>
<td>2231</td>
<td>2247</td>
</tr>
<tr>
<td>Mean</td>
<td>2192</td>
<td>2171</td>
<td>2181</td>
</tr>
</tbody>
</table>
Crop = (2nd crop of 48-49).
Object = To compare night soil compost with C.M. for giving high yield.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Heavy alluvial clay. (b) Refer soil analysis, Samalkot. (iii) 19.12.48/12.1.49. (iv) (a) 2 or 3 ploughings. (b) Transplanted. (c) —. (d) N.A. (e) N.A. (f) Nil. (vi) SLO-12. (vii) Irrigated. (viii) 2 or 3 weedings. (ix) 3.72”. (x) 11.5.49.

2. TREATMENTS:
   1. C.M. at 60 lb./ac. of N.
   2. Night soil compost at 60 lb./ac. of N.
   3. Control (no manure). Manures incorporated into the soil before planting.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 25’ x 24’. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Not satisfactory due to shortage of water. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948 to 1949. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS:
   (i) 1633 lb./ac.
   (ii) N.A.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1728</td>
</tr>
<tr>
<td>2.</td>
<td>1618</td>
</tr>
<tr>
<td>3.</td>
<td>1554</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

Crop = Paddy.
Ref = A.P. 49(12)/48(42).
Type = ‘M’.
Object = To determine the comparative merits of F.Y.M. and night soil compost in giving high yield.

1. BASAL CONDITIONS:
   (i) (a) Paddy-Gram. (b) Paddy. (c) N.A. (ii) (a) Heavy alluvial. (b) Refer soil analysis, Samalkot. (iii) 11.5.43/5.7.49. (iv) (a) 2 ploughings. (b) Transplanted. (c) —. (d) Bulk planting (e) N.A. (f) Nil. (vi) SLO-3. (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 24.11.49.

2. TREATMENTS:
   1. F.Y.M. at 60 lb./ac. of N.
   2. Night soil compost at 60 lb./ac. of N.
   3. No manure.
   Manure applied before planting.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 33’ x 26.4’. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) Nil. (iii) Grain yield, tiller counts and height of plants. (iv) (a) 1948 to 1949. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2160 lb./ac.
   (ii) 193.0 lb./ac.
   (iii) Treatments do not differ significantly.
Crop :- Paddy (2nd crop).  
Type :- 'M'.

Object :- To compare C.M. and Night-soil-compost for giving high yields.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Paddy. (c) As per treatments.  
   (ii) (a) Heavy alluvial clay.  
   (iii) 24.12.49/20.2.50.  
   (iv) (a) 2 ploughings.  
   (v) (a) Nil.  
   (vi) SLO-12.  
   (vii) Irrigated. (viii) 2 or 3 weedings. (ix) 18.9°. (x) 12.5.50.

2. TREATMENTS :
   1. FYM at 60 lb/ac of N.  
   2. Night-soil-compost at 60 lb/ac of N.  
   3. No manure.

Manure applied before planting and puddled in.

3. DESIGN :
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) and (b) 33'x26.4'. (v) Nil. (vi) Yes.

4. GENERAL :
   (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) Raw data N.A.

5. RESULTS :
   (i) 2l75 lb/ac.  
   (ii) N.A.  
   (iii) Treatments do not differ significantly.  
   (iv) Av. yield of grain in lb/ac.  
   Treatment | Av. yield
   1. | 2134  
   2. | 2084  
   3. | 2263  
   S.E./mean = 78.8 lb/ac.

Crop :- Paddy (2nd crop).  
Site :- Agri Res. Stn., Samalkot.  
Type :- 'M'.

Object :- To find out the relative manurial value of A/N compared to A/S.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Paddy bulk. (c) N.A. (ii) (a) Heavy alluvial clay.  
   (b) Refer soil analysis, Samalkot.  
   (iii) 24.2.48.  
   (iv) (a) 2 or 3 ploughings.  
   (v) (a) Nil.  
   (vi) N.A. in puddle.  
   (vii) Irrigated. (viii) 2 or 3 weedings. (ix) 2.54'x4'. (x) Yes.

2. TREATMENTS :
   All combinations of (1) and (2)+a control (no manure).
   (1) 2 sources of N : S₁=A/S and S₂=Ammonium Nitrate.  
   (2) 4 levels of N : N₁=15, N₂=30, N₃=45 and N₄=60 lb/ac.  
   Other details N.A.
3. DESIGN:

(i) R.B.D. (ii) (a) 9, (b) N.A. (iii) 4, (iv) (a) 31' x 21', (b) 33' x 20'.
(v) One row round. (vi) Yes.

4. GENERAL:

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

5. RESULTS:

(i) 11.04 lb./ac. (ii) 20.60 lb./ac. (iii) M: a effect of N alone is significant. (iv) A: yield of grain in lb./ac.

- Control $= 1664$ lb./ac.

<table>
<thead>
<tr>
<th>S1</th>
<th>S2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$N_1$</td>
<td>1655</td>
<td>1697</td>
</tr>
<tr>
<td>$N_2$</td>
<td>1949</td>
<td>1670</td>
</tr>
<tr>
<td>$N_3$</td>
<td>1939</td>
<td>1874</td>
</tr>
<tr>
<td>$N_4$</td>
<td>1901</td>
<td>1930</td>
</tr>
</tbody>
</table>

- S.E. of marginal mean of $S$ $= 51.5$ lb./ac.
- S.E. of marginal mean of $N$ $= 72.8$ lb./ac.
- S.E. of tabe $= 103.0$ lb./ac.

Crop: Paddy (2nd Crop of 1947-48)  
Ref.: A.P. 48(45)  
Type: 'M'.

Object: To study the effect of graded doses of phosphatic manures on hastening maturity of second crop paddy varieties.

1. BASAL CONDITIONS:

(i) a N. b Paddy bulk. c N.A. (ii) a) Heavy alluvial clay. (b) Refer soil analysis, S. Malkot.  
(ii) 15.248 N :a 2 to 3 ploughings. (b) Transplanted. (c) 2 4 2 4 2. (d) 6 x 14 (e) 2. (f) 2. (g) 30 lb./ac. of G.N.C. applied in puddle before planting. (vii) SLO: (vii) Irrigated. (viii) 2 or 3 weedings, (x) 2.54 x 19.5, 48.

2. TREATMENTS:

A2 combinations of [1 & 2]:

1) 4 loves of P02O5: $P_1 = 33$, $P_2 = 50$, $P_3 = 60$, $P_4 = 73$ lb./ac.
2) 2 sources of P02O5: $S_1 = $Super and $S_2 = $B.M.
   Applied in puddle before planting.

3. DESIGN:

4 x 2 Fert. in R.B.D. (ii) (a) 8, (b) N.A. (iii) 6. (iv) (a) 19 x 11', (b) 18 x 10'. (v) One row round. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) N.A. (iii) Grain and straw yield. (iv) (a) 1947—N.A. (b) No. (c) N.A. (v) (a), (b) N.A. (vi) N.A. (vii) Results are presented as given in the annual report. Raw data is not available at the Research Station. Hence it is not possible to give the results in two-way table.
5. RESULTS:

(i) 3417 lb./ac.
(ii) 288.0 lb./ac.
(iii) Levels and sources effects are not significant. Significance of interaction is not available.
(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>P₁</td>
<td>3372</td>
<td>83.1</td>
</tr>
<tr>
<td>P₂</td>
<td>3323</td>
<td>58.7</td>
</tr>
<tr>
<td>P₃</td>
<td>3437</td>
<td>83.1</td>
</tr>
<tr>
<td>P₄</td>
<td>3536</td>
<td>58.7</td>
</tr>
</tbody>
</table>

Crop :- Paddy. (2nd crop of 1947-48)
Ref :- A.P. 48(58).
Type :- 'M'.

Object :- To study the effect of graded doses of phosphatic manures on hastening maturity of second crop paddy varieties.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) Heavy alluvial clay. (b) Refer soil analysis, Samalkot. (iii) 15.2.48.
(iv) (a) 2 or 3 ploughings. (b) Transplanted. (c)-(d) 6" x 6" (e) 2. (v) 120 lb./ac. of G.N.C. applied in before planting. (vi) SLO-15 (vii) Irrigated. (viii) 2 or 3 weedings. (ix) 2.54" (x) 19.5.48.

2. TREATMENTS:

All combinations of (1) and (2).
(1) 4 levels of \( P₂O₅ \): P₁ = 30, P₂ = 50, P₃ = 60 and P₄ = 70 lb./ac.
(2) 2 sources of \( P₂O₅ \): S₁ = Super and S₂ = B.M.
Manures applied in puddle before planting.

3. DESIGN:

(i) 4 x 2 Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 6. (a) 19' x 11' (b) 18' x 10'. (v) One row around the net plot. (vii) Yes.

4. GENERAL:

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

5. RESULTS:

(i) 2623 lb./ac.
(ii) N.A.
(iii) N.A.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S₁</th>
<th>S₂</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>P₁</td>
<td>2589</td>
<td>2739</td>
<td>2664</td>
</tr>
<tr>
<td>P₂</td>
<td>2676</td>
<td>2482</td>
<td>2579</td>
</tr>
<tr>
<td>P₃</td>
<td>2710</td>
<td>2587</td>
<td>2649</td>
</tr>
<tr>
<td>P₄</td>
<td>2586</td>
<td>2659</td>
<td>2623</td>
</tr>
<tr>
<td></td>
<td>2640</td>
<td>2616</td>
<td>2628</td>
</tr>
</tbody>
</table>
Crop:—Paddy.  
Site:—Agri. Res. Stn., Samalkot.  
Ref:—A.P. 49(17).  
Type:—‘M’.

Object:—To compare the effect on the yield of Super and B.M. as sources of P2O5. (Test 1).

1. BASAL CONDITIONS:
   (i) (a) Paddy—Gram. (b) Gram. (c) Nil. (ii) (a) Heavy alluvial clay. (b) Refer soil analysis, Samalkot. 
   (iii) 13.5.49/29.6.49. (iv) (a) 2 ploughings. (b) Transplanting. (c) —. (d) N.A. (e) N.A. (f) Nil. 
   (vi) SLO-2 (late). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 16.11.49.

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

Manures applied at planting time.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) and (b) 29’×15.8’. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain weight, tiller counts and plant height. (iv) (a) N.A. (b) Yes. (c) N.A. 
   (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2827 lb./ac. 
   (ii) 124.0 lb./ac. 
   (iii) Treatments differ significantly. 
   (iv) Av. yield of grain in lb. ac.
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2688</td>
</tr>
<tr>
<td>2.</td>
<td>2948</td>
</tr>
<tr>
<td>3.</td>
<td>2844</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>50.6 lb./ac.</td>
</tr>
</tbody>
</table>

Crop:—Paddy.  
Site:—Agri. Res. Stn., Samalkot.  
Ref:—A.P. 49(16).  
Type:—‘M’.

Object:—To compare the effect on the yield of Super and B.M. as sources of P2O5. (Test 2).

1. BASAL CONDITIONS:
   (i) (i) Paddy—Gram. (b) Gram. (c) As per treatments. (ii) (a) Heavy alluvial clay. (b) Refer soil analysis, Samalkot. 
   (iii) 13.5.49/30.6.49. (iv) (a) 2 ploughings. (b) Transplanted. (c) —. (d) Bulk planting. 

2. TREATMENTS:
   1. No manure. 
   2. 30 lb./ac. of P2O5 as Super. 
   3. 30 lb./ac. of P2O5 as B.M. 

Manure applied at planting time.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) and (b) 29’×15.8’. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain weight, tiller counts and plant height. (iv) (a) N.A. (b) Yes. (c) N.A. 
   (v) (a, b) N.A. (vi) and (vii) Nil.
5. RESULTS:
(i) 2840 lb./ac.
(ii) 185.6 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2865</td>
</tr>
<tr>
<td>2</td>
<td>2763</td>
</tr>
<tr>
<td>3</td>
<td>2891</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 75.7 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy.

Object: To determine the economic doses of N and P2O5 for Paddy.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) 3000 lb./ac. of G.L.+100 lb./ac. of P2O5 as Super and 100 lb./ac. of A/S.
(ii) (a) Heavy alluvial clay. (b) Refer soil analysis, Samalkot. (iii) 30.5.52, 4.8.52. (iv) (a) 3 ploughings and levelling. (b) Transplanted. (c) (d) 6"x6". (e) 2. (v) Nil. (vi) SLO-13 (medium). (vii) Irrigated.
(viii) 2 weedings. (ix) N.A. (x) 28.11.52.

2. TREATMENTS:
All combinations of (1) and (2)
(1) 4 levels of N: N0 = 0, N1 = 30, N2 = 45 and N3 = 60 lb./ac.
(2) 4 levels of P2O5: P0 = 0, P1 = 30, P2 = 45 and P3 = 60 lb./ac.
N as A/S applied on 27.8.52 and P2O5 as Super applied before transplanting.

3. DESIGN:
(i) 4x4 Fact. in R.B.D. (ii) (a) 16. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 11.9'x21.8'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain weight and tiller counts. (iv) (a) 1952 to 1956. (b) Yes. (c) Nil. (v) (a) Maruteru. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 3832 lb./ac.
(ii) 368.9 lb./ac.
(iii) Main effect of N alone is significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>P0</th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>3364</td>
<td>3498</td>
<td>3646</td>
<td>3693</td>
<td>3551</td>
</tr>
<tr>
<td>3836</td>
<td>3996</td>
<td>3956</td>
<td>4243</td>
<td>4008</td>
</tr>
<tr>
<td>3935</td>
<td>4093</td>
<td>3996</td>
<td>3788</td>
<td>3953</td>
</tr>
<tr>
<td>3628</td>
<td>3888</td>
<td>3907</td>
<td>3838</td>
<td>3815</td>
</tr>
</tbody>
</table>

Mean: 3691 3869 3876 3891 3832

S.E. of marginal mean = 92.0 lb./ac.
S.E. of body of table = 184.0 lb./ac.

Ref: A.P. 52(78).
Type = 'M'.
Crop :- Paddy.  
Ref :- A.P. 53(4)/52(78).  
Type :- 'M'.

Object :- To determine the economic dose of N and \( \text{P}_2\text{O}_5 \) for Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Heavy alluvial clays. (b) Refer soil analysis, Samalkot. (iii) 23.6.53/28.7.53. (iv) (a) 3 ploughings. (b) Transplanted. (c) —. (d) 6' x 6'. (e) N.A. (f) Nil. (vi) SLO-13. (vii) Irrigated. (viii) 2 weedings. (ix) 25.7°. (x) 20.11.53.

2. TREATMENTS:
   All combinations of (1) and (2)
   (1) 4 levels of N : \( \text{N}_0 =0, \text{N}_1 =30, \text{N}_2 =45 \) and \( \text{N}_3 =60 \) lb./ac. \( \text{N} \) as A/S, \( \text{P}_2\text{O}_5 \) as Super.
   (2) 4 levels of \( \text{P}_2\text{O}_5 : \text{P}_0 =0, \text{P}_1 =30, \text{P}_2 =45 \) and \( \text{P}_3 =60 \) lb./ac.

3. DESIGN:
   (i) 4 x 4 Fact. in R.B.D. (ii) (a) 16. (b) N.A. (iii) 4. (iv) (a) and (b) 15.8' x 25.1'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Very mild attack of stem-borer. (iii) Grain and straw yield. (iv) (a) 1952—contd. (b) Yes. (c) N.A. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2280 lb./ac.
   (ii) 229.6 lb./ac.
   (iii) Only N effect is highly significant. P effect and interaction NP are not significant.
   (iv) Av. yield of grain in lb./ac.'

<table>
<thead>
<tr>
<th></th>
<th>( \text{P}_0 )</th>
<th>( \text{P}_1 )</th>
<th>( \text{P}_2 )</th>
<th>( \text{P}_3 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \text{N}_0 )</td>
<td>2628</td>
<td>2918</td>
<td>2650</td>
<td>2897</td>
<td>2773</td>
</tr>
<tr>
<td>( \text{N}_1 )</td>
<td>2363</td>
<td>2375</td>
<td>2511</td>
<td>2537</td>
<td>2451</td>
</tr>
<tr>
<td>( \text{N}_2 )</td>
<td>2100</td>
<td>1928</td>
<td>1915</td>
<td>2004</td>
<td>1986</td>
</tr>
<tr>
<td>( \text{N}_3 )</td>
<td>1875</td>
<td>1926</td>
<td>1970</td>
<td>1868</td>
<td>1909</td>
</tr>
<tr>
<td>Mean</td>
<td>2241</td>
<td>2286</td>
<td>2261</td>
<td>2331</td>
<td>2280</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 57.3 lb./ac.
S.E. of body of table = 114.7 lb./ac.

Crop :- Paddy.  
Ref :- A.P. 52 (79).  
Type :- 'M'.

Object :- To find out best method of application of \( \text{P} \) manures to Paddy to obtain high yield.

1. BASAL CONDITIONS:
   (i) (a) N0. (b) Paddy. (c) 400 lb./ac. of G.L. 100 lb./ac. of Super and 100 lb./ac. of A/S. (ii) (a) Heavy alluvial clays. (b) Refer soil analysis, Samalkot. (iii) 30.5.1952/26.7.1952. (iv) (a) 3 ploughings. (b) Transplanted. 'c'—. (d) Bulk planting in lines 8' apart. (e) N.A. (v) Nil. (vi) SLO-13 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 28.11.1952.

2. TREATMENTS:
   1. No \( \text{P} \) manure.
   2. G.M. grown in situ without \( \text{P}_2\text{O}_5 \) (8725 lb./ac. of Pillipesara).
   3. G.M. grown with 45 lb./ac. of \( \text{P}_2\text{O}_5 \) as Super before sowing.
   4. G.M in situ without \( \text{P}_2\text{O}_5 \) (11,150 lb./ac.) + 45 lb./ac. of \( \text{P}_2\text{O}_5 \) as Super to paddy direct before planting. Pillipesara sown on 7.5.1952. For treatment (4), \( \text{P}_2\text{O}_5 \) applied on 18.7.1952.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 8. (iv) (a) N.A. (b) 12.5' x 25.1'. (v) N.A. (vi) Yes.
4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain yield and tiller counts. (iv) (a) 1952 to 1956. (b) N.A. (c) Nil.
(v) (a) Maruteru. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 3424 lb./ac.
(ii) 268.1 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3056</td>
</tr>
<tr>
<td>2.</td>
<td>3424</td>
</tr>
<tr>
<td>3.</td>
<td>3597</td>
</tr>
<tr>
<td>4.</td>
<td>3617</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>94.8 lb./ac.</td>
</tr>
</tbody>
</table>

Crop : Paddy.
Ref : A.P. 53 (54).
Type : 'M'.

Object : To study the effect of application of P<sub>2</sub>O<sub>5</sub> along with G.M. to Paddy crop direct and through a preceding crop of G.M.

1. BASAL CONDITIONS:
(i) Nil. (b) As under treatments. (c) As under treatments. (ii) (a) Heavy alluvial clay. (b) Refer soil analysis, Samalkot. (iii) 23.6.1953-30.7.1953. (iv) (a) 3 ploughings. (b) Transplanting. (c) —. (d) 6' x 6'. (e) N.A. (v) Nil. (vi) Irrigated. (vii) 2 weedings. (ix) 25.7. (x) 21.11.53.

2. TREATMENTS:
1. No manure.
2. 45 lb./ac. of P<sub>2</sub>O<sub>5</sub> to Pillipesara grown in situ.
3. Pillipesara in situ + 45 lb./ac. P<sub>2</sub>O<sub>5</sub> to paddy at planting.
4. Pillipesara in situ only.
5. 45 lb./ac. of P<sub>2</sub>O<sub>5</sub> to sesbania grown in situ.
6. Sesbania grown in situ + 45 lb./ac. of P<sub>2</sub>O<sub>5</sub> to paddy at planting.
7. Sesbania alone in situ.
8. 45 lb./ac. of P<sub>2</sub>O<sub>5</sub> to indigo grown in situ.
9. Indigo grown in situ + 45 lb./ac. of P<sub>2</sub>O<sub>5</sub> to paddy at planting.
10. Indigo in situ only.
Other details N.A.

3. DESIGN:
(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a), (b) 17' x 42'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1952—contd. (b) N.A. (c) N.A.
(v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 2799 lb./ac.
(ii) 272.5 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2866</td>
</tr>
<tr>
<td>2.</td>
<td>2634</td>
</tr>
<tr>
<td>3.</td>
<td>2483</td>
</tr>
<tr>
<td>4.</td>
<td>2506</td>
</tr>
<tr>
<td>5.</td>
<td>2373</td>
</tr>
<tr>
<td>6.</td>
<td>2861</td>
</tr>
<tr>
<td>7.</td>
<td>2931</td>
</tr>
<tr>
<td>8.</td>
<td>2905</td>
</tr>
<tr>
<td>9.</td>
<td>3021</td>
</tr>
<tr>
<td>10.</td>
<td>3047</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>136.2 lb./ac.</td>
</tr>
</tbody>
</table>
Crop :- Paddy (Double Crop Land).

Object :- To study the effect of application of P\textsubscript{2}O\textsubscript{5} along with G.M. to Paddy crop direct and through a preceding crop of G.M.

1. BASAL CONDITIONS

(i) (a) Nil. (b) Paddy, green manure crops as under treatments. (c) As under treatments. (ii) (a) Heavy alluvial clay. (b) Refer soil analysis, Samalkot. (iii) 6.6.53/7.7.53. (iv) (a) 3 ploughings. (b) Transplanting. (c) 4. (d) 6'×6'. (e) N.A. (v) Nil. (vi) SLO-13. (vii) Irrigated. (viii) 2 weedings. (ix) 25.7'.

2. TREATMENTS :

1. No manure.
2. 45 lb./ac. of P\textsubscript{2}O\textsubscript{5} to sunnhemp sown in situ.
3. Sunnhemp in situ+45 lb./ac. of P\textsubscript{2}O\textsubscript{5} to paddy at planting.
4. Sunnhemp in situ only.
5. 45 lb./ac. of P\textsubscript{2}O\textsubscript{5} to dhaincha in situ.
6. Dhaincha in situ+45 lb./ac. of P\textsubscript{2}O\textsubscript{5} to paddy at planting.
7. Dhaincha in situ only.

P\textsubscript{2}O\textsubscript{5} as Super.

3. DESIGN :

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) and (b) 17'×42'. (v) Nil. (vi) Yes.

4. GENERAL :

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

5. RESULTS :

(i) 3607 lb./ac.
(ii) 102.7 lb./ac.
(iii) Treatments differ highly significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3349</td>
</tr>
<tr>
<td>2</td>
<td>3651</td>
</tr>
<tr>
<td>3</td>
<td>3651</td>
</tr>
<tr>
<td>4</td>
<td>3668</td>
</tr>
<tr>
<td>5</td>
<td>3583</td>
</tr>
<tr>
<td>6</td>
<td>3620</td>
</tr>
<tr>
<td>7</td>
<td>3720</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>51.4 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Paddy.

Object :- To determine the organic matter requirements of the soil in the form of C.M., G.M. and compost.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 4000 lb./ac. of G.L.+100 lb./ac. of Super and 100 lb./ac. of A/S. (i) (a) Heavy alluvial clay. (b) Refer soil analysis, Samalkot. (iii) 30.5.52/26.7.52. (iv) (a) 3 ploughings. (b) Transplanted. (c) —. (d) Bulk planting. (e) N.A. (v) 45 lb./ac. of N as A/S and 60 lb./ac. of P\textsubscript{2}O\textsubscript{5} as Super. Super applied before planting and trampled in. A/S applied on 26.8.52. (vi) SLO-13 (medium). (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 26.11.32.
TREATMENTS:
All combinations of (1) and (2) + a control (no manure).
(1) 3 sources of organic matter: \( S_1 \) =F.Y.M., \( S_2 \) =compost and \( S_3 \) =G.L.
(2) 3 levels of organic matter: \( L_1 = 2500 \), \( L_2 = 5000 \) and \( L_3 = 7500 \) lb./ac.
Compost and G.L. applied in terms of equivalent organic matter of F.Y.M. Manures applied a month before planting and ploughed in.

3. DESIGN:
(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) and (b) 33' x 13.2'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain yield and tiller count. (iv) (a) 1952 to 1954. (b) Yes. (c) Nil. (v) (a) Maruteru. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 2753 lb./ac. (ii) 152.1 lb./ac. (iii) None of the effects is significant.

<table>
<thead>
<tr>
<th>Control = 3502 lb./ac.</th>
<th>( L_1 )</th>
<th>( L_2 )</th>
<th>( L_3 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( S_1 )</td>
<td>3297</td>
<td>3430</td>
<td>3447</td>
<td>3391</td>
</tr>
<tr>
<td>( S_2 )</td>
<td>3483</td>
<td>3335</td>
<td>3508</td>
<td>3442</td>
</tr>
<tr>
<td>( S_3 )</td>
<td>3720</td>
<td>3385</td>
<td>3268</td>
<td>3458</td>
</tr>
<tr>
<td>Mean</td>
<td>3500</td>
<td>3383</td>
<td>3408</td>
<td>3430</td>
</tr>
</tbody>
</table>

S.E. of marginal mean = 85.0 lb./ac.
S.E. of body of table = 148.0 lb./ac.

Crop :-Paddy.    Ref :-A.P. 53(56)/52(80).
Site :-Agri. Res. Stn., Samalkot.  Type :-'M'.
Object :-To determine the organic matter requirements of the soil in the form of C.M./G.M. and compost.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Heavy alluvial clay. (b) Refer soil analysis, Samalkot. (iii) 23.6.53/27.7.53. (iv) (a) 3 ploughings. (b) Transplanted. (c) -. (d) 6' x 6'. (e) N.A. (f) Nil. (vi) SLO-13. (vii) Irrigated. (viii) 2 weedings. (ix) 25.7'. (x) 19.11.53.

2. TREATMENTS:
All combinations of (1) and (2) + a control (no manure).
(1) 3 sources of organic matter: \( S_1 \) =C.M., \( S_2 \) = Vegetable compost and \( S_3 \) =G.L.
(2) 3 levels of organic matter: \( L_1 = 2500 \), \( L_2 = 5000 \) and \( L_3 = 7500 \) lb./ac.
Compost and G.L. applied in terms of equivalent organic matter of C.M.

3. DESIGN:
(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) and (b) 13.2' x 33'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1952—contd. (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 2753 lb./ac. (ii) 152.1 lb./ac. (iii) None of the effects is significant.
(iv) Av. yield of grain in lb./ac.  

<table>
<thead>
<tr>
<th></th>
<th>L₁</th>
<th>L₂</th>
<th>L₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
<td>2656</td>
<td>2783</td>
<td>2786</td>
<td>2742</td>
</tr>
<tr>
<td>S₂</td>
<td>2967</td>
<td>2836</td>
<td>2684</td>
<td>2829</td>
</tr>
<tr>
<td>S₃</td>
<td>2764</td>
<td>2763</td>
<td>2683</td>
<td>2737</td>
</tr>
<tr>
<td>Mean</td>
<td>2796</td>
<td>2794</td>
<td>2718</td>
<td>2769</td>
</tr>
</tbody>
</table>

S.E. of marginal mean = 43.9 lb./ac.  
S.E. of body of table = 76.1 lb./ac.  

**Crop:** Paddy.  
**Site:** Agri. Res. Stn., Samalkot.  
**Ref:** A.P. 53(S).  
**Type:** 'M'.

**Object:** To assess the value of application of organic and inorganic fertilizers, singly and in various combinations on the outturn of Paddy.

1. **BASAL CONDITIONS:**
   (i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Heavy alluvial clay. (b) Refer soil analysis, Samalkot. (iii) 6.6.53/13.7.53. (iv) (a) 3 ploughings. (b) Transplanted. (c) -. (d) 6' x 6'. (e) N.A. (v) Nil. (vi) SLO-13. (vii) Irrig. ted. (viii) 2 weedicings. (ix) 25.7'. (x) 25.11.53.

2. **TREATMENTS:**
   **Main-plot treatments:**
   5. applications of N:  
   N₀=0, N₁=A/S at 60 lb./ac. of N, N₂=G.L. at 60 lb./ac. of N, N₃=C.M. at 60 lb./ac. of N and N₄=Vegetable compost at 60 lb./ac. of N.  
   **Sub-plot treatments:**
   All combinations of (1), (2) and (3).
   (1): 2 levels of P₂O₅:  
   P₀=0 and P₁=60 lb./ac.  
   (2): 2 levels of K₂O:  
   K₀=0 and K₁=60 lb./ac.  
   (3): 2 levels of Lime:  
   L₀=0 and L₁=1500 lb./ac.

3. **DESIGN:**
   (i) Split-plot. (ii) 5 main-plots/block; 8 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 12½' x 13'. (v) Nil. (vi) Yes.

4. **GENERAL:**
   (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1952—contd. (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. **RESULTS:**
   (i) 2329 lb./ac.  
   (ii) (a) 1422.0 lb./ac.  
   (b) 408.0 lb./ac.

(iii) Only main effect of N is significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
<th>N₄</th>
<th>Mean</th>
<th>L₀</th>
<th>L₁</th>
<th>K₀</th>
<th>K₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>P₀</td>
<td>2245</td>
<td>2085</td>
<td>1646</td>
<td>2831</td>
<td>2740</td>
<td>2313</td>
<td>2304</td>
<td>2323</td>
<td>2340</td>
<td>2287</td>
</tr>
<tr>
<td>P₁</td>
<td>2467</td>
<td>2311</td>
<td>1554</td>
<td>2811</td>
<td>2592</td>
<td>2347</td>
<td>2268</td>
<td>2326</td>
<td>2386</td>
<td>2306</td>
</tr>
<tr>
<td>K₀</td>
<td>2490</td>
<td>2115</td>
<td>1731</td>
<td>2783</td>
<td>2700</td>
<td>2364</td>
<td>2400</td>
<td>2327</td>
<td></td>
<td></td>
</tr>
<tr>
<td>K₁</td>
<td>2222</td>
<td>2282</td>
<td>1468</td>
<td>2879</td>
<td>2632</td>
<td>2297</td>
<td>2271</td>
<td>2322</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L₀</td>
<td>2419</td>
<td>2222</td>
<td>1552</td>
<td>2899</td>
<td>2597</td>
<td>2336</td>
<td>2336</td>
<td>2322</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L₁</td>
<td>2293</td>
<td>2175</td>
<td>1648</td>
<td>2772</td>
<td>2735</td>
<td>2325</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>2356</td>
<td>2198</td>
<td>1600</td>
<td>2831</td>
<td>2666</td>
<td>2330</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. N marginal means = 355.5 lb./ac.
2. P or K or L marginal means = 64.5 lb./ac.
3. P or K or L means at the same level of N = 144.3 lb./ac.
4. N means at the same level of P or K or L = 369.9 lb./ac.
5. means in the body of table P×K or P×L or L×K = 91.2 lb./ac.

Crop : Paddy.
Ref : A.P. 53(57).
Type : 'M'.

Object : To study the effect of placement of A/S on Paddy.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Paddy. (c) As under treatments.
   (ii) (a) Heavy alluvial soil. (b) Refer soil analysis, Samalkot.
   (iii) 25.5-53/3.753.
   (iv) (a) 3 ploughings. (b) Transplanting. (c) N.A.
   (v) Nil.
   (vi) SLO-15.
   (vii) Irrigated.
   (viii) 2 weedings. (ix) 25.7. (x) 29.11.53.

2. TREATMENTS :
   All combinations of (1) and (2) + a control (no manure).
   (1) 3 levels of N as A/S : N₁ = 30, N₂ = 45 and N₃ = 60 lb./ac.
   (2) 2 methods of application of A/S : M₁ = Placed and M₂ = Broadcast.

3. DESIGN :
   (i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) and (b) 20'×118'. (v) Nil. (vi) Yes.

4. GENERAL :
   (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1952-contd. (b) Yes. (c) N.A. (v) (a) and (b) N.A.
   (vi) and (vii) Nil.

5. RESULTS :
   (i) 3570 lb./ac.
   (ii) 418.0 lb./ac.
   (iii) Main effect of N and interaction N×M are significant. Control vs. others effect is highly significant.
   M effect is 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></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3261</td>
</tr>
<tr>
<td>M1</td>
<td>3944</td>
<td>2675</td>
<td>3163</td>
<td>3453</td>
<td>3493</td>
</tr>
<tr>
<td>M2</td>
<td>3569</td>
<td>3453</td>
<td>3456</td>
<td>3261</td>
<td>3493</td>
</tr>
<tr>
<td>Mean</td>
<td>3757</td>
<td>3064</td>
<td>3309</td>
<td>3377</td>
<td></td>
</tr>
</tbody>
</table>

S.E. of marginal mean of N = 49.5 lb./ac.
S.E. of marginal mean of M = 70.0 lb./ac.
S.E. of body of table = 89.0 lb./ac.

Crop: - Paddy (Tabi 1949-50).
Site: - Govt. Exptl. Farm, Sangareddy.
Object: - To determine the manurial requirements of Tabi Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) 10 C.L./ac. of F.Y.M. (ii) (a) Chalka soil. (b) Refer soil analysis. Sangareddy.
   (iii) 23 to 25.1.50. (iv) (a) Ploughing once, puddling and levelling four times. (b) to (e) N.A. (v) Nil.
   (vi) H.R.-19. (vii) Irrigated. (viii) Weeding once. (ix) 1.46'. (x) 4.5.50.

2. TREATMENTS:
   All combinations of (1) and (2) + a control (no manure)
   (1) 2 sources of N: S1=G.N.C. and S2=paddy fertilizer mixture.
   (2) 4 levels of N: N1=15, N2=20, N3=25 and N4=30 lb./ac.
   Other details N.A.

3. DESIGN:
   (i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 3. (iv) (a) and (b) 60'×6'. (v) N.A. (vi) Yes.

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

5. RESULTS:
   (i) 2252 lb./ac.
   (ii) 171.5 lb./ac.
   (iii) Main effect of N is significant and control vs others effect is highly significant. 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></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2316</td>
</tr>
<tr>
<td>S1</td>
<td>2309</td>
<td>2289</td>
<td>2198</td>
<td>2470</td>
<td>2316</td>
</tr>
<tr>
<td>S2</td>
<td>2177</td>
<td>2299</td>
<td>2127</td>
<td>2511</td>
<td>2266</td>
</tr>
<tr>
<td>Mean</td>
<td>2218</td>
<td>2294</td>
<td>2163</td>
<td>2491</td>
<td>2291</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of S = 49.5 lb./ac.
S.E. of marginal mean of N = 70.0 lb./ac.
S.E. of body of table = 89.0 lb./ac.
Crop: Paddy (Abi 50-51).

Site: Govt. Exptl. Farm, Sangareddy.

Object: To determine the manurial requirements of Abi Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) 10 C.L./ac. of F.Y.M. (ii) (a) Chalka. (b) Refer soil analysis, Sangareddy. (iii) 27.7.50. (iv) (a) Ploughing and cross ploughing. (b) Transplanted. (c) N.A. (e) N.A. (v) 10 C.L./ac. of F.Y.M. (vi) H.R. 19. (vii) Irrigated. (viii) Hand weeding. (ix) 41.99" (x) 11.11.50.

2. TREATMENTS:
   All combinations of (1) and (2) + a control (no manure).
   (1) 2 sources of N: S1 = G.N.C. and S2 = paddy fertilizer mixture.
   (2) 4 levels of N: N1 = 15, N2 = 20, N3 = 25 and N4 = 30 lb./ac.
   Other details N.A.

3. DESIGN:
   (i) R.B.D. (ii) 9. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 60' x 7' (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Hispa attack. "Gammaxene dusted. (iii) Grain and straw yield. (iv) (a) No. (b) No. (c) N.A. (v) N.A. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1206 lb./ac.
   (ii) 276.8 lb./ac.
   (iii) Main effects of N and Controls vs others are highly significant. Others are not significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>Control = 502 lb./ac.</th>
<th>N1</th>
<th>N2</th>
<th>N3</th>
<th>N4</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>1029</td>
<td>1254</td>
<td>1125</td>
<td>1133</td>
<td></td>
<td>1135</td>
</tr>
<tr>
<td>S2</td>
<td>1469</td>
<td>1282</td>
<td>1270</td>
<td>1393</td>
<td></td>
<td>1353</td>
</tr>
<tr>
<td>Mean</td>
<td>1249</td>
<td>1268</td>
<td>1197</td>
<td>1263</td>
<td></td>
<td>1244</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of S = 56.5 lb./ac.
S.E. of marginal mean of N = 79.9 lb./ac.
S.E. of body of table = 113.0 lb./ac.

Crop: Paddy.

Site: Govt. Main Farm, Warangal.

Object: To study the manurial requirements of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) N.A. (b) Refer soil analysis, Warangal. (iii) N.A. (iv) (a) to (e) N.A. (v) Nil. (vi) H.R. 35 (late). (vii) Irrigated. (viii) 2 or 3 weedings. (ix) 33.33" (x) N.A.

2. TREATMENTS:
   1. G.N.C. at 30 lb./ac. of N.
   2. Castorcake at 30 lb./ac. of N.
   3. Compost at 30 lb./ac. of N.
   Manures applied just before transplanting.

3. DESIGN:
   (i) R.B.D. (ii)(a)3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1/100 acre (v) N.A. (vi) Yes.
4. GENERAL:
(i) Not satisfactory due to unfavourable seasonal conditions. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1946 to 1949. (b) N.A. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 2506 lb.,ac.
(ii) 242.5 lb. ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2615</td>
</tr>
<tr>
<td>2</td>
<td>2515</td>
</tr>
<tr>
<td>3</td>
<td>2188</td>
</tr>
<tr>
<td>S.E mean</td>
<td>99.0 lb.,ac.</td>
</tr>
</tbody>
</table>

Crop :- Paddy.
Site :- Govt. Main Farm, Warangal.
Object :- To study the manurial requirements of Paddy.

1. BASAL CONDITIONS:
(i) Nil. (ii) Nil. (c) N.A. (b) N.A. (b) Refer soil analysis, Warangal. (iii) N.A. (iv) (a) to (e) N.A. (v) N.A. (vi) H.R.35 (late). (vii) Irrigated. (viii) 2 or 3 weedings. (ix) N.A.

2. TREATMENTS:
1. G.N.C. at 10 lb.,ac. of N.
2. Castorcake at 30 lb.,ac. of N.
3. Compost at 30 lb.,ac. of N.
Manures applied just before transplanting.

A.P. 42(23).
Type: 'M'.

3. DESIGN:
(i) R.B.D. (a) 3. (b) N.A. (ii) 6. (iv) (a) N.A. (b) 1/100 acre. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Unfavourable season. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1946 to 1949. (b) N.A. (c) N.A. (v) (a) N.A. (6) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 18.2 lb. ac.
(ii) 16.4 lb. ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb. ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1933</td>
</tr>
<tr>
<td>2</td>
<td>1877</td>
</tr>
<tr>
<td>3</td>
<td>1725</td>
</tr>
<tr>
<td>S.E mean</td>
<td>67.0 lb.,ac.</td>
</tr>
</tbody>
</table>

Crop :- Paddy.
Site :- Govt. Main Farm, Warangal.
Object :- To study the manurial requirements of Paddy.

1. BASAL CONDITIONS:
(i) 'a) N.A. (b) N.A. (c) N.A. (ii) (a) N.A. (b) Refer soil analysis, Warangal. (iii) N.A. (iv) (a) to (e) N.A. (6) N.A. (v) N.A. (vi) H.R.35 (late). (vii) Irrigated. (viii) 2 or 3 weedings. (ix) 45.66°. (x) N.A.
7. TREATMENTS:
1. G.N.C. at 30 lb./ac. of N.
2. Castor Cake at 30 lb./ac. of N.
3. Compost at 30 lb./ac. of N.
Manures applied just before transplanting.

3. DESIGN:
(i) R.B.D. (ii) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Unfavourable season. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1946 to 1949. (b) N.A. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 1454 lb./ac.
(ii) 193.5 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1513</td>
</tr>
<tr>
<td>2.</td>
<td>1388</td>
</tr>
<tr>
<td>3.</td>
<td>1460</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>79.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy.
Site: Govt. Main Farm, Warangal.
Object: To compare the relative manurial values of the two G.M. crops Sannhemp and Dhaincha against forest leaf.

1. BASAL CONDITIONS:
(i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Chalka soil. (b) Refer soil analysis, Warangal. (iii) N.A. (iv) (a) to (e) N.A. (v) Nil. (vi) H.R. 35. (vii) Irrigated. (viii) 2 or 3 weedings. (ix) 33.33°. (x) N.A.

2. TREATMENTS:
1. Forest leaf.
2. Dhaincha.
3. Sannhemp.
The manuring was done at the rate of 6000 lb./ac. of green matter. The G.M. crops were grown in Situ.

3. DESIGN:
(i) R.B.D. (ii) 3. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1/100 acre. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Not satisfactory due to unfavourable conditions. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1946—49. (b) N.A. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 1606 lb./ac.
(ii) 134.7 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1601</td>
</tr>
<tr>
<td>2.</td>
<td>1490</td>
</tr>
<tr>
<td>3.</td>
<td>1758</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>55.0 lb./ac.</td>
</tr>
</tbody>
</table>
Crop :- Paddy.  
Site :- Govt. Main Farm, Warangal.  
Ref :- A.P. 49 (30).  
Type :- 'M'.

Object :- To compare the relative manurial values of the two G.M. crops Sannhemp and Dhaincha as against forest leaf.

1. BASAL CONDITIONS : 
   (i) (a) N.A.  (b) N.A.  (c) N.A.  (ii) (a) Chalka soil.  (b) Refer soil analysis, Warangal.  (iii) 7.8.1949.  (iv) (a) to (e) N.A.  (v) Nil.  (vi) H.R. 35 (late).  (vii) Irrigated.  (viii) 2 or 3 weedings.  (ix) 45.66°.  (x) 18.12.49.

2. TREATMENTS : 
   1. Forest leaf.  
   2. Dhaincha.  
   3. Sannhemp. 
   The manuring was done at the rate of 6000 lb./ac. of green matter. The G.M. crops were not raised in Sita but in a neighbouring plot.

3. DESIGN : 
   (i) R.B.D.  (a) 3.  (b) N.A.  (iii) 5.  (iv) (a) N.A.  (b) 1/100 acre.  (v) N.A.  (vi) Yes.

4. GENERAL : 
   (i) Unfavourable season.  (ii) Nil.  (iii) Grain and straw yield.  (iv) (a) 1946—49.  (b) N.A.  (c) N.A.  
   (v) (a) Nil.  (b) N.A.  (vi) and (vii) Nil.

5. RESULTS : 
   (i) 1237 lb./ac.  
   (ii) 344.4 lb./ac.  
   (iii) Treatments do not differ significantly.  
   (iv) Av. yield of grain in lb./ac. 

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1406</td>
</tr>
<tr>
<td>2.</td>
<td>1184</td>
</tr>
<tr>
<td>3.</td>
<td>1182</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>154.0 lb./ac.</td>
</tr>
</tbody>
</table>

---

Crop :- Paddy.  
Site :- Govt. Main Farm, Warangal.  
Ref :- A.P. 49(32).  
Type :- 'M'.

Object :- To study the manurial requirements of Paddy in the form of fertilizers with the maturing strain H.S-I.

1. BASAL CONDITIONS : 
   (i) (a) Nil.  (b) N.A.  (c) N.A.  (ii) (a) Chalka soil.  (b) Refer soil analysis, Warangal.  (iii) N.A.  (iv) (a) to (e) N.A.  (v) Nil.  (vi) H.S-I. (late).  (vii) Irrigated.  (viii) 2 or 3 weedings.  (ix) 45.56° (June to Nov).  (x) N.A.

2. TREATMENTS : 
   All combinations of (1), (2) and (3) 
   (1) 3 levels of N : N₁=15, N₂=30 and N₃=45 lb./ac.  
   (2) 2 levels of P₂O₅ : P₁=15 and P₂=30 lb./ac.  
   (3) 2 levels of K₂O : K₀=0 and K₁=15 lb./ac.  

3. DESIGN : 
   (i) 3 x 2 x 2 Fact. in R.B.D.  (ii) (a) 12.  (b) N.A.  (iii) 3  (iv) (a) N.A.  (b) 1/100 acre.  (v) N.A.  (vi) Yes.

4. GENERAL : 
   (i) Unfavourable season.  (ii) Nil.  (iii) Grain and straw yield.  (iv) (a) 1946—1949.  (b) N.A.  (c) N.A.  
   (v) (a) and (b) N.A.  (vi) and (vii) Nil.
5. RESULTS:

(i) 1873 lb./ac.
(ii) 174.0 lb./ac.

(iii) Main effect of N is significant while that of P is highly significant. Other effects and interactions are not significant.

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

<table>
<thead>
<tr>
<th></th>
<th>N1</th>
<th>N2</th>
<th>N3</th>
<th>Mean</th>
<th>K0</th>
<th>K1</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>1594</td>
<td>1805</td>
<td>1796</td>
<td>1632</td>
<td>1711</td>
<td>1752</td>
</tr>
<tr>
<td>P2</td>
<td>1892</td>
<td>2097</td>
<td>2055</td>
<td>2015</td>
<td>2020</td>
<td>2009</td>
</tr>
<tr>
<td>tMean</td>
<td>1743</td>
<td>1951</td>
<td>1926</td>
<td>1873</td>
<td>1866</td>
<td>1881</td>
</tr>
<tr>
<td>K0</td>
<td>1769</td>
<td>1905</td>
<td>1923</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K1</td>
<td>1717</td>
<td>1997</td>
<td>1928</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of marginal mean of N = 50.0 lb./ac.
S.E. of marginal mean of P or K = 41.0 lb./ac.
S.E. of body of table (N×P) or (N×K) = 71.0 lb./ac.
S.E. of body of table (P×K) = 58.0 lb./ac.

Crop :- Paddy.
Site :- Govt. Main Farm, Warangal.

Object :- To study the mineral requirements of Paddy in the form of fertilizers with very late maturing strain H.R. 35.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) N.A. (c) N.A. (iii) N.A. (iv) (a) to (c) N.A. (v) Nil. (vi) H.R. 35 (late). (vii) Irrigated. (viii) 2 or 3 weedicings. (ix) 45.66°. (x) N.A.

2. TREATMENTS:

All combinations of (1), (2) and (3)
(1) 3 levels of N : N1=15, N2=30 and N3=45 lb./ac.
(2) 2 levels of P2O5 : P1=15 and P2=30 lb./ac.
(3) 2 levels of K2O : K0=0 and K1=15 lb./ac.

N as A/S, P2O5 as Super and K2O as Pot. Sulphate. Manures applied 3 weeks after transplanting.

3. DESIGN:

(i) 3×2×2 Pact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Unfavourable season. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1946—1949. (b) N.A. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

(i) 1811 lb./ac.
(ii) 267.0 lb./ac.

(iii) Main effect of K alone is 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>N&lt;sub&gt;1&lt;/sub&gt;</td>
<td>1084</td>
<td>171.0 lb./ac.</td>
</tr>
<tr>
<td>N&lt;sub&gt;2&lt;/sub&gt;</td>
<td>1956</td>
<td></td>
</tr>
<tr>
<td>N&lt;sub&gt;3&lt;/sub&gt;</td>
<td>1681</td>
<td></td>
</tr>
<tr>
<td>N&lt;sub&gt;4&lt;/sub&gt;</td>
<td>1850</td>
<td></td>
</tr>
<tr>
<td>N&lt;sub&gt;5&lt;/sub&gt;</td>
<td>1719</td>
<td></td>
</tr>
<tr>
<td>N&lt;sub&gt;6&lt;/sub&gt;</td>
<td>2044</td>
<td></td>
</tr>
<tr>
<td>N&lt;sub&gt;7&lt;/sub&gt;</td>
<td>2394</td>
<td></td>
</tr>
<tr>
<td>N&lt;sub&gt;8&lt;/sub&gt;</td>
<td>1800</td>
<td></td>
</tr>
<tr>
<td>N&lt;sub&gt;9&lt;/sub&gt;</td>
<td>1881</td>
<td></td>
</tr>
</tbody>
</table>

Crop: Paddy (Abi).

Site: Govt. Main Farm, Warangal.

Object: To determine the best ratio of N and P<sub>2</sub>O<sub>5</sub> for Paddy.

1. BASAL CONDITIONS:

(i) 'Nil' (v) N.A. (c) 'A'. (a) Chalka soil, (b) Refer soil analysis, Warangal. (iii) N.A. (iv) (a) Phising and levelling. (b) Transplanted. (c) to (e) N.A. (v) N.A. (vi) H.R.-19 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 27.92. (x) N.A.

2. TREATMENTS:

1. Control (no manure).
2. 15 lb. ac. of N + 15 lb. ac. of P<sub>2</sub>O<sub>5</sub>.
3. 15 lb. ac. of N + 33 lb. ac. of P<sub>2</sub>O<sub>5</sub>.
4. 15 lb. ac. of N + 11 lb. ac. of P<sub>2</sub>O<sub>5</sub>.
5. 15 lb. ac. of N + 1 lb. ac. of P<sub>2</sub>O<sub>5</sub>.
6. 33 lb. ac. of N + 30 lb. ac. of P<sub>2</sub>O<sub>5</sub>.
7. 33 lb. ac. of N + 22 lb. ac. of P<sub>2</sub>O<sub>5</sub>.
8. 33 lb. ac. of N + 15 lb. ac. of P<sub>2</sub>O<sub>5</sub>.
9. 33 lb. ac. of N + 7 lb. ac. of P<sub>2</sub>O<sub>5</sub>.

N as A.S and P<sub>2</sub>O<sub>5</sub> as Super. Half the dose of manure applied a week after transplanting and the other half at the time of primordial formation.

3. DESIGN:

(i) R.B.D. (ii) (a) 17. b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Normal. (ii) N.A. (iii) Grain and straw yield. (iv) (a) 1951 (Abi 1951-52) to 1953 (Abi 1953-54). (b) N.A. (c) Nil. (v) a.; and b), Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 2028 lb./ac.
(ii) 342.0 lb./ac.
(iii) Treatments differ significantly.

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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.</td>
<td>2394</td>
<td>11.</td>
<td>2373</td>
</tr>
<tr>
<td>12.</td>
<td>2194</td>
<td>13.</td>
<td>1573</td>
</tr>
<tr>
<td>14.</td>
<td>2281</td>
<td>15.</td>
<td>2425</td>
</tr>
<tr>
<td>16.</td>
<td>2719</td>
<td>17.</td>
<td>2094</td>
</tr>
</tbody>
</table>

S.E. mean = 171.0 lb./ac.
Crop : Paddy (Tab 1951-52)  
Site : Govt. Main Farm, Warangal.  
Ref : A.P. 51 (80).  
Type : 'M'.

Object : To determine the best ratio of N and P₂O₅ for Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A.  
   (ii) (a) Chalka soil. (b) Refer soil analysis, Warangal.  
   (iii) N.A.  
   (iv) (a) Ploughing and levelling.  
   (v) N.A.  
   (vi) H.R.-19 (early).  
   (vii) Irrigated.  
   (viii) 2 weedings.  

2. TREATMENTS:
   1. Control (no manure).
   2. 15 lb./ac. of N + 15 lb./ac. of P₂O₅.
   3. 15 lb./ac. of N + 7½ lb./ac. of P₂O₅.
   4. 15 lb./ac. of N + 3½ lb./ac. of P₂O₅.
   5. 30 lb./ac. of N + 30 lb./ac. of P₂O₅.
   6. 30 lb./ac. of N + 22½ lb./ac. of P₂O₅.
   7. 30 lb./ac. of N + 15 lb./ac. of P₂O₅.
   8. 30 lb./ac. of N + 7½ lb./ac. of P₂O₅.
   9. 45 lb./ac. of N + 22½ lb./ac. of P₂O₅.
   10. 45 lb./ac. of N + 15 lb./ac. of P₂O₅.

3. DESIGN:
   (i) R.B.D. (ii) 17. (b) N.A. (iii) 4.  
   (iv) (a) N.A. (b) 1/100 acre. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Not satisfactory. (ii) N.A. (iii) Grain and straw yield.  
   (iv) (a) 1951 (Tab 1951-52) to 1953 (Abi 1953-54).  
   (b) N.A. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 938. lb./ac.  
   (ii) 146.7 lb./ac.  
   (iii) Treatments differ significantly.  
   (iv) Av. yield in lb./ac.  

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield (lb./ac.)</th>
<th>Treatment</th>
<th>Av. yield (lb./ac.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>203</td>
<td>10.</td>
<td>1375</td>
</tr>
<tr>
<td>2.</td>
<td>850</td>
<td>11.</td>
<td>1225</td>
</tr>
<tr>
<td>3.</td>
<td>650</td>
<td>12.</td>
<td>1175</td>
</tr>
<tr>
<td>4.</td>
<td>650</td>
<td>13.</td>
<td>525</td>
</tr>
<tr>
<td>5.</td>
<td>600</td>
<td>14.</td>
<td>1500</td>
</tr>
<tr>
<td>6.</td>
<td>1275</td>
<td>15.</td>
<td>1200</td>
</tr>
<tr>
<td>7.</td>
<td>875</td>
<td>16.</td>
<td>1425</td>
</tr>
<tr>
<td>8.</td>
<td>875</td>
<td>17.</td>
<td>950</td>
</tr>
<tr>
<td>9.</td>
<td>650</td>
<td>S.E./mean=73.34 lb./ac.</td>
<td></td>
</tr>
</tbody>
</table>

Site : Govt. Main Farm, Warangal.  
Ref : A.P. 52(6).  
Type : 'M'.

Object : To determine the optimum ratio of N and P₂O₅ for high yield. (fertilizer ratio test).

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Chalka soil. (b) Refer soil analysis, Warangal.  
   (iii) 12.6.52.  
   (iv) (a) to (e) N.A. (v) 6000 lb./ac. of compost. (vi) H.R.-19. (vii) N.A. (viii) N.A. (ix) 22.08°. (x) N.A.
2. TREATMENTS:

1. Control (no manure).  
2. 15 lb./ac. of N+15 lb./ac. of P₂O₅.  
3. 15 lb./ac. of N+11 lb./ac. of P₂O₅.  
4. 15 lb./ac. of N+7 lb./ac. of P₂O₅.  
5. 15 lb./ac. of N+3 lb./ac. of P₂O₅.  
6. 30 lb./ac. of N+30 lb./ac. of P₂O₅.  
7. 30 lb./ac. of N+22 lb./ac. of P₂O₅.  
8. 30 lb./ac. of N+15 lb./ac. of P₂O₅.  
9. 30 lb./ac. of N+ 7 lb./ac. of P₂O₅.  

N as A S and P₂O₅ as super. Half the dose of manure was applied on 12.8.52 and the other half in the 1st week of November 1952.

3. DESIGN:

1. R.B.D.  
2. a, 17  
3. (a) N.A. (b) 1/129 acre.  
4. N.A. (v) Yes.

4. GENERAL:

1. N.A.  
2. N.A.  
3. N.A.  
4. (a) N.A. (b) N.A. (c) N.A.  
5. (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

1. 1129 lb./ac.  
2. 317.5 lb./ac.  
3. Treatments differ significantly.  
4. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>658</td>
<td>10.</td>
<td>1613</td>
</tr>
<tr>
<td>2.</td>
<td>1504</td>
<td>11.</td>
<td>1689</td>
</tr>
<tr>
<td>3.</td>
<td>1164</td>
<td>12.</td>
<td>1916</td>
</tr>
<tr>
<td>4.</td>
<td>1244</td>
<td>13.</td>
<td>1476</td>
</tr>
<tr>
<td>5.</td>
<td>966</td>
<td>14.</td>
<td>2390</td>
</tr>
<tr>
<td>6.</td>
<td>1602</td>
<td>15.</td>
<td>1978</td>
</tr>
<tr>
<td>7.</td>
<td>1659</td>
<td>16.</td>
<td>1913</td>
</tr>
<tr>
<td>8.</td>
<td>1295</td>
<td>17.</td>
<td>1732</td>
</tr>
<tr>
<td>9.</td>
<td>1226</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>S.E.,mean</td>
<td></td>
<td>=158.9 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Paddy (1.8. 1953-54).  
Site :- Govt. Main Farm., Warangal.  
Ref:- A.P. 53(8).  
Type :- 'M'.

Object :-To determine the optimum ratio of N and P₂O₅ for high yields.

1. BASAL CONDITIONS:

1. (a) N.A.  
2. (b) N.A.  
3. (c) N.A.  
4. (a) Chalka soil. (b) Refer soil analysis, Warangal. (iii) Transplanted from 10th to 12th July, 1953. (iv) (a) to (e) N.A. (v) Compost 6000 lb./ac. (vi) H.R.-15. (vii) N.A. (viii) N.A. (ix) 30.49. (x) 17.10.53 and 18.10.53.

2. TREATMENTS:

1. Control (no manure).  
2. 15 lb./ac. of N+15 lb./ac. of P₂O₅.  
3. 15 lb./ac. of N+11 lb./ac. of P₂O₅.  
4. 15 lb./ac. of N+7 lb./ac. of P₂O₅.  
5. 15 lb./ac. of N+3 lb./ac. of P₂O₅.  
6. 30 lb./ac. of N+30 lb./ac. of P₂O₅.  
7. 30 lb./ac. of N+22 lb./ac. of P₂O₅.  
8. 30 lb./ac. of N+15 lb./ac. of P₂O₅.  
9. 30 lb./ac. of N+ 7 lb./ac. of P₂O₅.  

10. 45 lb./ac. of N+45 lb./ac. of P₂O₅.  
11. 45 lb./ac. of N+33 lb./ac. of P₂O₅.  
12. 45 lb./ac. of N+22 lb./ac. of P₂O₅.  
13. 45 lb./ac. of N+11 lb./ac. of P₂O₅.  
14. 60 lb./ac. of N+60 lb./ac. of P₂O₅.  
15. 60 lb./ac. of N+45 lb./ac. of P₂O₅.  
16. 60 lb./ac. of N+30 lb./ac. of P₂O₅.  
17. 60 lb./ac. of N+15 lb./ac. of P₂O₅.  

3. DESIGN:

1. R.B.D.  
2. (a) and (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/100 acre. (v) N.A. (vi) Yes.

4. GENERAL:

1. N.A.  
2. N.A.  
3. N.A.  
4. (a) N.A. (b) N.A. (c) N.A.  
5. (a) Nil. (b) N.A. (vi) and (vii) Nil.
5. RESULTS.

(i) 2703 lb./ac.
(ii) 308 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2046</td>
</tr>
<tr>
<td>2.</td>
<td>2478</td>
</tr>
<tr>
<td>3.</td>
<td>2368</td>
</tr>
<tr>
<td>4.</td>
<td>2764</td>
</tr>
<tr>
<td>5.</td>
<td>2465</td>
</tr>
<tr>
<td>6.</td>
<td>2603</td>
</tr>
<tr>
<td>7.</td>
<td>2620</td>
</tr>
<tr>
<td>8.</td>
<td>2646</td>
</tr>
<tr>
<td>9.</td>
<td>2743</td>
</tr>
</tbody>
</table>

S.E./mean = 154.0 lb./ac.

Crop: Paddy.
Site: Govt. Main Farm, Warangal.

Object: To study the manurial requirements of the crop.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) N.A. (c) N.A.  (ii) (a) Chulka soil. (b) Refer soil analysis, Warangal. (iii) 14.7-50/16.9-50.
(iv) (a) to (c) N.A. (v) Nil. (vi) H.R. 35 (long duration). (vii) Irrigated. (viii) 2 or 3 weedings. (ix) 30.82.  (x) 5.12.50.

2. TREATMENTS:

1. Sannhemp + 60 lb./ac. of N + 30 lb./ac. of P₂O₅.
2. Sannhemp + 45 lb./ac. of N + 22 lb./ac. of P₂O₅.
3. Sannhemp + 30 lb./ac. of N + 15 lb./ac. of P₂O₅.
4. No Sannhemp + 30 lb./ac. of N + 15 lb./ac. of P₂O₅.
5. Sannhemp + 15 lb./ac. of N + 7 lb./ac. of P₂O₅.
6. No manure.

Sannhemp sown in the first week of June 50 and ploughed-in during the second week of Sept. 1950 at the rate of 6000 lb./ac. of green matter. First dose of Super and whole of N through G.M. applied on 26.9.50. Second dose of Super applied on 31.10.50.

3. DESIGN:

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

4. GENERAL:

(i) Not satisfactory due to delayed transplanting and due to the nature of the soil. (ii) Nil. (iii) Yield data.
(iv) (a) 1950 to 1954. (b) N.A. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

(i) 668 lb./ac.
(ii) 159.0 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>816</td>
</tr>
<tr>
<td>2.</td>
<td>827</td>
</tr>
<tr>
<td>3.</td>
<td>775</td>
</tr>
<tr>
<td>4.</td>
<td>638</td>
</tr>
<tr>
<td>5.</td>
<td>531</td>
</tr>
<tr>
<td>6.</td>
<td>348</td>
</tr>
</tbody>
</table>

S.E./mean = 65.0 lb./ac.
Crop :- Paddy (Abi).

Site :- Govt. Main Farm, Warangal.

Object :- To determine the manurial requirements of the crop.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) N.A.  (c) N.A.  (ii) (a) Chalka soil. (b) Refer soil analysis, Warangal. (iii) N.A
   (iv) 'a' Ploughing and levelling. (b) Transplanted. (c) -. (d) N.A. (e) N.A. (v) Nil.  (vi) H.R. 35 (late.)
   Irrig. (vii) N.A.  (ix) 27.92°. (x) N.A.

2. TREATMENTS :
   1. 60 lb./ac. of N+30 lb./ac. of P<sub>2</sub>O<sub>5</sub> + Sannhemp as G.M.
   2. 45 lb./ac. of N+22 lb./ac. of P<sub>2</sub>O<sub>5</sub> + Sannhemp as G.M.
   3. 30 lb./ac. of N+15 lb./ac. of P<sub>2</sub>O<sub>5</sub> + Sannhemp as G.M.
   4. 30 lb./ac. of N+15 lb./ac. of P<sub>2</sub>O<sub>5</sub> + No G.M.
   5. 15 lb./ac. of N+7 lb./ac. of P<sub>2</sub>O<sub>5</sub> = Sannhemp as G.M.
   6. No manure.

   Sannhemp grown in Situ and 6000 lb./ac. of green matter incorporated in the soil. N as G.N.C. and
   P<sub>2</sub>O<sub>5</sub> as Super.

3. DESIGN
   (i) R.B D.  (ii)'a' 6.  (b) N.A.  (iii) 6.  (iv) (a) N.A.  (b) 1/100 ac.  (v) N.A.  (vi) Yes.

4. GENERAL:
   (i) Normal.  (ii) N.A.  (iii) Grain and straw yield.  (iv) (a) 1950 to 1952.  (b) N.A.  (c) Nil.  (v) (a) Nil.
   (b) N.A.  (vi) and (vii) Nil.

5. RESULTS:
   (i) 2561 lb./ac.
   (ii) 323.2 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.

   Treatment  Av. yield
   1.  3000
   2.  3250
   3.  2833
   4.  2200
   5.  2166
   6.  1916

   S.E., mean = 132.0 lb./ac.
3. DESIGN:
   (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6 (iv) (a) N.A. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) N.A. (ii) N.A. (iii) Grain yield. (iv) (a) N.A. (b) N.A. (c) N.A. (v) (a) Nil. (b) N.A. (vi) Nil. (vii) Nil.

5. RESULTS:
   (i) 2994 lb./ac.
   (ii) 302.0 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3663</td>
</tr>
<tr>
<td>2</td>
<td>3541</td>
</tr>
<tr>
<td>3</td>
<td>3507</td>
</tr>
<tr>
<td>4</td>
<td>2787</td>
</tr>
<tr>
<td>5</td>
<td>2761</td>
</tr>
<tr>
<td>6</td>
<td>1705</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>123.1 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy
Site: Govt. Main Farm, Warangal
Ref: A.P. 50(37).
Type: 'M'.

Object: To determine most suitable dose of compost to be administered to the Paddy crop during Tabli season.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Chalk soil. (b) Refer soil analysis, Warangal. (iii) 24.1.50 (iv) (a) to (e) N.A. (v) Nil. (vi) H.R. 19. (vii) Irrigated. (viii) Weeding once. (ix) 0.8" (x) 20.4.50.

2. TREATMENTS:
   1. Compost at 2 ton./ac.
   2. Compost at 3 ton./ac.
   3. Compost at 4 ton./ac.

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

4. GENERAL:
   (i) Fairly Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) to (c) N.A. (v) (a) N.A. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1597 lb./ac.
   (ii) 231.6 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1518</td>
</tr>
<tr>
<td>2</td>
<td>1492</td>
</tr>
<tr>
<td>3</td>
<td>1780</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>104.0 lb./ac.</td>
</tr>
</tbody>
</table>
Crop: Paddy (Abz).

Site: Govt. Main Farm, Warangal.

Object: To study the manurial requirements of the crop.

1. BASAL CONDITIONS:
   (i) Nil. (b) N.A. (c) N.A. (ii) (a) N.A. (b) Refer soil analysis, Warangal. (iii) N.A. (iv) (a) Ploughing and leveling. (b) Transplanted. (c) Nil. (d) N.A. (e) N.A. (v) Nil. (vi) H.R. 35 (late). (vii) Irrigated. (viii) N.A. (ix) 42.31'. (a) N.A.

2. TREATMENTS:
   Main-plot treatments:
   2 levels of G.M.:—G₀ = 0 and G₁ = G.M.

   Sub-plot treatments:
   Application of (N+P₂O₅) :—M₀ = 0, M₁ = 60 lb./ac. of N+30 lb./ac. of P₂O₅, M₂ = 45 lb./ac. of N+22 lb./ac. P₂O₅, M₃ = 30 lb./ac. of N+15 lb./ac. of P₂O₅ and M₄ = 15 lb./ac. of N+7½ lb./ac. of P₂O₅.

   G.M. as Sannhemp at the rate of 6000 lb./ac. and 7.5 lb P₂O₅ supplied to Sannhemp. N in the form of G N.C. and P₂O₅ as Super. G.M. applied in single dose a week after transplanting and Super in 2 equal doses a week after transplanting and at the time of primordial formation.

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block; 5 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1/121 ac. (v) N.A. (vi) Yes.

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

5. RESULTS:
   (i) 2836 lb./ac.
   (ii) (a) 468.1 lb./ac.
   (b) 457.3 lb./ac.

   (iii) Main-plot treatments and sub-plot treatments are significantly different. Interaction is not significant.

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

   \[
   \begin{align*}
   \text{M₀} & \quad 2404 \quad 2979 \quad 2847 \quad 2679 \quad 2266 \quad 2635 \\
   \text{M₁} & \quad 2941 \quad 3285 \quad 3034 \quad 2935 \quad 2998 \quad 3038 \\
   \text{Mean} & \quad 2672 \quad 3132 \quad 2940 \quad 2807 \quad 2632 \quad 2836 \\
   \text{S.E. of difference of two} & \\
   1. \text{main-plot treatment means} & =120.8 \text{ lb./ac.} \\
   2. \text{sub-plot treatment means} & =186.6 \text{ lb./ac.} \\
   3. \text{Sub-plot treatment means at the same level of main-plot treatment} & =264.0 \text{ lb./ac.} \\
   4. \text{Main-plot treatment means at the same level of sub-plot treatment} & =265.2 \text{ lb./ac.}
   \end{align*}
   \]

Crop: Paddy (1st crop). Ref: Complex experiments (T.C.M.), 1953.
Centre: Chalvai (A.P.). Type: 'M'.

Object: To study the effect of sources and levels of N and P₂O₅ on non-acidic soils.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Clay loam. (b) N.A. (iii) 15, 16.2.54. (iv) N.A. (v) N.A. (vi) (c) N.A.H.R. 5. (vii) Irrigated. (viii) N.A. (ix) N.A. (x) N.A.
2. TREATMENTS:

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

(1) 3 levels of N: N₀=0, N₁=20 and N₂=40 lb./ac.
(2) 3 Sources of N: A/S, A/N, and Urea.
(3) 3 levels of P₂O₅ as Triple Super: P₀=0, P₁=20 and P₂=40 lb./ac.

and 3 extra treatments.

(i) 60 lb./ac. of N+40 lb./ac. of P₂O₅.
(ii) 40 lb./ac. of N+30 lb./ac. of P₂O₅.
(iii) 60 lb./ac. of N+80 lb./ac. of P₂O₅.

N as A/S and P₂O₅ as Triple Super.

3. DESIGN:

(i) 3⁴ confounded factorial with 3 plots for extra treatments in each block. (ii) (a) 12 plots/block and 3 blocks/replcation. (b) N.A. (iii) 1. (iv) (a) N.A. (b) 1/62.05 ac. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Normal. (ii) Crop suffered from gall-fly infestation. (iii) Yield data. (iv) (a) 1953—56. (b) No. (c) N.A. (v) a) Aduthurai, Karjat, Shaspur, Burdwan, Mankhanda. (b) N.A. (vi) Nil. (vii) Nil.

5. RESULTS:

(i) 2513 lb./ac.
(ii) 431.3 lb./ac.
(iii) None of the effects is significant.
(iv) Av. yield of grains in lb./ac.

<table>
<thead>
<tr>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>Mean</th>
<th>A/S</th>
<th>A/N</th>
<th>Urea</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1761</td>
<td>2122</td>
<td>1971</td>
<td>1951</td>
<td>2218</td>
<td>2144</td>
<td>1491</td>
<td>1951</td>
</tr>
<tr>
<td>2311</td>
<td>2726</td>
<td>2383</td>
<td>2473</td>
<td>2713</td>
<td>2398</td>
<td>2319</td>
<td>2473</td>
</tr>
<tr>
<td>2274</td>
<td>2455</td>
<td>2561</td>
<td>2430</td>
<td>2258</td>
<td>2526</td>
<td>25.6</td>
<td>2430</td>
</tr>
<tr>
<td>Mean 2115</td>
<td>2434</td>
<td>2305</td>
<td>2285</td>
<td>2396</td>
<td>2353</td>
<td>2105</td>
<td>2285</td>
</tr>
<tr>
<td>A/S</td>
<td>–</td>
<td>2675</td>
<td>2295</td>
<td>2485</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A/N</td>
<td>–</td>
<td>2474</td>
<td>2404</td>
<td>2439</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urea</td>
<td>–</td>
<td>2154</td>
<td>2215</td>
<td>2185</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>–</td>
<td>2434</td>
<td>2305</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

Mean yield of extra treatments

(i) 63 N+10 P = 3011 lb./ac.
(ii) 40 N+80 P = 3226 lb./ac.
(iii) 60 N+40 P = 3258 lb./ac.

S.E./mean = 249.0 lb./ac.

For table I and II

S.E. of marginal means = 143.8 lb./ac.
S.E. of body of table = 249.0 lb./ac.

For table III

S.E. of marginal row mean = 176.1 lb./ac.
S.E. of marginal column mean = 143.8 lb./ac.
S.E. of body of table = 249.0 lb./ac.
Crop :- Paddy (1st crop).  Ref :- Complex experiments (T.C.M.), 1953.
Centre :- Chalvai (A.P.)  Type :- ‘M’.

Object :- III, To study the effect of minor elements and K.

1. BASAL CONDITIONS :
   (i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Clay loam. (b) N.A. (iii) N.A. /26, 27, 28.2.54. (iv) N.A. (v) N.A. (vi) H.R. 5. (vii) Irrigated. (viii) N.A. (ix) N.A. (x) N.A.

2. TREATMENTS :
   A set of 32 out 256 treatment combinations formed of 8 factors at two levels each.
   1. Magnesium as Magnesium Sulphate at 2 cwt./ac.
   2. Iron as Ferrous Sulphate at 100 lb./ac.
   3. Manganese as Manganese Sulphate at 80 lb./ac.
   4. Zinc as Zinc Sulphate at 20 lb./ac.
   5. Copper as Copper Sulphate at 20 lb./ac.
   6. Borax as granulated Borax at 10 lb./ac.
   7. Molybdenum as Sodium Molybdate at 2 oz./ac.
   8. Potash as Pot. Sulphate at 20 lb./ac.

Manuring on 23.2.54. A basal dressing of 20 lb./ac of N as A/S+20 lb./ac of P2O5 as Triple Super given to all treatments.

3. DESIGN :
   (i) Fractional replicate. (1/8 of 2^6 factorial design) (ii) 8 Plots/block and 4 blocks.

4. GENERAL :
   (i) Normal. (ii) Crop suffered from gall-fly infestation. (iii) Yield data (iv) (a) 1953-56. (b) No. (c) N.A. (v) (a) Burdwan, Mankhanda (b) N.A. (vi) Nil. (vii) Nil.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Mean response of grain yield in lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>+202</td>
</tr>
<tr>
<td>2.</td>
<td>- 16</td>
</tr>
<tr>
<td>3.</td>
<td>+ 61</td>
</tr>
<tr>
<td>4.</td>
<td>+117</td>
</tr>
<tr>
<td>5.</td>
<td>+286</td>
</tr>
<tr>
<td>6.</td>
<td>- 80</td>
</tr>
<tr>
<td>7.</td>
<td>-213</td>
</tr>
<tr>
<td>8.</td>
<td>- 99</td>
</tr>
</tbody>
</table>

S.E./mean = 96.00 lb./ac.
Main effect of treatment 5 is highly significant. Main effects of treatment 1 and 7 are significant. Others are not significant.
Unit dressing—20 lb./ac. of P₂O₅.
Manuring done on 23.12.54. A basal dressing of 20 lb./ac. of N as A/S was given to all treatments except (1).

3. DESIGN:
(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/61.96 ac. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Crop suffered from gall-fly infestation. (iii) yield data (iv) (a) 1953—56. (b) No. (c) N.A. (v) (a) Aduthurai, Shimoga, Sahaspur, Burdwan, Mankhanda, Maruteru. (b) N.A. (vi) Nil. (vii) Nil.

5. RESULTS:
(i) 1323 lb./ac.
(ii) 330.0 lb./ac.
(iii) Treatment differences are highly significant.
(iv) Av. yield of grain. in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean.</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>733</td>
<td>165.0</td>
</tr>
<tr>
<td>C</td>
<td>1023</td>
<td>67.0</td>
</tr>
<tr>
<td>P₀</td>
<td>1573</td>
<td>165.0</td>
</tr>
<tr>
<td>P₁</td>
<td>1690</td>
<td>116.6</td>
</tr>
<tr>
<td>P₂</td>
<td>2027</td>
<td>116.6</td>
</tr>
</tbody>
</table>

Crop :- Paddy (1st crop).  Ref :- Complex experiments (T.C.M), 1953.
Site :- Chalvai (A.P.) Type :- 'M'.

Object :- Additional experiment. To study the effect of artificial fertilizers in conjunction with organic manures.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Clay loam. (b) N.A. (iii) N.A. /11.12.1.54. (iv) N.A. (v) N.A. (vi) H.R.—5. (vii) Irrigated. (viii) N.A. (ix) and (x) N.A.

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 F.Y.M. : F₀=0, F₁=5 C.L./ac. and F₂=10 C.L./ac.

3. DESIGN:
(i) 3 confounded factorial. (ii) (a) 9 plots/block and 3 blocks/replication. (b) N.A. (iii) I. (iv) (a) N.A. (b) 1/62 ac. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Crop suffered from gall-fly infestation. (iii) Yield data. (iv) (a) 1953—56. (b) No. (c) N.A. (v) (a) Aduthurai, Shimoga and Maruteru. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 2516 lb./ac.
(ii) 720.0 lb./ac.
(iii) None of the effects is significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>Mean</th>
<th>F₀</th>
<th>F₁</th>
<th>F₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>P₀</td>
<td>2252</td>
<td>2360</td>
<td>2659</td>
<td>2404</td>
<td>2051</td>
<td>2805</td>
<td>2356</td>
</tr>
<tr>
<td>P₁</td>
<td>2339</td>
<td>2510</td>
<td>2934</td>
<td>2594</td>
<td>2621</td>
<td>2525</td>
<td>2637</td>
</tr>
<tr>
<td>P₂</td>
<td>2189</td>
<td>2385</td>
<td>3076</td>
<td>2550</td>
<td>2372</td>
<td>2562</td>
<td>2616</td>
</tr>
</tbody>
</table>

| Mean | 2260 | 2398 | 2890 | 2516  | 2348  | 2664  | 2535  |

S.E. of marginal means = 240.0 lb./ac.
S.E. of body of table = 415.7 lb./ac.

Crop: Paddy (1st crop).
Ref: Complex experiments (T.C.M.), 1953.
Centre: Maruteru (A.P.).
Type: 'M'.

Object: IV To study the effect of sources, levels and method of application of P₂O₅.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) N.A. (c) N.A. (d) Alumina—clay in texture. (b) N.A. (iii) N.A. /1.7.53. (iv) N.A.

2. TREATMENTS:
   All combinations of (1), (2) and (3) + 2 controls (without phosphate).
   (1) 2 levels of P₂O₅: P₁ = 15 and P₂ = 30 lb./ac.
   (2) 3 sources of P₂O₅: S₁ = Super, S₂ = Nitro. Phos. and S₃ = Ammo. Phos.
   (3) 2 methods of placement: M₁ = Broadcast before final cultivation and M₂ = 2" below seed.
   N was equalised at 30 lb./ac. level by addition of A/S.

3. DESIGN:
   (i) R.B.D. (ii) (a) 13. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 1/67.2 ac. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Yield data. (iv) (a) 1953—56. (b) No. (c) N.A. (v) No. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2306 lb./ac.
   (ii) 160.7 lb./ac.
   (iii) "Methods of placement" and "control vs. treatments" effects are highly significant. Others are not significant.
   (iv) Av. yield of grain in lb./ac.

Control = 1742 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S₁</th>
<th>S₂</th>
<th>S₃</th>
<th>Mean</th>
<th>M₁</th>
<th>M₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>P₀</td>
<td>2375</td>
<td>2342</td>
<td>2347</td>
<td>2355</td>
<td>2237</td>
<td>2472</td>
</tr>
<tr>
<td>P₁</td>
<td>2417</td>
<td>2297</td>
<td>2604</td>
<td>2446</td>
<td>2278</td>
<td>2614</td>
</tr>
</tbody>
</table>

| Mean | 2406 | 2319 | 2476 | 2400  | 2257 | 2543 |

M₁  | 2241 | 2112 | 2419 |
M₂  | 2571 | 2526 | 2532 |

S.E. of marginal mean of S = 46.4 lb./ac.
S.E. of marginal mean of P or M = 37.9 lb./ac.
S.E. of body of table S × P or S × M = 63.6 lb./ac.
S.E. of body of table P × M = 53.6 lb./ac.
Crop :- Paddy (1st crop). Ref :- Complex experiments (T.C.M.), 1953.
Centre :- Maruteru (A.P.) Type :- 'M'.

Object :- VI. To study the residual value of phosphatic manure.

1. BASAL CONDITIONS :
(i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Heavy black clayey soil. (b) Non-acidic. (iii) N.A. 1.7.53. (iv) N.A. (v) N.A. (vi) MTU-10. (vii) Irrigated. (viii) N.A. (ix) N.A. (x) 25.11.53.

2. TREATMENTS :
5 Treatments replicated as follows :
(1) O = untreated. 1 plot/block.
(2) C = Control. 6 plots/block.
(3) P1 = 1 unit dressing. 1 plot/block.
(4) P2 = unit dressing. 2 plots/block.
(5) P3 = Double dressing. 2 plots/block.

A basal dressing of 20 lb./ac. of N as A/S applied to all treatments except (1). Manures were broadcast before transplanting.

3. DESIGN :
(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/60.5 ac. (v) N.A. (vi) Yes.

4. GENERAL :
(i) Normal. (ii) Nil. (iii) Yield data. (iv) (a) 1953-56. (b) No. (c) N.A. (v) (a) Aduthurai, Shimoga, Sahaspur, Burdwan, Mankhanda and Chalvai. (b) N.A. (vi) Nil. (vii) Nil.

5. RESULTS :
(i) 3291 lb./ac.
(ii) 224.1 lb./ac.
(iii) Treatment differences are highly significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>2949</td>
<td>112.0</td>
</tr>
<tr>
<td>C</td>
<td>3122</td>
<td>45.7</td>
</tr>
<tr>
<td>P1</td>
<td>3583</td>
<td>112.0</td>
</tr>
<tr>
<td>P2</td>
<td>3456</td>
<td>79.2</td>
</tr>
<tr>
<td>P3</td>
<td>3660</td>
<td>79.2</td>
</tr>
</tbody>
</table>

Crop :- Paddy (1st crop). Ref :- Complex experiments (T.C.M.), 1953.
Centre :- Maruteru (A.P.) Type :- ‘M’.

Object :- Additional expt. To test the effect of artificial manures in conjunction with organic manures.

1. BASAL CONDITIONS :

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 levels of bulky manures: F0 = 0, F1 = 10 C.L./ac. and F2 = 20 C.L./ac.

- Manures broadcast before transplanting.

3. DESIGN :
(i) 3\(^2\) confounded factorial. (ii) (a) 9 plots/block and 3 blocks/repl. (b) N.A. (iii) 1. (iv) (a) N.A. (b) 1/99.7 ac. (v) N.A. (vi) Yes.

GENERAL:
(i) Normal. (ii) Nil. (iii) Yield data. (iv) (a) 1953-56. (b) No. (c) N.A. (v) (a) Aduthurai, Shimoga, and Chalvai. (b) N.A. (vi) Nil. (vii) Nil.
5. RESULTS:

(i) 3345 lb./ac.

(ii) 236.1 lb./ac.

(iii) Main effects of N and P are significant. Other effects and interactions 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>Mean</th>
<th>F₀</th>
<th>F₁</th>
<th>F₂</th>
<th>F₁×M</th>
</tr>
</thead>
<tbody>
<tr>
<td>P₀</td>
<td>2758</td>
<td>3223</td>
<td>3439</td>
<td>3140</td>
<td>3306</td>
<td>2990</td>
<td>3123</td>
<td></td>
</tr>
<tr>
<td>P₁</td>
<td>3173</td>
<td>3456</td>
<td>3522</td>
<td>3384</td>
<td>3788</td>
<td>3173</td>
<td>3190</td>
<td></td>
</tr>
<tr>
<td>P₂</td>
<td>3522</td>
<td>3439</td>
<td>3572</td>
<td>3511</td>
<td>3289</td>
<td>3156</td>
<td>3788</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>3151</td>
<td>3373</td>
<td>3511</td>
<td>3345</td>
<td>3461</td>
<td>3206</td>
<td>3367</td>
<td></td>
</tr>
<tr>
<td>F₀</td>
<td>3239</td>
<td>3522</td>
<td>3572</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F₁</td>
<td>3090</td>
<td>3073</td>
<td>3456</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F₂</td>
<td>3074</td>
<td>3522</td>
<td>3505</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of marginal means = 78.7 lb./ac.

S.E. of body of table = 136.3 lb./ac.

---

Crop: Paddy (2nd crop). Ref: Complex experiments (T.C.M.), 1953.
Centre: Maruteru (A.P.). Type: 'M'.

Object: - IV. To study the effect of sources, levels and method of application of P₂O₅ (residual effect only).

1. BASAL CONDITIONS:

(i) (a) N.A. (b) Paddy. (c) As under treatments. (ii) (a) Heavy black clayey soil. (b) Non-acidic.


2. TREATMENTS:

All combinations of (1), (2) and (3) + 2 controls (no phosphate).

(1) 3 sources of P₂O₅: S₁ = Triple Super, S₂ = Nitro. Phos. and S₃ = Ammo. Phos.
(2) 2 levels of P₂O₅: P₁ = 15 lb./ac. and P₂ = 30 lb./ac.
(3) 2 methods of placement: M₁ = Broadcast before final cultivation and M₂ = 2½" below seed.

N was equalised to 30 lb./ac.

Residual effect of treatments applied to previous crop studied.

3. DESIGN:

(i) R.B.D. (ii) (a) 14. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 173.2 ac. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Normal. (ii) Nil. (iii) Yield data. (iv) (a) 1953—1956. (b) No. (c) N.A. (v) No. (vi) Nil.

(vii) Nil.

5. RESULTS:

(i) 16.32 lb./ac.

(ii) 44.64 lb./ac.

(iii) Main effects of P, M and "controls vs. treatments," are highly significant. Interaction P X M is also significant. Others are not significant.
Crop: Paddy (2nd crop). Ref: Complex experiments (T.C.M.), 1953.
Centre: Maruteru (A.P.). Type: 'M'.
Object: To study the residual value of phosphatic manures.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Heavy black clayey soil. (b) Non-acidic. (iii) N.A./II.2.54.

2. TREATMENTS:
   9 treatments replicated as follows:
   O0, CP1, CP2, P1C, P2C, P1P1, P2P2 (one plot each/block) and CC (4 plots/block).
   F1 = Unit dressing of phosphate i.e. 20 lb./ac. of P042.
   Manures were applied by broadcast before transplanting.

3. DESIGN:
   (i) R.B.D. (ii) 12. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/65.4 ac. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Yield data. (iv) (a) 1953—56. (b) No. (c) N.A. (v) (a) Aduthurai, Shimoga,
   Shahaspur, Burdwan, Mankbanda and Chalvai. (b) N.A. (vi) Nil. (vii) Nil.

5. RESULTS:
   (i) 2744 lb./ac.
   (ii) 224.0 lb./ac.
   (iii) Treatment differences are highly significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC</td>
<td>2482</td>
<td>56.0</td>
</tr>
<tr>
<td>O0</td>
<td>2025</td>
<td>112.0</td>
</tr>
<tr>
<td>CP1</td>
<td>2919</td>
<td>112.0</td>
</tr>
<tr>
<td>CP2</td>
<td>3233</td>
<td>112.0</td>
</tr>
<tr>
<td>P1C</td>
<td>2841</td>
<td>112.0</td>
</tr>
<tr>
<td>P2C</td>
<td>2857</td>
<td>112.0</td>
</tr>
<tr>
<td>P1P1</td>
<td>2881</td>
<td>112.0</td>
</tr>
<tr>
<td>P2P2</td>
<td>2971</td>
<td>112.0</td>
</tr>
</tbody>
</table>

Av. yield of grain in lb./ac.
Control = 1567 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>Mean</th>
<th>M1</th>
<th>M2</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>1659</td>
<td>1666</td>
<td>1666</td>
<td>1664</td>
<td>1615</td>
<td>1712</td>
</tr>
<tr>
<td>P2</td>
<td>1757</td>
<td>1775</td>
<td>1757</td>
<td>1763</td>
<td>1676</td>
<td>1851</td>
</tr>
<tr>
<td>Mean</td>
<td>1708</td>
<td>1720</td>
<td>1711</td>
<td>1713</td>
<td>1645</td>
<td>1781</td>
</tr>
<tr>
<td>M1</td>
<td>1641</td>
<td>1659</td>
<td>1635</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M2</td>
<td>1775</td>
<td>1781</td>
<td>1788</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of marginal mean of S = 12.89 lb./ac.
S.E. of marginal mean of P or M = 10.52 lb./ac.
S.E. of body of table S x P or S x M = 18.23 lb./ac.
S.E. of body of table P x M = 14.88 lb./ac.

Object: 1 (b, ii). To study the effect of different levels and types of N and P₂O₅.

1. BASAL CONDITIONS:


2. TREATMENTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield in lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>1064</td>
</tr>
<tr>
<td>P</td>
<td>1163</td>
</tr>
<tr>
<td>N₉P</td>
<td>1275</td>
</tr>
<tr>
<td>N₉P</td>
<td>1263</td>
</tr>
<tr>
<td>N₉P</td>
<td>1263</td>
</tr>
<tr>
<td>N₉P</td>
<td>1277</td>
</tr>
<tr>
<td>G.M.</td>
<td>1228</td>
</tr>
<tr>
<td>S.E.;mean</td>
<td>= 57.60 lb./ac.</td>
</tr>
<tr>
<td>No. of Expts.</td>
<td>7.</td>
</tr>
</tbody>
</table>

3. DESIGN:

(i, and iii) Eleven community project centres, representing the entire paddy growing tract of the country, were selected. From each community project centre, one development block was selected. Villages were selected at random from the selected block and a list of cultivators growing paddy for each selected village was prepared. From this list, two cultivators were selected at random and one field each belonging to them was taken for trial. In each selected field an unreplicated trial was laid out. (iii) N.A. (iv) Yes.

4. GENERAL:


5. RESULTS:


Object: 1 (b, ii). To study the effect of different levels and types of N and P₂O₅.

1. BASAL CONDITIONS:


2. TREATMENTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield in lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>1064</td>
</tr>
<tr>
<td>P</td>
<td>1163</td>
</tr>
<tr>
<td>N₉P</td>
<td>1275</td>
</tr>
<tr>
<td>N₉P</td>
<td>1263</td>
</tr>
<tr>
<td>N₉P</td>
<td>1263</td>
</tr>
<tr>
<td>N₉P</td>
<td>1277</td>
</tr>
<tr>
<td>G.M.</td>
<td>1228</td>
</tr>
<tr>
<td>S.E.;mean</td>
<td>= 57.60 lb./ac.</td>
</tr>
<tr>
<td>No. of Expts.</td>
<td>7.</td>
</tr>
</tbody>
</table>
3. DESIGN:

(i) and (ii) Eleven community project centres, representing the entire paddy growing tract of the country, were selected. From each community project centre, one development block was selected. Villages were selected at random from the selected block and a list of cultivators growing paddy for each selected village was prepared. From this list, two cultivators were selected at random and one field each belonging to them was taken for trial. In each selected field an unreplicated trial was laid out. (iii) N.A. (iv) Yes.

4. GENERAL:


5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield in lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>1228</td>
</tr>
<tr>
<td>P</td>
<td>1424</td>
</tr>
<tr>
<td>N₁P</td>
<td>1472</td>
</tr>
<tr>
<td>N₂P</td>
<td>1672</td>
</tr>
<tr>
<td>N₁P</td>
<td>1328</td>
</tr>
<tr>
<td>N₂P</td>
<td>1472</td>
</tr>
<tr>
<td>G.M.</td>
<td>1433</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>157.2 lb./ac.</td>
</tr>
</tbody>
</table>

No. of Expts. 5.

Crop : Paddy (2nd crop). Ref : Simple trials on cultivator’s field (T.C.M.), 1953.

Centre : Bodhan and Banswala (A.P.). Type : ‘M’.

Object : (i) To study the effect of different levels and types of N and P₂O₅.

1. BASAL CONDITIONS:


2. TREATMENTS:

O=Control
P=20 lb./ac. of P₂O₅ as Super.
N₁P=A/N at 20 lb./ac. of N+20 lb./ac. of P₂O₅ as Super.
N₂P=A/S at 40 lb./ac. of N+20 lb./ac. of P₂O₅ as Super.
N₁P=Urea at 20 lb./ac. of N+20 lb./ac. of P₂O₅ as Super.
N₂P=Urea at 40 lb./ac. of N+20 lb./ac. of P₂O₅ as Super.

All fertilisers applied by broadcasting before puddling.

3. DESIGN:

(i) and (ii) Eleven community project centres, representing the entire paddy growing tract of the country, were selected. From each community project centre, one development block was selected. Villages were selected at random from the selected block and a list of cultivators growing Paddy for each selected village was prepared. From this list, two cultivators were selected at random and one field each belonging to them was taken for trial. In each selected field an unreplicated trial was laid out. (iii) N.A. (iv) Yes.

4. GENERAL:


5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield in lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>906</td>
</tr>
<tr>
<td>P</td>
<td>1149</td>
</tr>
<tr>
<td>N₁P</td>
<td>1163</td>
</tr>
<tr>
<td>N₂P</td>
<td>1263</td>
</tr>
<tr>
<td>N₁P</td>
<td>1329</td>
</tr>
<tr>
<td>N₂P</td>
<td>1217</td>
</tr>
<tr>
<td>G.M.</td>
<td>1171</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>116.0 lb./ac.</td>
</tr>
</tbody>
</table>

No. of Expts. 7
Crop :- Paddy (2nd Crop). Ref :- Simple trials on cultivators' field (T.C.M.), 1953.
Centre :- Bodhan and Banswala (A.P.)

Object :- II, To study the effect of manures (N, P, K).

1. BASAL CONDITIONS :
(i) (a) N.A. (b) N.A. (c) N.A. (ii) Medium black soil-loam-pH. 7.7. (iii) Nil. (iv) N.A. (v) N.A.

2. TREATMENTS :
O = Control
N = A/S at 20 lb./ac. of N.
NP = A/S at 20 lb./ac. of N+Super at 20 lb./ac. of P$_{2}$O$_{5}$.
N'P = A/S at 20 lb./ac. of N+Super at 20 lb./ac. of P$_{2}$O$_{5}$.
N'P = Urea at 20 lb./ac. of N+Super at 20 lb./ac. of P$_{2}$O$_{5}$.
All fertilizers applied by broadcasting before puddling.

3. DESIGN :
(i) and (ii) Eleven community project centres, representing the entire Paddy growing tract of the country, were selected. From each community Project centre, one development block was selected. Villages were selected at random from the selected block and a list of cultivators growing paddy for each selected village was prepared. From this list, two cultivators were selected at random and one field each belonging to them was taken for trial. In each selected field an unreplicated trial was laid out (iii) N.A. (iv) Yes.

4. GENERAL :
(i) Normal. (ii) Nil. (iii) Yield data. (iv) (a) 1953-56. (b) No. (c) N.A. (v) N.A. (vi) Nil.
(vii) Nil.

5. RESULTS :

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield in lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>1491</td>
</tr>
<tr>
<td>N</td>
<td>1446</td>
</tr>
<tr>
<td>NP</td>
<td>1595</td>
</tr>
<tr>
<td>N'P</td>
<td>1595</td>
</tr>
<tr>
<td>N''P</td>
<td>1557</td>
</tr>
<tr>
<td>G M.</td>
<td>1651</td>
</tr>
<tr>
<td>S.E./Mean</td>
<td>67.47 lb./ac.</td>
</tr>
<tr>
<td>No. of Expts.</td>
<td>26</td>
</tr>
</tbody>
</table>

Crop :- Paddy (2nd Crop) Ref :- Simple trials on cultivators' field (T.C.M.), 1953.
Centre :- Bodhan and Banswala (A.P.)

Object :- IV (i), To study the effect of types and levels of P$_{2}$O$_{5}$ and N.

1. BASAL CONDITIONS :

2. TREATMENTS :
O = Control
N = A/S at 40 lb./ac. of N.
NP = A/S at 40 lb./ac. of N+Super at 20 lb./ac. of P$_{2}$O$_{5}$.
N'P = A/S at 40 lb./ac. of N+Super at 20 lb./ac. of P$_{2}$O$_{5}$.
N''P = A/S+Nitro. Phos. at 40 lb./ac. of N+20 lb./ac. of P$_{2}$O$_{5}$.
NP' = A/S+Nitro. Phos. at 40 lb./ac. of N+40 lb./ac. of P$_{2}$O$_{5}$.
All fertilizers applied by broadcasting before puddling.

3. DESIGN :
(i) and (ii) Eleven community - project centres, representing the entire paddy growing tract of the country, were selected. From each community Project centre, one development block was selected. Villages were selected at random from the selected block, and a list of cultivators growing paddy for each selected village was prepared. From this list, two cultivators were selected at random and one field each belonging to them was taken for trial. In each selected field an unreplicated trial was laid out (iii) N.A. (iv) Yes.
4. GENERAL:
(i) Normal. (ii) Nil. (iii) Yield data. (iv) (a) 1953-56. (b) No. (c) N.A. (v) N.A. (vi) Nil. (vii) Nil.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield in lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>1440</td>
</tr>
<tr>
<td>N</td>
<td>1714</td>
</tr>
<tr>
<td>NP_1</td>
<td>1908</td>
</tr>
<tr>
<td>NP_2</td>
<td>2131</td>
</tr>
<tr>
<td>NP_3</td>
<td>1814</td>
</tr>
<tr>
<td>NP_4</td>
<td>1680</td>
</tr>
<tr>
<td>G.M.</td>
<td>1781</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>118.5 lb./ac.</td>
</tr>
<tr>
<td>No. of Expts.</td>
<td>7</td>
</tr>
</tbody>
</table>

Crop: Paddy (2nd Crop). Ref: Simple trial on cultivators' field (T.C.M), 1953.
Center: Bodhan and Banswala (A.P.) Type: ‘M’.

Object: IV (ii), To study the effect of types and levels of N and P_2O_5.

1. BASAL CONDITIONS:

2. TREATMENTS:
- O = Control,
- N = A/S at 40 lb./ac. of N,
- NP_1 = A/S at 40 lb./ac. of N + Super at 20 lb./ac. of P_2O_5,
- NP_2 = A/S at 40 lb./ac. of N + Super at 40 lb./ac. of P_2O_5,
- NP_3 = (A/S + Ammo. Phos.) at 40 lb./ac. of N + 20 lb./ac. of P_2O_5,
- NP_4 = (A/S + Ammo. Phos.) at 40 lb./ac. of N + 40 lb./ac. of P_2O_5.

All fertilizers applied by broadcasting before puddling.

3. DESIGN:
(i) and. (ii) Eleven community project centres, representing the entire paddy growing tract of the country, were selected. From each community Project centre, one development block was selected. Villages were selected at random from the selected block and a list of cultivators growing paddy for each selected village was prepared. From this list two cultivators were selected at random and one field each belonging to them was taken for trial. In each selected field an unreplicated trial was laid out (iii) N.A. (iv) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Yield data. (iv) (a) 1953-56. (b) No. (c) N.A. (v) N.A. (vi) Nil. (vii) Nil.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield in lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>1400</td>
</tr>
<tr>
<td>N</td>
<td>1324</td>
</tr>
<tr>
<td>NP_1</td>
<td>1438</td>
</tr>
<tr>
<td>NP_2</td>
<td>1502</td>
</tr>
<tr>
<td>NP_3</td>
<td>1216</td>
</tr>
<tr>
<td>NP_4</td>
<td>1382</td>
</tr>
<tr>
<td>G.M.</td>
<td>1377</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>92.15 lb./ac.</td>
</tr>
<tr>
<td>No. of Expts.</td>
<td>10</td>
</tr>
</tbody>
</table>
Crop :- Paddy (2nd Crop). Ref :- Simple trials on cultivators' field (T.C.M), 1953. Centre :- Bodhan and Banswala (A.P.). Type :- 'M'.

Object :- IV (iii), To study the effect of types and levels of P₂O₅ and N.

1. BASAL CONDITIONS :
   (i) N.A. (b) N.A. (c) N.A. (ii) Medium black soil-loam-p. H. 7.7. (iii) Nil. (iv) N.A. (v) N.A.

2. TREATMENTS :
   O = Control.
   N = A/S (or) at 20 lb./ac. of N.
   N₁₁ = (A/S + Nitro. Phos.) at 20 lb./ac. of N + 40 lb./ac. of P₂O₅.
   N₁₂ = (A/S + Nitro. Phos.) at 40 lb./ac. of N + 80 lb./ac. of P₂O₅.
   N₁₃ = (A/S + Ammon. Phos.) at 40 lb./ac. of N + 40 lb./ac. of P₂O₅.

All fertilizers applied by broadcasting before puddling.

3. DESIGN :
   (i) and (ii) Eleven community project centres, representing the entire paddy growing tract of the country, were selected. From each community project centre, one development block was selected. Villages were selected at random from the selected block and a list of cultivators growing paddy for each selected village was prepared. From this list, two cultivators were selected at random and one field each belonging to them was taken for trial. In each selected field an unreplicated trial was laid out. (iii) N.A. (iv) Yes.

4. GENERAL :
   (i) Normal. (ii) Nil. (iii) Yield data. (iv) (a) 1953-56. (b) No. (c) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS :

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield in lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>1314</td>
</tr>
<tr>
<td>N</td>
<td>1514</td>
</tr>
<tr>
<td>N₁₁</td>
<td>1497</td>
</tr>
<tr>
<td>N₁₂</td>
<td>1366</td>
</tr>
<tr>
<td>N₁₃</td>
<td>1405</td>
</tr>
<tr>
<td>N₁₄</td>
<td>1517</td>
</tr>
<tr>
<td>G.M.</td>
<td>1436</td>
</tr>
<tr>
<td>S.E.(mean)</td>
<td>69.94 lb./ac.</td>
</tr>
<tr>
<td>No. of expts.</td>
<td>7</td>
</tr>
</tbody>
</table>

Crop :- Paddy (2nd Crop). Ref :- Simple trials on cultivators' field (T.C.M.), 1953. Centre :- Samalkot (A.P). Type :- 'M'.

Object :- I (a) (iii), To study the effect of types and levels of N.

1. BASAL CONDITIONS :

2. TREATMENTS :
   O = Control.
   N₁ = A/S at 23 lb./ac. of N.
   N₁₁ = A/S at 40 lb./ac. of N.
   N₁₁₁ = Urea at 20 lb./ac. of N.
   N₁₁₂ = Urea at 40 lb./ac. of N.

Macres applied before planting.

3. DESIGN :
   (i) and (ii) Eleven community project centres, representing the entire paddy growing tract of the country were selected. From each community project centre, one development block was selected. Villages were selected at random from the selected block and a list of cultivators growing paddy for each selected village was prepared. From this list, two cultivators were selected at random and one field each belonging to them was taken for trial. In each selected field an unreplicated trial was laid out. (iii) N.A. (iv) Yes.
4. GENERAL:
(i) Normal. (ii) Nil. (iii) Yield data. (iv) (a) 1953—56; (b) No. (c) N/A; (v) N/A; (vi) and (vii) Nil.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield in lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>1981</td>
</tr>
<tr>
<td>N&lt;sub&gt;1&lt;/sub&gt;</td>
<td>2087</td>
</tr>
<tr>
<td>N&lt;sub&gt;2&lt;/sub&gt;</td>
<td>2636</td>
</tr>
<tr>
<td>N&lt;sub&gt;1&lt;/sub&gt;P</td>
<td>2226</td>
</tr>
<tr>
<td>N&lt;sub&gt;2&lt;/sub&gt;P</td>
<td>2480</td>
</tr>
<tr>
<td>G.M.</td>
<td>2282</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>153.9 lb./ac.</td>
</tr>
<tr>
<td>No. of expts.</td>
<td>6</td>
</tr>
</tbody>
</table>

Crop: Paddy (2nd crop). Ref: Simple trials on cultivators' fields (T.C.M.), 1953. Centre: Samalkot (A.P.); Type: 'M'.

Object:—(b) (iii) To study the effect of different levels and types of N and P<sub>2</sub>O<sub>5</sub>.

1. BASAL CONDITIONS:

2. TREATMENTS:
- O = Control.
- P = 20 lb./ac. of P<sub>2</sub>O<sub>5</sub> as Super.
- N<sub>1</sub>P = A/S at 20 lb./ac. of N + 20 lb./ac. of P<sub>2</sub>O<sub>5</sub> as Super.
- N<sub>2</sub>P = A/S at 40 lb./ac. of N + 20 lb./ac. of P<sub>2</sub>O<sub>5</sub> as Super.
- N<sub>1</sub>P = Urea at 20 lb./ac. of N + 20 lb./ac. of P<sub>2</sub>O<sub>5</sub> as Super.
- N<sub>2</sub>P = Urea at 40 lb./ac. of N + 20 lb./ac. of P<sub>2</sub>O<sub>5</sub> as Super.

Manures applied before planting.

DESIGN:
(i) and (ii) Eleven community project centres, representing the entire paddy growing tract of the country, were selected. From each community project centre, one development block was selected. Villages were selected at random from the selected block and a list of cultivators growing paddy for each selected village was prepared. From this list, two cultivators were selected at random and one field each belonging to them was taken for trial. In each selected field an unreplicated trial was laid out (iii) N.A. (iv) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Yield data. (iv) (a) 1953—56. (b) No. (c) N/A. (v) N/A; (vi) Nil. (vii) Nil.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>1949</td>
</tr>
<tr>
<td>P</td>
<td>2228&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>N&lt;sub&gt;1&lt;/sub&gt;P</td>
<td>2377</td>
</tr>
<tr>
<td>N&lt;sub&gt;2&lt;/sub&gt;P</td>
<td>2592</td>
</tr>
<tr>
<td>N&lt;sub&gt;1&lt;/sub&gt;P</td>
<td>2560</td>
</tr>
<tr>
<td>N&lt;sub&gt;2&lt;/sub&gt;P</td>
<td>2335</td>
</tr>
<tr>
<td>G.M.</td>
<td>2343</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>85.57 lb./ac.</td>
</tr>
<tr>
<td>No. of Expts.</td>
<td>12</td>
</tr>
</tbody>
</table>

Object: IV (i) To study the effect of types and levels of P\textsubscript{2}O\textsubscript{5} and N.

1. BASAL CONDITIONS:

2. TREATMENTS:
   O = Control
   N = A/S at 40 lb./ac. of N.
   NP\textsubscript{1} = A/S at 40 lb./ac. of N+Super at 20 lb./ac. of P\textsubscript{2}O\textsubscript{5}.
   NP\textsubscript{1} = A/S at 40 lb./ac. of N+Super at 40 lb./ac. of P\textsubscript{2}O\textsubscript{5}.
   NP\textsubscript{1} = A/S and Nitro. Phos. at 40 lb./ac. of N and 20 lb./ac. of P\textsubscript{2}O\textsubscript{5}.
   NP\textsubscript{1} = A/S and Nitro. Phos. at 40 lb./ac. of N and 40 lb./ac. of P\textsubscript{2}O\textsubscript{5}.

   Manures applied before planting.

3. DESIGN:
   (i) & (ii) Eleven community project centres, representing the entire paddy growing tract of the country, were selected. From each community project centre, one development block was selected. Villages were selected at random from the selected block and a list of cultivators growing paddy for each selected village was prepared. From this list, two cultivators were selected at random and one field each belonging to them was taken for trial. In each selected field an unreplicated trial was laid out.

4. GENERAL:

5. RESULTS.

   \begin{center}
   \begin{tabular}{|c|c|}
   \hline
   Treatment & Av. yield in lb./ac. \\
   \hline
   O & 1929 \\
   N & 1747 \\
   NP\textsubscript{1} & 2453 \\
   NP\textsubscript{2} & 2461 \\
   NP\textsubscript{2} & 2408 \\
   NP\textsubscript{3} & 2561 \\
   G.M. & 2260 \\
   S.E./mean & = 183.5 lb./ac. \\
   No. of expts. & 6 \\
   \hline
   \end{tabular}
   \end{center}


Object: IV (ii) To study the effect of types and levels of P\textsubscript{2}O\textsubscript{5} and N.

1. BASAL CONDITIONS:

2. TREATMENTS:
   O = Control
   N = A/S at 40 lb./ac. of N.
   NP\textsubscript{1} = A/S at 40 lb./ac. of N+Super at 20 lb./ac. of P\textsubscript{2}O\textsubscript{5}.
   NP\textsubscript{1} = A/S at 40 lb./ac. of N+Super at 40 lb./ac. of P\textsubscript{2}O\textsubscript{5}.
   NP\textsubscript{1} = A/S and Nitro. Phos. at 40 lb./ac. of N and 20 lb./ac. of P\textsubscript{2}O\textsubscript{5}.
   NP\textsubscript{1} = A/S and Nitro. Phos. at 40 lb./ac. of N and 40 lb./ac. of P\textsubscript{2}O\textsubscript{5}.

   Manures applied before planting.
3. DESIGN:
(i) and (ii) Eleven community project centres, representing the entire paddy growing tract of the country, were selected. From each community project centre, one development block was selected. Villages were selected at random from the selected block and a list of cultivators growing paddy for each selected village was prepared. From this list, two cultivators were selected at random and one field each belonging to them was taken for trial. In each selected field an unreplicated trial was laid out. (iii) N.A. (iv) Yes.

4. GENERAL:

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield in lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>2188</td>
</tr>
<tr>
<td>N</td>
<td>2366</td>
</tr>
<tr>
<td>NP&lt;sub&gt;1&lt;/sub&gt;</td>
<td>2589</td>
</tr>
<tr>
<td>NP&lt;sub&gt;2&lt;/sub&gt;</td>
<td>2513</td>
</tr>
<tr>
<td>NP&lt;sub&gt;3&lt;/sub&gt;</td>
<td>2623</td>
</tr>
<tr>
<td>G.M.</td>
<td>2429</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>94.62 lb./ac.</td>
</tr>
</tbody>
</table>


Object:—IV (iii) To study the effects of types and levels of P<sub>2</sub>O<sub>5</sub> and N.

1. BASAL CONDITIONS:

2. TREATMENTS:
O = control.
N = A/S at 40 lb./ac. of N.
NP<sub>1</sub> = (A/S + Nitro. Phos.) at 40 lb./ac. of N + 20 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
NP<sub>2</sub> = (A/S + Nitro. Phos.) at 40 lb./ac. of N + 40 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
NP<sub>3</sub> = (A/S + Ammo. Phos.) at 40 lb./ac. of N + 20 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
NP<sub>3</sub>' = (A/S + Ammo. Phos.) at 40 lb./ac. of N + 40 lb./ac. of P<sub>2</sub>O<sub>5</sub>.

Manures applied before planting.

3. DESIGN:
(i) and (ii) Eleven community project centres, representing the entire paddy growing tract of the country, were selected. From each community project centre, one development block was selected. Villages were selected at random from the selected block and a list of cultivators growing paddy for each selected village was prepared. From this list, two cultivators were selected at random and one field each belonging to them was taken for trial. In each selected field an unreplicated trial was laid out. (iii) N.A. (iv) Yes.

4. GENERAL:

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield in lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>1778</td>
</tr>
<tr>
<td>N</td>
<td>2241</td>
</tr>
<tr>
<td>NP&lt;sub&gt;1&lt;/sub&gt;</td>
<td>2087</td>
</tr>
<tr>
<td>NP&lt;sub&gt;2&lt;/sub&gt;</td>
<td>2128</td>
</tr>
<tr>
<td>NP&lt;sub&gt;3&lt;/sub&gt;</td>
<td>2182</td>
</tr>
<tr>
<td>NP&lt;sub&gt;3&lt;/sub&gt;'</td>
<td>2205</td>
</tr>
<tr>
<td>G.M.</td>
<td>2104</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>97.09 lb./ac.</td>
</tr>
<tr>
<td>No. of Expts.</td>
<td>8</td>
</tr>
</tbody>
</table>
Crop: Paddy.  
Site: Rice Res. Stn., Buchireddipalem.  
Ref: A.P. 48 (82).  
Type: 'MV'.

Object: To study the incidence of blast in blast resistant varieties in relation to manuring and early planting.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Nil. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 18.9.1948/6.11.48. (iv) (a) 2 to 3 ploughings. (b) Transplanted. (c) (d) 6'x6'. (e) 2. (f) Nil. (vi) As under treatments. (vii) Irrigated. (viii) 2 or 3 weedings. (ix) 25.56'. (x) 26.2.49.

2. TREATMENTS:
   Main-plot treatments:
   4 levels of A/S: L₁=0, L₂=112, L₃=224 and L₄=336 lb./ac.
   Sub-plot treatments:
   6 varieties: V₁=BCP-1, V₂=BCP-2, V₃=CO. 25, V₄=CO. 26, V₅=Molakolakulu and V₆=Iswar korra.

3. DESIGN:
   (i) Split-plot. (ii) (a) 4 main-plots/block; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 17'x4'.
   (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Not satisfactory. (ii) Severe attack of blast. (iii) Grain weight, height measurements, tiller count, etc. (iv) (a) 1943 to 1948. (b) N.A. (c) Nil. (v) (a), (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS:
   (i) 1409 lb./ac.
   (ii) (a) 99.93 lb./ac.
   (b) 327. 3 lb./ac.
   (iii) There is significant difference between the manures and also between the varieties (No information available regarding interaction).
   (iv) Av. yld.'d of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>V₁</th>
<th>V₂</th>
<th>V₃</th>
<th>V₄</th>
<th>V₅</th>
<th>V₆</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>L₁</td>
<td>1321</td>
<td>1487</td>
<td>1009</td>
<td>1712</td>
<td>1341</td>
<td>1591</td>
<td>1410</td>
</tr>
<tr>
<td>L₂</td>
<td>1261</td>
<td>1291</td>
<td>1071</td>
<td>1541</td>
<td>961</td>
<td>1672</td>
<td>1299</td>
</tr>
<tr>
<td>L₃</td>
<td>1401</td>
<td>1231</td>
<td>1491</td>
<td>1721</td>
<td>1291</td>
<td>1751</td>
<td>1481</td>
</tr>
<tr>
<td>L₄</td>
<td>1381</td>
<td>1111</td>
<td>1491</td>
<td>1601</td>
<td>1231</td>
<td>1871</td>
<td>1448</td>
</tr>
<tr>
<td>Mean</td>
<td>1341</td>
<td>1280</td>
<td>1265</td>
<td>1644</td>
<td>1206</td>
<td>1721</td>
<td>1409</td>
</tr>
</tbody>
</table>

S E. of difference of two
1. L marginal means = 28.8 lb./ac.
2. V marginal means = 115.8 lb./ac.
3. V means at the same level of L = 231.7 lb./ac.
4. L means at the same level of V = 213.4 lb./ac.

---

Crop: Paddy.  
Site: Rice Res. Stn., Buchireddipalem.  
Ref: A.P. 48 (82).  
Type: 'MV'.

Object: To study the incidence of blast in blast resistant varieties in relation to manuring and early planting.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 5.5.48/5.9.48. (iv) (a) 2 to 3 ploughings. (b) Transplanting. (c) (d) 6'x6'. (e) 2. (f) Nil. (vi) As under treatments. (vii) Irrigated. (viii) 2 or 3 weedings. (ix) 26.56'. (x) 4.2.49.
2. TREATMENTS:
   - Main-plot treatments:
     4 levels of A/S: \( L_0 = 0, L_1 = 112, L_2 = 224 \) and \( L_3 = 336 \) lb./ac.
   - Sub-plot treatments:
     6 varieties: \( V_1 = \text{BCP-1}, V_2 = \text{BCP-2}, V_3 = \text{CO}, V_4 = \text{CO:26}, V_5 = \text{Molakolabalu} \) and \( V_6 = \text{Evar: korra} \).

3. DESIGN:
   (i) Split-plot. (ii) (a) 4 main-plots/block; 6 sub-plots/main-plot. (b) N.A. (iii) 4 \& (iv) (a) and (b) \( 17' \times 4' \). (v) Nil. (vi) Yes.

4. RESULTS:
   (i) 3000 lb./ac.
   (ii) (a) 235.1 lb./ac. (b) 153.1 lb./ac.
   (iii) There is significant difference between the manures and also between the varieties. (No information available regarding interaction).
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>( V_1 )</th>
<th>( V_2 )</th>
<th>( V_3 )</th>
<th>( V_4 )</th>
<th>( V_5 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>L_0</td>
<td>2963</td>
<td>3303</td>
<td>2713</td>
<td>3243</td>
<td>3003</td>
</tr>
<tr>
<td>L_1</td>
<td>3103</td>
<td>2853</td>
<td>2943</td>
<td>2632</td>
<td>2933</td>
</tr>
<tr>
<td>L_2</td>
<td>2803</td>
<td>3233</td>
<td>3403</td>
<td>3453</td>
<td>3472</td>
</tr>
<tr>
<td>L_3</td>
<td>3173</td>
<td>3803</td>
<td>3143</td>
<td>3513</td>
<td>3453</td>
</tr>
<tr>
<td>Mean</td>
<td>3010</td>
<td>3298</td>
<td>3050</td>
<td>3210</td>
<td>3215</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. L. marginal means = 67.9 lb./ac.
2. V marginal means = 54.2 lb./ac.
3. V means at the same level of L = 108.3 lb./ac.
4. L means at the same level of V = 119.9 lb./ac.

Object:—To study the incidence of blast by taking counts of neck infection on blast resistant varieties with graded doses of A/S.

1. BASAL CONDITIONS.
   (i) (a) Nil. (b) Paddy. (c) 2 C.L./ac. of F.Y.M.+400 lb./ac. of green leaf+50 lb./ac. of G.N.C.+122 lb./ac. of B.M. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 27.7.50/29.9.50. (iv) (a) 2 to 3 dry ploughings. (b) Transplanted. (c) --. (d) 6° x 6°. (e) 2. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) N.A. (ix) 37.80°. (x) 29.1.51.

2. TREATMENTS:
   - Main-plot treatments: \( V_1 = \text{CO:25}, V_2 = \text{CO:26}, V_3 = \text{BCP-1}, V_4 = \text{BCP-2} \) and \( V_5 = \text{Molakolabalu} \).
   - Sub-plot treatments:
     (A/S): \( L_0 = 0, L_1 = 112 \) lb./ac., \( L_2 = 224 \) and \( L_3 = 336 \) 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) and (b) 4' x 20'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Paddy blast and stem borer attack. (iii) Counts of neck infection. (iv) (a) 1950 to 1952. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) NIL. (vii) Raw data N.A.; results copied from Annual reports.

5. RESULTS:
(i) to (iv) S.E./mean (%)-3.97.

<table>
<thead>
<tr>
<th>Varieties</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V₁</td>
<td>84.5</td>
</tr>
<tr>
<td>V₂</td>
<td>83.5</td>
</tr>
<tr>
<td>V₃</td>
<td>104.5</td>
</tr>
<tr>
<td>V₄</td>
<td>116.4</td>
</tr>
<tr>
<td>Mean</td>
<td>111.1</td>
</tr>
</tbody>
</table>

S.E./mean (%)—3.97.
Effect of varieties is significant.

Doses
(i) to (iv)

<table>
<thead>
<tr>
<th>Doses</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>L₀</td>
<td>99.1</td>
</tr>
<tr>
<td>L₁</td>
<td>100.2</td>
</tr>
<tr>
<td>L₂</td>
<td>88.4</td>
</tr>
<tr>
<td>L₃</td>
<td>112.2</td>
</tr>
<tr>
<td>Mean</td>
<td>100.0</td>
</tr>
</tbody>
</table>

S.E./mean(%)—8.57.
There is no significant difference between the doses of A/S.
No information available regarding the significance of Interaction.

Crop :- Paddy.
Ref :- A.P. 52(46)/50(76).
Site :- Rice Res. Stn., Buchireddipalem. Type :- 'M'.

Object :- To study the incidence of blast resistant strains when manured with graded doses of A/S.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 25.7.52/9.10.52. (iv) (a) 2 to 3 dry ploughings and two puddlings. (b) Transplanted. (c) —. (d) 6' x 6'. (e) 2. (v) G.M. at 4000 lb./ac. (vi) As under treatments. (vii) Irrigated. (viii) 2 to 3 hand weedicings. (ix) 22.68'. (x) 24.2.53.

2. TREATMENTS:
Main-plot treatments :—
4 levels of A/S: L₀=0, L₁=112, L₂=224 and L₃=336 lb./ac.
Sub-plot treatments :—
5 varieties: V₁=CO.25, V₂=CO.26, V₃=BCP-1, V₄=BCP-2 and V₅=Local (Molakoludula).

3. DESIGN:
(i) Split plot. (ii) (a) 4 main-plots/block; 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 4' x 20'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Slight attack of blast. (iii) 20 plants taken at random from each plot and no. of affected earheads and healthy earheads counted. (iv) (a) 1950 to 1953. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 1736 lb./ac.
(ii) (a) 45.4 lb./ac.
(b) 223.30 lb./ac.
(iii) Main treatments, sub treatments and their interaction are all highly significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>V₁</th>
<th>V₂</th>
<th>V₃</th>
<th>V₄</th>
<th>V₅</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>L₀</td>
<td>1421</td>
<td>1327</td>
<td>1231</td>
<td>1285</td>
<td>1302</td>
<td>1314</td>
</tr>
<tr>
<td>L₁</td>
<td>1787</td>
<td>1736</td>
<td>1548</td>
<td>1625</td>
<td>1642</td>
<td>1668</td>
</tr>
<tr>
<td>L₂</td>
<td>2008</td>
<td>2152</td>
<td>1897</td>
<td>1897</td>
<td>2042</td>
<td>1999</td>
</tr>
<tr>
<td>L₃</td>
<td>2697</td>
<td>2569</td>
<td>1344</td>
<td>1548</td>
<td>1651</td>
<td>1962</td>
</tr>
<tr>
<td>Mean</td>
<td>1978</td>
<td>1946</td>
<td>1506</td>
<td>1589</td>
<td>1516</td>
<td>1736</td>
</tr>
</tbody>
</table>

S.E. of difference of two

1. L marginal means = 142.8 lb./ac.
2. V marginal means = 78.9 lb./ac.
3. V means at the same level of L = 157.8 lb./ac.
4. L means at the same level of V = 201.1 lb./ac.

Crop: Paddy.  
Site: Rice Res. Stn., Buchireddipalem.  
Type: 'MV'.

Object: To study the incidence of blast on blast resistant strains when manured with graded doses of A/S under normal (early) planting conditions.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As under treatments (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) N.A. (iv) 2 to 3 dry ploughings. (b) Transplanted. (c) —. (d) 6'x6'. (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) 2 or 3 weedings. (ix) 28.47°. (x) N.A.

2. TREATMENTS:
   Main-plot treatments:
   4 levels of A/S: L₀ = 0, L₁ = 112, L₂ = 224, L₃ = 336 lb./ac.
   Sub-plot treatments:
   5 varieties: V₁ = CO. 25, V₂ = CO. 26, V₃ = BCP-1, V₄ = BCP-2 and V₅ = Local (Molakolakula).

3. DESIGN:
   (i) Split-plot. (ii) (a) 4 main-plots/block; 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a), (b) 20'x4'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Blast. (iii) Height measurements, tiller count, blast intensity and grain yield. (iv) (a) 1950 to 1953. (b) Yes. (c) Nil. (v) (a), (b) N.A. (vi) and (vii) N.A.

5. RESULTS:
   (i) 3131 lb./ac.  
   (ii) (a) 474 3 lb./ac.  
   (b) 227.6 lb./ac.  
   (iii) Only sub treatments are significant. 
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>V₁</th>
<th>V₂</th>
<th>V₃</th>
<th>V₄</th>
<th>V₅</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>L₀</td>
<td>3531</td>
<td>3207</td>
<td>3073</td>
<td>3029</td>
<td>3259</td>
<td>3206</td>
</tr>
<tr>
<td>L₁</td>
<td>3683</td>
<td>3327</td>
<td>2935</td>
<td>2893</td>
<td>3215</td>
<td>3211</td>
</tr>
<tr>
<td>L₂</td>
<td>3743</td>
<td>2624</td>
<td>2901</td>
<td>2688</td>
<td>3283</td>
<td>3048</td>
</tr>
<tr>
<td>L₃</td>
<td>3377</td>
<td>3249</td>
<td>2467</td>
<td>2893</td>
<td>3317</td>
<td>3061</td>
</tr>
<tr>
<td>Mean</td>
<td>3683</td>
<td>3102</td>
<td>2827</td>
<td>2876</td>
<td>3269</td>
<td>3131</td>
</tr>
</tbody>
</table>

S.E. of difference of two

1. L marginal means = 149.9 lb./ac.
2. V marginal means = 80.5 lb./ac.
3. V means at the same level of L = 161.0 lb./ac.
4. L means at the same level of V = 207.9 lb./ac.
1. BASAL CONDITIONS:
   (i) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) N.A. (iv) a 2 to 3 dry ploughing. (b) Transplanted. (c) = = = = =. (d) 6° x 6°. (e) 2. (v) Nil. (vi) BCP-2. (vii) Irrigated. (viii) 2 or 3 weedings. (ix) 28.47°. (x) N.A.

2. TREATMENTS:
   Main-plot treatments:—
   4 levels of A/S: L0 = 0, L1 = 112, L2 = 224, and L3 = 336 lb./ac.
   Sub-plot treatments :
   5 varieties: V1 = CO. 25, V2 = CO. 26, V3 = BCP-1, V4 = BCP-2 and V5 = Local (Molakolukulu).

3. DESIGN:
   (i) Split-plot. (ii) (a) 4 main-plots/block; 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a), (b) 20' x 4'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Not satisfactory. (ii) Blast. (iii) Height measurements, grain yield, tiller counts, and blast intensity. (iv) (a) 1950 to 1953. (b) Yes. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2133 lb./ac.
   (ii) (a) 367.5 lb./ac.
   (b) 250.5 lb./ac.
   (iii) Main treatments and sub-treatments are significant. Interaction is not significant. (iv) Av. yield or grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>V1</th>
<th>V2</th>
<th>V3</th>
<th>V4</th>
<th>V5</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>L0</td>
<td>3293</td>
<td>2859</td>
<td>1191</td>
<td>1369</td>
<td>1846</td>
<td>2112</td>
</tr>
<tr>
<td>L1</td>
<td>3531</td>
<td>2518</td>
<td>945</td>
<td>1157</td>
<td>1625</td>
<td>1955</td>
</tr>
<tr>
<td>L2</td>
<td>3521</td>
<td>2875</td>
<td>945</td>
<td>1191</td>
<td>1925</td>
<td>2091</td>
</tr>
<tr>
<td>L3</td>
<td>4324</td>
<td>3555</td>
<td>715</td>
<td>1412</td>
<td>2170</td>
<td>2375</td>
</tr>
<tr>
<td>Mean</td>
<td>3592</td>
<td>2952</td>
<td>949</td>
<td>1232</td>
<td>1891</td>
<td>2133</td>
</tr>
</tbody>
</table>

S.E. of difference of two
   1. L marginal means = 116.2 lb./ac.
   2. V marginal means = 88.6 lb./ac.
   3. V means at the same level of L = 177.1 lb./ac.
   4. L means at the same level of V = 190.5 lb./ac.

---

Crop :- Paddy (Main crop season).  Ref :- A.P. 48(78).
Site :- Agri. Res. Stn., Maruteru.  Type :- 'MV'.

Object :- To study the incidence of blast on blast resistant strains when manured with graded doses of A S under late planting conditions.

1. BASAL CONDITIONS:
   (i) Nil. (b) N.A. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 7.6.48. (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c) = = = = =. (d) 6° x 6°. (e) 2. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. First weeding one month after transplanting. (ix) 33.87°. (x) 27.11.48
2. TREATMENTS:

Main-plot treatments:
- 2 levels manure: M₀ = No manure, M₁ = Manured at 2000 lb./ac. of G.L. + 400 lb./ac. of G.N.C. + 12 lb./ac. of Super. + 50 lb./ac. of A/S.

Sub-plot treatments:
- 2 Varieties: V₁ = MTU-1 and V₂ = Ryots' Akkulla.

3. DESIGN:

(i) Split plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 6 (iv) (a) and (b) 9 × 30' (v) Nil. (vi) Yes.

4. GENERAL:

(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948 to 52. (b) Yes. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 3097 lb./ac.
(ii) (a) 723.7 lb./ac. (b) 344.3 lb./ac.
(iii) There is significant difference between varieties. No other effect is significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M₀</th>
<th>M₁</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V₁</td>
<td>3193</td>
<td>3395</td>
<td>3294</td>
</tr>
<tr>
<td>V₂</td>
<td>2790'</td>
<td>3011</td>
<td>2901</td>
</tr>
<tr>
<td>Mean</td>
<td>2992</td>
<td>3203</td>
<td>3097</td>
</tr>
</tbody>
</table>

S.E. of difference of two

1. M marginal means = 295.4 lb./ac.
2. V marginal means = 140.4 lb./ac.
3. V means at the same level M = 198.7 lb./ac.
4. M means at the same level of V = 328.2 lb./ac.

Crop: Paddy (Main crop season)  Ref: A.P. 49(74)/48(78).
Site: Agri. Res. Stn., Maruteru.  Type: "MV".

Object: To study the effect of continuously growing a strain vs. ryots' unselected bulk on the soil fertility in double crop area.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Heavy black clay. (b) Refer soil analysis, Maruteru.
(iii) 21.5.49. (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c) —. (d) 6' × 6'. (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 41.67. (x) 20.11.49.

2. TREATMENTS:

Main-plot treatments:
- 2 levels of Manure: M₀ = No manure and M₁ = 2000 lb/ac. of G.L. + 400 lb/ac. of G.N.C. + 12 lb/ac. of Super. + 50 lb/ac. of A/S.

Sub-plot treatments:
- Varieties: V₁ = MTU-1 and V₂ = Ryots' Akkulla.

3. DESIGN:

(i) Split plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) 9 × 30' (v) Nil. (vi) Yes.

4. GENERAL:

(i) Not satisfactory due to cyclone in October. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948 to 1952. (b) Yes. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.
5. RESULTS:

(i) 1626 lb./ac.

(ii) (a) 394.6 lb./ac.

(b) 236.5 lb./ac.

(iii) Effect of varieties is significant. Others are not significant.

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

<table>
<thead>
<tr>
<th></th>
<th>M₀</th>
<th>M₁</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V₁</td>
<td>18.4</td>
<td>1628</td>
<td>1746</td>
</tr>
<tr>
<td>V₂</td>
<td>527</td>
<td>1484</td>
<td>1506</td>
</tr>
<tr>
<td>Mean</td>
<td>1696</td>
<td>1556</td>
<td>1626</td>
</tr>
</tbody>
</table>

S.E. of difference of two

1. M marginal means = 161.1 lb./ac.
2. V marginal mean = 96.4 lb./ac.
3. V means at the same level of M = 136.4 lb./ac.
4. M means at the same level of V = 187.7 lb./ac.

Crop: Paddy (Double crop area). Ref: A.P. 50 (29)/49 (74)/48 (78).

Object: To study the effect of continuously growing a strain vs. unselected bulk on the soil fertility in manured and unmanured plots.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 15.3.1970. (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c)—
(d) 6’ x 6’. (e) 2. (f) Nil. (g) As under treatments. (h) Irrigated. (i) 2 weedings. First weeding one month after transplanting. (ix) 46.71”. (x) 21.11.1970.

2. TREATMENTS:

Main-plot treatments:

2 levels of manure: M₁=No manure, M₂=2000 lb./ac. of G.L. + 400 lb./ac. of G.N.C.+12 lb./ac. of Super+50 lb./ac. of A.S.

Sub-plot treatments:

2 varieties: V₁=MTU—1 and V₂=Kyora’ Akkullu.

3. DESIGN:

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a), (b) 30’ x 20’. (v) Nil. (vi) Yes.

4. GENERAL:

(i) Normal. (ii) Nil. (iii) Straw and grain yield. (iv) (a) 1948 to 1950. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) N.A.

5. RESULTS:

(i) 27.90 lb./ac.

(ii) (a) 33.1 lb./ac.

(b) 41.9 lb./ac.

(iii) Effects of varieties and manures are highly significant. Interaction is significant.
Crop :- Paddy (Double crop area).  
Ref :- A.P. 51 (63)/ 50 (29)/49 (74)/48 (78).
Type :- 'M'.

Object :- To study the effect of continuously growing a strain compared to ryots unselected bulk on the soil fertility.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Paddy. (c) Same as under treatments.  
   (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru.  
   (iii) 19.5.1951/29.6.1951. (iv) (a) Water let in, puddled three times and levelled. (b) Transplanted.  
   (c) . (d) 6' x 6'. (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) 2 weedings, first weeding a month after transplanting. (ix) 45.18'. (x) 20th and 21st November, 1951.

2. TREATMENTS :
   Main-plot treatments :
   2 levels of manure : M$_0$=No Manure, M$_1$=G.L. at 2000 lb./ac.+G.N.C. at 400 lb./ac.+Super at 112 lb./ac.+A/S at 50 lb. per acre.
   Sub-plot treatments :
   2 varieties : V$_1$=MTU-1 and V$_2$=Ryots' Akkullu.

3. DESIGN :
   (i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a), (b) 29.5' x 19'.  
   (v) Nil. (vi) Yes.

4. GENERAL :
   (i) Normal. (ii) Nil. (iii) Straw and grain yield. (iv) (a) 1948 to 1952. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :
   (i) 3110 lb./ac.  
   (ii) (a) 567.2 lb./ac.  
   (b) 414.9 lb./ac.  
   (iii) Main effect of M is significant. Interaction V x M is also significant. Main effect of V is not significant.  
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>V$_1$</th>
<th>M$_0$</th>
<th>M$_1$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>2532</td>
<td>4038</td>
<td>3285</td>
<td></td>
</tr>
<tr>
<td>1998</td>
<td>2593</td>
<td>2295</td>
<td></td>
</tr>
</tbody>
</table>

Mean

<table>
<thead>
<tr>
<th>M$_0$</th>
<th>M$_1$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>2265</td>
<td>3315</td>
<td>2790</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. M marginal means  
2. V marginal means  
3. V means at the same level of M  
4. M means at the same level of V
Crop: Paddy (Double crop area). Ref: A.P. 52(64)/51(63)/50(29)/49(74)/48(78).
Site: Agri. Res. Stn., Maruteru. Type: 'MV'.

Object: To compare the relative exhausting capacities of the soil with varieties MTU-1 and ryots' Akkulla.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru.
(iii) 28.5/3.7/2.4. iv. (a) Water sat in, puddled thrice and levelled. (b) Transplanted. (c)---. (d) 6' x 6'.
(e) 2. (f) Nil. (g) As under treatments. (h) Irrigated. (i) 2 Weedings. First weeding one month after transplanting.
(x) N.A. (x) 2.12.32.

2. TREATMENTS:
Main-plot treatments:—
2 levels of manure: M0 = No manure, M1 = 2000 lb./ac. of G.L. + 400 lb./ac. of G.N.C. + 112 lb./ac. of Super + 50 lb./ac. of A.S.
Sub-plot treatments:—
2 varieties: V1 = MTU-1 and V2 = ryots' Akkulla.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a), (b) Mainplot: 30' x 10'; sub-plot: 30' x 10'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Nil. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948 to 1952. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi), and (vii) Nil.

5. RESULTS:
(i) 3097 lb./ac.
(ii) (a) 215.3 lb./ac.
(b) 365 x b. ac.
(iii) Effects of V and M are significant. Interaction V X M is not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M0</th>
<th>M1</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>4319</td>
<td>2202</td>
<td>3260</td>
</tr>
<tr>
<td>V2</td>
<td>3872</td>
<td>1996</td>
<td>2914</td>
</tr>
</tbody>
</table>

Mean: 4096 2099 3097

S.E. of difference of two
1. M marginal means = 87.8 lb./ac.
2. V marginal means = 148.6 lb./ac.
3. V means at the same level of M = 211.2 lb./ac.
4. M means at the same level of V = 173.2 lb./ac.

---

Crop: Paddy (Main crop season). Ref: A.P. 48(76).
Site: Agri. Res. Stn., Maruteru. Type: 'MV'.

Object: Trial of MTU-1 and ryots' Akkulla bulk to compare the relative exhausting capacities of either in single crop area.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 6.7 4.8. iv. (a) Water sat in, puddled thrice and levelled. (b) Transplanted. (c)---. (d) 6' x 6'. (e) 2. (f) Nil. (g) As per treatments. (h) Irrigated. (i) 2 weedings. First weeding one month after transplanting.
(x) 31.87'. (x) 27.11.58.

2. TREATMENTS:
Main-plot treatments:—
2 levels of manure: M0 = No manure. M1 = 2000 lb./ac. of G.L. + 400 lb./ac. of G.N.C. + 112 lb./ac. of Super + 50 lb./ac. of A.S.
Sub-plot treatments:—
2 varieties: V1 = MTU-1 and V2 = ryots' Akkulla.
3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) 9' x 30'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948 to 1952. (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2662 lb./ac.
   (ii) (a) 100.5 lb./ac. (b) 238.9 lb./ac.
   (iii) Effects of V and M are significant. Interaction is not significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Varieties</th>
<th>M_0</th>
<th>M_1</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V_1</td>
<td>3092</td>
<td>2581</td>
<td>2837</td>
</tr>
<tr>
<td>V_2</td>
<td>2661</td>
<td>2312</td>
<td>2487</td>
</tr>
<tr>
<td>Mean</td>
<td>2877</td>
<td>2447</td>
<td>2662</td>
</tr>
</tbody>
</table>

S.E. of difference of two means:
1. M marginal means = 41.0 lb./ac.
2. V marginal means = 97.4 lb./ac.
3. V means at the same level of M = 137.9 lb./ac.
4. M means at the same level of V = 105.8 lb./ac.

Crop :- Paddy (Main crop season).
Ref :- A.P. 49(73)/48(76).
Type :- 'MV'.

Object :- To study the effect of continuously growing a strain vs. ryots' unselected bulk on the soil fertility in single crop area.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Heavy black clay. (b) Refer soil analysis, Maruteru. (iii) 22.5.49. (iv) (a) Water let in, puddled and levelled. (b) Transplanted. (c) --. (d) 6" x 6". (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 41.67". (x) 18.11 49.

2. TREATMENTS:
   Main-plot treatments :-
   2 levels of manure: M_0 = No manure and M_1 = 2000 lb./ac. of G.L. + 400 lb./ac. of G.N.C. + 112 lb./ac. of Super+50 lb./ac. of A/S.

   Sub-plot treatments :-
   2 varieties: V_1 = MTU-1 and M_2 = Ryots' Akhulla.

3. DESIGN:
   (i) Split-plot. (iii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) 30' x 9'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Not satisfactory due to cyclone in October. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948 to 1952. (b) Yes. (c) Nil. (v) (a) Yes. (b) Nil. (vi) Nil. (vii) Nil.

5. RESULTS:
   (i) 2265 lb./ac.
   (ii) (a) 174.9 lb./ac.
   (b) 195.4 lb./ac.
   (iii) Variety effects are significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$M_0$</th>
<th>$M_1$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_1$</td>
<td>2514</td>
<td>2413</td>
<td>2464</td>
</tr>
<tr>
<td>$V_2$</td>
<td>2123</td>
<td>2009</td>
<td>2066</td>
</tr>
</tbody>
</table>

Mean difference of two

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

S.E. of difference of two

1. M marginal means = 71.4 lb./ac.
2. V marginal means = 79.8 lb./ac.
3. V means at the same level of M = 112.8 lb./ac.
4. M means at the same level of V = 107.1 lb./ac.

Crop: Paddy (Single crop area).


Type: - "MV".

Object: To study the effect of continuously growing a strain of ryots' unselected bulk on the soil fertility in manured and unmanured plots.

1. BASAL CONDITIONS:

(i) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 15.5.0. (iv) (a) Water let in puddled thrice and levelled. (b) Transplanted. (c) (d) 6' x 6'. (e) 2. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. First weeding one month after transplanting. (ix) 46.71'. (x) 21.11.50.

2. TREATMENTS:

Main-plot treatments:---
2 levels of manure: $M_0$ = No manure and $M_1$ = 2000 lb./ac. of G.L.+400 lb./ac. of G.N.C.+112 lb./ac. of Super+50 lb./ac. of A/S.

Sub-plot treatments:---
2 varieties: $V_1$ = MTU-I and $V_2$ = Ryots' Akkullu.

3. DESIGN:

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) Main-plot 30' x 20'; sub-plot 30' x 10'. (v) Nil. (vi) Yes.

4. GENERAL:

(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948 to 1952. (b) Yes. (c) N.A. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) Nil.

5. RESULTS:

(i) 3569 lb./ac.
(ii) (a) 310.3 lb./ac.
(b) = 254.1 lb./ac.

(iii) Effects of of main-treatments and sub-treatments are highly significant. Interaction is not significant.

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

<table>
<thead>
<tr>
<th></th>
<th>$M_0$</th>
<th>$M_1$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_1$</td>
<td>4238</td>
<td>3956</td>
<td>4107</td>
</tr>
<tr>
<td>$V_2$</td>
<td>3404</td>
<td>2657</td>
<td>3031</td>
</tr>
</tbody>
</table>

Mean difference of two

1. M marginal means = 126.6 lb./ac.
2. V marginal means = 103.7 lb./ac.
3. V means at the same level of M = 165.7 lb./ac.
4. M means at the same level of V = 146.7 lb./ac.
Crop: Paddy (Single crop area). Ref.: A.P. 51(64)/50(28)/49(73)/48(76)
Site: Agri. Res. Stn., Maruteru. Type: 'MV'.

Object: To study the effect of continuously growing a strain compared to ryots' unselected bulk on the soil fertility.

1. BASAL CONDITIONS:
   (i) Nil (b) Paddy. (c) As under treatments. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 19.5.51/29.6.51. (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c) — (d) 6' x 6'. (e) 2. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. First weeding one month after transplanting. (ix) 45.18'. (x) 21.1.151.

2. TREATMENTS:
   Main-plot treatments: 2 levels of Manure: M₀ = No manure, M₁ = G.L. at 2000 lb./ac. + G.N.C. at 400 lb./ac. + Super at 112 lb./ac. + A/S at 50 lb. per acre.
   Sub-plot treatments: 2 Varieties: V₁ = MTU-1 and V₂ = Ryots' Akkullu.

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a), (b) Main-plot: 29.5' x 19'; sub-plot: 29.5' x 9.5'. (v) Nil. (vi) Yes.

4. GENERAL
   (i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948 to 1952. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2722 lb./ac.
   (ii) (a) 206.6 lb./ac.
   (b) 219.1 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>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V₁</td>
<td>2738</td>
<td>2639</td>
<td>2689</td>
</tr>
<tr>
<td>V₂</td>
<td>2764</td>
<td>2747</td>
<td>2755</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. M marginal means = 206.8 lb./ac.
2. V marginal means = 89.4 lb./ac.
3. V means at the same level of M = 126.5 lb./ac.
4. M means at the same level of V = 225.3 lb./ac.

Crop: Paddy. (Single crop area). Ref.: A.P. 52(63)/51(64)/50(28)/49(73)/48(76)
Site: Agri. Res. Stn., Maruteru. Type: 'M'.

Object: To study the effect of continuously growing a strain compared to ryots' unselected bulk on the soil fertility.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 19.5.51/29.6.51. (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c) — (d) 6' x 6'. (e) 2. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. First weeding one month after transplanting. (ix) N.A. (x) 1.12.52.
2. TREATMENTS:

Main-plot treatments:
- 2 levels of Manure: $M_0 =$ No manure, $M_1 =$ G.L. at 200 lb./ac. + Super at 112 lb./ac. + 43 lb./ac. of G.N.C. + A/S at 50 lb./ac.
- Varities: $V_1 =$ MTU-3 and $V_2 =$ Ryots' Akkullu.

Sub-plot treatments:
- 2 varieties: $V_1 =$ MTU-1 and $V_2 =$ Ryots' Akkullu.

3. DESIGN:

(i) Split plot (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 30' x 20', (b) 30' x 20'. (v) Nil. (vi) Yes.

4. GENERAL:

(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949 to 1952 (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 3774 lb./ac.
(ii) 628.7 lb./ac.
(iii) 334.8 lb./ac.
(iv) None of the effects is significant.
(v) 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>
<tbody>
<tr>
<td>$M_0$</td>
<td>3787</td>
<td>3762</td>
<td>3775</td>
</tr>
<tr>
<td>$M_1$</td>
<td>3699</td>
<td>3848</td>
<td>3774</td>
</tr>
</tbody>
</table>

S.E. of difference of two

1. $M$ marginal means =256.6 lb./ac.
2. $V$ marginal means =136.6 lb./ac.
3. $V$ means at the same level of $M$ =193.3 lb./ac.
4. $M$ means at the same level of $V$ =290.8 lb./ac.

Crop : Paddy.
Object : To gauge the superiority of MTU-3 over MTU-3 (early I) under conditions of late planting and manuring.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Heavy black clay. (b) Refer soil analysis, Maruteru. (iii) 20.5.49. (iv) (a) Water level in, puddled and levelled. (b) Transplanted. (c) Yes. (d) 6' x 6'. (e) 2. (f) Nil. (g) As under treatments. (h) Irrigated. (i) 2 weedings. (ii) 41.67'. (iii) 21.10.49.

2. TREATMENTS:

(i) Split plot (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) Sub-plot: 10.5' x 25.5'; main-plot: 21' x 25.5'. (v) Nil. (vi) Yes.

3. DESIGN:

(i) Split plot (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) Sub-plot: 10.5' x 25.5'; main-plot: 21' x 25.5'. (v) Nil. (vi) Yes.
5. RESULTS:

(i) 1047 lb./ac.
(ii) (a) 121.5 lb./ac.
(b) 192.3 lb./ac.
(iii) Variety effects are significant. Others are not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$M_0$</th>
<th>$M_1$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_1$</td>
<td>1411</td>
<td>1212</td>
<td>1312</td>
</tr>
<tr>
<td>$V_2$</td>
<td>797</td>
<td>766</td>
<td>781</td>
</tr>
</tbody>
</table>

S.E. of difference of two

1. $M$ marginal means = 49.6 lb./ac.
2. $V$ marginal means = 78.5 lb./ac.
3. $M$ means at the same level of $V$ = 111.0 lb./ac.
4. $V$ means at the same level of $M$ = 92.9 lb./ac.

Crop: Paddy (Main crop season).
Object: To gauge the superiority of MTU-3 and MTU-20 under late planting conditions and manuring.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 5.6.50.
(iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c) (d) 6' x 6'. (e) 2. (f) Nil.
(vi) As under treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 49.63°. (x) MTU-20 : 29.10.50 ;
MTU-3 : 30.1.10.50.

2. TREATMENTS:

Main-plot treatments:--
2 levels of manure: $M_0$ = No manure, $M_1$ = 2000 lb./ac. of G.L. + 400 lb./ac. of G.N.C. + 112 lb./ac. of Super + 50 lb./ac. of A.P.
Sub-plot treatments:--
2 varieties: $V_1$ = MTU-3 and $V_2$ = MTU-20.

3. DESIGN:

(i) Split-plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a), (b) 10' x 25.5'.
(v) Nil. (vi) Yes.

4. GÉNÉRAL:

(i) Satisfactory. (ii) Nil. (iii) Height measurements, tiller count and Grain & straw yield. (iv) (a) 1949 to
1951. (b) N.A. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 2365 lb./ac.
(ii) (a) 150.0 lb./ac.
(b) 8.1.8 lb./ac.
(iii) Variety effects are highly significant. Manure effects are not significant. Interaction is significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$M_0$</th>
<th>$M_1$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_1$</td>
<td>2566</td>
<td>2575</td>
<td>2570</td>
</tr>
<tr>
<td>$V_2$</td>
<td>2095</td>
<td>2225</td>
<td>2160</td>
</tr>
</tbody>
</table>

S.E. of difference of two

1. $M$ marginal means = 61.1 lb./ac.
2. $V$ marginal means = 33.0 lb./ac.
3. $V$ means at the same level of $M$ = 46.6 lb./ac.
4. $M$ means at the same level of $V$ = 69.5 lb./ac.
Crop: Paddy (Late planting).

Object: To gauge the superiority of MTU-3 over MTU-20 under different conditions of planting and manuring.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 3.5.51.  (iv) (a) Water let in, puddled thrice and levelled: (b) Transplanted. (c) 2. (d) 6°×6°. (v) 2 Nil. (vi) As under treatments. (vii) Irrigated. (viii) 2 weedings. First weeding one month after transplanting. (ix) 45.18°, (x) 2.11.51.

2. TREATMENTS:
   Main-plot treatments:
   2 levels of Manure: M\(_0\) = No manure. M\(_1\) = 2000 lb./ac. of G.L. + Super at 112 lb./ac + A/S at 50 lb./ac + G.N.C. at 400 lb./ac.

   Sub-plot treatments:
   2 varieties: V\(_1\) = MTU-3 and MTU-20.

3. DESIGN:
   (i) Split plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) 9.5°×25°. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949 to 1952. (b) N.A. (c) N.A. (v) (a) and (b) N.I. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1943 lb./ac.
   (ii) (a) 63.09 lb./ac.
   (b) 54.9 lb./ac.
   (iii) Effects of V and M are significant. Interaction is not significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>V(_1)</th>
<th>V(_2)</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>M(_0)</td>
<td>2043</td>
<td>1577</td>
</tr>
<tr>
<td>M(_1)</td>
<td>2206</td>
<td>1826</td>
</tr>
<tr>
<td>Mean</td>
<td>2124</td>
<td>1701</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. M marginal means =25.7 lb./ac.
2. V marginal means =38.7 lb./ac.
3. V means at the same level of M =54.9 lb./ac.
4. M means at the same level of V =47.6 lb./ac.

Crop: Paddy (Main crop).

Object: To gauge the superiority of MTU-3 over MTU-3 (Early 1) under conditions of early planting and manuring.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Heavy black clay. (b) Refer soil analysis, Maruteru. (iii) 4.5.49. (iv) (a) Water let in, puddled and levelled. (b) Transplanted. (c) —. (d) 6°×6°. (e) 2. (f) Nil. (v) As under treatments. (vi) Irrigated. (vii) 2 weedings. (ix) 41.67°. (x) 22.10.49.
2. TREATMENTS:
Main-plot treatments:
- 2 levels of manure: $M_0 =$ No manure, $M_1 =$ G.L. at 400 lb./ac. + B.M. at 112 lb./ac.
Sub-plot treatments:
- 2 varieties: $V_1 =$ MTU-3 and $V_2 =$ MTU-3 (Early I).

3. DESIGN:
(i) Split plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) Sub-plot : 10.5' x 25.5'; main-plot : 21' x 25.5'; (v) Nil. (vi) Yes.

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

5. RESULTS:
(i) 2592 lb./ac.
(ii) (a) 228.6 lb./ac.
(b) 217.2 lb./ac.
(iii) Effects of $M$ and $V$ are significant. Interaction is not 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>
<tbody>
<tr>
<td>$M_0$</td>
<td>2563</td>
<td>2291</td>
<td>2579</td>
</tr>
<tr>
<td>$M_1$</td>
<td>2933</td>
<td>2291</td>
<td>2756</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td>2592</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. M marginal means = 93.3 lb./ac.
2. V marginal means = 88.7 lb./ac.
3. V means at the same level of $M$ = 125.4 lb./ac.
4. M means at the same level of $V$ = 128.8 lb./ac.

Crop := Paddy (Main crop season).
Object := To gauge the superiority of MTU-3 and MTU-20 under early planting conditions and manuring.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 15.5.50. (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c) -- . (d) 6' x 6'. (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 49.63'. (x) MTU-20 : 14.10 50 ; MTU-3 : 23.10 50.

2. TREATMENTS:
Main-plot treatments:
- 2 levels of manure : $M_0 =$ no manure. $M_1 =$ G.L. + 400 lb./ac. G.N.C. + 112 lb./ac. of Super + 50 lb./ac. of A/S.
Sub-plot treatments:
- 2 varieties: $V_1 =$ MTU-3 and $V_2 =$ MTU-20.

3. DESIGN:
(i) Split plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) 10' x 25.5'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Height measurements, tiller count and grain and straw yield. (iv) (a) 1949 to 1951. (b) N.A. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.
5. RESULTS:
(i) 2900 lb./ac.
(ii) (a) 197.4 lb./ac.
(b) 145.5 lb./ac.
(iii) Only manure and variety effects are significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$M_0$</th>
<th>$M_1$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_1$</td>
<td>2796</td>
<td>3288</td>
<td>3042</td>
</tr>
<tr>
<td>$V_2$</td>
<td>2562</td>
<td>2954</td>
<td>2758</td>
</tr>
<tr>
<td>Mean</td>
<td>2679</td>
<td>3121</td>
<td>2900</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. $M$ marginal means = 80.5 lb./ac.
2. $V$ marginal means = 59.4 lb./ac.
3. $V$ means at the same level of $M$ = 84.0 lb./ac.
4. $M$ means at the same level of $V$ = 100.1 lb./ac.

Crop: Paddy (Early planting).

Object: To gauge the superiority of MTU-3 over MTU-20 under different conditions of planting and manuring.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 16.5.51.
(iv) (a) Water 'et in, puddled thrice and levelled. (b) Transplanted. (c) —. (d) 6" x 6". (e) Nil. (vi) As under treatments. (vii) Irrigated. (viii) 2 weedings. First weeding one month after transplanting. (ix) 45.18°. (x) 6 and 26.10.51.

2. TREATMENTS:
Main-plot treatments:---
2 levels of manure: $M_0$=No manure. $M_1$=2000 lb./ac. of G.L.+Super at 112 lb./ac.+A/S at 50 lb./ac.+G.N.C. at 400 lb./ac.
Sub-plot treatments:---
2 varieties: $V_1$=MTU-3 and $V_2$=MTU-20.

3. DESIGN:
(i) Split plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) 10' x 5'.
(v) Nil. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Straw and grain yield. (iv) (a) 1949 to 1952. (b) and (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 3517 lb./ac.
(ii) (a) 145.5 lb./ac.
(b) 104.0 lb./ac.
(iii) Effects of $V$, $M$ and $V \times M$ are all 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>
<tbody>
<tr>
<td>$M_0$</td>
<td>3619</td>
<td>2957</td>
<td>3288</td>
</tr>
<tr>
<td>$M_1$</td>
<td>4209</td>
<td>3283</td>
<td>3746</td>
</tr>
<tr>
<td>Mean</td>
<td>3914</td>
<td>3120</td>
<td>3517</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. V marginal means $\Delta = 59.4$ lb./ac.
2. M marginal means $\Delta = 42.4$ lb./ac.
3. V means at the same level of M $\Delta = 60.0$ lb./ac.
4. M means at the same level of V $\Delta = 72.6$ lb./ac.

Crop: Paddy (Main crop season).
Ref: A.P. 48 (72).
Type: ‘MV’.

Object: To determine a single strain of Akkulla as between MTU-1 and SLO-13 for Godavari delta under early planted conditions.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 22.5.1948.
   (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c) 6” x 6”. (e) 2. (v) Nil.
   (vi) As under treatments. (vii) Irrigated. (viii) 2 weedings. First weeding one month after transplanting.
   (ix) 31.87”. (x) 27.31.1948.

2. TREATMENTS:
   Main-plot treatments:
   4 levels of manure: $M_0$—No manure. $M_1$—200 lb./ac. of G.L. + 400 lb./ac. of G.N.C. + 12 lb./ac. of Super + 50 lb./ac. of A/S.
   Sub-plot treatments:
   2 varieties: $V_1$—MTU-1 and $V_2$—SLO-13.

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a), (b) 9’x30’.
   (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1949 to 1952. (b) N.A. (c) N.A. (v) (a) (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 3223 lb./ac.
   (ii) (a) 3767 lb./ac.
   (b) 473.5 lb./ac.
   (iii) There is significant difference between main treatments. Others are not 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>
<tbody>
<tr>
<td>$M_0$</td>
<td>4006</td>
<td>2776</td>
<td>3391</td>
</tr>
<tr>
<td>$M_1$</td>
<td>3522</td>
<td>2598</td>
<td>3055</td>
</tr>
<tr>
<td>Mean</td>
<td>3764</td>
<td>2682</td>
<td>3223</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. M marginal means $\Delta = 153.7$ lb./ac.
2. V marginal means $\Delta = 193.2$ lb./ac.
3. V means at the same level of $M\Delta = 271.2$ lb./ac.
4. M means at the same level of $V\Delta = 246.9$ lb./ac.
Site: Agri. Res. Stn., Maruteru. Type: 'MV'.

Object: To determine a single strain of Akkul as between MTU-1 and SLO-13 for Godavari delta under late planted conditions.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) N.A. (c) N.A. (d) Deep black clay. (e) Refer soil analysis, Maruteru. (ii) 6.6.1948. (iii) Water let in, puddled thrice and levelled. (iv) Transplanted. (v) 3.6' x 6'. (vi) Nil. (vii) As under treatments. (viii) Irrigated. (ix) 2. (x) 28.11.1948.

2. TREATMENTS:
Main-plot treatments: 2 levels of manure: M₀ = No manure, M₁ = 2000 lb./ac. of G.L. + 400 lb./ac. of G.N.C. + 112 lb./ac. of Super + 50 lb./ac. of A/S.

3. DESIGN:
(i) Split-plot. (ii) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 6'. (iv) (a), (b) 24' x 9'. (v) Nil. (vi) Yes.

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

5. RESULTS:
(i) 2834 lb./ac. (ii) (a) 400.7 lb./ac. (b) 235.9 lb./ac. (iii) There is significant difference between varieties. Others are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M₀</th>
<th>M₁</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V₁</td>
<td>2659</td>
<td>2529</td>
<td>2609</td>
</tr>
<tr>
<td>V₄</td>
<td>3000</td>
<td>3118</td>
<td>3059</td>
</tr>
<tr>
<td>Mean</td>
<td>2844</td>
<td>2824</td>
<td>2834</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. V marginal means = 163.5 lb./ac.
2. M marginal means = 96.3 lb./ac.
3. V means at the same level of M = 136.2 lb./ac.
4. M means at the same level of V = 159.7 lb./ac.

Crop: Paddy (main crop). Ref: A.P. 59 (78).
Site: Agri. Res. Stn., Maruteru. Type: 'MV'.

Object: To study the performance of varieties of Paddy under manured and unmanured conditions (high level).

1. BASAL CONDITIONS:
(i) (a) Nil. (b) N.A. (c) N.A. (d) Deep black clay. (e) Refer soil analysis, Maruteru. (i) 31.5.30/ 10.7.30. (iv) Water let in, puddled thrice and levelled. (b) Transplanted. (c) 6' x 6'. (d) Nil. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 49.63°. (x) 26, 27, 11, 1930.
2. TREATMENTS:
Main-plot treatments:
- 2 levels of manure: \(M_0=\text{No manure}\), \(M_1=2000 \text{ lb./ac. of G.L.} + 400 \text{ lb./ac. of G.N.C.} + 112 \text{ lb./ac. of Super} + 50 \text{ lb./ac. of A/S}\).

Sub-plot treatments:
- 3 varieties: \(V_1=\text{MTU-5}\), \(V_2=\text{GEB-24}\) and \(V_3=\text{SL0-13}\).

3. DESIGN:
(i) Split plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) 9' x 47'. (v) Nil. (vi) Yes.

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

5. RESULTS:

\[
\begin{array}{ccc}
\text{M}_0 & \text{M}_1 & \text{Mean} \\
V_1 & 2467 & 2876 & 2596 \\
V_2 & 2467 & 2724 & 2680 \\
V_3 & 2603 & 2696 & 2649 \\
\text{Mean} & 2532 & 2765 & 2694 \\
\end{array}
\]

S.E. of difference of two
1. M marginal means = 45.1 lb./ac.
2. V marginal means = 87.4 lb./ac.
3. V means at the same level of M = 123.7 lb./ac.
4. M means at the same level of V = 110.6 lb./ac.

Crop := \text{Paddy.} \\
Site := \text{Agri. Res. Stn., Maruteru.} \\
Ref := \text{A.P. 50(79).} \\
Type := \text{‘MV’.}

Object := \text{To study the performance of varieties of Paddy under manured and unmanured conditions (low level).}

1. BASAL CONDITIONS:
(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 31.5/10.7/50. (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c) -- (d) 6' x 6'. (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 49.63'. (x) 26th and 27th November 1950.

2. TREATMENTS:
Main-plot treatments:
- 2 levels of manure: \(M_0=\text{No manure}\), \(M_1=2000 \text{ lb./ac. of G.L.} + 400 \text{ lb./ac. of G.N.C.} + 112 \text{ lb./ac. of Super} + 50 \text{ lb./ac. of A/S}\).

Sub-plot treatments:
- 3 varieties: \(V_1=\text{MTU-5}\), \(V_2=\text{GEB-24}\) and \(V_3=\text{SL0-13}\).

DESIGN:
(i) Split plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) 9' x 7'. (v) Nil. (vi) Yes.
4. GENERAL:

(i) Normal.  (ii) Nil.  (iii) Grain and straw yield.  (iv) (a) 1948 to 1950.  (b) and (c) Nil.  (v) (a) and (b) Nil.  (vi) and (vii) Nil.

5. RESULTS:

(i) 2747 lb./ac.

(ii) (a) 392.9 lb./ac.

(b) 235.2 lb./ac.

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

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

<table>
<thead>
<tr>
<th>V1</th>
<th>M0</th>
<th>M1</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>2352</td>
<td>2674</td>
<td>2613</td>
<td></td>
</tr>
<tr>
<td>2610</td>
<td>2749</td>
<td>2680</td>
<td></td>
</tr>
<tr>
<td>2945</td>
<td>2949</td>
<td>2947</td>
<td></td>
</tr>
</tbody>
</table>

Mean 2702, 2791, 2747

S.E. of difference of two

1. M marginal means = 131.0 lb./ac.
2. V marginal means = 83.7 lb./ac.
3. V means at the same level of M = 118.5 lb./ac.
4. M means at the same level of V = 162.8 lb./ac.

Crop :- Paddy.


Ref :- A.P. 50(82).

Type :- ‘MV’.

Object :- To determine a single strain of Akkalla as between MTU-1 and SLO-3 for Godavari delta under manured and unmauured and late planting conditions.

1. BASAL CONDITIONS:

(i) (a) N.  (b) N.A.  (c) N.A.  (d) Deep black clay.  (e) Refer soil analysis, Maruteru.  (ii) 5.6.5C.

(v) (a) Water let in, puddled thrice and levelled.  (b) Transplanted.  (c) 2.  (d) 9.5’ x 6’.

(e) 2 weedings.  (f) 49.63’.  (g) 22.11.50.

2. TREATMENTS:

Main-plot treatments:

2 levels of manure : M0 = No manure and M1 = 2000 lb./ac. of G.L. + 400 lb./ac. of O.N.C. + 112 lb./ac. of Super+50 lb./ac. of A/S.

Sub-plot treatments:

2 varieties : V1 = SLO-13 and V2 = MTU-1.

3. DESIGN:

(i) Split plot; (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot.  (b) N.A.  (iii) 6.  (iv) a and (b) 9.5’ x 24.5’.

(v) Nil.  (vi) Yes.

4. GENERAL:

(i) Low yields of grain under manured conditions are due to rank vegetative growth. Consequently crop lodged badly. Date of lodging not available.  (ii) Nil.  (iii) Grain and straw yield.  (iv) (a) 1949 to 1950.  (b) N.A.

(c) Nil.  (d) and (b) Nil.  (e) and (vii) Nil.

5. RESULTS:

(i) 3695 lb./ac.

(ii) (a) 415.7 lb./ac.

(b) 228.7 lb./ac.

(iii) Main effects of M and V are significant. Interaction is not significant.
Object: To determine a single strain of Akkulu as between MTU-1 and SL0-13 for Gocavari delta under manured and unmanured and early planting conditions.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A.  
   (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 15.5.50.  
   (iv) (a) N.A. (b) Transplanted. (c) —. (d) 2 x 6". (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) 2 weedings (ix) N.A. (x) 21.11.50.  

2. TREATMENTS:
   Main-plot treatments:  
   2 levels of manure: M₀=No manure and M₁=2000 lb./ac. of G.L.+400 lb./ac. of G.N.C.+112 lb./ac. of Super+50 lb./ac. of A/S.  

   Sub-plot treatments:  
   2 varieties: V₁=SL0-13 and V₂=MTU-1.  

3. DESIGN:
   (i) Split plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) Sub-plot: 10' x 31'. main-plot 20' x 31'. (v) Nil. (vi) Yes.  

4. GENERAL:
   (i) Low yield of grain under manured conditions is due to rank vegetative growth. Consequently crop lodged. Date of lodging is N.A.  
   (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948 to 1950; (b) and (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.  

5. RESULTS:
   (i) 3736 lb./ac.  
   (ii) (a) 142.8 lb./ac.  
   (b) 379.7 lb./ac.  
   (iii) Main effect of M is highly significant. Others are not significant.  
   (iv) Av. yield of grain in lb./ac.  

---

<table>
<thead>
<tr>
<th></th>
<th>M₀</th>
<th>M₁</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V₁</td>
<td>3909</td>
<td>3410</td>
<td>3860</td>
</tr>
<tr>
<td>V₂</td>
<td>3903</td>
<td>3158</td>
<td>3550</td>
</tr>
</tbody>
</table>

Mean: 4065 3284 2695

---

S.E. of difference of two
1. M marginal means = 169.7 lb./ac.
2. V marginal means = 93.3 lb./ac.
3. V means at the same level of M = 132.0 lb./ac.
4. M means at the same level of V = 193.7 lb./ac.
Crop :- Paddy (main crop and low level).  
Ref :- A.P. 48(35).  
Type :- 'MV'.

Object :- To gauge the influences of soil, climatic conditions, varieties, manure, etc. on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) Paddy.  (c) N.A.  (ii) (a) Deep black clay.  (b) Refer soil analysis, Maruteru.  (iii) 3rd week of May, 1948.  (iv) (a) Water let in, puddled thrice and levelled.  (b) Transplanted.  (c) --.  (d) 6'x6'.  (e) 2.  (v) Nil.  (vi) As under treatments.  (vii) Irrigated.  (viii) 2 weedings.  (ix) 31.87'.  (x) Last week of Nov. 1948.

2. TREATMENTS:
   Mala-plot treatments :-
   2 levels of manure : M₀ = No manure.  M₁ = 2000 lb./ac. of G.L. + 400 lb./ac. of G.N.C. + 112 lb./ac. of Super-50 lb./ac. of A/S.
   Sub-plot treatments :-

3. DESIGN:
   (i) Split-plot.  (ii) (a) 2 main-plots/block 3 sub-plots/main-plot.  (iii) 6.  (iv) (a) and (b) 9.5'x46.5'.  (v) Nil.  (vi) Yes.

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

5. RESULTS:
   (i) 2641 lb./ac.
   (ii) (a) 64.09 lb./ac.
   (b) 102.9 lb./ac.
   (iii) Effects of M and V are significant. Interaction is not significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M₀</th>
<th>M₁</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V₁</td>
<td>2522</td>
<td>2541</td>
<td>2947</td>
</tr>
<tr>
<td>V₂</td>
<td>2561</td>
<td>1877</td>
<td>2219</td>
</tr>
<tr>
<td>V₃</td>
<td>3210</td>
<td>2543</td>
<td>2877</td>
</tr>
<tr>
<td>Mean</td>
<td>2941</td>
<td>2420</td>
<td>2681</td>
</tr>
</tbody>
</table>

S.E. of difference of two
2. M marginal means = 41.0 lb./ac.
3. M means at the same level of M = 58.0 lb./ac.
4. M means at the same level of V = 52.0 lb./ac.

---

Crop :- Paddy (main crop and high level).  
Ref :- A.P. 48(36).  
Type :- 'MV'.

Object :- To gauge the influences of soil, climatic conditions, varieties, manure, etc., on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) Paddy.  (c) N.A.  (ii) (a) Deep black clay.  (b) Refer soil analysis, Maruteru.  (iii) 3rd week of May 1948.  (iv) (a) Water let in, puddled thrice and levelled.  (b) Transplanted.  (c) --.  (d) 6'x6'.  (e) 2.  (v) Nil.  (vi) As per treatments.  (vii) Irrigated.  (viii) 2 weedings.  (ix) 31.87'.  (x) Last week of Nov. 1948.
2. TREATMENTS:

Main-plot treatments:
- 2 levels of manure: $M_0$ = No manure and $M_1$ = 2000 lb/ac. of G.L. + 400 lb/ac. of G.N.C. + 112 lb/ac. of Super + 50 lb/ac. of A/S.

Sub-plot treatments:
- 3 varieties: $V_1$ = MTU-5, $V_2$ = GEB-24 and $V_3$ = SLO-13.

3. DESIGN:

(i) Split-plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) $9.5' \times 46.5'$'. (v) Nil. (vi) Yes.

4. GENERAL:

(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948 to 1952. (b) N.A. (c) N.A. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

(i) 307 lb/ac.
(ii) (a) 155.7 lb/ac. (b) 69.0 lb/ac.
(iii) Effects of $V$ and $M$ are significant. Interaction is not significant.
(iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th></th>
<th>$M_0$</th>
<th>$M_1$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_1$</td>
<td>2929</td>
<td>3333</td>
<td>3131</td>
</tr>
<tr>
<td>$V_2$</td>
<td>2936</td>
<td>2789</td>
<td>2863</td>
</tr>
<tr>
<td>$V_3$</td>
<td>3034</td>
<td>3401</td>
<td>3218</td>
</tr>
<tr>
<td>Mean</td>
<td>3066</td>
<td>3175</td>
<td>3071</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. $M$ marginal means $= 55.2$ lb/ac.
3. $V$ means at the same level of $M$ $= 39.8$ lb/ac.
4. $M$ means at the same level of $V$ $= 64.1$ lb/ac.

Site: Agri. Res. Stn., Maruteru. Type: 'MV'.

Object: To gauge the influence of (1) size, (2) climatic conditions, (3) variety, (4) manure, (5) cultural practices and (6) freedom from pests and diseases on yield of Paddy (low level).

1. BASAL CONDITIONS:

   i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 2.1.1948.
   (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c)— (d) N.A. (e) N.A. (v) Nil.
   (vi) As under treatments. (vii) Irrigated. (viii) 2 weedicis. (ix) 0.52'. (x) 29.4.1948 and 14.5.1948.

2. TREATMENTS:

Main-plot treatments:
- 2 levels of manure: $M_0$ = No manure and $M_1$ = 2000 lb/ac. of G.L. + 400 lb/ac. of G.N.C. + 112 lb/ac. of Super + 50 lb/ac. of A/S.

Sub-plot treatments:
- 3 varieties: $V_1$ = SLO-12, $V_2$ = MTU-15 and $V_3$ = ASD-1.

3. DESIGN:

(i) Split-plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) and (b) $10' \times 46'$.
   (v) Nil. (vi) Yes.
5. RESULTS:

<table>
<thead>
<tr>
<th>(i) Growth of ASD-1 poor. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948 to 1952. (b) N.A. (c) N.A. (d) Nil. (e) Samalkot. (f) N.A. (g) N.A. (h) Nil.</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESULTS:</td>
</tr>
<tr>
<td>(i) 1610 lb/ac. (ii) (a) 184.5 lb/ac. (b) 221.6 lb/ac. (iii) Effects of V and M are significant. Interaction is not significant. (iv) Av. yield of grain in lb/ac.</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
| \[ \begin{array}{ccc}
| M_0 & M_1 & Mean \\
| V_1 & 1464 & 1997 & 1730 \\
| V_2 & 1399 & 2115 & 1757 \\
| V_3 & 1071 & 1612 & 1342 \\
| \hline
| Mean & 1311 & 1908 & 1610 \\
| \end{array} \] |
| S.E. of difference of two marginal means: 90.4 lb/ac. (a) 61.5 lb/ac. (c) 127.9 lb/ac. (d) 121.2 lb/ac. |
| Object: To gauge the influence of (1) soil. (2) climatic conditions. (3) varieties. (4) manures. and (5) cultural practices, etc. on yield of Paddy (high level). |

1. BASAL CONDITIONS:

| (i) (a) Nil. (b) Paddy. (c) N.A. (d) Deep black clay. (e) Refer soil analysis, Maruteru. (iii) 2.1.19-8. (iv) (a) Water last m, paddy thrice and levelled. (b) Transplanted. (c) - (d) 6’ x 6’. (e) 2 (f) Nil. (vi) As under treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 0.52”. (x) 7.5.1948. |

2. TREATMENTS:

| (i) Split-plot. (ii) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a), (b) 10’ x 46’. (v) Nil. (vi) Yes. |

3. DESIGN:

| (i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948 to 1952. (b) N.A. (c) N.A. (d) Samalkot. (f) N.A. (g) N.A. (h) Nil. |

4. RESULTS:

| (i) 18.2 lb/ac. (ii) (a) 25.8 lb/ac. (b) 197.9 lb/ac. (iii) Main treatments alone are significant. |

| Microwave: 400 - 410 lb/ac. |
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$M_0$</th>
<th>$M_1$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_1$</td>
<td>1653</td>
<td>1885</td>
<td>1769</td>
</tr>
<tr>
<td>$V_2$</td>
<td>1659</td>
<td>2139</td>
<td>1884</td>
</tr>
<tr>
<td>$V_3$</td>
<td>1427</td>
<td>2139</td>
<td>1783</td>
</tr>
<tr>
<td>Mean</td>
<td>1570</td>
<td>2054</td>
<td>1612</td>
</tr>
</tbody>
</table>

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

Object: To gauge the influence of soil, climatic conditions, varieties, manure, etc. on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 11.1.49.
(iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted. (c) -- (d) 6"x6". (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 6.63". (x) 18.5.49.

2. TREATMENTS:
Main-plot treatments:
2 levels of manure: $M_0$ = No Manure and $M_1$ = 2000 lb./ac. of G.L. + 400 lb./ac. of G.N.C. + 112 lb./ac. of Super + 50 lb./ac. of A/S.
Sub-plot treatments:
3 Varieties: $V_1$ = ASD-1, $V_2$ = SLO-12 and $V_3$ = MTU-15.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a), (b) 9'-8"x46'-8". (v) Nil. (vi) Yes.

4. GENERAL:
(i) N.A. (ii) N.A. (iii) Grain and straw yield. (iv) (a) 1948 to 1952. (b) N.A. (c) N.A. (v) (a) N.A. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 2235 lb./ac.
(ii) (a) 254.8 lb./ac.
(b) 83.0 lb./ac.
(iii) Effects of $V$ and $M$ are significant. Interaction is not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$M_0$</th>
<th>$M_1$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_1$</td>
<td>1557</td>
<td>2115</td>
<td>1836</td>
</tr>
<tr>
<td>$V_2$</td>
<td>2156</td>
<td>2626</td>
<td>2391</td>
</tr>
<tr>
<td>$V_3$</td>
<td>2339</td>
<td>2614</td>
<td>2477</td>
</tr>
<tr>
<td>Mean</td>
<td>2018</td>
<td>2452</td>
<td>2235</td>
</tr>
</tbody>
</table>

S.E. of difference of two:
1. $V$ marginal means
2. $M$ marginal means
3. $V$ means at the same level of $M$
4. $M$ means at the same level of $V$
Site: Agri. Res. Stn., Maruteru.  Type: 'MV'.

Object: To study the effect of silica in combination with N and P.

1. BASAL CONDITIONS:

(i) a) Nil. b) N.A. (c) N.A. (ii) a) Heavy black clay, b) Refer soil analysis, Maruteru.  
(iii) 31.5.50  
(a) Water let in, puddled thrice and levelled.  (b) Transplanted.  
(c) 6'x6'.  (d) 2.  (v) Nil.  (vi) As under treatments.  (vii) Irrigated.  (viii) 2 weedings.  
First weeding one month after transplanting.  (ix) 49.71".  (x) 11.12.50.

2. TREATMENTS:

Main-plot treatments:

2 varieties: $V_1$ = GEB.-24 and $V_2$ = MTU-19.

Sub-plot treatments:

4 levels of manure: $M_0$ = No manure, $M_1$ = Silica+P, $M_2$ = Silica+N, and $M_3$ = Silica+N+P.

Doses of manures N.A.

3. DESIGN:

(i) Split-plot.  
(ii) 2 main-plots/block.  
3 sub-plots/main-plot.  
(b) N.A.  
(iii) 4.  
(iv)  
(b) 9.5'x22'.  
(v) Nil.  
(vi)  
(vii) Yes.

4. GENERAL:

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

5. RESULTS:

(i) 3451 lb./ac.  
(ii) (a) 814.8 lb./ac.  
(b) 404.3 lb./ac.

(iii) Manurial treatments differ highly significantly. Others are not significant.

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

<table>
<thead>
<tr>
<th></th>
<th>$M_0$</th>
<th>$M_1$</th>
<th>$M_2$</th>
<th>$M_3$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_1$</td>
<td>2764</td>
<td>2954</td>
<td>3841</td>
<td>3820</td>
<td>3345</td>
</tr>
<tr>
<td>$V_2$</td>
<td>2669</td>
<td>3133</td>
<td>3977</td>
<td>4454</td>
<td>3558</td>
</tr>
<tr>
<td>Mean</td>
<td>2717</td>
<td>3044</td>
<td>3909</td>
<td>4137</td>
<td>3451</td>
</tr>
</tbody>
</table>

S.E. of difference of two

1. $V$ marginal means  
   = 288.5 lb./ac.  
2. $M$ marginal means  
   = 201.9 lb./ac.

3. $V$ means at the same level of $M$  
   = 379.8 lb./ac.

4. $M$ means at the same level of $V$  
   = 285.9 lb./ac.

Site: Agri. Res. Stn., Rudrur.  Type: 'MV'.

Object: To find out the economic dosage of N and P with which highest yield can be obtained and suitable Paddy strain which will suit the tract.

1. BASAL CONDITIONS:

(i) a) Nil.  (b) Fallow.  (c) N.I.  (ii) a) Black cotton soil (Regur).  (b) Refer soil analysis, Rudrur.  
(iii) 14.6.48.  (iv)  
(a) 2 ploughings, 2 puddlings and levelling.  
(b) Broadcasting Molaka.  (c) 80 lb. ac.  (d) N.A.  
(e)  
(v)  
(vi) Nil.  
(vii) As under treatments H.R.--19 and H.R.--33 (early); H.R.--1 and H.R.--35 (late).  
(viii) Irrigated.  
(ix) 4 weedings and 2 thinnings.  (x) 46.06".  (x) H.R.--19 and H.R.--33  
on 19.10.48; H.R.--35  
2. TREATMENTS:

Main-plot treatments:

Sub-plot treatments:
2 levels of manure: M₁ = 60 lb./ac. of N + 30 lb./ac. of P₂O₅ and M₂ = 90 lb./ac. of N + 45 lb./ac. of P₂O₅.

Manures applied on 3.7.48. Source and method of application N.A.

3. DESIGN:

(i) Split-plot. (ii) 4 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 50' x 53'. (v) 4' bund between each sub-plot. One foot border on all sides. (vi) Yes.

3. GENERAL:

(i) Normal. (ii) Slight stem borer attack. (iii) Grain yield. (iv) (a) 1947 to 1949. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 2251 lb./ac.
(ii) (a) 197.6 lb./ac.
(b) 31.15 lb./ac.

(iii) Varieties are significant. Manures and the interaction manure x varieties are highly significant.

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

<table>
<thead>
<tr>
<th></th>
<th>V₁</th>
<th>V₂</th>
<th>V₃</th>
<th>V₄</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>M₁</td>
<td>2332</td>
<td>2011</td>
<td>1691</td>
<td>2563</td>
<td>2149</td>
</tr>
<tr>
<td>M₂</td>
<td>2047</td>
<td>2350</td>
<td>2100</td>
<td>2910</td>
<td>2352</td>
</tr>
<tr>
<td>Mean</td>
<td>2189</td>
<td>2181</td>
<td>1896</td>
<td>2737</td>
<td>2251</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. V marginal means = 197.6 lb./ac.
2. M marginal means = 22.1 lb./ac.
3. V means at the same level of M = 141.5 lb./ac.
4. M means at the same level of V = 31.1 lb./ac.

Crop :- Paddy.
Ref :- A.P. 48(9)/48(13).
Type :- 'MV'.

Object :- To find out the economic dosage of N and P with which highest yield can be obtained and suitable Paddy strain which will suit the tract.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Follow in Tabi 48-49 and Paddy in Abi 48-49. (c) Nil. (ii) (a) Black cotton soil (Regur). (b) Refer soil analysis, Rudrur. (iii) 3.7.49. (iv) (a) 4 times ploughings and 3 times puddling. (b) Seedlings broadcast. (c) 80 lb./ac. (d) N.A. (e) Nil. (vi) Nil. (v) As under treatments; H.R.-19 and H.R.-33—(early) H.R.-1 and H.R.-33 (late). (vii) Irrigated. (viii) Weeding twice. (ix) 51.45", (x) Nov.-Dec. 1949.

2. TREATMENTS:

Main-plot treatments:

Sub-plot treatments:
Doses of manure: N₁ = 60 lb./ac. of N + 30 lb./ac. of P₂O₅ and N₂ = 90 lb./ac. of N + 45 lb./ac. of P₂O₅. N as A/S and P₂O₅ as Super.

3. DESIGN:

(i) Split-plot. (ii) 4 main-plots/block; 2 sub-plots/main-plot. (iii) 2. (iv) (a) Sub-plot: 50' x 53'; main-plot: 50' x 110'. (b) Sub-plot: 48' x 51'; main-plot: 48' x 102'. (v) 4' bund between each sub-plot one foot on all sides. (vi) Yes.
4. GENERAL:
   (i) Normal. Due to heavy and incessant rain germination was affected. (ii) Nil. (iii) Grain weight. (iv) 1947 to 1949. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1664 lb./ac. 
   (ii) (a) 68.5 lb. ac. 
   (b) 180.7 lb. ac. 
   (iii) There is highly significant difference between N levels only. 
   (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>
</tr>
</thead>
<tbody>
<tr>
<td>N1</td>
<td>1451</td>
<td>1428</td>
<td>1460</td>
<td>1887</td>
</tr>
<tr>
<td>N2</td>
<td>1700</td>
<td>1749</td>
<td>1736</td>
<td>2100</td>
</tr>
<tr>
<td>Mean</td>
<td>1576</td>
<td>1489</td>
<td>1598</td>
<td>1994</td>
</tr>
</tbody>
</table>

S.E. of difference of two:
1. V marginal means = 127.7 lb./ac.
2. M marginal means = 34.2 lb./ac.
3. V means at the same level of M = 136.6 lb./ac.
4. M means at the same level of V = 68.5 lb./ac.

Ref: A.P. 48(49).
Type: 'MV'.

Object: To study the various factors that influence the Paddy yield especially the variety and manure (well drained soil).

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy bulk. (c) N.A. (ii) (a) Heavy alluvial clay (b) Refer soil analysis, Samalkot. 
   (ii) 19.2.48
   (iii) (a) 2 or 3 ploughings. (b) Transplanting. (c) (d) 4' x 4'. (e) 2. (f) Nil. (vi) As per treatments. 
   (vii) Irrigated. (viii) 2 or 3 weedings. (ix) 2.54'. (x) ASD-1: 6.5.48 and MTU-15: 14.5.48 SLO-12: 14.5.48.

2. TREATMENTS:
   Main plot treatments:
   2 levels of manure: V0 = No manure. and M1 = 2000 lb./ac. of G.L. + 112 lb./ac. of Super + 403 lb./ac. of G.N.C. at planting + 50 lb./ac. of A/S applied one month after planting.
   Sub-plot treatments:
   3 varieties: V1 = ASD-1, V2 = MTU-15 and V3 = SLO-12.

3. DESIGN:
   (i) Split-plot. (ii) (a) main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 31' x 15'. (b) 30.3' x 15.3'. (v) One row around the net plot. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 19.49 N.A. (b) Same field up to 1949 but in 1950-51 field was changed. (v) (a) Maruteru. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1839 lb./ac. 
   (ii) (a) 68.5 lb. ac. 
   (b) 180.7 lb. ac. 
   (iii) All the components of the treatments are significant.


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

<table>
<thead>
<tr>
<th></th>
<th>$M_0$</th>
<th>$M_1$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_1$</td>
<td>1156</td>
<td>2037</td>
<td>1597</td>
</tr>
<tr>
<td>$V_2$</td>
<td>1772</td>
<td>2035</td>
<td>2019</td>
</tr>
<tr>
<td>$V_3$</td>
<td>1651</td>
<td>2403</td>
<td>2032</td>
</tr>
<tr>
<td>Mean</td>
<td>1530</td>
<td>2249</td>
<td>1889</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. $V$ marginal means $\approx 29.3$ lb./ac.
2. $M$ marginal means $= 65.0$ lb./ac.
3. $V$ means at the same level of $M$ $= 41.5$ lb./ac.
4. $M$ means at the same level of $V$ $= 73.3$ lb./ac.

Crop: Paddy.  
Ref: A.P. 48(58)/48(49).  
Type: 'MV'.

Object: To study the varietal differences under manured and unmanured conditions in well-drained soil.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Heavy alluvial clay. (b) Refer soil analysis, Samalkot. (iii) N.A. (iv) (a) 2 or 3 ploughings. (b) Transplanted. (c)$. (d) 4'x4'$. (e) 2. (v) Nil. (vi) As under treatments. (vii) Irrigated. (viii) 2 or 3 weedings. (ix) 34.61'. (x) N.A.

2. TREATMENTS:
   Main-plot treatments: $M_0=$ Not manured and $M_1=$200 lb./ac. of G.L. +112 lb./ac. of Super applied seven days before planting +400 lb./ac. of G.N.C. applied at planting and 50 lb./ac. of A/S one month after planting.
   Sub-plot treatments: 3 varieties $V_1=$MTU-5, $V_2=$GEB-24 and $V_3=$SLO-13.

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 31'x16'. (b) 30.3'x15.3'. (v) One row around the net plot. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain weight and tiller count. (iv) (a) 1948-50. (b) Same field upto 1949-50 but in 1950-51, field was changed. (c) Nil. (v) (a) Maruteru. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 3088 lb./ac.  
   (ii) (a) N.A.  
   (b) N.A.  
   (iii) Variety and manure effects are significant. Significance of interaction is N.A.  
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$M_0$</th>
<th>$M_1$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_1$</td>
<td>3436</td>
<td>3183</td>
<td>3319</td>
</tr>
<tr>
<td>$V_2$</td>
<td>2898</td>
<td>2561</td>
<td>2729</td>
</tr>
<tr>
<td>$V_3$</td>
<td>3611</td>
<td>2819</td>
<td>3225</td>
</tr>
<tr>
<td>Mean</td>
<td>3315</td>
<td>2861</td>
<td>3088</td>
</tr>
</tbody>
</table>

S.E.s. N.A.
Object: To study the varietal differences under manured and unmanured conditions in well-drained soil.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Heavy alluvial clay. (b) Refer soil analysis, Samalkot. (iii) 5.1.1949. (iv) (a) 2 or 3 ploughings. (b) Transplanted. (c)—. (d) 6" x 6". (e) 2. (f) Nil. (v) As under treatments. (vii) Irrigated. (viii) 2 or 3 weedings. (ix) 3.7.2. (x) 7, 9 and 18.5.1949.

2. TREATMENTS:
   Main-plot treatments:
   2 levels of manure: M₀ = No manure and M₁ = 2000 lb./ac. of G.L. seven days before planting + 300 lb./ac. of G.N.C. + 112 lb./ac. of Super at planting + 50 lb./ac. of A/S one month after planting.
   Sub-plot treatments:
   3 varieties: V₁ = SLO-12, V₂ = MTU-15 and V₃ = ASD-1.

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 30' x 15'.
   (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Not satisfactory due to shortage of water especially for MTU-15 which was seriously affected. (ii) Nil.
   (iii) Grain and straw yield. (iv) (a) 1948-N.A. (b) Same field up to 1948 but in 1950—51 field was changed.
   (e) N.A. (a) Maruteru. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1477 lb./ac.
   (ii) (a) N.A.
   (b) N.A.
   (iii) Variety and manure effects are significant. Interaction is not significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M₀</th>
<th>M₁</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V₁</td>
<td>1476</td>
<td>2135</td>
<td>1806</td>
</tr>
<tr>
<td>V₂</td>
<td>1373</td>
<td>1676</td>
<td>1525</td>
</tr>
<tr>
<td>V₃</td>
<td>792</td>
<td>1409</td>
<td>1101</td>
</tr>
<tr>
<td>Mean</td>
<td>1214</td>
<td>1740</td>
<td>1477</td>
</tr>
</tbody>
</table>

(S.E.'s are not given as the information is N.A.).
2. TREATMENTS:
   Main-plot treatments:
   2 levels of manure: \( M_0 = \text{No manure} \) and \( M_1 = \text{G.L. at 2000 lb./ac.+400 lb./ac. of G.N.C.+112 lb./ac. of Super at planting.} \)
   
   Sub-plot treatments:
   3 varieties: \( V_1 = \text{MTU-5}, V_2 = \text{GEB-24} \) and \( V_3 = \text{SLO-13}. \)

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 31' x 15'. (b) 30' x 14'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain weight, tiller count and plant height. (iv) (a) 1948-N.A. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2610 lb./ac.
   (ii) (a) 205.7 lb./ac. (b) 206.0 lb./ac.
   (iii) Variety and manure effects are highly significant. Interaction is not significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>( M_0 )</th>
<th>( M_1 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( V_1 )</td>
<td>2153</td>
<td>2790</td>
<td>2571</td>
</tr>
<tr>
<td>( V_2 )</td>
<td>2092</td>
<td>2493</td>
<td>2293</td>
</tr>
<tr>
<td>( V_3 )</td>
<td>2692</td>
<td>3243</td>
<td>2968</td>
</tr>
<tr>
<td>Mean</td>
<td>2379</td>
<td>2842</td>
<td>2610</td>
</tr>
</tbody>
</table>

S.E. of difference of two:
1. \( V \) marginal means = 84.0 lb./ac.
2. \( M \) marginal means = 68.4 lb./ac.
3. \( V \) means at the same level of \( M \) = 118.9 lb./ac.
4. \( M \) means at the same level of \( V \) = 118.8 lb./ac.

Crop :- Paddy (2nd crop of 1949-50). Ref :- A.P. 50(56)/49(11,27)/48(49,59).
Site :- Agri. Res. Stn., Samalkot. Type :- 'MV'.

Object :- To study the varietal differences under manured and unmanured conditions in well-drained soil.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As under treatments. (ii) (a) Heavy alluvial clay. (b) Refer soil analysis, Samalkot. (iii) 8.1.50/26.2.50. (iv) (a) 2 ploughings. (b) Transplanted. (c) --. (d) 4" x 4". (e) 2. (f) Nil. (vii) As per treatments. (viii) 2 or 3 weedings. (ix) 18.97". (x) ASD-I on 9.5.53 ; SLO-12. and MTU-15 on 21.5.50.

2. TREATMENTS:
   Main-plot treatments:
   2 levels of manure : \( M_0 = \text{No manure}, \) and \( M_1 = \text{2000 lb./ac. of G.L. seven days before planting+300 lb./ac. of G.N.C.+112 lb./ac. of Super at planting time +50 lb./ac. of A/S one month after planting.} \)
   
   Sub-plot treatments:
   3 varieties: \( V_1 = \text{ASD-1}, V_2 = \text{SLO-12} \) and \( V_3 = \text{MTU-15}. \)

3. DESIGN:
   (i) Split-plot. (ii) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 31' x 16'. (b) 30.3' x 15.1'. (v) One row around the net plot. (vi) Yes.
4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain yield and tiller count. (iv) (a) 1948 to 1950. (b) No. (c) Nil. (v) (a) Maruteru. (b) N.A. (vi) Nil. (vii) Raw data and other experimental details N.A.

5. RESULTS:
   (i) 1410 lb./ac.
   (ii) (a) N.A. (b) N.A.
   (iii) N.A.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M₀</th>
<th>M₁</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V₁</td>
<td>869</td>
<td>1328</td>
<td>1099</td>
</tr>
<tr>
<td>V₂</td>
<td>1232</td>
<td>1546</td>
<td>1389</td>
</tr>
<tr>
<td>V₃</td>
<td>1642</td>
<td>1838</td>
<td>1740</td>
</tr>
<tr>
<td>Mean</td>
<td>1248</td>
<td>1571</td>
<td>1410</td>
</tr>
</tbody>
</table>

S.E.S' N.A.

---

Crop :- Paddy (2nd crop of 1947-48).
Ref :- A.P. 48(46).
Type :- 'MV'.

Object :- To study the varietal differences under manured and unmanured conditions in ill-drained soil.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy bulk. (c) N.A. (ii) (a) Heavy alluvial clay. (b) Refer soil analysis, Samalkot.
   (iii) 21.2.48. (iv) (a) 2 or 3 ploughings. (b) Transplanted (c).—. (d) 4' x 4' (e) 2. (f) Nil. (g) As per treatments. (h) Irrigated. (i) 2 or 3 weedings. (ix) 2.54". (x) ASD-1 : 6.5.48; MTU-15 : 15.5.48. and SLO-12 : 15.5.48.

2. TREATMENTS:
   Main-plot treatments:
   2 levels of manure: M₀ = No manure and M₁ = 2033 lb./ac. of G.L. + 112 lb./ac. of Super-4-400 lb./ac. of G.N.C. at planting time + 50 lb./ac. of A/S applied one month after planting.
   Sub-plot treatments:
   3 varieties: V₁ = ASD-1, V₂ = MTU-15 and V₃ = SLO-12.

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 31' x 16'. (b) 30.3' x 15.3'. (v) One row around the net plot. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain weight and straw yield. (iv) (a) 1948—N.A. (b) N.A. (c) N.A. (v) (a) Maruteru. (b) N.A. (vi) Nil. (vii) Raw data N.A.

5. RESULTS:
   (i) 2.78 lb./ac.
   (ii) (a) 121.4 lb./ac. (b) 516.6 lb./ac.
   (iii) The main-plot treatment and sub-plot treatment effects are highly significant. The interaction is not significant.
   (iv) Av. yield of grain in lb./ac.

   (A)  
   | Manured | 2393 |
   | Unmanured | 1963 |

   (B)  
   | MTU-15 | 2595 |
   | SLO-12 | 2236 |
   | ASD-1 | 1683 |
Crop: Paddy (main crop season).


Ref.: A.P. 48(60)/48(46).

Type: ‘MV’.

Object: To study the varietal differences under manured and unmanured conditions in ill-drained soil.

1. BASAL CONDITIONS:
(i) Nil. (b) Paddy. (c) N.A. (ii) (a) Heavy alluvial clay. (b) Refer soil analysis, Samalkot. (iii) N.A.
(iv) 2 or 3 ploughings. (b) Transplanting. (c) — (d) 4’ x 4’. (e) 2’. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) 2 or 3 weedings. (ix) 34.6’. (x) N.A.

2. TREATMENTS:
Main-plot treatments:
2 levels of manure: M₀ = No manure and M₁ = 2000 lb./ac. of G.L.+112 lb./ac. of Super applied seven days before planting.+400 lb./ac. of G.N.C. applied at planting.+A/S at 50 lb./ac. applied one month after planting.

Sub-plot treatments:

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6’. (iv) (a) 31’ x 16’. (b) 30.3’ x 15.3’. (v) One row around the net sub-plot. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Grain yield and tiller count. (iv) (a) 1948 to 1950. (b) No. (c) Nil. (v) (a) Maruteru, (b) N.A. (vi) Nil. (vii) Raw data and other records—N.A.

5. RESULTS:

<table>
<thead>
<tr>
<th>V₁</th>
<th>V₂</th>
<th>V₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>3561</td>
<td>2645</td>
<td>3092</td>
</tr>
<tr>
<td>3267</td>
<td>2411</td>
<td>3063</td>
</tr>
<tr>
<td>Mean: 3264</td>
<td>2528</td>
<td>3077</td>
</tr>
</tbody>
</table>

Mean: 2999, 2913, 2956

S.E.: N.A.

Crop: Paddy.


Ref.: A.P. 49(5)/49(60)/49(46).

Type: ‘MV’.

Object: To study the varietal differences under manured and unmanured conditions in ill-drained soil.

1. BASAL CONDITIONS:
(i) (a) Nil. (Paddy-Gram is the rotation generally followed). (b) Paddy. (c) As per treatments. (ii) (a) Heavy alluvial clay. (b) Refer soil analysis, Samalkot. (iii) 14.6.49/11.7.49. (iv) (a) 2 ploughings. (b) Transplanted. (c) — (d) 6’ x 6’. (e) 2’. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 27.11.49.

2. TREATMENTS:
Main-plot treatments:
2 levels of manure: M₀ = No manure and M₁ = 2000 lb./ac. of G.L. one week before planting.+112 lb./ac. of Super + 400 lb./ac. of G.N.C. at planting time + A/S at 50 lb./ac. applied one month after planting.

Sub-plot treatments:
3. DESIGN:
(i) Split-plot. (ii) a) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 30' x 14'. (v) N.A., (vi) Yes.

4. GENERAL:
(i) Good. (ii) Attack of helmynthosporium to a small extent. (iii) Grain yield and tiller count and height of plant. (iv) (a) 1948-N.A. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 2386 lb./ac.
(ii) (a) 226.1 lb./ac.
(b) 221.9 lb./ac.
(iii) There is highly significant difference between the varieties. Others are not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M_0</th>
<th>M_1</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V_1</td>
<td>2585</td>
<td>2853</td>
<td>2719</td>
</tr>
<tr>
<td>V_2</td>
<td>2110</td>
<td>2368</td>
<td>2219</td>
</tr>
<tr>
<td>V_3</td>
<td>2259</td>
<td>2140</td>
<td>2199</td>
</tr>
</tbody>
</table>

Mean 2318 2454 2386

S.E. of difference of two
1. V marginal means = 90.7 lb./ac.
2. M marginal means = 75.4 lb./ac.
3. V means at the same level of M =128.1 lb./ac.
4. M means at the same level of V =128.9 lb./ac.

Crop: Paddy (2nd crop of 1950-51). Ref: A.P. 50/33/49(6)/48(60)/48(46).
Site: Agri. Res. Stn., Samalkot. Type: 'MV'.
Object: To study the varietal differences under manured and unmanured conditions in ill-drained soil.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Heavy alluvial clay. (b) Refer soil analysis, Samalkot. (iii) N.A.
(iv) (a) 2 or 3 ploughings. (b) Transplanted. (c) — (d), 6' x 6'. (e) 2. (v) Nil. (vi) As under treatments.
(vii) Irrigated. (viii) 2 or 3 weedings. (ix) 6.97. (x) N.A.

2. TREATMENTS:
Main-plot treatments:
2 levels of manure: M_0 =No manure and M_1 =200 lb./ac. of G.L. +112 lb./ac. of Super a week before planting+40 lb./ac. of G.N.C. at planting time+50 lb./ac. of A/S a month after planting.
Sub-plot treatments:
3 varieties: V_1 =SLO-13, V_2 =MTU-5 and V_3 =GEB-24.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a), (b) 22' x 20'.
(v) One row around. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Grain yield and tiller count. (iv) (a) 1948-N.A. (b) No. (c) N.A.(v) (a) and (b) N.A. (vi) N.A. (vii) Raw data is not available.

5. RESULTS:
(i) 3228 lb./ac.
(ii) (a) N.A.
(b) N.A.
(iii) N.A.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M₀</th>
<th>M₁</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V₁</td>
<td>3176</td>
<td>3202</td>
<td>3190</td>
</tr>
<tr>
<td>V₂</td>
<td>3448</td>
<td>3490</td>
<td>3469</td>
</tr>
<tr>
<td>V₃</td>
<td>2901</td>
<td>3147</td>
<td>3024</td>
</tr>
</tbody>
</table>

Mean | 3175 | 3280 | 3228 |

S.E.'s N.A.

Crop: Paddy (1st crop). Ref: Complex experiments (T.C.M.), 1953.
Centre: Maruteru (A.P.) Type: 'MV'.

Object:—VIII To study the effect of N and P₂O₅ along with varieties.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Heavy black clay soil. (b) Non-acidic. (iii) N.A./2.7.53. (iv) N.A.
   (v) N.A. (vi) As under treatments. (vii) Irrigated. (viii) N.A. (ix) N.A. (x) 19.25.11.53.

2. TREATMENTS:
   All combinations of (1), (2) and (3)
   (1) 3 levels of N as A/S: N₀=0, N₁=20 and N₂=40 lb./ac.
   (2) 3 levels of P₂O₅ as Super: P₀=0, P₁=20 and P₂=40 lb./ac.
   (3) 3 varieties: V₁=Sannakrishna, V₂=Maidai and V₃=M (N-10) Ketkabe.

Manures broadcast before transplanting.

1. DESIGN:
   (i) 3³ confounded factorial. (ii) (a) 9 plots/block and 3 blocks/replication. (b) N.A. (iii) 1. (iv) (a) N.A.
   (b) 1/66 ac. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain yield data. (iv) (a) 1953-56. (b) No. (c) N.A. (v) (a) Karjat, Ponnampet, Sahaspur, Burdwan, Mankhanda and Chalvai. (b) N.A. (vi) Nil. (vii) Nil.

5. RESULTS:
   (i) 3404 lb./ac.
   (ii) 175.8 lb./ac.
   (iii) Main effect of P is highly significant and interaction PV is significant. Other effects and interactions 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>Mean</th>
<th>V₁</th>
<th>V₂</th>
<th>V₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>P₀</td>
<td>3190</td>
<td>3168</td>
<td>3443</td>
<td>3767</td>
<td>3355</td>
<td>3388</td>
<td>3208</td>
</tr>
<tr>
<td>P₁</td>
<td>3311</td>
<td>3253</td>
<td>3454</td>
<td>3439</td>
<td>3267</td>
<td>3432</td>
<td>3619</td>
</tr>
<tr>
<td>P₂</td>
<td>3267</td>
<td>3608</td>
<td>3641</td>
<td>3505</td>
<td>3168</td>
<td>3586</td>
<td>3762</td>
</tr>
<tr>
<td>Mean</td>
<td>3256</td>
<td>3143</td>
<td>3513</td>
<td>3404</td>
<td>3263</td>
<td>3469</td>
<td>3479</td>
</tr>
</tbody>
</table>

S.E. of marginal means = 58.6 lb./ac.
S.E. of body of table = 101.5 lb./ac.
Crop: Paddy (2nd crop).  
Centre: Maruteru (A.P).  
Ref: Complex experiments (T.C.M.), 1953.  
Type: 'MV'.

Object: To study the effect of N and P<sub>2</sub>O<sub>5</sub> along with varieties.

1. BASAL CONDITIONS:
   (i) (a) N.A., (b) N.A., (c) N.A.  
   (ii) (a) Heavy black clayey soil. (b) N.A.  
   (iii) N.A.  
   (iv) N.A.  
   (v) N.A.  
   (vi) As under treatments. (vii) Irrigated. (viii) N.A.  
   (ix) N.A.  
   (x) N.A.  

2. TREATMENTS:
   All combinations of (1), (2) and (3)
   (1) 3 levels of N: N<sub>0</sub> = 0, N<sub>1</sub> = 20 and N<sub>2</sub> = 40 lb./ac.
   (2) 3 levels of P<sub>2</sub>O<sub>5</sub> as Triple Super: P<sub>0</sub> = 0, P<sub>1</sub> = 20 and P<sub>2</sub> = 40 lb./ac.
   (3) 3 varieties: V<sub>1</sub> = Local, V<sub>2</sub> = MTU-20 and V<sub>3</sub> = MTU-15.

Manures were broadcast before transplanting.

3. DESIGN:
   (i) 3<sup>4</sup> compounded factorial. (ii) 9 plots/block and 3 blocks/replication. (b) N.A.  
   (iii) 1/2 of each treatment. (iv) N.A.
   (v) N.A.  
   (vi) Yes.

4. GENERAL:
   (i) Normal (ii) Nil (iii) Grain yield data. (iv) (a) 1953—56. (b) No. (c) N.A.  
   (v) (a) Karjat, Ponnampet, Sahaspur, Burdwan, Mankhanda and Chalvai. (b) N.A.  
   (vi) and (vii) Nil.

5. RESULTS:
   (i) 2596 lb./ac.  
   (ii) 16.7 lb./ac.
   (iii) Main effects of N, P and V are highly significant. Interaction NV is significant. Others are not   
   (iv) (a) 1953—56. (b) N.A.  
   (v) (a) 1953—56. (b) N.A.  

---

Crop: Paddy (1st crop).  
Centre: Chalvai (A.P).  
Ref: Complex experiments (T.C.M.), 1953.  
Type: 'MV'.

Object: To study the effect of N and P<sub>2</sub>O<sub>5</sub> along with varieties.

1. BASAL CONDITIONS:
   (i) (a) N.A., (c) N.A.  
   (ii) (a) Clay loam. (b) N.A.  
   (iii) N.A.  
   (iv) N.A.  
   (v) N.A.  
   (vi) As under treatments. (vii) Irrigated. (viii) N.A.  
   (ix) N.A.  

2. TREATMENTS:
   All combinations of (1), (2) and (3)
   (1) 3 levels of N: N<sub>0</sub> = 0, N<sub>1</sub> = 20 and N<sub>2</sub> = 40 lb./ac.
   (2) 3 levels of P<sub>2</sub>O<sub>5</sub> as Triple Super: P<sub>0</sub> = 0, P<sub>1</sub> = 20 and P<sub>2</sub> = 40 lb./ac.
   (3) 3 varieties: V<sub>1</sub> = Local, V<sub>2</sub> = R.D.R. and V<sub>3</sub> = UR-5.
3. DESIGN:
(i) 3\(^{2}\) confounded factorial. (ii) (a) 9 plots/block and 3 blocks.replication. (b) N.A. (iii) 1. (iv) (a) N.A. (b) 1/62 acre. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Crop suffered from gull-fly infestation. (iii) Grain yield data. (iv) (a) 1953-56. (b) No. (c) N.A. (v) (a) Karjat, Ponnampet, Sahaspur, Burdwan, Manikanda and Marutefu. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 2139 lb./ac.
(ii) 192.0 lb./ac.
(iii) Main effects of N, P\(_2\) and V are highly significant. Interaction VxP is significant. Others are not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>N(_0)</th>
<th>N(_1)</th>
<th>N(_2)</th>
<th>Mean</th>
<th>V(_1)</th>
<th>V(_2)</th>
<th>V(_3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1637</td>
<td>1707</td>
<td>1833</td>
<td>1726</td>
<td>2282</td>
<td>1859</td>
<td>1036</td>
</tr>
<tr>
<td>1960</td>
<td>2369</td>
<td>2422</td>
<td>2250</td>
<td>2653</td>
<td>1981</td>
<td>2117</td>
</tr>
<tr>
<td>1961</td>
<td>2715</td>
<td>2648</td>
<td>2441</td>
<td>2553</td>
<td>2374</td>
<td>2395</td>
</tr>
</tbody>
</table>

Mean: 1853, 2264, 2301

S.E. of marginal mean. = 64.0 lb./ac.
S.E. of body of table = 110.8 lb./ac.

Crop: Paddy.
Site: Demonstration Stn., Araku Valley.
Ref: A.P. 48 (62).
Type: 'C'.

Object: To find out the optimum seed rate for sowing dry Paddy.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Clayey loam. (b) Refer soil analysis, Araku Valley. (iii) 10.7.1948.
(iv) (a) 2 or 3 ploughings and levelling. (b) Broadcast. (c) As under treatments. (d) N.A. (e) N.A.
(v) 2 bags/ac. of G.N.C. (vi) Local Battadhan. (vii) Unirrigated. (viii) 2 or 3 weedings. (ix) 34.73° (June to Dec.). (x) 15.12.1948.

2. TREATMENTS:
6 seed rates: R\(_1\) = 50, R\(_2\) = 60, R\(_3\) = 70, R\(_4\) = 80, R\(_5\) = 90 and R\(_6\) = 100 lb./ac.

3. DESIGN:
(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) and (b) 33' x 13'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Satisfactory. Some plots lodged on 14.10.1948 due to heavy rains (ii) Nil. (iii) Yield of grain. (iv) (a) 1947 to 1949. (b) No. (c) Nil. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 1292 lb./ac.
(ii) 196.0 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>R(_1)</td>
<td>1250</td>
</tr>
<tr>
<td>R(_2)</td>
<td>1250</td>
</tr>
<tr>
<td>R(_3)</td>
<td>1383</td>
</tr>
<tr>
<td>R(_4)</td>
<td>1250</td>
</tr>
<tr>
<td>R(_5)</td>
<td>1267</td>
</tr>
<tr>
<td>R(_6)</td>
<td>1350</td>
</tr>
</tbody>
</table>

S.E./mean = 80.0 lb./ac.
Crop : Paddy.  
Site : Demonstration Stn., Araku Valley.  
Object : To find out the optimum seed rate for sowing dry Paddy.

1. **BASAL CONDITIONS**:
   
   (i) (a) Nil.  (b) N.A.  (c) N.A.  (d) Clayey loam.  (e) Refer soil analysis, Araku Valley.  (iii) 5.7.1949.  
   (iv) (a) 2 or 3 ploughings and levelling.  (b) Broadcast.  (c) As under treatments.  (d) N.A.  (e) N.A.  
   (v) 2 bags/ac. of G.N.C.  (vi) Local Battadhan (early).  (vii) Unirrigated.  (viii) 2 or 3 weedings.  
   (ix) 47.9°2' (June to Nov.).  (x) 5.11.1949.

2. **TREATMENTS**:
   
   6 Seed rates : R₁ = 50, R₂ = 60, R₃ = 70, R₄ = 80, R₅ = 90 and R₆ = 100 lb./ac.

3. **DESIGN**:
   
   (i) R.B.D.  (ii) 6.  (b) N.A.  (iii) 6.  (iv) (a) and (b) 33' × 13.2'.  (v) Nil.  (vi) Yes.

4. **GENERAL**:
   
   (i) Satisfactory.  (ii) Nil.  (iii) Yield of grain.  (iv) (a) 1947 to 1949.  (b) No.  (c) Nil.  (d) N.A.  
   (v) and (vii) Nil.

5. **RESULTS**:
   
   (i) 1597 lb./ac.  
   (ii) 340.5 lb./ac.  
   (iii) Treatments do not differ significantly.  
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>R₁</td>
<td>1477</td>
</tr>
<tr>
<td>R₂</td>
<td>1608</td>
</tr>
<tr>
<td>R₃</td>
<td>1467</td>
</tr>
<tr>
<td>R₄</td>
<td>1654</td>
</tr>
<tr>
<td>R₅</td>
<td>1714</td>
</tr>
<tr>
<td>R₆</td>
<td>1663</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>139.0 lb./ac.</td>
</tr>
</tbody>
</table>

---

Crop : Paddy.  
Site : Agri. College Farm, Bapatla.  
Object : To find the optimum spacing and number of seedlings per hole for Paddy.

1. **BASAL CONDITIONS**:
   
   (i) (a) Nil.  (b) Paddy.  (c) G.L. at 4000 lb./ac. + Super at 150 lb./ac. and A/S at 150 lb./ac.  
   (i) (a) Sand loam.  (b) Refer soil analysis, Bapatla.  (iii) 3.5.52/27.7.52.  (iv) (a) N.A.  
   (b) Transplanting.  (c) As per treatments.  (v) 4000 lb./ac. of G.L. + 150 lb./ac. of Super + 150 lb./ac. of A/S as top dressing.  
   (vi) MTU-7.  (vii) Irrigated.  (viii) 2 weedings.  (ix) 24.5'.  (x) 15.12.52.

2. **TREATMENTS**:
   
   Main-plot treatments:
   3 spacings : S₁ = 4' × 4', S₂ = 8' × 8' and S₃ = 12' × 12'.

Sub-plot treatments:
  No. of seedlings/hole : S₁' = 1, S₂' = 2 and S₃' = 3.

3. **DESIGN**:
   
   (i) Split-plot.  (ii) (a) 3 main-plots/block ; 3 sub-plots/main-plot.  (b) N.A.  (iii) 6.  (iv) (a) 8.6' × 14.5'.  
   (b) 6' × 12.5'.  (v) 1' left as border on all sides.  (vi) Yes.

4. **GENERAL**:
   
   (i) Satisfactory.  (ii) Nil.  (iii) Grain and straw yield.  (iv) (a) 1952—contd.  (b) Yes.  (c) N.A.  (v) (a),  
   (b) N.A.  (vi) and (vii) Nil.
5. RESULTS:

(i) 2513 lb./ac.
(ii) (a) 946.4 lb./ac.
(b) 605.3 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>S'1</td>
<td>2780</td>
<td>2613</td>
<td>2099</td>
<td>2497</td>
</tr>
<tr>
<td>S'2</td>
<td>2667</td>
<td>2552</td>
<td>2523</td>
<td>264</td>
</tr>
<tr>
<td>S'3</td>
<td>2633</td>
<td>2494</td>
<td>2159</td>
<td>2429</td>
</tr>
<tr>
<td>Mean</td>
<td>2693</td>
<td>2586</td>
<td>2260</td>
<td>2513</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. spacings marginal means =315.5 lb./ac.
2. seedlings/hole marginal means =201.8 lb./ac.
3. seedlings/hole means at the same level of spacing =349.5 lb./ac.
4. spacing means at the same level of seedlings/hole =425.4 lb./ac.

Crop: Paddy.
Site: Agri. College Farm, Bapatla.
Ref: A.P. 53(28)/52(20).
Type: 'C'.

Object: To find out the optimum spacing and number of seedlings per hole for Paddy.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) 4000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. (ii) (a) Sandy loam. (b) Refer soil analysis, Bapatla. (iii) 12.6.53/10.8.53. (iv) (a) N.A. (b) Transplanting. (c)—. (d) and (e) As per treatments. (v) 4000 lb./ac. of G.L.+150 lb./ac. of Super+150 lb./ac. of A/S. G.L. and Super as basal dressing and A/S top dressed. (vi) MTU-7. (vii) Irrigated. (viii) 2 weedicides. (ix) 16.2°. (x) 29.12.53.

2. TREATMENTS:

Main-plot treatments:
3 spacings: S1=4"x4", S2=8"x8" and S3=12"x12".
Sub-plot treatments:
No. of seedlings/hole: S1'=1, S2'=2 and S3'=3.

3. DESIGN:

(i) Split-plot. (ii) [a] 3 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 0.288 cent. (b) 0.189 cent. (v) Yes; measurements N.A. (vi) Yes.

4. GENERAL:

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

5. RESULTS:

(i) 3307 lb./ac.
(ii) (a) 746.0 lb./ac.
(b) 439.1 lb./ac.
(iii) None of the effects is significant.
Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1'</td>
<td>3529</td>
<td>3605</td>
<td>3198</td>
<td>3444</td>
</tr>
<tr>
<td>S2'</td>
<td>3274</td>
<td>3406</td>
<td>3119</td>
<td>3266</td>
</tr>
<tr>
<td>S3'</td>
<td>2654</td>
<td>3333</td>
<td>3419</td>
<td>3212</td>
</tr>
</tbody>
</table>

Mean

|       | 3219 | 3448 | 3255 | 3307 |

S.E. of difference of two
1. spacing marginal means = 248.7 lb./ac.
2. seedlings, hole marginal means = 145.7 lb./ac.
3. seedlings, hole means at the same level of spacing = 252.3 lb./ac.
4. spacing means at the same level of seedlings/hole = 323.0 lb./ac.

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

Object :- To study the infection of blast in the nursery and transplanted crop of nurseries raised under semi-dry and wet conditions.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 12.8.48/29.10.48. (iv) a 2 to 3 dry ploughings. (b) Transplanting (c)—(d) 6'×6'. (e) 2. (v) 100 lb./ac of G.N.C. + 100 lb./ac of B.M. over a basal dressing of 2000 lb./ac of G.L. (vi) 2555 (Late). (vii) Irrigated. (viii) 2 to 3 weedings (ix) 25.56'. (x) 15.2.49.

2. TREATMENTS :
   1. Seedlings raised under wet conditions.
   2. Seedlings raised under semi-dry conditions.

3. DESIGN :
   (i) Paired-plot. (ii) (a) 2. (b) N.A. (iii) 10. (iv) (a) and (b) 15'×6'. (v) No. (vi) Yes.

4. GENERAL :
   (i) Unfavourable season. (ii) Severe attack of paddy blast and Kodu. (iii) Grain yield. (iv) (a) 1948 to 1953. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS :
   (i) 1407 lb./ac.
   (ii) 1652 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1370</td>
</tr>
<tr>
<td>2.</td>
<td>1469</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>50.7 lb./ac.</td>
</tr>
</tbody>
</table>
Object:—To study the incidence of blast on Paddy crop planted with seedlings raised under semi-dry and wet conditions.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) N.A. (iv) (a) 2 to 3 dry ploughings. (b) Transplanting. (c) — (d) 6' x 6'. (e) 2. (v) 4000 lb./ac. of G.L. followed by 50 lb./ac. of G.N.C. and 112 lb./ac. of B.M. (vi) 555. (vii) Irrigated. (viii) 2 to 3 weedings. (ix) 25.82°. (x) N.A.

2. TREATMENTS:
   1. Seedlings raised under semi-dry conditions.
   2. Seedlings raised under wet conditions.

3. DESIGN:
   (i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 6. (iv) (a), (b) 10' x 33'. (v) No. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain weight. 20 plants taken at random from each plot and the number of healthy and affected earheads counted. (iv) (a) 1948 to 1953. (b) No. (c) N.A. (v) (a), (b) Nil (vi) and (vii) Nil.

5. RESULTS:
   (i) 3381 lb./ac.
   (ii) 153.1 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.
   Treatment | Av. yield.
   1. | 3498
   2. | 3264
   S.E./mean = 62.5 lb./ac.
5. RESULTS:

(i) 2798 lb./ac.
(ii) 407.7 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2858</td>
</tr>
<tr>
<td>2.</td>
<td>3014</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>126.8 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy.
Ref: A.P. 51(37).
Type: ‘C’.

Site: Rice Res. Stn., Buchireddipalem.

Object: To study the incidence of blast on Paddy crop planted with seedlings raised under semi-dry and wet conditions.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) 6.70 lb./ac. of sunn hemp plopped in. (d) B.M. + 112 lb./ac. of G N C. (e) Sandy loam. (f) Refer soil analysis, Buchireddipalem. (g) 10.75. (h) a) 2 to 3 dry ploughings and two puddlings. (b) Transplanted. (c) —. (d) 6’ x 6’. (e) 2. (f) B.M. applied at 112 lb. ac. at the time of planting and A.S. applied as top dressing at 130 lb./ac. (g) BCP-1 (late). (h) Irrigated. (i) 3 weedings. (x) 18” x 4”, x, 4.2 x 2.

2. TREATMENTS:

1. Seedlings raised under semi-dry conditions and then planted.
2. Seedlings raised under wet conditions and then planted.

3. DESIGN:

(i) Paired plot. (ii) a) 2. (b) N.A. (iii) 10. (iv) (a) and (b) 5’ x 10’. (v) Nil. (vi) No.

4. GENERAL:

(i) Normal. (ii) Sight attack of borer and blast. (iii) Grain weight, number of healthy and affected earheads in 20 plants taken at random from each plot. (iv) (a) 1940 to 1953. (b) N.A. (c) N.A. (d) and (e) Nil. (f) N.D. (g) The incidence of blast was negligible during the year and hence no conclusive results could be obtained.

5. RESULTS:

(i) 2916 lb. ac.
(ii) 400.8 lb. ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2858</td>
</tr>
<tr>
<td>2.</td>
<td>3014</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>126.8 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy.
Ref: A.P. 52(47).
Type: ‘C’.

Site: Rice Res. Stn., Buchireddipalem.

Object: To study the incidence of blast on Paddy crop planted with seedlings raised under semi-dry and wet conditions.

1. BASAL CONDITIONS:

(i) (a) N’. (b) Paddy. (c) B.M. at 112 lb./ac.+ A/S at 100 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 12.75. (iv) (a) 2 to 3 dry ploughings and two puddlings. (b) Transplanted, (c) —. (d) 6’ x 6’. (e) 2. (f) Super at 112 lb./ac. at the time of last puddling+A/S as top dressing at 500 lb./ac. in two doses to induce blast. (g) BCP-1 (late). (h) Irrigated. (i) 2 to 3 weedings. (x) 22 65”, (z) 2 2.53
2. TREATMENTS:
1. Seedlings raised under semi-dry conditions and then planted.
2. Seedlings raised under wet conditions and then planted.

3. DESIGN:
(i) Paired plot. (ii) (a) 2. (b) N.A. (iii) 10. (iv) (a) and (b) 10'×10'. (v) No. (vi) No.

4. GENERAL:
(i) Normal. (ii) Moderate attack of blast. (iii) Grain weight. 20 plants were taken at random from each plot and number of healthy and affected earheads were counted. (iv) (a) 1948 to 1953. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) There is no significant difference between the treatments for percentage of neck infection also.

5. RESULTS:
(i) 2224 lb./ac.
(ii) 196.0 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2467</td>
</tr>
<tr>
<td>2.</td>
<td>2581</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>62.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Paddy.
Site :- Rice. Res. Stn., Buchireddipalem
Ref :- A.P. 53(77).
Type :- 'C'.

Object :- To study the incidence of blast on Paddy crop planted with seedlings raised under semi-dry and wet conditions.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) N.A.
(iv) (a) 2 to 3 dry ploughings and two puddlings. (b) Transplanted. (c)---. (d) 6'×6'. (e) 2. (f) 4000 lb/ac. of G.L. with 150 lb/ac. of Super before last puddling+A/S at 100 lb/ac. a month after planting. (v) BCP-1
(vii) Irrigated. (viii) 2 or 3 weedicings. (ix) 28.47'.

2. TREATMENTS:
1. Seedlings raised under semi-dry conditions.
2. Seedlings raised under wet conditions and then planted.

3. DESIGN:
(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 10. (iv) (a) and (b) 10'×10'. (v) No. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Blast attack—was not severe. (iii) Grain weight. 20 plants taken at random from each plot and number of healthy and affected earheads noted. (iv) (a) 1948 to 1953. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 1623 lb./ac.
(ii) 290.6 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1494</td>
</tr>
<tr>
<td>2.</td>
<td>1764</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>91.9 lb./ac.</td>
</tr>
</tbody>
</table>
Crop: Paddy. 
Site: Rice Res. St., Buchireddipalem

Ref: A.P. 51(44)
Type: ‘C’.

Object: To study the incidence of blast under different systems of planting.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) Santhemp crop was puddled in situ. G.N.C. + B.M. (quantity N.A.) (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 28.7.51. (iv) (a) 2 to 3 dry ploughings and two puddlings. (b) Transplanted. (c) —. (vi) 5' x 6'. (v) (v) Santhemp raised in the fields was puddled at G.N.C. at 110 lb/ac. and B.M. at 112 lb/ac. was applied. (vi) Irrigated. 

2. TREATMENTS:
   1. Planting on plain level land.
   2. Planting on top of ridges at 2 ft apart one side.
   3. Planting on both sides of the ridges 1 ft apart.

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

4. GENERAL:
   (i) Normal. (ii) Very slight attack of blast and stemborer. (iii) Grain weight. From each plot 20 plants were taken at random and no. of healthy and affected earheads counted. (iv) (a) 1949 to 1953. (b) No. (c) N.A. (v) Nil. (vi) Nil. (vii) There is no significant difference between the treatments for neck infection also.

5. RESULTS:
   (i) 1106 lb/ac.
   (ii) 139.4 lb/ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb/ac.
   Treatment: Av. yield.
   1. 1191
   2. 970
   3. 1156
   S.E./mean = 53.9 lb/ac.

Crop: Paddy. 
Site: Rice Res. St., Buchireddipalem

Ref: A.P. 52(44)
Type: ‘C’.

Object: To study the incidence of blast with different methods of planting.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Green-gram. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 25.7.52. (iv) (a) 2 to 3 dry ploughings and two puddlings. (b) Transplanted. (c) —. (d) 6' x 6'. (e) 2. (v) Super at 112. lb/ac. + old G.M. seed at 253. lb/ac. (vi) BCP-2. (late) (vii) Irrigated. (viii) 3 hand weedicings. (ix) 21. 6' x (x) 23.2.152.

2. TREATMENTS:
   1. Planting on plain level land.
   2. Planting 1 foot apart on top of ridges.
   3. Planting 1 foot apart on both sides of the ridges.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) & (b) 44' x 6'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Sight attack of blast. (iii) Grain weight From each plot 20 plants were taken at random and no. of healthy and affected earheads counted. (iv) (a) 1949 to 1953. (b) No. (c) N.A. (v) Nil. (vi) Nil. (vii) There is no significant difference between the treatments for neck infection also.
5. RESULTS:
(i) 1535 lb./ac.
(ii) 148.5 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1537</td>
</tr>
<tr>
<td>2.</td>
<td>1526</td>
</tr>
<tr>
<td>3.</td>
<td>1542</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>60.6 lb./ac</td>
</tr>
</tbody>
</table>

Crop: Paddy.
Site: Rice Res. Stn., Buchireddipalem.
Ref: A.P. 53 (75).
Type: 'C'.

Object: To study the incidence of blast with different methods of planting.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) N.A. (iv) (a) 2 to 3 dry ploughings and two puddings. (b) Transplanted. (c) 4000 lb./ac. of G.L. with 10 lb./ac. of Super before last puddling. (d) 103 lb./ac. a month after planting (vi) BCP-2 (vii) Irrigated. (viii) 3 hand weedings. (ix) 25.47'. (x) N.A.

2. TREATMENTS:
1. Planting on plain level.
2. Planting one foot apart on top of ridges.
3. Planting one foot apart on both sides of the ridges.

3. DESIGN:
(i) R.B.D. (ii) 3. (iii) 6. (iv) (a), (b) 6'. (v) No. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Blast attack—not severe. (iii) Grain weight. From each plot 20 plants were taken at random from healthy and affected earheads noted. (iv) (a) 1949 to 1953. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 2531 lb./ac.
(ii) 156.8 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2543</td>
</tr>
<tr>
<td>2.</td>
<td>2463</td>
</tr>
<tr>
<td>3.</td>
<td>2484</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>64.0 lb./ac</td>
</tr>
</tbody>
</table>

Crop: Paddy.
Site: Rice Res. Stn., Buchireddipalem.
Ref: A.P. 48(27).
Type: 'C'.

Object: To compare dibbling with other methods of planting.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 19.8.48/29.9.48. (iv) (a) 2 to 3 dry ploughings. (b) As per treatments. (c) 30 lb./ac. (d) 6'. (e) 2. (v) 100 lb./ac. of G.N.C. and 100 lb./ac. of B M. over a basal dressing of 2000 lb./ac. of G.L. (vi) 2555. (vii) Irrigated. (viii) 2 to 3 hand weedings. (ix) 25.56'. (x) 16.2.49.
2. TREATMENTS:
1. Broadcasting.
2. Transplanting.
3. Dibbling.
4. Dibbling sprouted seeds treated with dung.

3. DESIGN:
   (i) R.B.D.
   (ii) (a) 4, (b) N.A.
   (iii) 6. (iv) (a), (b) 39.5' X 5' (v) No. (vi) Yes.

4. GENERAL:
   (i) Unfavourable season.
   (ii) Severe attack of paddy blast and kodu.
   (iii) Grain yield (iv) (a) 1948 to 1949.
       (b) N.A. (c) N.A. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1951 lb./ac.
   (ii) 37.9 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1593</td>
</tr>
<tr>
<td>2.</td>
<td>1946</td>
</tr>
<tr>
<td>3.</td>
<td>2083</td>
</tr>
<tr>
<td>4.</td>
<td>2182</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>129.8 lb./ac.</td>
</tr>
</tbody>
</table>

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

Object :—To ascertain the relative merits of different methods of sowing.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 28.8.49.
   (iv) (a) 2 to 3 dry ploughings. (b) As under treatments. (c) 30 lb./ac. (d) 6' X 5', (e) 2. (v) 4000 lb./ac.
   of G.L. followed by 50 lb. of G.N.C.-112 lb./ac. of B.M. (vi) N.A. (vii) Irrigated. (viii) 2 to 3 band
   weedings. (ix) 25.8.2'. (x) 26.1.50.

2. TREATMENTS:
1. Broadcasting.
2. Transplanting.
3. Dibbling sprouted seed.
4. Dibbling sprouted seed smeared with dung.

3. DESIGN:
   (i) R.B.D.
   (ii) (a) 4, (b) N.A.
   (iii) 6. (iv) (a) and (b) 5' X 48'. (v) No. (vi) Yes.

4. GENERAL:
   (i) Normal.
   (ii) Nil. (iii) Grain yield. (iv) (a) 1948 to 1949. (b) N.A. (c) N.A. (v) (a) and (b) Nil.
   (vi) and (vii) Nil.

5. RESULTS:
   (i) 4017 lb./ac.
   (ii) 274.1 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3725</td>
</tr>
<tr>
<td>2.</td>
<td>3944</td>
</tr>
<tr>
<td>3.</td>
<td>4308</td>
</tr>
<tr>
<td>4.</td>
<td>4089</td>
</tr>
<tr>
<td>S.E. mean</td>
<td>111.9 lb./ac.</td>
</tr>
</tbody>
</table>
Crop :- Paddy.  Ref :- A.P. 49(69).
Site :- Rice Res. Stn., Buchireddipalem. Type :- 'C'.

Object :- To study the incidence of blast with different methods of planting.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) N.A. (iv) (a) 2 to 3 dry ploughings. (b) Transplanting. (c) —. (d) As per treatments. (e) 2. (v) N.A. (vi) 2202. (vii) Irrigated. (viii) 1 or 2 weedings. (ix) 25.82". (x) N.A.

2. TREATMENTS:
   1. Planting on plains at 6" spacing.
   2. Planting on rows at 6" spacing.
   3. Planting on mounds at 6" spacing.
   4. Planting on rows at 1" spacing.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) and (b) 10'×44'. (v) No. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Blast incidence. (iii) Grain yield. (iv) (a) N.A. (b) N.A. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1976 lb./ac.
   (ii) 380.1 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2016</td>
</tr>
<tr>
<td>2.</td>
<td>1920</td>
</tr>
<tr>
<td>3.</td>
<td>1927</td>
</tr>
<tr>
<td>4.</td>
<td>2042</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>190.0 lb./ac.</td>
</tr>
</tbody>
</table>

Site :- Rice Res. Stn., Buchireddipalem. Type :- 'C'.

Object :- To compare transplanting with broadcasting.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 18.8.1948/16.11.1948. (iv) (a) 2 to 3 dry ploughings. (b) As under treatments. (c) —. (d) 6"×6". (e) 2. (v) 100 lb./ac. of G.N.C. and 100 lb./ac. of B.M. over a basal dressing of 2000 lb./ac. of G.L. (vi) 1834. (vii) Irrigated. (viii) 2 to 3 weedings. (ix) 25.56". (x) 11 and 25.2.1949.

2. TREATMENTS:
   1. Transplanting.
   2 Broadcasting.

Broadcasting done on the same day as sowing of the nursery for the transplanted.

3. DESIGN:
   (i) Paired plot. (ii) (a) 2. (b) N.A. (iii) 10. (iv) (a), (b) 4'×40'. (v) No. (vi) Yes.

4. GENERAL:
   (i) Unfavourable season. (ii) Severe attack of Paddy blast and Kodu. (iii) Grain yield. (iv) (a) 1946 to 1948. (b) N.A. (c) N.A. (v) (a), (b) N.A. (vi) and (vii) Nil.
3. RESULTS:

(i) 1219 lb./ac.
(ii) 94.47 lb./ac.
(iii) Treatments differ highly significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>750</td>
</tr>
<tr>
<td>2.</td>
<td>1686</td>
</tr>
</tbody>
</table>

S.E./mean = 29.8 lb./ac.

Crop: Paddy.
Site: Rice Res. Stn., Buchireddipalem.
Object: To study the effect of different spacings and different number of seedlings per hole.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) 100 lb./ac. of G.N.C. and 100 lb./ac. of B.M. over a basal dressing of 2000 lb./ac. of G.L. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 29.10.1948. (iv) (a) 2 to 3 ploughings. (b) Transplanting. (c) - (d) As under treatments. (v) 100 lb./ac. of G.N.C. + 100 lb./ac. of B.M. over a basal dressing of 2000 lb./ac. of G.L. (vi) 2555. (vii) Irrigated. (viii) 2 to 3 hand weedicings. (ix) 25.36°. (x) 15.2.1949.

2. TREATMENTS:
All combinations of (1) and (2)
(1) 3 spacings: $S_1 = 6' \times 6'$, $S_2 = 9' \times 9'$ and $S_3 = 12' \times 12'$.
(2) 4 No. of seedlings/hole: $S_1' = 1$, $S_2' = 2$, $S_3' = 3$ and $S_4' = 4$.

3. DESIGN:
(i) 3x4 Fact. in R.B.D. (ii) 12. (b) N.A. (iii) 4. (iv) (a), (b) 15' x 6'. (v) No. (vi) Yes.

4. GENERAL:
(i) Unfavourable season. (ii) Severe attack of Paddy blast and Kodu. (iii) Grain yield. (iv) (a) 1946 to 1948. (b) Yes. (c) N.A. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 1458 lb./ac.
(ii) 125.8 lb./ac.
(iii) Only the main effects of spacing and seedlings/hole are significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>$S_1'$</th>
<th>$S_2'$</th>
<th>$S_3'$</th>
<th>$S_4'$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1470</td>
<td>1724</td>
<td>1702</td>
<td>1573</td>
<td>1617</td>
</tr>
<tr>
<td>1354</td>
<td>1369</td>
<td>1490</td>
<td>1512</td>
<td>1431</td>
</tr>
<tr>
<td>1149</td>
<td>1407</td>
<td>1301</td>
<td>14^2</td>
<td>1227</td>
</tr>
<tr>
<td>Mean</td>
<td>1324</td>
<td>1500</td>
<td>1498</td>
<td>1512</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of spacing = 31.45 lb./ac.
S.E. of marginal mean of seedlings/hole = 36.32 lb./ac.
S.E. of body of table = 62.90 lb./ac.
Crop :- Paddy.  
Type :- ‘C’.  

Object :- To find out the relative performances of planting seedlings of different ages.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem.  
   (iii) 8.8.48/ 
   As per treatment. (iv) (a) 2 to 3 dry ploughings. (b) Transplanting. (c) —. (d) 6’x6’.. (e) 2. (v) 100 lb./ac. 
   of G.N.C.+100 lb./ac. of B.M. over a basal dressing of 2000 lb./ac. of G.L.  
   (vi) 22.25.  
   (vii) Irrigated.  
   (viii) 2 to 3 weedings. (ix) 25.56”.. (x) 16 and 21.2.49.

2. TREATMENTS :
   Planting different ages of seedlings.
   \[ S_1=45, S_2=60, S_3=75 \text{ and } S_4=90 \text{ days old seedlings.} \]

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) and (b) 6’x30’. (v) No. (vi) Yes.

4. GENERAL:
   (i) Unfavourable season. (ii) Severe attack of Paddy blast and kodu. (iii) Grain yield. (iv) (a) N.A. (b) 
   N.A. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil:

5. RESULTS:
   (i) 1752 lb./ac. 
   (ii) 277.3 lb./ac. 
   (iii) Treatments differ significantly. 
   (iv) Av. yield of grain in lb./ac. 
   \[
   \begin{array}{ccc}
   \text{Treatment} & \text{Av. yield} \\
   \hline
   S_1 & 2096 \\
   S_2 & 1863 \\
   S_3 & 1567 \\
   S_4 & 1482 \\
   S.E./mean & -124.0 lb./ac. \\
   \end{array}
   \]

Crop :- Paddy.  
Type :- ‘A.P. 48(22)’.

Object :- To study the incidence of blast by planting seedlings of different ages.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem.  
   (iii) N.A.  
   (iv) (a) 2 to 3 dry ploughings. (b) Transplanting. (c) —. (d) 6’x6’. (e) 2. (v) 4000 lb./ac. of G.L. followed 
   by 50 lb./ac. of G.N.C.+112 lb./ac. of B.M.  
   (vi) 2555. (vii) Irrigated. (viii) 2 to 3 weedings. (ix) 25.82”..
   (x) N.A.

2. TREATMENTS :
   Age of seedlings.
   \[ S_1=30, S_2=45, S_3=60, S_4=75 \text{ and } S_5=90 \text{ days old seedlings.} \]

3. DESIGN:
   (i) R.B.D (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) and (b) 16’x20’. (v) No. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain weight; 20 plants were taken at random from each plot and the number of 
   affected and healthy earheads counted. (iv) (a) 1949 to 1949. (b) N.A. (c) N.A. (v) (a), (b) Nil. (vi) and 
   (vii) Nil.

5. RESULTS:
   (i) 2324 lb./ac.
   (ii) 264.9 lb./ac.
   (iii) Treatments differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>$S_1$</td>
<td>762</td>
</tr>
<tr>
<td>$S_2$</td>
<td>2799</td>
</tr>
<tr>
<td>$S_3$</td>
<td>2769</td>
</tr>
<tr>
<td>$S_4$</td>
<td>2620</td>
</tr>
<tr>
<td>$S_5$</td>
<td>2665</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 132.4 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy (Abb).
Site: Agri. Farm, Dindi.
Object: To find out the optimum seed rate for broadcasting of Paddy, H.R.19.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Fallow. (c) Nil.
   (ii) (a) Sandy soil. (b) Refer soil analysis, Dindi.
   (iii) 11.9.52. (iv) (a) 4 puddlings and levelling, cutting bunds. (b) Broadcast. (c) As under treatments. (d)—. (e)—. (v) N.A.

2. TREATMENTS:
   4 seed rates: $S_1$ = 60, $S_2$ = 80, $S_3$ = 100 and $S_4$ = 120 lb./ac.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a), (b) 64'×6'. (v) No. (vi) Yes.

4. GENERAL:
   (i) Not satisfactory. (ii) Nil.
   (iii) Grain and straw yield. (iv) (a) 1951 to 1952. (b) No. (c) Nil. (v) (a)', (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 335 lb./ac.
   (ii) 107.8 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>$S_1$</td>
<td>260</td>
</tr>
<tr>
<td>$S_2$</td>
<td>313</td>
</tr>
<tr>
<td>$S_3$</td>
<td>359</td>
</tr>
<tr>
<td>$S_4$</td>
<td>388</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 44.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy (Abb).
Site: Agri. Farm, Dindi.
Object: To find out the optimum seed-rate for broadcasting of Paddy, H.R.33.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Fallow. (c) Nil.
   (ii) (a) N.A. (b) Refer soil analysis, Dindi.
   (iii) 11.9.52. (iv) (a) 4 puddlings and levelling, cutting bunds. (b) Broadcast. (c) As under treatments. (d)—. (e)—. (v) N.A.

2. TREATMENTS:
   4 seed rates: $S_1$ = 60, $S_2$ = 80, $S_3$ = 100 and $S_4$ = 120 lb./ac.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a), (b) 64'×6'. (v) No. (vi) Yes.
4. GENERAL:
   (i) Not satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1951 to 1952. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 349 lb./ac.
   (ii) 123.1 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.
   Treatment | Av. yield
   --- | ---
   S₁ | 331
   S₂ | 217
   S₃ | 463
   S₄ | 388
   S.E./mean = 50.2 lb./ac.

Ref: A.P. 48(38).
Type : "C".

Object : To compare the effect of dibbling, transplanting and broadcasting on yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 2.1.48.
   (iv) (a) Water let in, puddled thrice and levelled. (b) to (c) As per treatments. (v) 100 C.L./ac. of F.Y.M.+112 lb./ac. of B.M.+30 lb./ac. of G.N.C. (vi) MTU-15. (vii) Irrigated. (viii) 2 weedings.
   (ix) 0.52". (x) 5,26.5,48.

2. TREATMENTS:
   1. Broadcasting; seed rate same as in (2) and (3) below.
   2. Dibbling sprouted seed at 6" x 6" spacing, 3 seeds/hole.
   3. Dibbling sprouted seed smeared with cowdung at 6" x 6" spacing, 3 seeds/hole.
   4. Transplanting seedlings from the nursery sown on the date of dibbling.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 8. (iv) (a) and (b) 20' x 23'. (v) No. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948 to 1949 (second crop of 1947-48). (b) and (c) N.A. (v) (a) Samalkot. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1717 lb./ac.
   (ii) 152.5 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.
   Treatment | Av. yield
   --- | ---
   1. | 1476
   2. | 1632
   3. | 1731
   4. | 2030
   S.E./mean = 53.9 lb./ac.
Crop :- Paddy (main crop)  

Object :- To study the different methods of sowing Paddy.

1. BASAL CONDITIONS :  
   (i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 3rd week of May, 1948. (iv) (a) Water let in, puddled thrice and levelled. (b) to (e) As under treatments. (v) 10 C.L./ac. of F.Y.M.+B.M. at 112 lb./ac. (vi) N.A. (vii) Irrigated. (viii) 2 weedings. (ix) 31.87'. (x) Last week of Nov. 1948.

2. TREATMENTS :  
   1. Broadcasting with the same seed rates as in treatment (3).
   2. Dibbling sprouted seed at 6' x 6' spacing, 3 seeds/hole.
   3. Dibbling the sprouted seed after smearing with dung at 6' x 6' spacing with 3 seeds/hole.
   4. Transplanting seedlings from the nursery sown on the date of dibbling.

3. DESIGN :  
   (i) R.B.D. (ii) 4. (b) N.A. (iii) 4. (iv) (a) and (b) 20' x 23'. (v) No. (vi) Yes.

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

5. RESULTS :  
   (i) 1815 lb./ac.  
   (ii) 490.6 lb./ac.  
   (iii) Treatments differ significantly.  
   (iv) Av. yield of grain in lb./ac.

   Treatment          Av. yield
   1.                1722
   2.                1545
   3.                1278
   4.                2717

   S.E./mean        =245.3 lb./ac.
5. RESULTS:

(i) 1037 lb./ac.
(ii) 116.6 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1137</td>
</tr>
<tr>
<td>2.</td>
<td>997</td>
</tr>
<tr>
<td>3.</td>
<td>971</td>
</tr>
<tr>
<td>4.</td>
<td>1041</td>
</tr>
</tbody>
</table>
S.E./mean = 47.6 lb./ac.

Crop: Paddy. (Abi 48-49)
Site: Agri. Res. Stn., Rudrur

Object: To ascertain the best method of sowing Paddy.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) 4000 lb./ac. of G.N.C. on 22.12.47; (ii) (a) Black cotton soil. (b) Refer soil analysis, Rudrur. (iii) 20.6.1948. (iv) (a) 3 ploughings and one harrowing. (b) As under treatments. (c) 80 lb./ac. (d) 1' between rows. (e) (. . . ) (v) 800 lb./ac. of G.N.C. (vi) H.R.-19. (early) (vii) Irrigated. (viii) 2 weedings and gap filling and hoeing. (ix) 46.06°. (x) 24.10.1948.

2. TREATMENTS:

1. Broadcasting dry seeds.
2. Dry drilling.
3. Drilling soaked seeds. (soaked for 24 hours) 1' apart.

3. DESIGN:

(i) R.B D. (ii) (a) 60° x 99'. (iii) 6. (iv) (a) 60° x 33'. (b) 55° x 27'. (v) 3 rows on either side and 21' on either ends, (vi) Yes.

4. GENERAL:

(i) Excepting the soaked seeds drilled, the germination and stand of crop of all other treatments was satisfactory in the beginning. But curiously enough, after filling up of gaps and weeding, the soaked seed plots made striking progress and topped the rest in yield. (ii) Nil. (iii) Grain yield. (iv) (a) 19.47. (Abi 47-48) (Abi 48-49) (b) No. (c) N.A. (v) (a), (b) Nil. (vi) & (vii) Nil.

5. RESULTS:

(i) 1238 lb./ac.
(ii) 354.9 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1129</td>
</tr>
<tr>
<td>2.</td>
<td>1276</td>
</tr>
<tr>
<td>3.</td>
<td>1279</td>
</tr>
</tbody>
</table>
S.E./mean = 144.9 lb./ac.

Crop: Paddy (Abi 48-49).

Object: To determine a pro fitable method of sowing Paddy.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) 30 lb./ac. of N as F.Y.M. (ii) (a) Black cotton soil. (b) Refer soil analysis, Rudrur. (iii) 8.7.1948. (iv) (a) Cleaning plot, ploughing and repairing bunds. (b) As under treatments. (c) 80 lb./ac. (d) As under treatments. (e) (. . . ) (v) 12 C.L./ac. of F.Y.M. (vi) H.R. 19 (early). (vii) Irrigated. (viii) Weeding 3 times and hoeing 3 times. (ix) 46.06°. (x) Drilled plot on 10.11.1948; Ridges and furrows on 3.11.1948; Molka on 3.11.1948; Flat beds on 9.10.1948.
2. TREATMENTS:

4 methods of sowing:

1. Transplanting on ridges and furrows (ridges 1' apart and 6" between plants).
2. Transplanting on flat bed at 6"×4" spacing.
3. Molka broadcast.
4. By dry drilling—6' row to row.

3. DESIGN:

(i) R.B.D. (ii) "a" 4. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 52'×21'. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Satisfactory, except for crop in plots sown by dry drilling. (ii) Attack of hispa, beetle. (iii) Grain yield. (iv) (a) 1944 to 1948. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 1260 lb. ac.
(ii) 294.8 lb. ac.
(iii) Treatments differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1288</td>
</tr>
<tr>
<td>2.</td>
<td>1322</td>
</tr>
<tr>
<td>3.</td>
<td>1752</td>
</tr>
<tr>
<td>4.</td>
<td>722</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>110.8 lb./ac</td>
</tr>
</tbody>
</table>

Crop: Paddy (Tabi 1947—48).

Ref: A.P. 48 (11).
Type: 'C'.

Object:—To determine a profitable method of sowing Paddy.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) 30 lb./ac. of N as F.Y.M. (ii) (a) Black cotton soil. (b) Refer soil analysis, Rudrur. (iii) 17 and 18.1.1948. (iv) (a) Cleaning the plots on 3.1.1948; 5 ploughings between 2.1.1948 and 15.1.1948; Repairing bands on 16.1.1948. (b) As under treatments. (c) 80 lb./ac. (d) As per treatments. (e) N.A. (f) 30 lb./ac. of N as F.Y.M. (vi) H.R.-19. (vii) Irrigated. (viii) Weeding 5 times. (x) 1.34'.

2. TREATMENTS:

4 methods of sowing:

1. Transplanting on ridges and furrows (ridges 1' apart and 6' between plants).
2. Transplanting on flat bed at 6"×4" spacing.
3. Molka broadcast.
4. By dry drilling—6' row to row.

3. DESIGN:

(i) R.B.D. (ii) "a" 4. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 52'×21'. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Satisfactory in the early stages. Later satisfactory, except in dry drilled plots. (ii) In dry drilled plots the crop was gappy due to heavy attack of It karogum. (iii) Grain yield. (iv) (a) 1944 to 1948. (b) Yes. (c) N.A. (d) "a" (e) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 1350 lb./ac.
(ii) 294.8 lb./ac.
(iii) Treatments differ highly significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1250</td>
</tr>
<tr>
<td>2.</td>
<td>1667</td>
</tr>
<tr>
<td>3.</td>
<td>1987</td>
</tr>
<tr>
<td>4.</td>
<td>527</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>120.4 lb./ac</td>
</tr>
</tbody>
</table>

---
Crop :- Paddy. (II crop of 47-48).
Ref :- A.P. 48(44).
Type :- 'C'.

Object :- To compare actual dibbling of sprouted seeds with transplanted seedlings.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Paddy bulk. (c) N.A. (ii) (a) Heavy alluvial clay. (b) Refer soil analysis, Samalkot. (iii) 11.2.48. (iv) (a) 2 or 3 ploughings. (b) As per treatments. (c) About 21 lb./ac. (d) and (e) As per treatments.
   (v) 30 lb./ac. of Super. + 120 lb./ac. of G.N.C. applied just before dibbling or transplanting. (vi) SLO—12. (vii) Irrigated. (viii) 2 or 3 weedings. (ix) 2.54". (x) N.A.

2. TREATMENTS :
   1. Sprouted seed dibbled at three seeds/hole, 6" apart.
   2. Sprouted seed smeared with cowdung and then dibbled three seeds/hole, 6" apart.
   3. Sprouted seed broadcast using same seedrate (worked out to 40 lb./ac.) Date of dibbling 10.1.48.
   4. Transplanting (Control).

3. DESIGN
   (i) R.B.D. (ii) 4. (b) N.A. (iii) 6. (iv) (a), (b) N.A. (v) N.A. (vi) Yes.

4. GENERAL :
   (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948—N.A. (b) N.A. (c) N.A. (v) (a) Maruteru. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :
   (i) 2766 lb./ac.
   (ii) 65.0 lb./ac.
   (iii) Treatments are significantly different.
   (iv) Av. yield of grain in lb./ac.
   Treatment  | Av. yield |
   1.          | 2669      |
   2.          | 2491      |
   3.          | 2803      |
   4.          | 2861      |
   S.E./mean  | 26.5 lb./ac.

Crop :- Paddy (I crop of 48-49)  
Ref :- A.P. 48(33)/48(44).
Type :- 'C'.

Object :- To compare actual dibbling of sprouted seeds with transplanted seedlings.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Heavy alluvial clay. (b) Refer soil analysis, Samalkot. (iii) 27.6.48/27.7.48. (iv) (a) 2 ploughings. (b) As per treatments. (v) 300 lb./ac. of G.N.C.+112 lb./ac. of B.M. just before dibbling or transplanting. (vi) SLO—15 (Late). (vii) Irrigated. (viii) 2 weedings. (ix) 54.61" (x) 27.11.48.

2. TREATMENTS :
   1. Dibbling sprouted seed at 6"x 6" spacing, 3 seeds/hole.
   2. Dibbling sprouted seed smeared with cowdung at 6"x 6" spacing, 3 seeds/hole.
   3. Broadcasting sprouted seed, using the same seed rates as in (1) and (2).
   4. Transplanting seedlings from the nursery sown on the date of dibbling.

3. DESIGN
   (i) R.B.D. (ii) 4. (b) N.A. (iii) 6. (iv) (a), (b) 30'x 14'. (v) No. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948 (II crop of 47-48)—N.A. (b) No. (c) N.A. (v) (a) Maruteru. (b) N.A. (vi) and (vii) Nil.
5. RESULTS:

(i) 3729 lb./ac.
(ii) 303.8 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3788</td>
</tr>
<tr>
<td>2.</td>
<td>3439</td>
</tr>
<tr>
<td>3.</td>
<td>3946</td>
</tr>
<tr>
<td>4.</td>
<td>3694</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>124.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Paddy (1st crop of 1949-50).

Object: To study the comparative merits of drilling paddy with transplanting.

1. BASAL CONDITIONS:

(i) (a) Paddy—Gram. (b) N.A. (c) N.A. (ii) (a) Heavy alluvial clay. (b) Refer soil analysis, Samaikot.
(iii) 21.6.49. (iv) 2 ploughings. (b) As under treatments. (c)—. (d) and (e) As under treatments.
(v) G.N.C. at 3000 lb./ac. applied at planting. (vi) SLO-15 (late). (vii) Irrigated. (viii) 2 weed.ings.
(ix) N.A. (x) 24.11.49.

2. TREATMENTS:

1. Sprouted seeds dibbled at 6" x 6" spacing, 3 seeds/bole.
2. Sprouted seeds smeared with cowdung and dibbled with 6" x 6" spacing.
3. Sprouted seeds broadcast.
4. Transplanted (age of seedlings equal to the age of sprouted seed).

3. DESIGN:

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 3′ x 15′. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Good. (ii) Slight attack of helminthosporium. (iii) Grain weight and tiller counts and height of plant.
(iv) (a) 1947—N.A. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 2307 lb./ac.
(ii) 250.3 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2226</td>
</tr>
<tr>
<td>2.</td>
<td>2311</td>
</tr>
<tr>
<td>3.</td>
<td>2130</td>
</tr>
<tr>
<td>4.</td>
<td>2562</td>
</tr>
<tr>
<td>S.E.,mean</td>
<td>123.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Rice Res. Stn., Buchireddipalem.
Site: Rice Res. Stn., Buchireddipalem.

Object: To find out the optimum seed-rate in the nursery to plant an acre under highly manured and normal manured conditions without loss in yield.

1. BASAL CONDITIONS:

(i) (a) N.A. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 18.8.48. 26.1.48. (iv) (a) 2 to 3 ploughings. (b) Transplanting. (c)—. (d) 6" x 6". (e) 2. (v) Nil. (vi) 2555. (vii) Irrigated. (viii) 2 or 3 hand weedings. (ix) 25.56. (x) 16.2.49.
2. TREATMENTS:

Main-plot treatments:
2 manurings: M1 = Heavy manure: G.M. at 7000 lb./ac.+ G.N.C. at 90 lb./ac. of N + Super at 15 lb./ac. of P2O5 and M2 = Normal manure: G.M. at 7000 lb./ac.+ G.N.C. at 45 lb./ac. of N.

Sub-plot treatments:
3 seed rates in the nursery: R1 = 2, R2 = 3 and R3 = 4 lb./cent.

3. DESIGN:
(i) Split-plot. (ii) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) Yes. (iv) (a) 18" x 20". (v) No. (vi) Yes.

4. GENERAL:
(i) Unfavourable season. (ii) Attack of paddy-blast and kuda. (iii) Grain yield. (iv) (a) 1947 to 1949. (b) N.A. (c) N.A. (d) N.A. and (b) N.A.. (vi) Nil.

5. RESULTS:
(i) 1393 lb./ac.
(ii) (a) 169.6 lb./ac.
(b) 224.1 lb./ac.
(iii) Only main effect 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>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td>1505</td>
<td>1531</td>
<td>1641</td>
<td>1559</td>
</tr>
<tr>
<td>M2</td>
<td>1291</td>
<td>1248</td>
<td>1142</td>
<td>1227</td>
</tr>
<tr>
<td>Mean</td>
<td>1398</td>
<td>1389</td>
<td>1391</td>
<td>1393</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. M marginal means = 69.2 lb./ac.
2. R marginal means = 111.9 lb./ac.
3. R means at the same level of M = 158.4 lb./ac.
4. M means at the same level of R = 146.7 lb./ac.

Crop: Paddy.
Object: To determine the optimum seed rate required in the nursery to transplant under heavily manured and under normal manured conditions.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 13.7.49/ 29.8.49. (iv) (a) 2 to 3 ploughings. (b) Transplanting. (c) -. (d) 6" x 6". (e) 2. (v) Nil. (vi) N.A. (vii) Irrigated. (viii) 2 to 3 hand weedicings. (ix) 25.82. (x) 26.1.50.

2. TREATMENTS:
Main-plot treatments:
2 manurings: M1 = Heavy manuring: G.M. at 7000 lb./ac.+ G.N.C. at 90 lb./ac. of N + Super at 15 lb./ac. of P2O5 and M2 = Normal manuring: G.M. at 7000 lb./ac.+ G.N.C. at 45 lb./ac. of N.

Sub-plot treatments:
3 Seedrates in the nursery: R1 = 2, R2 = 3 and R3 = 4 lb./cent.

3. DESIGN:
(i) Split-plot. (ii) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) Yes. (iv) (a) and (b) 18" x 20". (v) No. (vi) Yes.

Ref: - A. P. 49(3). 
Type: - "CM".
4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1947 to 1949. (b) N.A. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2393 lb./ac.
   (ii) (a) 349.7 lb./ac.
   (b) 158 lb./ac.
   (iii) None of the effects is significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>R_1</th>
<th>R_2</th>
<th>R_3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>M_1</td>
<td>2558</td>
<td>2505</td>
<td>2522</td>
<td>2528</td>
</tr>
<tr>
<td>M_2</td>
<td>2397</td>
<td>2174</td>
<td>2202</td>
<td>2258</td>
</tr>
<tr>
<td>Mean</td>
<td>2478</td>
<td>2339</td>
<td>2362</td>
<td>2393</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. M marginal means = 142.7 lb./ac.
2. R marginal means = 79.2 lb./ac.
3. M means at the same level of M = 112.1 lb./ac.
4. M means at the same level of R = 169.6 lb./ac.

---

Crop: Paddy.  
Site: Rice Res. Sta., Buchireddipalem.  
Type: ‘CM’.

Object: To ascertain the relative merits of dry ploughing compared with green manuring and puddling.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Green-gram and Paddy. (c) F.Y.M. at 20 C.L./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 29.7.52/2, 3.11.52. (iv) (a) 3 dry ploughings and 2 puddlings. (b) Transplanted. (c) --, (d) 6' x 6'. (e) 2. (v) Nil. (vi) BCP-1 (Late). (vii) Irrigated. (viii) 3 hand weedings. (x) 22.78'. (x) 14.25'

2. TREATMENTS:
   1. Ploughed dry.
   2. Ploughed dry+4000 lb./ac. of G.L. from out side.
   3. Raising G.M. crop, puddling and then transplanting.
   4. Keeping the field fallow, puddling after receipt of water and then planting.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) and (b) 55' x 22'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Slight attack of blast. (iii) Grain yield. (iv) (a) 1952 to 1956. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1073 lb./ac.
   (ii) 255 6 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1033</td>
<td>1307</td>
</tr>
<tr>
<td>1098</td>
<td>837</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>194.4 lb./ac.</td>
</tr>
</tbody>
</table>
Crop:- Paddy.  
Ref:- A.P. 53(68)/52(41).  
Site:- Rice Res. Stn., Buchireddipalem.  
Type:- 'CM'.

Object:-To ascertain the relative merits of dry ploughing compared with green manuring and puddling.

1. BASAL CONDITIONS:
(i) (a) No.  (b) Fallow for dry ploughing plots and sawn hemp for G.M. plots.  (c) N.A.  (ii) (a) Sandy loam.  (b) Refer soil analysis, Buchireddipalem.  (iii) 9.8.53/10.9.53.  (iv) (a) 2 to 3 dry ploughing and 2 puddlings.  (b) Transplanting.  (c) —.  (d) 6" x 6".  (e) 2.  (v) N.A.  (vi) BCP-1.  (vii) Irrigated.  (viii) 3 weedings.  (x) 28.47.  (x) 27.1.54.

2. TREATMENTS:
1. Ploughed dry.  
2. Ploughed dry+4000 lb./ac. of G.L. from outside.  
3. Raising G.M. and puddling in.  
4. Keeping the field found, puddling after receipt of water.

3. DESIGN:
(i) R.B.D.  (ii) (a) 4.  (b) N.A.  (iii) 6.  (iv) (a) and (b) 55' x 22'.  (v) No.  (vi) Yes.

4. GENERAL:
(i) N.A.  (ii) N.A.  (iii) Grain yield.  (iv) (a) 1952 to 1956.  (b) Yes.  (c) N.A.  (v) (a) and (b) Nil.  (vi) and (vii) Nil.

5. RESULTS:
(i) 1597 lb./ac.  
(ii) 268.6 lb./ac.  
(iii) Treatments differ significantly.  
(iv) Av. yield of grain in lb./ac.  

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield (lb./ac.)</th>
<th>S.E./mean (lb./ac.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1474</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>1742</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>1350</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>1821</td>
<td></td>
</tr>
</tbody>
</table>

S.E./mean = -109.6 lb./ac.

Crop :- Paddy (Abi).  
Ref:- A.P. 53(1).  
Site:- Govt. Main Agri. Stn., Himayatsagar.  
Type:- 'CM'.

Object:-To determine the efficacy of Japanese method over Local method of paddy cultivation.

1. BASAL CONDITIONS:
(i) (a) N.A.  (b) N.A.  (c) N.A.  (ii) (a) Clay loam.  (b) Refer soil analysis, Himayatsagar.  (iii) N.A./ 27.7.53.  (iv) (a) One dry ploughing, 3 puddlings and levelling before sowing.  (b) Transplanting.  (c) —.  (d) 6" x 6".  (e) N.A.  (v) Nil.  (vi) H.R.-19.  (vii) N.A.  (viii) N.A.  (ix) 25.65.  (x) 17.11.53.

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

(1) Manure levels: J =Japanese dosage in puddle, 64 lb./ac. of N+32 lb./ac. of P₂O₅.  
J =Japanese dosage split, 22 lb./ac. of N+32 lb./ac. of P₂O₅ in puddle and two top dressings each 21 lb./ac. of N.  
O =Local dosage in puddle, 22 lb./ac. of N+12 lb./ac. of P₂O₅.  
(2) Spacing levels: J' =Japanese spacing, 10" X 10" planting.  
O' =Local spacing, 6" X 4" planting.  
(3) Interculture levels: J U =Japanese interculture, 2 intercultures.  
O U =Local interculture, one weeding.

3. DESIGN:
(i) 3 x 2 x 2 Fact. in R.B.D.  (ii) (a) 12.  (b) N.A.  (iii) 4.  (iv) (a) and (b) 1.74 cents.  (v) Nil.  (vi) Yes.
4. GENERAL:
(i) Due to unusual heavy rainfall in Oct. 1953 heavy lodging and shedding was noticed. (ii) Slight attack of *Fusarium*; dusting gammexene, spraying of Perenox. (iii) Grain and straw weight. (iv) (a) 1953-N.A. (b) Nil. (v) (a) and (b) Nil. (vi) Heavy rainfall in October, 1953. (vii) Nil.

3. RESULTS:
(i) 1173 lb/AC. (ii) 408.3 lb/AC.
(iii) Main effects of manure, spacing and interaction "manure x spacing" are significant. Others are not significant.
(iv) Av. yield of grain in lb/AC.

<table>
<thead>
<tr>
<th>J</th>
<th>J</th>
<th>O</th>
<th>Mean</th>
<th>J'</th>
<th>O'</th>
</tr>
</thead>
<tbody>
<tr>
<td>1093</td>
<td>1164</td>
<td>661</td>
<td>973</td>
<td>858</td>
<td>1088</td>
</tr>
<tr>
<td>1937</td>
<td>1323</td>
<td>859</td>
<td>1373</td>
<td>1373</td>
<td>1373</td>
</tr>
<tr>
<td>1491</td>
<td>120</td>
<td>564</td>
<td>1115</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1538</td>
<td>1197</td>
<td>953</td>
<td>1230</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>1515</td>
<td>1244</td>
<td>763</td>
<td>1173</td>
<td></td>
</tr>
</tbody>
</table>

S.E. of marginal mean of manure = 102.1 lb/AC.
S.E. of marginal mean of spacing or interculture = 83.3 lb/AC.
S.E. of body of table "manure x spacing" or 'manure x interculture' = 144.0 lb/AC.
S.E. of body of table "spacing x manure" = 117.8 lb/AC.

Crop: Paddy (Main crop of 51-52).
Ref: A.P. 51 (68).
Type: 'CM'.

Object: To find out the efficacy of the Japanese cultural methods on rice over local methods.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru.
(iii) 5.5.1951-22.7.1951. (iv) (a) to (e) As under treatments. (v) Nil. (vi) MTU-1. (vii) Irrigated.
(viii) N.A.; (ix) 45.15". (x) 18.11.1951.

2. TREATMENTS:
All combinations of (1) and (2)
(1) 2 Methods of cultivation: J=Japanese method and L=Local method.
(2) 4 levels of manure: M1 = No manure, M2 = G.L. at 4000 lb/ac. + Super at 45 lb/ac. of P2O5. M3 = G.L. at 4000 lb/ac. + Super at 45 lb/ac. of P2O5 + 30 lb/ac. of N as A/S and M4 = G.L. at 4000 lb/ac. + Super at 45 lb P2O5/ac. + A/S at 45 lb/ac. of N.

Japanese method: Planting in lines 1' apart with 9" spacing within a line. 3 to 4 seedlings per hole; weeding once in a fortnight; the soil was stirred with a rake in between lines. 1/2 of N as A/S given before planting and the balance 1/2 after one month. Local Method: Planting in bulk. A/S applied in one dose four weeks after planting. No weeding or stirring.

3. DESIGN:
(i) 2 x 4 Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a), (b) 18" x 24". (v) No. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1951-N.A. (b) N.A. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.
5. RESULTS:

(i) 2867 lb./ac.
(ii) 160.3 lb./ac.
(iii) Main effects of manures and methods and their interaction are significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>J</th>
<th>L</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>M₁</td>
<td>2885</td>
<td>2990</td>
<td>2938</td>
</tr>
<tr>
<td>M₂</td>
<td>3155</td>
<td>2918</td>
<td>3057</td>
</tr>
<tr>
<td>M₃</td>
<td>3121</td>
<td>2500</td>
<td>2811</td>
</tr>
<tr>
<td>M₄</td>
<td>3401</td>
<td>1923</td>
<td>2662</td>
</tr>
<tr>
<td>Mean</td>
<td>3141</td>
<td>2593</td>
<td>2867</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of method = 40.1 lb./ac.
S.E. of marginal mean of manure = 56.6 lb./ac.
S.E. of body of table = 80.1 lb./ac.

Crop: Paddy (2nd crop of 1951-52).
Ref: A.P. 51 (67).
Type: CM.

Object: To find out the efficacy of the Japanese cultural methods on rice over local methods.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) N.A. (c) N.A.
(ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 26.12.1951.
(iv) (a) to (e) As under treatments. (v) Nil. (vi) MTU-1. (vii) Irrigated. (viii) As per treatments. (ix) (x) 8 and 12.5.1952.

2. TREATMENTS:

All combinations of (1) and (2)
(1) 2 methods of cultivation: J = Japanese method and L = Local method.
(2) 4 levels of manure: M₁ = No manure, M₂ = G.L. at 4000 lb./ac. + Super at 45 lb./ac. of P₂O₅, M₃ = G.L. at 4000 lb./ac. + Super at 45 lb./ac. of P₂O₅ + A/S at 30 lb./ac. of N and M₄ = G.L. at 4000 lb./ac. + Super at 45 lb./ac. of P₂O₅ + A/S at 45 lb./ac. of N.

Japanese method: Planting in lines 9" apart with 6" spacing in the row. 3 to 4 seedlings per hole. Once in a fortnight weeding was done and the soil was stirred with a rake in between lines. ½ of N given before planting and the rest after one month and L = Local method: Planting in bulk. A/S applied in one dose three weeks after planting. No weeding or stirring.

3. DESIGN:

(i) 2 × 4 Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a), (b) 18' × 24'. (v) No. (vi) Yes.

4. GENERAL:

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

5. RESULTS:

(i) 2771 lb./ac.
(ii) 233.3 lb./ac.
(iii) Only main effect of manure is significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>J</th>
<th>L</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>M₁</td>
<td>2431</td>
<td>2533</td>
<td>2482</td>
</tr>
<tr>
<td>M₂</td>
<td>3048</td>
<td>3060</td>
<td>3054</td>
</tr>
<tr>
<td>M₃</td>
<td>2909</td>
<td>2696</td>
<td>2803</td>
</tr>
<tr>
<td>M₄</td>
<td>2595</td>
<td>2897</td>
<td>2746</td>
</tr>
<tr>
<td>Mean</td>
<td>2746</td>
<td>2797</td>
<td>2771</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of method = 58.4 lb./ac.
S.E. of marginal mean of manure = 87.6 lb./ac.
S.E. of body of table = 116.9 lb./ac.
Crop :- Paddy.  
Ref :- A.P. 51 (24).  
Type :- 'CM'.

Object :- To find out a suitable G.M. crop and its optimum period of sowing for high yields.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Sugarcane. (c) N.A. (ii) (a) Chalka (sandy loam). (b) Refer soil analysis, Rudrur. 
   (iii) 18.7.1951. (iv) (a) 3 ploughings, puddling, and levelling. (b) Transplanting. (c) --. (d) 6'x6'.
   (ix) 3.12.51.

2. TREATMENTS:
   1. No manure. 
   2. Sunhemp sown in 4th week of April. 
   3. Daincha sown in 4th week of April. 
   4. Pillipesra sown in 4th week of April. 
   5. Sunhemp sown in 2nd week of May. 
   6. Daincha sown in 2nd week of May. 

Treatments 8, 9 and 10 completely failed in all replications.

3. DESIGN:
   (i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 6. (iv) (a) 48.5'x18'. (b) 45.5'x18'. (v) Buffer of 1' width 
   and 1.5' bands on either side. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Attack of gall-fly; silver shoots appeared. (iii) Grain yield. (iv) (a) 1951 to 1954. (b) Yes.
   (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Conducted by Farm Section.

5. RESULTS:
   (i) 1587 lb./ac. 
   (ii) 168.1 lb./ac. 
   (iii) Treatment differences are highly significant. 
   (iv) Av. yield of grain in lb./ac. 

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1246</td>
<td>7.</td>
<td>1585</td>
</tr>
<tr>
<td>2.</td>
<td>1316</td>
<td>8.</td>
<td>failed</td>
</tr>
<tr>
<td>3.</td>
<td>1750</td>
<td>9.</td>
<td>failed</td>
</tr>
<tr>
<td>4.</td>
<td>1809</td>
<td>10.</td>
<td>failed</td>
</tr>
<tr>
<td>5.</td>
<td>1665</td>
<td>11.</td>
<td>1680</td>
</tr>
<tr>
<td>6.</td>
<td>1515</td>
<td>12.</td>
<td>1615</td>
</tr>
</tbody>
</table>

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

Crop :- Paddy.  
Ref :- A.P. 52 (23)/51 (24).  
Type :- 'CM'.

Object :- To find out a suitable G.M. crop and its optimum period of sowing for high yields.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Paddy. (c) As under treatments. (ii) (a) Chalka (sandy loam). (b) Refer soil analysis, 
   Rudrur. (iii) 17.1.1952. (iv) (a) 3 ploughings, puddling and levelling. (b) N.A. (c) --. (d) 6'x4'. (e) N.A.

2. TREATMENTS:
   1. No manure. 
   2. Sunhemp sown in 4th week of April. 
   3. Daincha sown in 4th week of April. 
   4. Pillipesra sown in 4th week of April. 
   5. Sunhemp sown in 2nd week of May. 
   6. Daincha sown in 2nd week of May. 

7. Pillipesra sown in 2nd week of May. 
8. Sunhemp sown in standing Abi Paddy. 
11. Paddy fertilizer mixture at 30 lb./ac. of N. 
3. DESIGN:
(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 6. (iv) (a) 48.5' x 18'. (b) 45.5' x 16'. (v) Buffer of 1' width and 1.5' bunds on either side. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1951 to 1954. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Conducted by Farm Section.

5. RESULTS:
(i) 2951 lb/ac. (ii) 510.0 lb/ac. (iii) Treatments differ significantly. (iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2010</td>
<td>7.</td>
<td>2628</td>
</tr>
<tr>
<td>2.</td>
<td>3042</td>
<td>8.</td>
<td>2802</td>
</tr>
<tr>
<td>3.</td>
<td>2718</td>
<td>9.</td>
<td>3498</td>
</tr>
<tr>
<td>4.</td>
<td>2730</td>
<td>10.</td>
<td>3648</td>
</tr>
<tr>
<td>5.</td>
<td>3342</td>
<td>11.</td>
<td>2982</td>
</tr>
<tr>
<td>6.</td>
<td>3330</td>
<td>12.</td>
<td>2688</td>
</tr>
</tbody>
</table>

S.E./mean = 208.2 lb/ac.

Crop: Paddy (Abi 1953-54). 
Type: 'CM'. 
Ref: A.P. 53(17)/52(23)/51(24).

Object: To find out whether the application of G.M. crop to paddy will increase the yields and to determine the time of its sowing, and also to find out whether the G.M. can completely replace the use of compost and paddy fertilizer mixture etc.

1. BASAL CONDITIONS:
(i) (a) N.A. (b) Paddy. (c) As under treatments. (ii) (a) Chalka (b) Refer soil analysis, Rudrur. (iii) 18.7.53. (iv) (a) to (e) N.A. (v) N.A. (vi) H.R-31 (early). (vii) N.A. (viii) Weeding twice, (ix) N.A. (x) 3.12.53.

2. TREATMENTS:
1. No manure.
2. Sunhemp sown in the 4th week of April.
3. Pillipesra sown in the 4th week of April.
4. Daincha sown in the 4th week of April.
5. Sunhemp sown in the 2nd week of May.
6. Pillipesra sown in the 2nd week of May.
7. Daincha sown in the 2nd week of May.
8. Sunhemp sown just before the harvest of previous Abi crop.
9. Pillipesra sown just before the harvest of previous Abi crop.
10. Daincha sown just before the harvest of previous Abi crop.
11. F.Y.M. at 30 C.L/ac.
12. Paddy fertilizer mixture at 30 lb/ac of N.
(Half the dose of paddy fertilizer mixture and full dose of F.Y.M. given at last puddling; other half of paddy fertilizer mixture given on 17.8.53).

3. DESIGN:
(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 6. (iv) (a) 48.5' x 18'. (b) 45.5' x 16'. (v) Buffer of 1' width and 1.5' bunds on either side. (vi) Yes.

4. GENERAL:
(i) Good. (ii) Tip-drying distinctly noticed here and there in patches but did not prove detrimental to crop. (iii) Grain yield. (iv) (a) 1951 to 1954. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Conducted by Farm Section.
5. RESULTS:

(i) 3456 lb./ac.
(ii) 559.2 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Avg. yield of grain in lb. ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2928</td>
<td>7.</td>
<td>3966</td>
</tr>
<tr>
<td>2.</td>
<td>3246</td>
<td>8.</td>
<td>3198</td>
</tr>
<tr>
<td>3.</td>
<td>3486</td>
<td>9.</td>
<td>3246</td>
</tr>
<tr>
<td>4.</td>
<td>3558</td>
<td>10.</td>
<td>3528</td>
</tr>
<tr>
<td>5.</td>
<td>3450</td>
<td>11.</td>
<td>3786</td>
</tr>
<tr>
<td>6.</td>
<td>3448</td>
<td>12.</td>
<td>3630</td>
</tr>
</tbody>
</table>

S.E./mean = 228.3 lb./ac.

Crop: Paddy (Tabi 1947-48).
Ref: A.P. 48(8).
Type: 'CM'.

Object: To determine the optimum dosage of manure along with suitable methods of sowing.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) 416 lb./ac. of G.N.C. and 35 lb./ac. of Super.
   (ii) (a) Black cotton soil. (b) Refer soil analysis, Rudrur.
   (iii) 1.1.48. (iv) (a) 2 ploughings and 2 puddlings. (b) As under treatments.
   (c) 93 lb. ac. (d) N.A. (e) Nil. (f) H.R.19. (g) Irrigated. (h) One thinning and 2 weedings between 5.2.48 to 1.4.48.

2. TREATMENTS:
   All combinations of (1) and (2)
   (1) 3 levels of manure: M1=30 lb./ac. of N+15 lb./ac. of P2O5, M2=45 lb./ac. of N+22.5 lb./ac. of P2O5 and M3=60 lb./ac. of N+30 lb./ac. of P2O5.
   (2) 2 methods of sowing: S1=Broadcasting molka and S2=Drilling soaked seed (soaked 36 hrs).

3. DESIGN:
   (i) 2 x 3 Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) a), (b) 22' x 18'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory in early stages. In later stages there was attack of itkarogum due to which the growth received a setback. (ii) Nil. (iii) Grain yield. (iv) (a) 1947 (Abi 1947-48) to 1950(Abi 1949-50). (b) Yes.
   (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 647 lb./ac.
   (ii) 253.3 lb./ac.
   (iii) Main effects of M, S are highly significant. Interaction is not significant.
   (iv) Av. yield of grain in lb. ac.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td>660</td>
<td>779</td>
<td>1174</td>
</tr>
<tr>
<td>M2</td>
<td>303</td>
<td>476</td>
<td>486</td>
</tr>
</tbody>
</table>

Mean = 482, 627, 830, 647

S.E. of marginal mean of manures = 73.1 lb./ac.
S.E. of marginal mean of methods = 54.7 lb./ac.
S.E. of body of table = 103.7 lb./ac.

Object: To determine the optimum dosage of manure along with suitable methods of sowing.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) Same as under treatments. (ii) (a) Black cotton soil. (b) Refer soil analysis, Rudrur. (iii) 2.5.1949. (iv) (a) 2 ploughings and 2 puddlings. (b) As under treatments. (c) 80 lb./ac. (d) N.A. (e) →. (v) Nil. (vi) H.R.-19 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 1.20". (x) 31.5.49.

2. TREATMENTS:
   All combinations of (1) and (2)
   (1) 3 levels of manure: \( M_1 = 30 \) lb./ac. of \( N+15 \) lb./ac. of \( P_{2}O_{5} \), \( M_2 = 45 \) lb./ac. of \( N+22 \) lb./ac. of \( P_{2}O_{5} \), and \( M_3 = 60 \) lb./ac. of \( N+30 \) lb./ac. of \( P_{2}O_{5} \).
   (2) 2 methods of sowing: \( S_1 \) = Broadcasting Molka. and \( S_2 \) = Drilling soaked seed (soaked 36 hrs.) N as G.N.C. and \( P_{2}O_{5} \) as super.

3. DESIGN:
   (i) 2 x 3 Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) and (b) 22' x 18'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Germination was satisfactory but later progress of the crop was not encouraging. Further set back was received by an attack of *Ika rogum*. After the disease was brought under control, there was slight improve­ment. But, in general the crop was not satisfactory. (ii) Attack of *Ika rogum*. Control measures N.A. (iii) Grain yield. (iv) (a) 1947 (Abi 1947-48) to 1950 (Tabi 1949-50). (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 867 lb./ac.
   (ii) 259.6 lb./ac.
   (iii) Only the main effect of 'M' is 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>
</tr>
</thead>
<tbody>
<tr>
<td>( S_1 )</td>
<td>697</td>
<td>880</td>
<td>1091</td>
<td>889</td>
</tr>
<tr>
<td>( S_2 )</td>
<td>687</td>
<td>816</td>
<td>1036</td>
<td>846</td>
</tr>
<tr>
<td>Mean</td>
<td>692</td>
<td>848</td>
<td>1063</td>
<td>867</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of manures = 74.9 lb./ac.
S.E. of marginal mean of methods = 61.2 lb./ac.
S.E. of body of table = 106.0 lb./ac.

---

Crop: Paddy (Tabi 1948-49).

Object: To determine the optimum dosage of manure along with suitable methods of sowing.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) Same as under treatments. (ii) (a) Black cotton soil. (b) Refer soil analysis, Rudrur. (iii) 25.1.49. (iv) (a) 2 ploughings and 2 puddlings. (b) As under treatments. (c) 80 lb./ac. (d) N.A. (e) →. (v) Nil. (vi) H.R.-19 (early). (vii) Irrigated. (viii) 2 weedings. (ix) 1.20". (x) 31.5.49.
2. TREATMENTS:
All combinations of (1) and (2)
(1) 3 levels of manure: M1 = 30 lb/acre of N+15 lb/acre of P2O5, M2 = 45 lb/acre of N+22 lb/acre of P2O5, and M3 = 60 lb/acre of N+30 lb/acre of P2O5
(2) 2 methods of sowing: S1 = Molka broadcast and S2 = Drilling soaked seed (soaked 36 hrs.)
N as G.N.C. and P2O5 as Super.

3. DESIGN:
(i) 2 x 3 Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) and (b) 22'x18'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Not satisfactory. (ii) On account of late sowing, the crop became a victim to several pests which could not be brought under control. (iii) Grain yield. (iv) (a) 1947 (Abi 1947-48) to 1950 (Table 1949-50), (b) Yes. (c) N.A. (v) (a) and (b) Nil, (vi) and (vii) Nil.

5. RESULTS:
(i) 242 lb/acre.
(ii) 135.3 lb/acre.
(iii) Main effects and interaction are significant.
(iv) Av. yield of grain in lb/acre.

<table>
<thead>
<tr>
<th></th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>281</td>
<td>305</td>
<td>527</td>
<td>371</td>
</tr>
<tr>
<td>S2</td>
<td>116</td>
<td>220</td>
<td>134</td>
<td>113</td>
</tr>
<tr>
<td>Mean</td>
<td>166</td>
<td>230</td>
<td>331</td>
<td>242</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of manures = 39.0 lb/acre.
S.E. of marginal mean of methods = 31.8 lb/acre.
S.E. of body of table = 55.2 lb/acre.

Object:—To find out the optimum dose of manure along with suitable methods of sowing.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) Same as under treatments. (ii) (a) Black cotton soil. (b) Refer soil analysis, Rudur. (iii) 6.7.49 9.7.49— (iv) (a) 4 times ploughing, once guntraka, twice puddling. (b) As under treatments. (c) 40 lb/ac. (d) N.A. (e) —. (v) Nil. (vi) H.R.—19 (early). (vii) Irrigated. (viii) One weeding 1.11.48. (x) 26.11.49.

2. TREATMENTS:
All combinations of (1) & (2)
(1) 3 levels of manure : M1 = 30 lb/acre of N+15 lb/acre of P2O5, M2 = 45 lb/acre of N+22 lb/acre of P2O5, and M3 = 60 lb/acre of N+30 lb/acre of P2O5.
(2) 2 methods of sowing: S1 = Broadcasting by Molka and S2 = Drilling Soaked seed (soaked 36hrs.)
N and P2O5 as Ammo. Phos.

3. DESIGN:
(i) 2 x 3 Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 22'x18'. (v) N.A. (vi) Yes.
GENERAL:
(i) Continuous rains affected the growth to some extent. (ii) Attack of gall-fly, Thripe (spraying tobacco decoction) and Hispa—(D.D.T. spraying). (iii) Grain yield. (iv) (a) 1947 (Abi 47-48) to 1950 (Tabi 1949-50). (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) & (vii) Nil.

RESULTS:
(i) 859 lb/acre.
(ii) 268.4 lb/acre.
(iii) Main effect of manure alone is significant.
(iv) Av. yield of grain in lb/acre.

<table>
<thead>
<tr>
<th></th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
<td>560</td>
<td>678</td>
<td>1080</td>
<td>773</td>
</tr>
<tr>
<td>S₂</td>
<td>770</td>
<td>925</td>
<td>1090</td>
<td>928</td>
</tr>
</tbody>
</table>

Mean = 665, 802, 1085
S.E. of marginal mean of manures = 77.6 lb/acre
S.E. of marginal mean of methods = 63.3 lb/acre
S.E. of body of table = 110.0 lb/acre

Crop: Paddy (Tabi 49-50).
Type: 'CM'.
Ref: A.P. 50(9)/49(8, 7)/48(8, 7).

Object: To find out the optimum dose of manure along with suitable methods of sowing.

BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) Same as treatments. (ii) (a) Black cotton soil. (b) Refer soil analysis, Rudrur. (iii) 25.1.50/27.1.50. (iv) (a) 2 ploughings & 1 repairing of bunds. (b) As under treatments. (c) 30 lb./acre. (d) 1' for drilling soaked seed. (e)—. (v) Nil. (vi) H.R. 19 (early). (vii) Irrigated. (viii) 3 times weeding. (ix) 1.91'. (x) 18.5.50.

TREATMENTS:
All combinations of (1) & (2)
(1) 3 levels of manure: M₁ = 30 lb/acre of N + 15 lb/acre of P₂O₅, M₂ = 45 lb/acre of N + 22½ lb/acre of P₂O₅ and M₃ = 60 lb/acre of N + 30 lb/acre of P₂O₅.

DESIGN:
(i) 2 x 3 Fact in R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 18' x 22'. (v) N.A. (vi) Yes.

GENERAL:
(i) Germination not satisfactory. (ii) Attack of stemborer. (iii) Grain yield. (iv) (a) 1957 (Abi 1947-48) to 1950 (Tabi 1949-50). (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) & (vii) Nil.

RESULTS:
(i) 385 lb/acre.
(ii) 144.1 lb/acre.
(iii) Main effects and interaction are significant.
(iv) Av. yield of grain in lb/acre.

<table>
<thead>
<tr>
<th></th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
<td>255</td>
<td>454</td>
<td>767</td>
<td>492</td>
</tr>
<tr>
<td>S₂</td>
<td>77</td>
<td>214</td>
<td>540</td>
<td>277</td>
</tr>
</tbody>
</table>

Mean = 166, 334, 654
S.E. of marginal mean of manures = 41.6 lb/acre
S.E. of marginal mean of methods = 34.0 lb/acre
S.E. of body of table = 58.8 lb/acre.
Crop :- Paddy.
Site :- Sugarcane Res. Stn., Anakapalle.

Object :- To find out the best method of planting Paddy.

1. BASAL CONDITIONS :
(i) (a) N.A. (b) Sannhemp. (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Anakapalle. (iii) 10.7.1948. (iv) (a) 2 or 3 ploughings. (b) As per treatments. (c) = . (d) 6" x 6" for transplanted crop. (e) 2 to 3. (v) N.A. (vii) As per treatments. (viii) Irrigated. (ix) 1 or 2 weedings. (ix) 33.55°. (June to Dec.) (x) 15.12.1948.

2. TREATMENTS :
All combinations of (1) and (2)
(1) 2 varieties: V₁ = AKP-12 and V₂ = BAM-3.
(2) 4 methods of planting : M₁ = Sprouted seeds dibbled.
M₂ = Sprouted seeds dibbled after smearing with cowdung.
M₃ = Broadcasting the sprouted seed using the same seed rate as above.
M₄ = Transplanting on 23.8.1948.
M₁, M₂ and M₃ planted on 10.7.1948.

3. DESIGN :
(i) 2 x 4 Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 6. (iv) (a) 29.5' x 15.5' (b) 28.5' x 14.5'. (v) N.A. (vi) Yes.

4. GENERAL :
(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1948 to 1949. (b) No. (c) Nil. (v) (a) Buchireddipalem. (b) N.A. (vi) & (vii) Nil.

5. RESULTS :
(i) 2202 lb. ac.
(ii) 345.4 lb. ac.
(iii) Main effects of V and M are significant but their interaction is not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
<th>M₄</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V₁</td>
<td>2546</td>
<td>2381</td>
<td>2498</td>
<td>2093</td>
</tr>
<tr>
<td>V₂</td>
<td>2185</td>
<td>2228</td>
<td>2046</td>
<td>1645</td>
</tr>
</tbody>
</table>

Mean 2366 2305 2272 1869 2202
S.E. of marginal mean of M = 99.7 lb./ac.
S.E. of marginal mean of V = 70.5 lb./ac.
S.E. of body of table = 141.0 lb./ac.

Crop :- Paddy.
Site :- Sugarcane Res. Stn., Anakapalle.

Object :- To find out the best method of planting Paddy.

1. BASAL CONDITIONS :
(i) (a) N.A. (b) Sannhemp. (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Anakapalle. (iii) 18.7.1949. (iv) (a) 2 or 3 ploughings. (b) As under treatments. (c) N.A. (ii) (a) Clay loam. (b) As under treatments. (c) 2 to 3. (v) N.A. (vii) As per treatments. (viii) Irrigated. (ix) 1 or 2 weedings. (ix) 40.95°. (July to Dec.) (x) 24.12.1949.

2. TREATMENTS :
All combinations of (1) and (2)
(1) 2 varieties: V₁ = AKP-12 and V₂ = BAM-3.
(2) 4 methods of planting : M₁ = Sprouted seeds dibbled.
M₂ = Sprouted seeds dibbled after smearing with cowdung.
M₃ = Broadcasting the sprouted seed using the same seed rate as above.
M₄ = Transplanting. (23.8.1949)

Broadcasting and dibbling on 18.7.1949.
3. DESIGN:
   (i) 2 x 4 Fact. in R.B.D. (ii) (a) 8, (b) N.A. (iii) 6. (iv) (a) N.A. (b) 33° 4×13' 4" (v) N.A. (vi) Yes
4. GENERAL:
   (i) Not satisfactory due to floods in October 1949. (ii) Nil. (iii) Grain yield and growth measurements. (iv) (a) 1945 to 1949. (b) No. (c) Nil. (v) (a) Buchireddipalem. (b) N.A. (vi) and (vii) Nil.
5. RESULTS:
   (i) 2526 lb./ac.
   (ii) 61.2 lb./ac.
   (iii) Main effects of V and M and interaction V x M are significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>2177</td>
<td>2434</td>
<td>2391</td>
<td>2389</td>
<td>2348</td>
</tr>
<tr>
<td>V2</td>
<td>2853</td>
<td>2900</td>
<td>2473</td>
<td>2604</td>
<td>2707</td>
</tr>
<tr>
<td>Mean</td>
<td>2515</td>
<td>2667</td>
<td>2432</td>
<td>2496</td>
<td>2526</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of M = 18.0 lb./ac.
S.E. of marginal mean of V = 13.0 lb./ac.
S.E. of body of table = 25.0 lb./ac.

Crop :- Paddy (Main crop season). Ref :- A.P. 48(81).
Site :- Rice Res. Stn., Buchireddipalem. Type :- ‘CV’.

Object :- To study the incidence of blast in relation to planting seedlings of different ages and on different varieties.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 20.9.48.
   (iv) (a) 2 to 3 ploughings. (b) Transplanted. (c) -. (d) 6"x6". (e) 2. (v) N.A. (vi) As per treatments (vii) Irrigated. (viii) 2 or 3 weedings. (ix) 25.56". (x) 22.2. 49 to 15.3.49.

2. TREATMENTS:
   Main-plot treatments:
   5 ages of seedlings: D1=45, D2=60, D3=70, D4=80 and D5=90 days.
   Sub-plot treatments:
   6 varieties: V1=BCP-1, V2=BCP-2, V3=CO-25, V4=CO-26, V5=Molakulukulu and V6=Iswarkorra.

3. DESIGN:
   (i) Split-plot. (ii) (a) 5 main-plots/block ; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 4'×20'. (v) No. (vi) Yes.

4. GENERAL:
   (i) Not satisfactory. (ii) N.A. (iii) Hight measurements, grain yield and blast intensity. (iv) (a) 1943 to 1948. (b) N.A. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1113 lb./ac.
   (ii) (a) 207.5 lb./ac.
   (b) 169.9 lb./ac.
   (iii) Main effects of D, V and interaction D×V are significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
<th>D5</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>1021</td>
<td>852</td>
<td>519</td>
<td>425</td>
<td>340</td>
<td>631</td>
</tr>
<tr>
<td>V2</td>
<td>1234</td>
<td>927</td>
<td>655</td>
<td>323</td>
<td>332</td>
<td>694</td>
</tr>
<tr>
<td>V3</td>
<td>1275</td>
<td>1472</td>
<td>1685</td>
<td>1004</td>
<td>1089</td>
<td>1305</td>
</tr>
<tr>
<td>V4</td>
<td>1265</td>
<td>1584</td>
<td>1642</td>
<td>1021</td>
<td>927</td>
<td>1292</td>
</tr>
<tr>
<td>V5</td>
<td>927</td>
<td>1225</td>
<td>791</td>
<td>970</td>
<td>1505</td>
<td>1084</td>
</tr>
<tr>
<td>V6</td>
<td>1719</td>
<td>1397</td>
<td>1753</td>
<td>1676</td>
<td>1336</td>
<td>1674</td>
</tr>
<tr>
<td>Mean</td>
<td>1244</td>
<td>1326</td>
<td>1174</td>
<td>903</td>
<td>921</td>
<td>1113</td>
</tr>
</tbody>
</table>

S.E. of difference of two:
1. D marginal means = .59.8 lb./ac.
2. V marginal means = .53.7 lb./ac.
3. V marginal means at the same level of D = .120.0 lb./ac.
4. D marginal means at the same level of V = .124.8 lb./ac.

Crop :- Paddy (Main crop season).
Site :- Rice Res. Stn., Buchireddipalem.
Object :- To study the incidence of blast in relation to planting seedlings of different ages and on different varieties.

1. BASAL CONDITIONS:
   (i) Nil. (b) N.A. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 8.8.48.
   (iv) a) 2 to 3 ploughings. (b) Transplanted. c) —. (d) 6' x 6'. (e) 2. (v) N.A. (vi) As under treatments, (vii) Irrigated. viii) 2 or 3 weedings. (ix) 25.56. (x) 22.2.49.

2. TREATMENTS:
   Main-plt. treatments:
   3 ages of seedlings: D1 = 70, D2 = 80 and D3 = 90 days.
Sub-plt. treatments:
   6 varieties: V1 = BCP-1, V2 = BCP-2, V3 = CO-25, V4 = CO-26, V5 = Molakuluklu and V6 = Iswarkorra.

3. DESIGN:
   (i) Split-plt. (ii) (a) 3 main-plots/block ; 6 sub-plts/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) 4' x 20'.
   (v) No. of Yes.

4. GENERAL:
   (i) Not satisfactory. (ii) Blast intensity. (iii) Height measurement and grain yield (iv) (a) 1943 to 1948.
   (b) N.A. c) Nil. (v) a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1150 lb./ac.
   (ii) a) 282.5 lb./ac.
   (b) 187.9 lb./ac.
   (iii) Only the main effect of V and interaction D x V are significant.

Ref:- A.P. 48(80).
Type :- 'CV'.

(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>1012</td>
<td>1191</td>
<td>783</td>
<td>995</td>
</tr>
<tr>
<td>V2</td>
<td>978</td>
<td>875</td>
<td>664</td>
<td>839</td>
</tr>
<tr>
<td>V3</td>
<td>1285</td>
<td>1497</td>
<td>1387</td>
<td>1389</td>
</tr>
<tr>
<td>V4</td>
<td>1004</td>
<td>1191</td>
<td>1242</td>
<td>1146</td>
</tr>
<tr>
<td>V5</td>
<td>927</td>
<td>800</td>
<td>927</td>
<td>885</td>
</tr>
<tr>
<td>V6</td>
<td>1676</td>
<td>1651</td>
<td>1616</td>
<td>1648</td>
</tr>
</tbody>
</table>

Mean 1147 1201 1103 1150

S.E. of difference of two
1. D marginal means
   = 81.6 lb./ac.
2. V marginal means
   = 76.7 lb./ac.
3. V means at the same level of D
   = 132.8 lb./ac.
4. D means at the same level of V
   = 146.1 lb./ac.

Crop => Paddy.

Site => Agri. Farm, Dindi.

Ref => A.P. 49 (36).

Type => CV.

Object => To determine the best variety along with the best time of sowing (early planting).

1. BASAL CONDITIONS :
(i) (a) Nil. (b) No. (c) No. (ii) (a) Sandy loam. (b) Refer soil analysis, Dindi. (iii) As per treatments.
(iv) (a) 2 ploughings and two puddlings. (b) N.A. (c) 30 lb/ac. (d) 6’x4’. (e) -. (v) N.A. (vi) As per treatments. (vii) Irrigated. (viii) N.A. (ix) 20.27” (Total rain fall for the year) 10.73” (in September).
(x) N.A.

2. TREATMENTS

Main-plot treatments:
4 dates of sowing: D1=15.8.49, D2=24.8.49, D3= 4.9.49. and D4=14.9.49.

Sub-plot treatments:
5 varieties:
V1=H.R. 19, V2=KalaDhan, V3=Palamuchalu, V4=Dubha Sanwalu, and V5=Maita Sannalu.

3. DESIGN
(i) Split-plot. (ii) (a) 4 main-plots/block, 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 17’x4.5’.
(v) N.A. (vi) Yes.

4. GENERAL:
(i) Not satisfactory. (ii) N.A. (iii) Grain and straw yield. (iv) (a) No. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) & (vii) Nil.

5. RESULTS:
(i) 718 lb/ac.
(ii) (a) 224.8 lb./ac.
   (b) 184.9 lb./ac.
(iii) Main effects of D, V and interaction DxV are significant.
(iv) Av. yield of grain 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>V1</td>
<td>649</td>
<td>907</td>
<td>809</td>
<td>516</td>
<td>720</td>
</tr>
<tr>
<td>V2</td>
<td>4.0</td>
<td>365</td>
<td>427</td>
<td>365</td>
<td>389</td>
</tr>
<tr>
<td>V3</td>
<td>854</td>
<td>8.0</td>
<td>738</td>
<td>613</td>
<td>751</td>
</tr>
<tr>
<td>V4</td>
<td>1182</td>
<td>1076</td>
<td>869</td>
<td>542</td>
<td>922</td>
</tr>
<tr>
<td>V5</td>
<td>1014</td>
<td>987</td>
<td>722</td>
<td>445</td>
<td>807</td>
</tr>
<tr>
<td>Mean</td>
<td>820</td>
<td>827</td>
<td>729</td>
<td>496</td>
<td>718</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. D marginal means = 71.1 lb/ac.
2. V marginal means = 65.3 lb/ac.
3. V means at the same level of D = 130.8 lb/ac.
4. D means at the same level of V = 131.9 lb/ac.

Crop: Paddy.
Site: Agri. Farm, Dindi.
Ref.: A.P. 49 (37).
Type: CV.

Object: To determine the best variety along with the best time of sowing (late planting).

1. BASAL CONDITIONS:

(i) (a) N/A. (b) No. (c) No. (ii) (a) Sandy loam. (b) Refer soil analysis, Dindi. (iii) As per treatments.

(i) (a) 2 ploughings and 2 puddlings. (b) Transplanting. (c) —. (d) 6' × 4'. (e) N.A. (v) N.A. (vi) As per treatments.

(iii) Irrigated. (vii) N.A. (ix) 20.27'. (x) N.A.

2. TREATMENTS:

Main-plot treatments:
4 dates of sowing: D1 = 15.8.49, D2 = 24.1.49, D3 = 4.9.49 and D4 = 14.9.49.

Sub-plot treatments:

3. DESIGN:

(i) Split-plot. (ii) (a) 4 main-plots/replication, 5 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 17' × 4.5'. (v) N.A. (vi) Yes.

4. GENERAL:

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

5. RESULTS:

(i) 1519 lb/ac.
(ii) (a) N.A.
(b) N.A.

(iii) N.A.
(iv) Av. yield of grain 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>V1</td>
<td>1823</td>
<td>1228</td>
<td>1130</td>
<td>1282</td>
<td>1366</td>
</tr>
<tr>
<td>V2</td>
<td>1816</td>
<td>1611</td>
<td>1113</td>
<td>516</td>
<td>1264</td>
</tr>
<tr>
<td>V3</td>
<td>2243</td>
<td>2065</td>
<td>908</td>
<td>881</td>
<td>1524</td>
</tr>
<tr>
<td>V4</td>
<td>2376</td>
<td>2350</td>
<td>1638</td>
<td>783</td>
<td>1787</td>
</tr>
<tr>
<td>V5</td>
<td>2626</td>
<td>2189</td>
<td>2261</td>
<td>1531</td>
<td>2152</td>
</tr>
</tbody>
</table>

Mean: 2177 1889 1410 599 1619

S.E.’s: N.A.
Crop :- Paddy (Abi).

Site :- Agri. Farm, Dindi.

Object :- To find out the optimum seed rate for broadcasting along with varieties.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy soil. (b) Refer soil analysis, Dindi. (iii) 7.8.50. (iv) (a) 3 puddings. (b) Broadcast. (c) As under treatments. (d) —. (e) —. (v) N.A. (vi) As per treatments. (vii) Irrigated. (viii) One hand weeding. (ix) N.A. (x) 6.12.50.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 varieties: \( V_1 = \text{H.R.-19} \) and \( V_2 = \text{H.R.-33} \) (both medium)

(2) 4 seedrates: \( S_1 = 60 \), \( S_2 = 80 \), \( S_3 = 100 \) and \( S_4 = 120 \) lb. per acre.

3. DESIGN :

(i) 2 x 4 Fact. in R.B.D. (ii) (a) 8. (b) N.A. (c) N.A. (iii) 6. (iv) (a) and (b) 64' x 6'. (v) No. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Attack of Hispa. Gammaine dusted. (iii) Grain and straw yield. (iv) (a) 1950 (Abi) to 1951 (Tabi). (b) Yes. (c) Nil. (v) (a) and (b) No. (vi) and (vii) Nil.

5. RESULTS :

(i) 1043 lb./ac.

(ii) 144.1 lb./ac.

(iii) Main effect of V alone is significant.

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

<table>
<thead>
<tr>
<th>( V_1 )</th>
<th>( V_2 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( S_1 )</td>
<td>915</td>
<td>1133</td>
</tr>
<tr>
<td>( S_2 )</td>
<td>889</td>
<td>1212</td>
</tr>
<tr>
<td>( S_3 )</td>
<td>934</td>
<td>1159</td>
</tr>
<tr>
<td>( S_4 )</td>
<td>993</td>
<td>1108</td>
</tr>
</tbody>
</table>

Mean = 933 

1153 

1043 

S.E. of marginal mean of \( V \) = 29.4 lb./ac.

S.E. of marginal mean of \( S \) = 41.5 lb./ac.

S.E. of body of table = 58.8 lb./ac.

Crop :- Paddy (Tabi 1950-51).

Site :- Agri. Farm, Dindi.

Object :- To find out the optimum seed rate for broadcasting along with varieties.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Paddy. (c) 128 lb./ac. of G.N.C.+64 lb./ac. of paddy mixture. (ii) (a) Sandy soil. (b) Refer soil analysis, Dindi. (iii) 28.1.51. (iv) (a) 3 puddings. (b) Broadcast. (c) As under treatments. (d) and (e) —. (v) N.A. (vi) As per treatments. (vii) Irrigated. (viii) 2 hand weedings. (ix) N.A. (x) 24.5.51.

2. TREATMENTS :

All combinations of (1) and (2)

(1) 2 varieties: \( V_1 = \text{H.R.-19} \) and \( V_2 = \text{H.R.-33} \) (both medium).

(2) 4 seedrates: \( S_1 = 60 \), \( S_2 = 80 \), \( S_3 = 100 \) and \( S_4 = 120 \) lb. per acre.

3. DESIGN :

(i) 2 x 4 Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 6. (iv) (a), (b) 64' x 6'. (v) No. (vi) Yes.
4. GENERAL:
(i) Good. (ii) Stem-borer attack. Removal of attacked stems by hand. (iii) Grain weight and straw yield. (iv) (a) 1953 (Tabi 1950-51) to 1951 (Tabi 1950-51). (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 1281 lb./ac.
(ii) 243.4 lb./ac.
(iii) Main effect of V is highly significant. Main effect of S is significant while interaction V x S is not significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>V₁</th>
<th>V₂</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
<td>1377</td>
<td>1375</td>
</tr>
<tr>
<td>S₂</td>
<td>789</td>
<td>1227</td>
</tr>
<tr>
<td>S₃</td>
<td>1300</td>
<td>1275</td>
</tr>
<tr>
<td>S₄</td>
<td>1082</td>
<td>1464</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of V = 49.6 lb./ac.
S.E. of marginal mean of S = 70.2 lb./ac.
S.E. of body of table = 99.3 lb./ac.

Crop :- Paddy (2nd crop of 1950-51).
Object:—To compare dry nursery with wet nursery seedlings.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Heavy alluvial clay. (b) Refer soil analysis, Samalkot. (iii) 51.5:13.2:51. (iv) (a) 2 or 3 ploughings. (b) Transplanted. (c)—. (d) 6' x 6'. (e) 2. (v) N.A. (vi) As per treatments. (vii) Irrigated. (viii) 2 or 3 weedings. (ix) 6.9. (x) 14.5.5.

2. TREATMENTS:
All combinations of (1 and 2)
(1) 2 varieties : V₁=SLO-12 and V₂=MTU-15.
(2) 2 methods of planting : M₁=Planting dry nursery seedlings and M₂=Planting wet nursery seedlings.

3 DESIGN
(i) 2 x 2 Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a), (b) 33' x 6.6'. (v) No. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1951 to 1952. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 2771 lb./ac.
(ii) 316.0 lb./ac.
(iii) None of the effects is significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M1</th>
<th>M2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>2788</td>
<td>2944</td>
<td>2866</td>
</tr>
<tr>
<td>V2</td>
<td>2604</td>
<td>2751</td>
<td>2677</td>
</tr>
<tr>
<td>Mean</td>
<td>2696</td>
<td>2847</td>
<td>2771</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of V or M = 91.2 lb./ac.
S.E. of body of table = 129.0 lb./ac.

Crop:— Paddy (2nd crop of 1951-52).
Site:— Agri. Res. Stn., Samalkot.

Ref:— A.P. 52(75)/51(76).
Type:— ‘CV’.

Object:— To compare dry nursery with wet nursery seedlings.

1. BASAL CONDITIONS:
(i) (a) N.A. (b) Paddy. (c) N.A. (ii) (a) Heavy alluvial clay. (b) Refer soil analysis, Samalkot. (iii) 11.1.52 / 13.2.52. (iv) (a) 2 to 3 ploughings and levelling. (b) Transplanted. (c) —. (d) 4" x 4". (e) 2. (v) G.L. at 2000 lb./ac + 50 lb./ac. of Super at puddling + 50 lb./ac. of A/S three weeks after planting. (vi) As per treatments. (vii) Irrigated. (viii) 2 weedings. (ix) 7.17°. (x) MTU-15—20.5.52, SLO-12—30.5.52.

2. TREATMENTS:
All combinations of (1) and (2)
(1) 2 varieties: V1 = SLO and V2 = MTU-15.
(2) 2 methods of planting: M1 = Dry nursery seedlings and M2 = Wet nursery seedlings.

3. DESIGN:
(i) 2 x 2 Fact. in R.B.D. (ii) (b) N.A. (iii) 3. (iv) (a), (b) 33" x 6.9". (v) Nil. (vi) Yes.

4. GENERAL:
(i) Not satisfactory due to adverse seasonal conditions. (ii) Nil. (iii) Grain yield and flowering duration. (iv) (a) 1951 to 1952. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS:
(i) 280 lb./ac.
(ii) N.A.
(iii) N.A.
(iv) Av yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M1</th>
<th>M2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>59</td>
<td>106</td>
<td>83</td>
</tr>
<tr>
<td>V2</td>
<td>394</td>
<td>559</td>
<td>477</td>
</tr>
<tr>
<td>Mean</td>
<td>227</td>
<td>333</td>
<td>280</td>
</tr>
</tbody>
</table>

S.E. N.A.
Crop :- Paddy.
Site :- Govt. Main Agri. Farm, Warangal.

Ref. :- A.P. 53(7).
Type :- 'CV'.

Object :- To test the suitability of strains to late sowing.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Chalka soil. (b) Refer soil analysis, Warangal. (iii) As per treatments. (sowing regulated 3 weeks in advance of transplanting). (iv) (a) to (e) N.A. (v) N.A. (vi) As under treatments. (vii) Irrigated. (viii) N.A. (ix) 30.49\% (x) January, 1954.

2. TREATMENTS :
   Main-plot treatments :
   6 varieties: \( V_1 = \text{CO-25}, V_2 = \text{Adt-5}, V_3 = \text{H.R.-42}, V_4 = \text{H.R.-63}, V_5 = \text{Konamni} \) and \( V_6 = \text{Mtu-19} \).
   Sub-plot treatments :
   3 dates of transplanting : \( D_1 = 31.7.53, D_2 = 10.8.53 \) and \( D_3 = 20.8.53 \).

3. DESIGN :
   (i) Split-plot. (ii) 6 main-plots replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/176 acre. (v) N.A. (vi) Yes.

4. GENERAL :
   (i) N.A. (ii) N.A. (iii) Grain yield. (iv) (a) 1952 — N.A. (b) and (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :
   (i) 1475 lb./ac.
   (ii) (a) 220.7 lb./ac.
   (b) 312.3 lb./ac.
   (iii) Main effect of \( V \) alone 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>1999</td>
<td>1638</td>
<td>2086</td>
<td>1904</td>
</tr>
<tr>
<td>( V_2 )</td>
<td>1513</td>
<td>1688</td>
<td>1702</td>
<td>1614</td>
</tr>
<tr>
<td>( V_3 )</td>
<td>1408</td>
<td>1622</td>
<td>1419</td>
<td>1483</td>
</tr>
<tr>
<td>( V_4 )</td>
<td>1468</td>
<td>1364</td>
<td>1392</td>
<td>1474</td>
</tr>
<tr>
<td>( V_5 )</td>
<td>1646</td>
<td>1416</td>
<td>1122</td>
<td>1194</td>
</tr>
<tr>
<td>( V_6 )</td>
<td>1154</td>
<td>726</td>
<td>956</td>
<td>958</td>
</tr>
</tbody>
</table>

Mean | 1531 | 1407 | 1486 | 1475 |

S.E. of difference of two
1. \( V \) marginal means = 99.3 lb./ac.
2. \( D \) marginal means = 90.1 lb./ac.
3. \( D \) means at the same level of \( V \) = 220.8 lb./ac.
4. \( V \) means at the same level of \( D \) = 201.8 lb./ac.

Crop :- Paddy.
Site :- Govt. Main Agri. Farm, Warangal.

Ref. :- A.P. 50 (36).
Type :- 'CV'.

Object :- To test the suitability of strains to late sowing.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Chalka soil. (b) Refer soil analysis, Warangal. (iii) As per treatments. (iv) (a) to (e) N.A. (v) G.N.C. and Super at 30 lb./ac. of N and 7 lb./ac. of P\(_2\)O\(_5\). (vi) As per treatments. (vii) Irrigated. (viii) 2 or 3 weedicings. (ix) 30.52\% (k) N.A.
2. TREATMENTS:

Main-plot treatments:
3 dates of transplanting: D1=31.7.50, D2=10.8.50 and D3=20.8.50.

Sub-plot treatments:

Sowing at the nursery was regulated three weeks in advance of the transplanting.

3. DESIGN:
(i) Split-plot. (ii) (a) 3 main-plots/replication; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/76 acre. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) H.R.-35 alone badly affected by gall-fly. (iii) Grain yield. (iv) (a) 1949 to 1954. (b) and (c) N.A. (v) (a) Nil (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 1270 lb./ac. (ii) (a) 38.37 lb./ac. (b) 21.65 lb./ac. (iii) Only variety levels are significantly different. Others are not 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>165</td>
<td>105</td>
<td>63</td>
<td>111</td>
</tr>
<tr>
<td>V2</td>
<td>2101</td>
<td>1950</td>
<td>1777</td>
<td>1943</td>
</tr>
<tr>
<td>V3</td>
<td>1801</td>
<td>2203</td>
<td>1606</td>
<td>1870</td>
</tr>
<tr>
<td>V4</td>
<td>1947</td>
<td>2143</td>
<td>1887</td>
<td>1992</td>
</tr>
<tr>
<td>V5</td>
<td>946</td>
<td>1240</td>
<td>567</td>
<td>918</td>
</tr>
<tr>
<td>V6</td>
<td>957</td>
<td>784</td>
<td>608</td>
<td>783</td>
</tr>
</tbody>
</table>

Mean 1320 1404 1086 1270

S.E. of difference of two levels:
1. D marginal means = 11.06 lb./ac.
2. V marginal means = 8.82 lb./ac.
3. V means at the same level of D = 15.28 lb./ac.
4. D means at the same level of V = 17.80 lb./ac.

Crop: Paddy (Abi)
Site: Govt. Main Agri. Farm, Warangal.
Object: To test the suitability of strains to late sowing.

Ref: A.P. 51(81).
Type: 'CV'.
3. DESIGN:
(i) Split-plot. (ii) (a) 3 main-plots replication; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/176 acre. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) N.A. (iii) Grain and straw yield. (iv) (a) 1951 to 1953. (b) N.A. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 1737 lb./ac.
(ii) (a) 473.4 lb./ac.
(b) 271.0 lb./ac.
(iii) Only main effect of 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>1892</td>
<td>1826</td>
<td>1848</td>
<td>1855</td>
</tr>
<tr>
<td>V2</td>
<td>2002</td>
<td>1782</td>
<td>1738</td>
<td>1841</td>
</tr>
<tr>
<td>V3</td>
<td>1672</td>
<td>1870</td>
<td>1980</td>
<td>1841</td>
</tr>
<tr>
<td>V4</td>
<td>1474</td>
<td>1936</td>
<td>1804</td>
<td>1738</td>
</tr>
<tr>
<td>V5</td>
<td>1496</td>
<td>1628</td>
<td>1804</td>
<td>1643</td>
</tr>
<tr>
<td>V6</td>
<td>1342</td>
<td>1738</td>
<td>1430</td>
<td>1503</td>
</tr>
<tr>
<td>Mean</td>
<td>1646</td>
<td>1797</td>
<td>1767</td>
<td>1737</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. D marginal means = 136.6 lb./ac.
2. V marginal means = 110.9 lb./ac.
3. V means at the same level of D = 192.1 lb./ac.
4. D means at the same level of V = 222.3 lb./ac.

Crop: Paddy (Abi).
Site: Govt. Main Agri. Farm, Warangal.
Ref: A.P. 52(5).
Type: CV.

Object: To test the suitability of strains for late sown conditions.

1. BASAL CONDITIONS:
(i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) N.A. (b) N.A. (iii) As per treatments. (iv) (a) to (e) N.A. (v) N.A. (vi) As per treatments. (vii) N.A. (viii) N.A. (ix) 22.08'. (x) N.A.

2. TREATMENTS:
Main-plot treatments:
Sub-plot treatments:
2 dates of transplanting — D1 = 10-8.52 and D2 = 20-8.52.

3. DESIGN:
(i) Split-plot. (ii) (a) 6 main-plots/blocks; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/176 ac. (v) N.A. (vi) Yes.

4. GENERAL:
(i) N.A. (ii) N.A. (iii) Grain yield data. (iv) (a) N.A. (b) N.A. (c) N.A. (v) (a) Nil. (b) N.A. (vi) & (vii) Nil.
5. RESULTS:

(i) 1578 lb./ac.
(ii) (a) 337.5 lb./ac.  
    (b) 278.3 lb./ac.
(iii) Main effect of V alone is significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>D1</th>
<th>D2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>1857</td>
<td>1814</td>
<td>1835</td>
</tr>
<tr>
<td>V2</td>
<td>1622</td>
<td>1721</td>
<td>1671</td>
</tr>
<tr>
<td>V3</td>
<td>1839</td>
<td>1420</td>
<td>1629</td>
</tr>
<tr>
<td>V4</td>
<td>1437</td>
<td>1758</td>
<td>1597</td>
</tr>
<tr>
<td>V5</td>
<td>1237</td>
<td>1568</td>
<td>1402</td>
</tr>
<tr>
<td>V6</td>
<td>1119</td>
<td>1548</td>
<td>1333</td>
</tr>
</tbody>
</table>

S.E. of difference of
1. V marginal means = 168.8 lb./ac.
2. D marginal means = 109.2 lb./ac.
3. D means at the same level of V = 268.4 lb./ac.
4. V means at the same level of D = 23.4 lb./ac.

---

Crop: Paddy.  
Site: Sugarcane Res. Stn., Anakapalle.  
Type: 'CMV'.

Object: To compare Japanese method with Farm method of Paddy cultivation for high yield.

1. BASAL CONDITIONS:

(i) (a) N.A. (b) Cotton P 216-F. (c) N.A.  
(ii) (a) Clayey loam. (b) Refer soil analysis, Anakapalle.  
(iv) As under treatments.  
(v) Irrigated.  
(vi) As under treatments.  
(vii) 20.7.3.  

2. TREATMENTS:

Main-plot treatments:
2 varieties: V1=AKP-4 and V2=MTU-19.
Sub-plot treatments:
(i) Japanese method and (ii) Normal method.

Japanese Method:
Manure mixture of A/S and Super in 1:1 ratio at 2 lb. per lb. of seed. Manuring of main field: F.Y.M. at 10 ton/ac. on 20.8.1953; A/S at 30 lb./ac. of N on 20.8.1953; Super at 30 lb./ac. of P2O5 on 20.8.1953; A/S at 15 lb./ac. of P2O5 on 21.9.1953; A/S at 15 lb./ac. of N on 31.1.1953; Super at 15 lb./ac. of P2O5 on 3.11.1953.  

Normal Method:
Spacing: 6" in the row and 6" between rows. Manuring of main field: G.M. at 5000 lb./ac.+Super at 30 lb./ac. of P2O5+A/S at 30 lb./ac. of N:  
Interculture: Weeding once.

3. DESIGN:

(i) Split-plot.  
(ii) (a) 2 main-plots/block; 2 sub-plots/main-plot.  
(b) N.A.  
(iii) 8.  
(iv) (a), (b) 32'X15'.  
(v) Nil.  
(vi) Yes.

4. GENERAL:

(i) Normal.  
(ii) Nil.  
(iii) Grain weight and tiller count, etc.  
(iv) (a) 1953-N.A.  
(b) N.A.  
(c) Nil.  
(v) (a), (b) Nil.  
(vi) Nil.  
(vii) Raw data is not traceable at the station and hence two way table is not given.
5. RESULTS:

(i) to (iv)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield of grain lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>V₁</td>
<td>3469</td>
</tr>
<tr>
<td>V₂</td>
<td>3921</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>143.6 lb./ac.</td>
</tr>
</tbody>
</table>

Japanese method: 4000
Normal method: 3405
S.E. mean: 321.1 lb./ac.

Only main effect of methods is significant.


Object: To study the comparative merits and demerits of Japanese method and Farm method of Paddy cultivation.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Heavy black clay. (b) Refer soil analysis, Maruteru. (iii) 2.1.1953/15 and 15.2.1953. (iv), (v) and (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) N.A. (x) MTU-9: 8.5.1953. MTU-15: 9.5.1953.

2. TREATMENTS:

Main-plot treatments:
2 varieties: V₁ = MTU-9 and V₂ = MTU-15.

Sub-plot treatments:
2 methods: M₁ = Japanese method and M₂ = Farm method.

Japanese Method:
Preparatory cultivation: 3 ploughings. Seed rate: 200 lb./ac. (Thick tillered seedling). Basal dressing: F.Y.M. at 20 C.L., Nitrogen at 30 lb./ac. of N as A/S and P₂O₅ at 30 lb./ac. as Super. A/S and Super applied in plough furrows before last ploughing. Top dressing: 15 lb./ac. of N as A/S and 15 lb./ac. P₂O₅ as Super broadcast 15 days after transplantation and another similar dose 15 days after the first dose. Spacing: 10'×10'. Two seedlings per hole. Interculture: Raking and stirring the soil with hand three times, once 15 days after transplantation and again 2 weeks later. After care: Thin planting ropes were tied every 4 feet across the field at 2 feet height to prevent loss due to lodging.

Farm Method:
Preparatory cultivation: 3 ploughings. Seed rate: 300 lb./ac. (thin unilltered seedling). Basal dressing: G.L. at 50-0 lb. ac. and P₂O₅ at 30 lb./ac. as Super at final puddling. Top dressing: 30 lb./ac. of N as A/S broadcast 3 weeks after transplantation. Spacing 4"×4" single seedling per hole. Interculture: 2 weedings. After care:.

5. DESIGN:

(i) Split-plot. (ii) (a) 2 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) N.A. (b) 13'×15'×1'. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Normal. (ii) Nil. (iii) Grain and straw yield, height measurements and tiller counts. (iv) (a) 1953 (2nd crop of 1952-53) to 1953 (main crop of 1953-54). (b) N.A. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 3048 lb./ac.
(ii) (a) 91.8 lb./ac.
(b) 148.7 lb./ac.

(iii) Only main effect of V is significant.
Object: — To compare the Japanese method with Farm method of Paddy cultivation.

1. **BASAL CONDITIONS**:
   (i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Heavy black clay. (b) Refer soil analysis, Maruteru. (iii) 22.6.53/22.7.53. (iv) As per treatments. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) As per treatments. (ix) 38.06°. (A) MTU-1 : 24.11.53; MTU-19 : 3.12.53.

2. **TREATMENTS**:
   Main-plot treatments:
   - 2 varieties: $V_1$=MTU-1 and $V_2$=MTU-19.
   Sub-plot treatments:
   - 2 methods: $M_1$=Japanese method and $M_2$=Farm method.

Japanese Method:
- Preparatory cultivation: 3 ploughings. Seed rate: 200, lb./ac. (Thick tillered seedling). Basal dressing: F.Y.M. at 20 C.L., Nitrates at 30 lb./ac. as A/S, P$_2$O$_5$ at 30 lb./ac. as Super. A/S and Super applied in plough furrows before last ploughing. Top dressing: 15 lb./ac. of N as A/S and 15 lb./ac. of P$_2$O$_5$, as super broadcast 15 days after transplantation and another similar dose 15 days after the first dose in one month after transplantation. Spacing: 10" × 10". 4 seedling per hole. Inter culture: Raking and stirring the soil with hand done twice once 15 days after transplantation and again two weeks after. After care: Thin planting ropes were tied every 4 feet across the field at 2' height to prevent loss due to lodging.

Farm Method:
- Preparatory cultivation: 3 ploughings. Seed rate: 300 lb./ac. (Thin untilled seed). Basal dressing: 5000 lb./ac. of G.L. and P$_2$O$_5$ at 30 lb./ac. as Super at final puddling. Top dressing: 30 lb./ac. of N as A/S broadcast 3 weeks after transplantation. Spacing: 6" × 6". Two seedlings per hole. Inter culture: 2 weedicings. After care:— N.A.

3. **DESIGN**:
   - (i) Split plot. (ii) (a) 2 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 8. (iv) (a) N.A; (b) 12'4" × 88-4". (v) N.A. (vi) Yes.

4. **GENERAL**:
   - (i) Normal. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953 (2nd crop of 1953-54).— 1953 (1st crop of 1953-54). (b) N.A. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. **RESULTS**:
   - (i) 3424 lb./ac.
   - (ii) (a) 203.4 lb./ac.
   - (b) 109.5 lb./ac
   - (iii) All effects are significant.

<table>
<thead>
<tr>
<th>$V_1$</th>
<th>$V_2$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>M$_1$</td>
<td>2912</td>
<td>3130</td>
</tr>
<tr>
<td>M$_2$</td>
<td>3009</td>
<td>3139</td>
</tr>
<tr>
<td>Mean</td>
<td>2960</td>
<td>3115</td>
</tr>
</tbody>
</table>

S.E. of difference of two:
1. V marginal means = 32.4 lb./ac.
2. M marginal means = 52.6 lb./ac.
3. M means at the same level of V = 74.4 lb./ac.
4. V means at the same level of M = 61.8 lb./ac.

(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>M1</td>
<td>2831</td>
<td>3815</td>
<td>3323</td>
</tr>
<tr>
<td>M2</td>
<td>3352</td>
<td>3698</td>
<td>3525</td>
</tr>
</tbody>
</table>

Mean 3092 3757 3424

S.E. of difference of two
1. V marginal means =72.7 lb./ac.
2. M marginal means =38.7 lb./ac.
3. M means at the same level of V =54.8 lb./ac.
4. V means at the same level of M =82.3 lb./ac.

Crop: Paddy.
Site: Rice Res. Stn., Buchireddipalem.
Ref: A.P. 49(23).
Type: 'T'.

Object: To study the incidence of blast under different irrigational treatments.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) N.A. (iv) (a) 2 to 3 dry ploughings. (b) Transplanting. (c) (d) 6'×6'. (e) 2. (v) 4000 lb./ac. of G.L. followed by 50 lb./ac. of G.N.C. and 112 lb./ac. of B.M. (vi) 2202. (vii) Irrigated. (viii) 2 to 3 weedings. (ix) 25.82'. (x) N.A.

2. TREATMENTS:
1. Application of water as and when required.
2. Application of water as in (1) upto short blade stage and then intermittent irrigations with one week interval.
3. Application of water as in (1) up to full flowering stage and then intermittent irrigation with one week interval.
4. Application of water as in (1) up to semi-flowering stage and then intermittent irrigation with one week interval.
5. Application of water as in (1) up to milky stage and then intermittent irrigation with one week interval.

3. DESIGN:
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a), (b) 15'×20'. (v) No. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) 20 plants taken at random from each plot and the number of healthy and affected earheads counted. (iv) (a) 1949 to 1956. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 3C:7 lb./ac.
(ii) 361.6 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2645</td>
</tr>
<tr>
<td>2.</td>
<td>2945</td>
</tr>
<tr>
<td>3.</td>
<td>3164</td>
</tr>
<tr>
<td>4.</td>
<td>3228</td>
</tr>
<tr>
<td>5.</td>
<td>3101</td>
</tr>
</tbody>
</table>

S.E./mean = 180.8 lb./ac.
Object:—To study the incidence of blast under different irrigational treatments.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) 10 tons/ac. of C.M. + 400 lb./ac. of G.L. + 112 lb./ac. of B.M. + 50 lb./ac. of G.N.C.
   (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 9.7.51. (iv) (a) 2 to 3 dry ploughings and two puddlings. (b) Transplanting. (c)—(d) 6'x6'. (e) 2. (v) G.N.C. at 150 lb./ac. and B.M. at 112 lb./ac.

2. TREATMENTS:
   1. Application of water as and when required.
   2. Application of water as in (1) upto short blade stage and then intermittent irrigation with one week interval.
   3. Application of water as in (1) upto full-flowering stage and intermittent irrigation with one week interval.
   4. Application of water as in (1) upto milky stage and then intermittent irrigation with one week interval.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) and (b) 16'x12'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) slight attack of Blast and Stem borer. (iii) Number of healthy and affected ear heads in 20 plants taken at random from each plot. Grain weight. (iv) (a) 1949 to 1956. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1412 lb./ac.
   (ii) 528.9 lb./ac.
   (iii) Treatments do not differ significantly.
   (vi) Av. yield of grain in lb./ac.
   Treatment    Av. yield.
   1.          1294
   2.          1387
   3.          1528
   4.          1441
   S.E./mean = 215.9 lb./ac.

Crop:—Paddy.  
Site:—Rice Res. Stn., Buchireddipalem.  
Ref:—A.P. 52(43).  
Type:—'T'.

Object:—To study the incidence of blast with different irrigational treatments.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) G.N.C. at 150 lb./ac. + B.M. 112 lb./ac. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) 27.6.52. (iv) (a) 3 dry ploughings and twice puddling. (b) Transplanted. (c)—(d) 6'x6'. (e) 2. (v) C.M. at 10 C.L. /ac and old G.M. seed at 250 lb./ac. (vi) BCP-2 (late) (vii) Irrigated. (viii) 3 hand weedings. (ix) 22.68'. (x) 3.2.53.

2. TREATMENTS:
   1. Application of water as and when required.
   2. Application of water as in (1) upto short blade stage and then intermittent irrigations with one week interval.
   3. Application of water as in (1) upto full flowering stage and then intermittent irrigations with one week interval.
   4. Application of water as in (1) upto milky stage and then intermittent irrigations with one week interval.
3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) and (b) 12' x 16'. (v) No. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Slight attack of Blast. (iii) Grain weight from each plot. 20 plants were taken at random and noted. (iv) (a) 1949 to 1956. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 2936 lb./ac.
(ii) 363 lb. ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield (lb./ac.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2900</td>
</tr>
<tr>
<td>2.</td>
<td>2947</td>
</tr>
<tr>
<td>3.</td>
<td>2697</td>
</tr>
<tr>
<td>4.</td>
<td>3108</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>148.2 lb./ac.</td>
</tr>
</tbody>
</table>


Object: To study the incidence of blast under different irrigational treatments.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Buchireddipalem. (iii) First week of Aug. 1953. (iv) (a) Dry ploughing with tractor once and then one ploughing with country plough. Puddling before transplanting and levelling. (b) Transplanted. (c) (d) 6" x 6". (e) 2. (v) 4000 lb./ac. of G.L. and 150 lb./ac. of Super before last puddling. A/S at 100 lb./ac. a month after planting. (vii) BCP-2 (Late) [vii]: Irrigated. (viii) Weeding whenever necessary. (ix) 28.47' (x) First week of Feb. 1954.

2. TREATMENTS:
1. Application of water as and when required.
2. Application of water as in (1) upto short blade stage and then intermittent irrigation with one week interval.
3. Application of water as in (1) upto full flowering stage and then intermittent irrigations with one week interval.
4. Application of water as in (1) upto milk stage and then intermittent irrigations with one week interval.

3. DESIGN
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) and (b) 12' x 16'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Blast attack not severe. (iii) Grain yield. 20 plants taken at random from each plot and noted. (iv) (a) 1949 to 1956. (b) No. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 2305 lb./ac.
(ii) 330.4 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield (lb./ac.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2307</td>
</tr>
<tr>
<td>2.</td>
<td>2319</td>
</tr>
<tr>
<td>3.</td>
<td>2333</td>
</tr>
<tr>
<td>4.</td>
<td>2364</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>122.6 lb./ac.</td>
</tr>
</tbody>
</table>
Crop : Paddy.  
Ref : A.P. 50(27).  
Type : 'T'.

Object : To study the optimum water requirements of Paddy.

1. BASAL CONDITIONS:
   (i) (a) No. (b) Paddy. (c) N.A.  (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru.  (iii) As per treatments.  (iv) (a) Water let in, puddled thrice and levelled. (b) Transplanted.  (c) —. (d) Bulk planting. 
   (c) 2.  (v) N.A.  (vi) MTU-5.  (vii) Irrigated.  (viii) 2 weedings, first weeding one month after transplanting.  (ix) 49.63°.  (x) 28th and 29th Nov. 1950.

2. TREATMENTS:
   Main-plot treatments : 3 times of plantings: \( T_1 = 1.75 \), \( T_2 = 8.75 \) and \( T_3 = 15.75 \).
   Sub-plot treatments : 4 duties of water at different crop period.
<table>
<thead>
<tr>
<th>Crop period/Duties</th>
<th>( D_1 )</th>
<th>( D_2 )</th>
<th>( D_3 )</th>
<th>( D_4 )</th>
</tr>
</thead>
</table>
   1. Nursery period  | 35°   | 30°   | 25°   | 20°   |
   2. Puddling to planting | 29°   | 25°   | 21°   | 17°   |
   3. Planting to flowering | 38°   | 34°   | 30°   | 26°   |
   4. Flowering to harvesting | 12°   | 10°   | 8°    | 6°    |

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) 98'x24'.  (v) No.  (vi) Yes.

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

5. RESULTS:
   (i) 3048 lb./ac.
   (ii) (a) 187.2 lb./ac.
   (b) 170.5 lb./ac.
   (iii) Only the main effect of T is significant.
   (iv) Av. yield of grain in lb./ac.
   \[
   \begin{array}{ccc}
   & T_1 & T_2 & T_3 \\
   D_1 & 3149 & 2995 & 2773 \\
   D_2 & 3260 & 3130 & 2843 \\
   D_3 & 3256 & 3149 & 2968 \\
   D_4 & 3121 & 3014 & 2913 \\
   \hline
   \text{Mean} & 3197 & 3072 & 2874 \\
   \end{array}
   \]

   S.E. of difference of two
   1. T marginal means = 66.2 lb./ac.
   2. D marginal means = 69.6 lb./ac.
   3. D means at the same level of T = 120.6 lb./ac.
   4. T means at the same level of D = 123.6 lb./ac.

   Crop : Paddy (Kharif).  
Site : Agri. Res. Institute, Rajendranagar.  
Ref : A.P. 52(91).  
Type : 'D'.

Object : To see comparative efficacy of different seed treatments to control Helminthosporium on Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) N.A.  (c) N.A.  (ii) (a) Loam. (b) Refer soil analysis, Rajendranagar.  (iii) N.A.  (iv) (a) 3 ploughings. (b) Transplanted.  (c) —. (d) 6'x6'.  (e) N.A.  (v) N.A.  (vi) H.R-19.  (vii) Irrigated.  (viii) 2 weedings.  (ix) 22.59°.  (x) Nov. 1952.
2. TREATMENTS:
1. Agrosan G.N.
2. Harvesan.
3. Fernasan.
4. Landisan.
5. Sulphur.
7. Control.
6 ozs. of seed dresser per cwt. of seed. Hot water treatment consisted of soaking the seed in water for 8 hours and then exposing it to 55°C constant lamp (wet heat) for 10 minutes. The seeds after treatment germinated in bags and then put in nursery bed.

3. DESIGN:
(i) R.B.D. (ii) 7. (b) N.A. (iii) 6. (iv) (a) 76'×14'. (b) 72'×10'. (v) 2' around the net plot. (vi) Yes.

4. GENERAL:
(i) Not satisfactory. (ii) No Helminthosporium attack. Blast attack. (iii) Grain and straw yield. (iv) (a) 1952 to 1954. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 92.60 lb./ac.
(ii) 38.72 lb. ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.  
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>104.0</td>
</tr>
<tr>
<td>2.</td>
<td>100.0</td>
</tr>
<tr>
<td>3.</td>
<td>87.9</td>
</tr>
<tr>
<td>4.</td>
<td>82.9</td>
</tr>
<tr>
<td>5.</td>
<td>80.4</td>
</tr>
<tr>
<td>6.</td>
<td>100.2</td>
</tr>
<tr>
<td>7.</td>
<td>92.6</td>
</tr>
</tbody>
</table>
S.E./mean = 18.86 lb./ac.

---

Crop: Paddy (Kharif).  
Site: Agri. Res. Institute, Rajendranagar.  
Ref: A.P. 53(101).  
Type: 'D'.

Object: To test the efficacy of various seed dressers in controlling Helminthosporium disease.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Loam. (b) Refer soil analysis, Rajendranagar. (iii) N.A. (iv) (a) 3 ploughings. (b) Transplanted. (c) —. (d) 6'×6'. (e) N.A. (v) N.A. (vi) H.R.19. (vii) Irrigated. (viii) 2 or 3 weedicings. (ix) 25.65'. (x) N.A.

2. TREATMENTS:
1. Landisan.
2. Sulphur.
3. Fernasan.
4. Harvesan.
5. Agrosan.
6. Ceresan.
7. Control.
5 ozs. of seed dresser per cwt. of seed. The seeds after treatment were germinated in bag and then put in nursery bed.

3. DESIGN:
(i) R.B.D. (ii) 7. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 97'×8'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) N.A. (iii) Grain yield. (iv) (a) 1952 to 1954. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.
5. RESULTS:

(i) 2458 lb./ac.
(ii) 541.7 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2923</td>
</tr>
<tr>
<td>2.</td>
<td>2530</td>
</tr>
<tr>
<td>3.</td>
<td>2520</td>
</tr>
<tr>
<td>4.</td>
<td>2455</td>
</tr>
<tr>
<td>5.</td>
<td>2923</td>
</tr>
<tr>
<td>6.</td>
<td>2100</td>
</tr>
<tr>
<td>7.</td>
<td>2248</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>221.2 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Jowar. Site: Lam Farm, Guntur. Ref.: A.P. 48(4). Type: 'M'.

Object: To compare the effect of F.Y.M. and G.N.C. on the yield of the crop.

1. BASAL CONDITIONS:

(i) (a) Jowar—country tobacco—Variga—Chillies. (b) Chillies. (c) N.A. (ii) (a) Deep black soil. (b) Refer soil analysis, Guntur. (iii) N.A. (iv) (a) 6 to 7 ploughings. (b) Dibbled in the rows. (c) About 8 lb./ac. (d) 11° between rows. (e) —. (v) Nil. (vi) G-2. (vii) Irrigated. (viii) 3 to 4 weedings. (ix) N.A. (x) N.A.

2. TREATMENTS:

1. G.N.C. at 500 lb./ac.
2. F.Y.M. at 10,000 lb./ac.
3. No manure (control).

F.Y.M. applied one month prior to sowing and ploughed in. G.N.C. applied just before sowing and puddled.

3. DESIGN:

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 33' x 16.5'. (b) 26.4' x 9.2'. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1944—1948. (b) and (c) Nil. (v) (a) and (b) Nil. (vi) Nil.

(vii) Raw data N.A.

5. RESULTS:

(i) 533.3 lb./ac.
(ii) N.A.
(iii) There is no significant difference between the treatments.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>530</td>
</tr>
<tr>
<td>2.</td>
<td>490</td>
</tr>
<tr>
<td>3.</td>
<td>580</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

Crop: Jowar. Site: Lam Farm, Guntur. Ref.: A.P. 48(20). Type: 'M'.

Object: To study the residual effect of G.N.C. and F.Y.M. on the yield of crop.

1. BASAL CONDITIONS:

(i) (a) Jowar—country tobacco—Variga—Chillies. (b) Chillies. (c) As per treatments. (ii) (a) Deep black soil. (b) Refer soil analysis, Guntur. (iii) N.A. (iv) (a) 7 ploughings. (b) Dibbled in rows. (c) About 8 lb./ac. (d) 11° between rows. (e) —. (v) Nil. (vi) G-2. (vii) Unirrigated. (viii) 3 to 4 weedings. (ix) N.A. (x) N.A.
2. TREATMENTS
1. G.N.C. at 500 lb./ac.
2. F.Y.M. at 10,000 lb./ac.
3. No manure (control).

Manures applied to the previous crop.

3. DESIGN:
(i) R.B.D. (ii) 3. (b) N.A. (iii) 8. (iv) (a) 33'x16.5'. (b) 26.4'x9.2'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1945 to 1948. (b) and (c) No. (v) (a) and (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS:
(i) 588 lb./ac.
(ii) N.A.
(iii) There is no significant difference between the treatments.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>607</td>
</tr>
<tr>
<td>2.</td>
<td>494</td>
</tr>
<tr>
<td>3.</td>
<td>603</td>
</tr>
<tr>
<td>S.E., mean</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

Crop :- Jowar.

Objec.: To find out the variety of legume suitable for the dry tract under rainfed conditions with and without the application of P₂O₅.

1. BASAL CONDITIONS:
(i) 'a. N.A.' b N.A. 'c; N.A. 'ii. (a) Black cotton soil. (b) Refer soil analysis, Nandyal. (iii) 5.10.53. (iv) (a) Work as goura and gumkaka alternatively. (b) Line sowing with goura. (c) 5 lb./ac. (d) Between rows : 10'. (e) N.A. (f) N.A. (v) N.A. (vi) Irrigated. (vii) One interculture with metta gumkaka and one weed : 19.6.53. (viii) N.A. (x) 1.2.54.

2. TREATMENTS:
Main set treatments:
2 = x of P₂O₅: P₀ = 0, and P₁ = 50 lb./ac.

Sub-set treatments:
5 legumes as G.M. : M₀ = G.M., M₁ = Dlaincha, M₂ = Cowpea, M₃ = Sannymph and M₄ = Green-gram.
P₂O₅ was applied as Super. Date of sowing of G.M. crops : 19.6.53. Date of incorporation : 6.8.53.

3. DESIGN:
(i) SPP. (ii) 2 main-plots/main-plot. (iii) (a) 2 main-plots/main-plot. (b) N.A. (iv) (a) 26.4'x46.2'. (b) 20'x41.25'. (v) 3 rows on either side. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) N.A. (iii) Grain yield. (iv) (a) 1953-1954. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) N.A.

5. RESULTS:
(i) 462 lb./ac.
(ii) (a) 273 lb./ac.
(b) 223 lb./ac.
(ii) Nons of the effects is significant.
Crop: Jowar.  
Ref: A.P. 53(99).  
Type: 'M'.

Object: To study the efficacy of the green manure as soil amendment as compared to F.Y.M.

1. BASAL CONDITIONS:
   (i) (a) Cotton-Jowar. (b) Cotton. (c) Nil.  
   (ii) (a) Black cotton soil. (b) Refer soil analysis, Nandyal.  
   (iii) 6.10.53.  
   (iv) (a) Field worked twice with gorru and guntaka. (b), (c), (d) and (e) N.A.  
   (v) 45 lb./ac. of N and 30 lb./ac. of P2O5 were given to the whole experiment by drilling the manure with seed drill.  
   (vi) N-L (late).  
   (vii) Unirrigated.  
   (viii) Interculture with metta guntaha and hand weeding.  
   (ix) 7.36'.  
   (x) 2.2.54.

2. TREATMENTS:
   All combinations of (1) and (2)  
   (1) 2 sources of manure: S1=F.Y.M. and S2=G.L.  
   (2) 4 levels of manure: M0=0, M1=2,500, M2=5,000 and M3=7,500 lb./ac.

3. DESIGN:
   (i) 4x2 Fact. in R.B.D.  
   (ii) (a) 8 (2 control plots for each block). (b) N.A.  
   (iii) 4.  
   (iv) (a) 46.2'x36.4'.  
   (b) 41.25' x 20'.  
   (v) N.A.  
   (vi) Yes.

4. GENERAL:
   (i) Due to late sowing and continuous rains after sowing the growth of the crop was stunted.  
   (ii) Crop suffered from sugary disease and shoot long attack in the initial stages of crop growth.  
   (iii) Grain and straw yield.  
   (iv) (a) Yes, 1953—N.A.  
   (b) (c) Nil. (v) (a), (b) Nil.  
   (vi) and (vii) Nil.

5. RESULTS:
   (i) 1077 lb./ac.  
   (ii) 77.61 lb./ac.  
   (iii) Main effect of S is highly significant. Main effect of M is significant. Interaction S×M is not 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>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>1160</td>
<td>1134</td>
<td>1179</td>
<td>1158</td>
</tr>
<tr>
<td>S2</td>
<td>937</td>
<td>1048</td>
<td>1063</td>
<td>1016</td>
</tr>
<tr>
<td>Mean</td>
<td>1049</td>
<td>1091</td>
<td>1121</td>
<td>1087</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of S = 22.4 lb./ac.  
S.E. of marginal mean of M = 27.4 lb./ac.  
S.E. of body of table = 38.8 lb./ac.
Crop :- Jowar.  
Site :- Govt. Millet Farm, Ongole.  

Object :- To compare G.N.C. with A/S in giving high yield.

1. BASAL CONDITIONS :
(i) (a) Variga-Jonna and Non millets—one crop in first year. (b) Variga. (c) F.Y.M. at 3½ ton/ac.  
(ii) (a) Loamy soil. (b) Refer soil analysis, Ongole. (iii) 6.11.1952. (iv) (a) 3 or 4 ploughings.  
(b) Drill sow and working gorré twice. (c) 10 to 12 lb./ac. (d) 4'×6'. (e)——. (v) F.Y.M. at 3½ C.L./ac. in
(x) 2.3.1953.

2. TREATMENTS :
(1) No manure (control).  
(2) G.N.C. at 250 lb./ac. to give 17 lb. of N.  
(3) A/S at 83 lb./ac. to give 17 lb. of N.  
Manures applied as basal dressing before sowing.

3. DESIGN :
(i) R.B.D. (ii) a) 3. (b) 52.8’×59.4’ (iii) 4. (iv) (a) 52.8’×19.8’. (b) 52.8’×16.5’. (v) N.A.  
(vi) Yes.

4. GENERAL :  
(i) Growth of the crop was adversely affected due to want of rains at the proper time. (ii) Nil. (iii) Grain  
and straw yield. (iv) (a) No. (b) No. (c) No. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) Nil.

5. RESULTS :
(i) 581 lb./ac.  
(ii) 95.5 lb./ac.  
(iii) Treatment differences are not significant.  
(iv) Av. yield of grain in lb./ac.  

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>940</td>
</tr>
<tr>
<td>2.</td>
<td>790</td>
</tr>
<tr>
<td>3.</td>
<td>925</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>47.8 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Jowar.  
Ref :- A.P. 49 (6)  
Type :- ‘M’.  

Object :- To study the residual effect of manures applied to the previous wheat crop on Jowar.

1. BASAL CONDITIONS :
(i) (a) Nil. (b) Wheat. (c) As per treatments. (ii) (a) Black cotton soil. (b) Refer soil analysis,  
Rudrur. (iv) 24.11.1949. (iv) (a) One harrowing, 3 ploughings. (b) Sown behind the country plough.  
(c)——. (d) 25' apart. (e)——. (v) Nil. (vi) P.B.4-R (early). (vii) Irrigated. (viii) Hoeing by cultivator  
one. (ix) 1.91’. (x) 14.4.1950.

2. TREATMENTS :
All combinations of (1) and (2)  
1) 2 sources of N : S1=Castercake and S2=G.N.C.  
(2) 3 levels of N : N1=20, N2=40 and N3=60 lb./ac.  
Manure applied in Oct. 1948 to the previous wheat crop.

3. DESIGN :
(i) 2×3 Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 53’×15’’. (b) 48’×11’. (v) N.A. (vi)  
Yes.
4. GENERAL:
(i) Normal. (ii) Slight attack of Stemborer. (iii) Grain yield. (iv) (a) 1946-1950. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 235 lb./ac.
(ii) 101.5 lb./ac.
(iii) None of the effects 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>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
<td>180</td>
<td>258</td>
<td>212</td>
<td>217</td>
</tr>
<tr>
<td>S₂</td>
<td>225</td>
<td>225</td>
<td>318</td>
<td>256</td>
</tr>
<tr>
<td>Mean</td>
<td>202</td>
<td>242</td>
<td>265</td>
<td>236</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of N = 29.3 lb./ac.
S.E. of marginal mean of S = 23.9 lb./ac.
S.E. of body of table = 41.6 lb./ac.

Crop: Jowar.
Ref: A.P. 50(8)/49(6)
Type: ‘M’.

Object: To study the residual effect of manures applied to the previous wheat crop on Jowar.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Wheat. (c) As per treatments. (ii) (a) Black cotton soil. (b) Refer soil analysis, Rudrur.
(iii) 17.10.50. (iv) (a) One harrowing and 3 ploughings. (b) Sown behind the country plough. (c)— (d) 1’ apart. (e)— (f) Nil. (vi) P.J.4-R (early). (vii) Irrigated. (viii) Weeding and hoeing. (ix) 3.11”. (x) Second week of March 1951.

2. TREATMENTS:
All combinations of (1) and (2)
(1) 2 sources of N: S₁=Castor cake and S₂=G.N.C.
(2) 3 levels of N: N₁=20, N₂=40 and N₃=60 lb./ac.
Manure was applied to the previous wheat crop in October 1949.

3. DESIGN:
(i) 2×3 Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 53’×15’; (b) 48’×11’. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1946-1950. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 345 lb./ac.
(ii) 107.3 lb./ac.
(iii) None of the effects 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>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
<td>326</td>
<td>358</td>
<td>357</td>
<td>347</td>
</tr>
<tr>
<td>S₂</td>
<td>287</td>
<td>341</td>
<td>402</td>
<td>343</td>
</tr>
<tr>
<td>Mean</td>
<td>306</td>
<td>349</td>
<td>330</td>
<td>345</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of N = 31.0 lb./ac.
S.E. of marginal mean of S = 2.3 lb./ac.
S.E. of body of table = 4.0 lb./ac.

Crop :— Jowar.
Site :— Govt. Main Farm, Warangal.

Ref :— A.P. 50 (39).
Type :— ‘C’.

Object :— To ascertain the residual effect of mixed cropping on succeeding crop of Jowar.

1. BASAL CONDITIONS :
   (i) (a) Nil, (b) and (c) As per treatments. (ii) (a) to (b) N.A. (iii) 6.7.1959. (iv) (a) to (e) N.A. (v) N.A.
   (vi) N.A. (vii) Unirrigated. (viii) one or two weedings. (ix) 30.82°. (x) 26.10.1950.

2. TREATMENTS :
   Treatments : previous mixed crops (i.e. mixed crops of 1949-52). (a) Jowar 6 rows + Tur one row.
   2. Jowar 4 rows + Tur one row.
   4. Groundnut 6 rows + Tur one row.
   5. Groundnut alone.
   7. Tur alone.

3. DESIGN :
   (i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) 78’ × 19’. (b) 72’ × 15’. (v) N.A. (vi) Yes.

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

5. RESULTS :
   (i) 533 lb./ac.
   (ii) 274.0 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>696.0</td>
</tr>
<tr>
<td>2.</td>
<td>370.0</td>
</tr>
<tr>
<td>3.</td>
<td>241.0</td>
</tr>
<tr>
<td>4.</td>
<td>448.0</td>
</tr>
<tr>
<td>5.</td>
<td>677.0</td>
</tr>
<tr>
<td>6.</td>
<td>584.0</td>
</tr>
<tr>
<td>7.</td>
<td>691.0</td>
</tr>
</tbody>
</table>

S.E./mean = 137.0 lb./ac.
Crop: Wheat.  
Object: To find out a suitable oil cake for lightly Irrigated Wheat crop.

1. BASAL CONDITIONS:  
   (i) (a) N.A.  
   (b) Fallow.  
   (c) Loamy.  
   (ii) (a) Black cotton soil.  
   (b) Refer soil analysis, Rudur.  
   (iii) 10.11.49.  
   (iv) 4 times ploughing; blade harrow run once.  
   (b) Sown behind the cultivator.  
   (c) 60 lb./ac.  
   (d) Rows 9' apart.  
   (e) (v) Nil.  
   (vi) P.B.-12.  
   (vii) Irrigated.  
   (viii) Hoeing by cultivator once.  
   (ix) 1.19'.  
   (x) 10.1.50.

2. TREATMENTS:  
   All combinations of (1) and (2)  
   (i) 2 sources of N: S1=Castor cake and S2=G.N.C.  
   (ii) 3 levels of N: N1=20, N2=40 and N3=60 lb./ac.

3. DESIGN:  
   (i) 2x3 Fact. in R.B.D.  
   (ii) (a) 6.  
   (b) N.A.  
   (iii) 6.  
   (iv) (a) 53'x15'.  
   (b) 48'x11'.  
   (v) 25'x2'.  
   (vi) Yes.

4. GENERAL:  
   (i) Normal.  
   (ii) Mild attack of rust was observed in the advanced stages of the crop. Sulphur dusting was done.  
   (iii) Yield data.  
   (iv) (a) 1945—1949.  
   (b) No.  
   (c) N.A.  
   (v) (a) and (b) Nil.  
   (vi) and (vii) Nil.

5. RESULTS:  
   (i) 589 lb./ac.  
   (ii) 103.1 lb./ac.  
   (iii) Only main effect of `level of N' is highly significant. Others are not 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>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>485</td>
<td>595</td>
<td>674</td>
<td>584</td>
</tr>
<tr>
<td>S2</td>
<td>476</td>
<td>626</td>
<td>679</td>
<td>594</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of source =24.3 lb./ac.  
S.E. of marginal mean of level =29.7 lb./ac.  
S.E. of body of table =42.1 lb./ac.

Crop: Ragi.  
Site: Sugarcane Res. Stn., Anakapalle.  
Object: To study the effects of continuous application of A/S on the yield of Sugarcane and its effects on normal rotational crops Ragi and paddy.

1. BASAL CONDITIONS:  
   (i) (a) Ragi—paddy—Sugarcane.  
   (b) Sugarcane.  
   (c) N.A.  
   (ii) (a) Loamy.  
   (b) Refer soil analysis, Anakapalle.  
   (iii) 25.5.51/26.5.51.  
   (iv) (a) 3 ploughings and forming beds.  
   (b) Transplanting.  
   (c) —.  
   (d) 4' between rows.  
   (e) 2—3.  
   (f) Nil.  
   (vi) AKP-2 (early).  
   (vii) Irrigated.  
   (viii) One weeding and twice hoeing.  
   (ix) 4.67'.  
   (x) 26.7.51 and 27.7.51.

2. TREATMENTS:  
   1. Control (no manure).  
   2. A/S at 40 lb./ac. of N  
   3. G.N.C. at 40 lb./ac. of N.  
   4. F.Y.M. at 40 lb./ac. of N.  
   5. Mixture of G.N.C. and A/S in 2:1 at 40 lb./ac. of N.  
   Manures applied 15 days after transplanting.
3. DESIGN:
(i) L. Sq. (ii) [a] 5. (b) N.A. (iii) 5. (iv) (a) 39.6' x 37'. (b) 33' x 26'. (v) 3.3' x 54'. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain weight, growth measurement. (iv) (a) 1951—continued. (b) Yes. (c) N.A. (v) 'a' and (b) Nil. (vi) Nil. 'a' While the form of manure applied to the sub-plots is the same year after year, the dose of manure is varied with the crops. If Ragi and paddy are grown this year, sugarcane is grown in the same plots next year and again Ragi and paddy in the third year and so on.

5. RESULTS:
(i) 1773 lb./ac.
(ii) 104.5 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.

| Treatment | Av. yield  | S.E./mean
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1668</td>
<td>46.6 lb./ac.</td>
</tr>
<tr>
<td>2.</td>
<td>1759</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>1973</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>1788</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>1679</td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Ragi.  
Site :- Sugarcane Res. Stn., Anakapalle.  
Ref. :- A.P. 52(50)/51(42).

Type :- 'M'.

Object :- To study the effects of continuous application of A/S on the yield of sugarcane and its effect on normal rotational crops Ragi and Paddy.

1. BASAL CONDITIONS:
(i) (a) Ragi—Paddy—Sugarcane. (b) Sugarcane (c) 100 lb./ac. of N in different forms as under treatments.  
(ii) (a) Loamy soil. (b) Refer soil analysis, Anakapalle. (iii) 17.6.1952 and 18.6.1952. (iv) (a) 4 times ploughing with victory plough and forming beds. (b) Planting in lines. (c)---. (d) 4' between rows. (e) 2—3.  

2. TREATMENTS:
1. Control (no manure).
2. A/S at 40 lb./ac. of N.
3. G.N.C. at 40 lb. ac. of N.
4. F.Y.M. at 40 lb./ac. of N.
5. G.N.C.+A/S in 2:1 at 40 lb./ac. of N.

Manures applied 15 days after transplanting.

3. DESIGN:
(i) L. sq. (ii) [a] 5. (b) N.A. (iii) 5. (iv) (a) 39.6' x 37'. (b) 33' x 26'. (v) 3.3' x 54'. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain weight and growth measurements. (iv) (a) 1951—continued. (b) Yes. (c) N.A. (v) 'a' and (b) Nil. (vi) Nil. 'a' While the form of manure applied to the plots is the same year after year, the dose of manure is varied with the crops. If Ragi and paddy are grown this year, sugarcane is grown in the same plots next year and again Ragi and paddy in the third year and so on.

5. RESULTS:
(i) 1240 lb./ac.
(ii) 210.5 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of grain in lb./ac.

| Treatment | Av. yield  | S.E./mean
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>859</td>
<td>94.1 lb./ac.</td>
</tr>
<tr>
<td>2.</td>
<td>1544</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>1384</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>1030</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>1334</td>
<td></td>
</tr>
</tbody>
</table>
Crop : Ragi.  
Site : Sugarcane Res. Stn., Anakapalle.  
Ref : A.P. 53(63)/52(50)/51(42).  
Type : ‘M’.

Object : To study the effect of application of A/S (series I) on the yield of Sugarcane and its effect on normal rotation crops Ragi and Paddy.

1. BASAL CONDITIONS :
   (i) (a) Sugarcane—Ragi—Paddy—Sugarcane. (b) Sugarcane. (c) 100 lb./ac. of N as A/S etc. as under treatments. (ii) (a) Clay loam. (b) Refer soil analysis, Anakapalle. (iii) 1st week of June 1953. (iv) (a) 3 times ploughing and forming beds. (b) Planting in lines. (c) —. (d) 4’ between rows. (e) 2—3. (v) Nil. (vi) AKP-2. (vii) Irrigated. (viii) Hoeing once. (ix) 15.24”. (x) 1st week of August 1953.

2. TREATMENTS :
   1. Control (no manure).
   2. A/S at 40 lb./ac. of N.
   3. G.N.C. at 40 lb./ac. of N.
   4. F.Y.M. at 40 lb./ac. of N.
   5. G.N.C.+A/S in 2:1 ratio at 40 lb./ac. of N. 

   N applied in single dose 15 days after transplanting.

3. DESIGN :
   (i) L. Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 39.6’×37’. (b) 33’×26’. (v) N.A. (vi) Yes.

4. GENERAL :
   (i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1951—continued. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) While the form of manures is the same every years, the doses of N vary with the crop.

5. RESULTS :
   (i) 927. lb./ac.
   (ii) 132.5 lb./ac.
   (iii) Treatments differ highly significantly.
   (iv) Av. yield of grain in lb./ac. 

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>653</td>
</tr>
<tr>
<td>2.</td>
<td>1160</td>
</tr>
<tr>
<td>3.</td>
<td>1018</td>
</tr>
<tr>
<td>4.</td>
<td>798</td>
</tr>
<tr>
<td>5.</td>
<td>1005</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>59.2 lb./ac.</td>
</tr>
</tbody>
</table>

Crop : Ragi.  
Site : Sugarcane Res. Stn., Anakapalle.  
Ref : A.P. 53(45).  
Type : ‘M’.

Object : To study the effect of continuous application of A/S (series 2).

1. BASAL CONDITIONS :
   (i) (a) Sugarcane—Ragi—Paddy—Sugarcane. (b) Sugarcane. (c) 100 lb./ac. of N as A/S etc. as under treatments. (ii) (a) Clay loam. (b) Refer soil analysis, Anakapalle. (iii) 4.6.53. (iv) (a) 3 times ploughing and forming beds. (b) Planting in lines. (c) —. (d) 4’ between rows. (e) 2 to 3. (v) Nil. (vi) AKP-2. (vii) Irrigated. (viii) Hoeing once. (ix) 15.24”. (x) 2.8.53.

2. TREATMENTS :
   All combinations of (1) and (2).
   (1) 2 sources of N (at 40 lb./ac.) : \( S_1 = A/S \) and \( S_2 = G.N.C.+A/S \) in 2 : 1 ratio,
   (2) 2 levels of lime : \( L_0 = 0 \) and \( L_1 = 1500 \) lb./ac.

   Lime applied prior to planting and N in single dose 15 days after planting.
3. DESIGN:
(i) 2 x 2 Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) 39.6' x 26'. (b) 33' x 19.8'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1953—1955. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) While the form of manure applied to the plots is the same year after year, the doses vary according to the crop.

5. RESULTS:
(i) 1707 lb./ac.
(ii) 94.7 lb./ac.
(iii) None of the effects is significant.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$S_1$</th>
<th>$S_2$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$L_0$</td>
<td>1673</td>
<td>1656</td>
<td>1665</td>
</tr>
<tr>
<td>$L_1$</td>
<td>1782</td>
<td>1715</td>
<td>1749</td>
</tr>
<tr>
<td>Mean</td>
<td>1728</td>
<td>1686</td>
<td>1707</td>
</tr>
</tbody>
</table>

S.E. of marginal mean = 30.0 lb./ac.
S.E. of body of table = 42.3 lb./ac.

Crop:—Ragi.
Site:—Sugarcane Res. Stn., Anakapalle.
Object:—To determine the manurial requirements of Ragi.

Ref:—A.P. 48(65).
Type:—‘M’.

1. BASAL CONDITIONS:
(i) (a) N.A. (b) Jowar (fodder). (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Anakapalle. (iii) 14.12.48/8.1.49. (iv) (a) 2 or 3 ploughings and forming beds. (b) Transplanted. (c) —. (d) 6' x 6'.
(e) 2.3. (vi) Nil. (vii) AKP-3 (Pyrus). (viii) Unirrigated. (ix) N.A. (ix) 2.08. (x) 10.4.49.

2. TREATMENTS:
1. G.N.C. at 20 lb./ac. of N.
2. G.N.C. at 30 lb./ac. of N.
3. G.N.C. at 40 lb./ac. of N.
4. G.N.C. at 50 lb./ac. of N.
5. F.Y.M. at 5 ton/ac.
6. F.Y.M. at 10 ton/ac.
   G.N.C. applied before planting by broadcast and mixed with the soil. F.Y.M. applied a month before planting.

3. DESIGN:
(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 27.7' x 18.5'. (b) 26.0' x 16.5'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1946—1948. (b) N.A. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 885 lb./ac.
(ii) 83.7 lb./ac.
(iii) Treatments differ significantly.
Crop : Ragi.  
Site : Demonstration Farm, Araku Valley.

Object : To compare C/N with A/S for giving high yields Ragi.

1. BASAL CONDITIONS :  
   (i) (a) Nil. (b) Paddy (dry). (c) N.A.  
   (ii) (a) N.A. (b) N.A. (iii) 26.6.52.  
   (iv) (a) to (c) N.A. (v) Nil.  
   (vi) Jagarla Mandya (mass selected).  
   (vii) Unirrigated. (viii) N.A. (ix) 34.39’. (x) 10.11.52.

2. TREATMENTS :  
   1. Lime at 450 lb./ac. + C.M. at 3 ton/ac. + Super at 30 lb./ac. of P₂O₅.  
   2. Treatment (1) + A/S at 40 lb./ac. of N. 
   3. Treatment (1) + A/S at 60 lb./ac. of N. 
   4. A/S at 40 lb./ac. of N. 
   5. A/S at 60 lb./ac. of N. 
   6. Treatment (1) + C/N at 40 lb./ac. of N. 
   7. Treatment (1) + C/N at 60 lb./ac. of N. 
   8. C/N to give more than 40 lb./ac. of N (i.e. 50 lb./ac. of N). 
   9. C/N to give more than 60 lb./ac. of N (i.e. 70 lb./ac.)

3. DESIGN :  
   (i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a), (b) 1/100 ac. (v) Nil. (vi) Yes.

4. GENERAL :  
   (i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1952-1953. (b) No. (c) No. (v) (a), (b) N.A.  
   and (vii) Nil.

5. RESULTS :  
   (i) 1490 lb./ac. 
   (ii) 418.1 lb./ac. 
   (iii) Treatments differ significantly. 
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1200</td>
</tr>
<tr>
<td>2</td>
<td>1800</td>
</tr>
<tr>
<td>3</td>
<td>1960</td>
</tr>
<tr>
<td>4</td>
<td>1060</td>
</tr>
<tr>
<td>5</td>
<td>1580</td>
</tr>
<tr>
<td>6</td>
<td>1660</td>
</tr>
<tr>
<td>7</td>
<td>1810</td>
</tr>
<tr>
<td>8</td>
<td>1110</td>
</tr>
<tr>
<td>9</td>
<td>1230</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>186.9 lb./ac.</td>
</tr>
</tbody>
</table>
Crop: Ragi.  
Site: Demonstration Farm, Araku Valley.  
Ref: A.P. 52(82).  
Type: 'M'.

Object: To compare C,N with A,S in giving high yield of dry Ragi.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) Paddy (dry).  (c) N.A.  
   (ii) (a) N.A.  (b) N.A.  (iii) 15.7.53.  (iv) (a) to (c) N.A.  (v) Nil.  
   (vi) Jagarla Mandya, mass selected.  (vii) Unirrigated.  

2. TREATMENTS:
   1. Lime at 430 lb./ac.+C.M. at 3 ton/ac. + Super at 30 lb./ac. of P2O5.  
   2. Treatment (1)+A/S at 40 lb./ac. of N.  
   3. Treatment (1)+A/S at 60 lb./ac. of N.  
   4. A/S at 42 lb./ac. of N.  
   5. A/S at 60 lb./ac. of N.  
   6. Treatment (1)+C/N at 40 lb./ac. of N.  
   7. Treatment (1)+C/N at 60 lb./ac. of N.  
   8. C/N to give more than 40 lb./ac. of N.  
   9. C/N to give more than 60 lb./ac. of N.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 9.  (b) N.A.  (iii) 5.  (iv) (a) (b) 1/100 ac.  

4. GENERAL:

5. RESULTS:
   (i) 1051 lb./ac.  
   (ii) N.A.  
   (iii) Treatments differ significantly.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1060</td>
</tr>
<tr>
<td>2.</td>
<td>1260</td>
</tr>
<tr>
<td>3.</td>
<td>1560</td>
</tr>
<tr>
<td>4.</td>
<td>800</td>
</tr>
<tr>
<td>5.</td>
<td>860</td>
</tr>
<tr>
<td>6.</td>
<td>1100</td>
</tr>
<tr>
<td>7.</td>
<td>1260</td>
</tr>
<tr>
<td>8.</td>
<td>760</td>
</tr>
<tr>
<td>9.</td>
<td>800</td>
</tr>
</tbody>
</table>

S.E./mean = N.A.
3. DESIGN:
   (i) R.B.D. (ii) 4. (b) N.A. (iii) 6. (iv) (a) 15.8' x 29.0'. (b) 13.2' x 26.4'. (v) 1.3' left as border on all sides. (vi) Yes.

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

5. RESULTS:
   (i) 1523 lb./ac.
   (ii) 200.0 lb./ac.
   (iii) Treatment differences are not significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1587</td>
</tr>
<tr>
<td>2</td>
<td>1490</td>
</tr>
<tr>
<td>3</td>
<td>1617</td>
</tr>
<tr>
<td>4</td>
<td>1397</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>21.7 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Ragi.
Site: Agri. College Farm, Bapatla.
Ref: A.P. 52 (18).
Object: To test the response of Ragi to the application of C/N and A/S at different doses and at different times.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Ragi. (c) N.A. (ii) (a) Sandy. (b) Refer soil analysis, Bapatla. (iii) 18.12.1952/18.1.1953.
   (iv) (a) 2 ploughings. (b) Transplanting. (c) → (d) 4" x 4". (e) N.A. (v) Nil. (vi) AKP-6 (late).
   (vii) Irrigated. (viii) One weeding. (ix) 9.5'. (x) 26.3.1953.

2. TREATMENTS:
   All combinations of (1), (2) and (3)
   (1) 2 sources of N: S1=A/S and S2=C/N.
   (2) 4 methods of application of N and their doses:
      M1=40 lb./ac. of N in single dose (10 days after sowing)
      M2=60 lb./ac. of N in single dose (10 days after sowing)
      M3=60 lb./ac. of N in 2 doses (10, 20 days after sowing) and
      M4=60 lb./ac. of N in 3 doses (10, 20, 30 days after sowing)
   (3) 2 basal dressings: B0=No basal dressing, B1=Lime at 450 lb./ac.+F.Y.M. at 3 ton/ac.+Super at 30 lb./ac. of P2O5.

3. DESIGN:
   (i) R.B.D. (ii) (a), (b) N.A. (iii) 4. (iv) (a) 15.8' x 29.0'. (b) 13.2' x 26.4'. (v) 1.3' on all sides left as border. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1952—1956. (b) Yes. (c) Nil. (v) (a) (b) N.A. (vi) and (vii) N.A.

5. RESULTS:
   (i) 2133 lb./ac.
   (ii) 338.0 lb./ac.
   (iii) The effect "B1 vs. Others" is highly significant. Other effects and interactions are not, significant.
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>$M_4$</th>
<th>Mean</th>
<th>$B_0$</th>
<th>$B_1$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$S_1$</td>
<td>1871</td>
<td>2335</td>
<td>2359</td>
<td>2113</td>
<td>2169</td>
<td>2322</td>
<td>2016</td>
</tr>
<tr>
<td>$S_2$</td>
<td>2040</td>
<td>2131</td>
<td>2320</td>
<td>2281</td>
<td>2193</td>
<td>2202</td>
<td>2184</td>
</tr>
<tr>
<td>Mean</td>
<td>1955</td>
<td>2233</td>
<td>2339</td>
<td>2197</td>
<td>2181</td>
<td>2262</td>
<td>2100</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of $S$ or $B$ = 59.8 lb./ac.
S.E. of marginal mean of $M$ = 84.5 lb./ac.
S.E. of body of table $M \times S$ or $M \times B$ = 119.5 lb./ac.
S.E. of body of table $S \times B$ = 84.5 lb./ac.

Crop: Ragi (1st season).
Site: Agri College Farm, Bapatla.
Ref: A.P. 53(10)/52(18).
Type: 'M'.

Object: To test the response of Ragi to the application of C/N and A/S at different doses and at different times.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Ragi. (c) As per treatments. (ii) (a) Sandy. (b) Refer soil analysis, Bapatla. (iii) 9.6.1953/3.7.53. (iv) (a) Mummify digging of individual plot. (b) Transplanting. (c) ---. (d) 4"x4". (e) N.A. (v) Nil. (vi) AKP-6 (late). (vii) Irrigated. (viii) Weeding once (90 days after planting). (ix) 12.5'.
   (x) 22.9/53.

2. TREATMENTS:
All combinations of (1), (2) and (3)
(1) 2 sources of $N$: $S_1 = A/S$ and $S_2 = C/N$.
(2) 4 methods of application of $N$ with their doses:
   $M_1$ = 40 lb./ac. of $N$ in single dose (10 days after sowing).
   $M_2$ = 60 lb./ac. of $N$ in single dose (10 days after sowing).
   $M_3$ = 60 lb./ac. of $N$ in 2 doses (10, 20 days after sowing).
   $M_4$ = 60 lb./ac. of $N$ in 3 doses (10, 20, 30 days after sowing).
(3) 2 basal dressings: $B_0$ = No basal dressing and $B_1$ = lime at 450 lb./ac. + FYM at 3 ton/ac. + Super at 30 lb./ac. of $P_2O_5$.
and one plot receiving only basal dressing, i.e. $B_1$ = lime at 450 lb./ac. + FYM at 3 ton/ac. + Super at 30 lb./ac. of $P_2O_5$.

3. DESIGN:
   (i) R.B.D. (ii) a) 17. (b) N.A. (iii) 4. (iv) (a) 15.8'x29.0'. (b) 13.2'x26.4'. (v) 1.3' on all sides. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1952—1956. (b) Yes. (c) Nil. 'i' (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1253 lb./ac.
   (ii) 104.0 lb./ac.
   (iii) Main effects $M$, $S$ and interaction $M \times S$, $B_1$ vs. others' effects are highly significant. Others are not significant.
(iv) Av. yield of grain in lb./ac.

\[
\begin{array}{c|cccc|cc}
& M_1 & M_2 & M_3 & M_4 & \text{Mean} & B_0 & B_1 \\
\hline
S_1 & 1143 & 1247 & 1205. & 1394 & 1247 & 1291 & 1203 \\
S_2 & 1094 & 1429 & 1410 & 1455 & 1347 & 1347 & 1347 \\
\hline
\text{Mean} & 1119 & 1338 & 1307 & 1475 & 1297 & 1319 & 1275 \\
\hline
B_0 & 1152 & 1385 & 1315 & 1425 & 1319 & & \\
B_1 & 1086 & 1291 & 1299 & 1425 & 1275 & & \\
\end{array}
\]

S.E. of marginal mean of S or B = 18.4 lb./ac.
S.E. of marginal mean of M = 26.0 lb./ac.
S.E. of body of table M×S or M×B = 36.8 lb./ac.
S.E. of body of table S×B = 26.0 lb./ac.

---

Crop :- Ragi (2nd season).

Site :- Agri. College Farm, Bapatla.

Object :- To test the response of Ragi to the application of C/N and A/S at different doses and at different times.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Ragi. (c) As per treatments.
   (ii) (a) Sandy. (b) Refer soil analysis, Bapatla.
   (iii) 24.10.1953/19.11.1953.
   (iv) (a) Mummyty digging of individual plot. (b) Transplanting. (c) (d) 4:5'×4'.
   (e) N.A. (v) Nil. (vi) AKP-6 (late). (vii) Irrigated. (viii) Weeding once. (ix) 15.5'. (x) 7.2.1953.

2. TREATMENTS:
   All combinations (1), (2) and (3)
   (1) 2 sources of N: S_1=A/S and S_2=C/N.
   (2) 4 methods of application of N with their doses:
       M_1=40 lb./ac. of N in single dose (10 days after sowing).
       M_2=60 lb./ac. of N in single dose (10 days after sowing).
       M_3=60 lb./ac. of N in 2 doses (10, 20 days after sowing).
       M_4=60 lb./ac. of N in 3 doses (10, 20, 30 days after sowing).
   (3) 2 basal dressings : B_0=No dressing and B_1=Lime at 450 lb./ac. + F.Y.M. at 3 ton/ac. + Super at 30 lb./ac. of P_2O_5.

   and one plot receiving only basal dressing i.e., B_1=Lime at 450 lb./ac. + F.Y.M. at 3 ton/ac. + Super at 30 lb./ac. of P_2O_5.

3. DESIGN:
   (i) R.B.D. (ii) (a) 17. (b) N.A. (iii) 4. (iv) (a) 15.8'×29.0'. (b) 13.2'×26.4'. (v) 1.3' on all sides. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1932—1956. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Nil.

5. RESULTS:
   (i) 2215 lb./ac.
   (ii) 330.5 lb./ac.
   (iii) 'B_1 vs. others' effect is highly significant and that of 'source of N' effect is significant. Others are not significant.
Crop: Ragi.  
Site: Agri. College Farm, Bapatla.  
Ref.: A.P. 53(14).  
Type: 'M'.

Object: To study the response of Ragi to the application of G.L., compost and F.Y.M.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Fallow. (c) Nil.  
   (ii) (a) Sandy.  
   (iii) 16.6.1953/23.7.1953.  
   (iv) (a) 3 ploughings with country plough. (b) Transplanting.  
   (v) 45 Ib./ac. of N as A/S and 3> lb./ac. of P2O5 as Super.  
   (vi) AKP-6.  
   (vii) Rain fed.  
   (viii) 2 weedings.  
   (ix) 16.2.  
   (x) 30.10.1953.

2. TREATMENTS:
   All combinations of (1), (2) + a control (no manure).
   (1) 3 levels of organic matter: L1=2500, L2=5000 and L3=7500 lb./ac.
   (2) 3 sources of organic matter: O1=F.Y.M., O2=G.L. and O3=Compost.

3. DESIGN:
   (i) R.B.D.  
   (ii) (a) 10.  
   (iii) 4.  
   (iv) (a) 27.7' x 19.8'. (b) 26.7' x 13.8'. (v) 6' left as border on all sides.  
   (vi) Yes.

4. GENERAL:
   (i) Satisfactory.  
   (ii) Nil.  
   (iii) Grain and straw yield.  
   (iv) (a) 1953—1954. (b) No. (c) Nil. (v) (a) N.A. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1189 lb./ac.  
   (ii) 138.0 lb./ac.  
   (iii) Only the interaction 'level x source' is significant.  
   (iv) Av. yield of grain in lb./ac.

   Control = 1226 lb./ac.

<table>
<thead>
<tr>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>O1</td>
<td>1000</td>
<td>1405</td>
<td>1113</td>
</tr>
<tr>
<td>O2</td>
<td>1140</td>
<td>1200</td>
<td>1040</td>
</tr>
<tr>
<td>O3</td>
<td>1340</td>
<td>1130</td>
<td>1295</td>
</tr>
<tr>
<td>Mean</td>
<td>1160</td>
<td>1245</td>
<td>1149</td>
</tr>
</tbody>
</table>
   S.E. of marginal mean = 39.8 lb./ac.  
   S.E. of body of table = 69.0 lb./ac.
Crop: Ragi.  
Ref: A.P. 53(15).

Site: Agri. College Farm, Bapatla.  
Type: 'M'.

Object: To find out the optimum dose of organic manure as soil corrective for sandy soil.

1. **BASAL CONDITIONS:**
   (i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy. (b) Refer soil analysis, Bapatla. (iii) 16.6/12.7/1953. (iv) (a) 3 ploughings. (b) Transplanting. (c). (d) 4' x 4'. (e) N.A. (v) Nil. (vi) AKP-5. (vii) Rainfed. (viii) 2 weedic. (ix) 16.2*. (x) 14.10.1953.

2. **TREATMENTS:**
   1. No manure.
   2. 2500 lb./ac. of G.L. (Gliricidia).
   3. 5000 lb./ac. of G.L. (Gliricidia).
   4. 7500 lb./ac. of G.L. (Gliricidia).

3. **DESIGN:**
   (i) R.B D. (ii) (a) 4. (b) N.A. (iii) 8. (iv) (a) 33' x 16.5'. (b) 32' x 15.5'. (v) 6' left as border around. (vi) Yes.

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

5. **RESULTS:**
   (i) 1067 lb./ac.
   (ii) 142.1 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>894</td>
</tr>
<tr>
<td>2.</td>
<td>1037</td>
</tr>
<tr>
<td>3.</td>
<td>1126</td>
</tr>
<tr>
<td>4.</td>
<td>1210</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>50.2 lb./ac.</td>
</tr>
</tbody>
</table>

---

Crop: Maize (Khari').  
Ref: A.P. 52(1).

Type: 'M'.

Object: To determine the manurial requirements of the crop for giving high yields.

1. **BASAL CONDITIONS:**
   (i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Chakta soil. (b) Refer soil analysis, Himayatsagar. (iii) N.A. (iv) (a) to (e) N.A. (v) N.A. (vi) N.A. (vii) N.A. (viii) N.A. (ix) 22.59'. (x) N.A.

2. **TREATMENTS:**
   1. 40 lb./ac. of N+20 lb./ac. of P₂O₅.
   2. 40 lb./ac. of N+40 lb./ac. of P₂O₅.
   3. 40 lb./ac. of N+60 lb./ac. of P₂O₅.
   4. 40 lb./ac. of N+80 lb./ac. of P₂O₅.
   5. 40 lb./ac. of N+100 lb./ac. of P₂O₅.
   6. 40 lb./ac. of N+120 lb./ac. of P₂O₅.
   7. 40 lb./ac. of N+140 lb./ac. of P₂O₅.
   8. 40 lb./ac. of N+160 lb./ac. of P₂O₅.
   9. Control (no manure).


3. **DESIGN:**
   (i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/94 ac. (v) N.A. (vi) Yes.
4. GENERAL:
(i) N.A. (ii) N.A. (iii) Grain yield. (iv) (a) 1951—N.A. (b) N.A. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Conducted by Rice Specialists' Section.

5. RESULTS:
(i) 2308 lb./ac.
(ii) 315.8 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2186</td>
</tr>
<tr>
<td>2.</td>
<td>2406</td>
</tr>
<tr>
<td>3.</td>
<td>2446</td>
</tr>
<tr>
<td>4.</td>
<td>2197</td>
</tr>
<tr>
<td>5.</td>
<td>2764</td>
</tr>
<tr>
<td>6.</td>
<td>2218</td>
</tr>
<tr>
<td>7.</td>
<td>2641</td>
</tr>
<tr>
<td>8.</td>
<td>2312</td>
</tr>
<tr>
<td>9.</td>
<td>1636</td>
</tr>
<tr>
<td>S.E. mean</td>
<td>157.9 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Maize (Rabi).

Object :- To determine the manurial requirements of the crop.

1. BASAL CONDITIONS:
(i) N.A. (b—N.A. x) N.A. (ii) (a) Chalka soil (b) Refer soil analysis, Himayatsagar. (iii) N.A.
(iv) (a) to (e); N.A. (v) N.A. (vi) N.A. (vii) N.A. (viii) N.A. (ix) 4.75" (during Rabi 1952-1953.) (x) N.A.

2. TREATMENTS:
1. 40 lb./ac. of N + 20 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
2. 40 lb./ac. of N + 40 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
3. 60 lb./ac. of N + 30 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
4. 60 lb./ac. of N + 60 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
5. 80 lb./ac. of N + 40 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
6. 80 lb./ac. of N + 80 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
7. 100 lb./ac. of N + 50 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
8. 100 lb./ac. of N + 100 lb./ac. of P<sub>2</sub>O<sub>5</sub>.
9. Control (no manure).
N as G.N.C. and P<sub>2</sub>O<sub>5</sub> as Super. Half of G.N.C. and entire Super applied at the time of sowing. The other half dose of G.N.C. applied 3 weeks later.

3. DESIGN:
(i) R.B.D. (ii) 9. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/94 ac. (v) N.A. (vi) Yes.

4. GENERAL:
(i) N.A. (ii) N.A. (iii) Grain yield. (iv) (a) 1952—N.A. (b) N.A. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Conducted by Rice Specialists' Section.

5. RESULTS:
(i) 2583 lb./ac.
(ii) 487.9 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2200</td>
</tr>
<tr>
<td>2.</td>
<td>2096</td>
</tr>
<tr>
<td>3.</td>
<td>2660</td>
</tr>
<tr>
<td>4.</td>
<td>2670</td>
</tr>
<tr>
<td>5.</td>
<td>2670</td>
</tr>
<tr>
<td>6.</td>
<td>2782</td>
</tr>
<tr>
<td>7.</td>
<td>3317</td>
</tr>
<tr>
<td>8.</td>
<td>2660</td>
</tr>
<tr>
<td>9.</td>
<td>1175</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>244.0 lb./ac.</td>
</tr>
</tbody>
</table>
Crop :- Maize (Kharif).
Object :- To determine the best combination of N and P₂O₅ for Maize.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Chalka soil. (b) Refer soil analysis, Himayatsagar. (iii) N.A.
   (iv) (a) Ploughing, levelling. (b) Transplanted. (c) Nil. (d) N.A. (v) Nil. (vi) N.A. (vii) N.A.
   (viii) Light wooden plough worked in the early stages of the crop. (ix) 25.60". (x) N.A.

2. TREATMENTS

1. 40 lb./ac. of N+20 lb./ac. of P₂O₅
2. 40 lb./ac. of N+40 lb./ac. of P₂O₅
3. 60 lb./ac. of N+30 lb./ac. of P₂O₅
4. 60 lb./ac. of N+60 lb./ac. of P₂O₅
5. 80 lb./ac. of N+80 lb./ac. of P₂O₅
6. 100 lb./ac. of N+50 lb./ac. of P₂O₅
7. 100 lb./ac. of N+100 lb./ac. of P₂O₅
8. Control (no manure).

N as G.N.C. and P₂O₅ as Super. Half of G.N.C. and full dose of Super applied at the time of sowing
and the other half of G.N.C. 3 weeks later. Manures applied in furrows 1.5' deep and 3' away from rows.

3. DESIGN:
   (i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/94th of acre. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Crop suffered in earlier stages and later turned out normal. (ii) Slight attack of leaf-blight. (iii) Grain yield.
   (iv) (a) 1952-1953. (b) N.A. (c) Nil. (v) (a) N.A. (b) Nil. (v) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1216 lb./ac.
   (ii) 225.6 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>737</td>
</tr>
<tr>
<td>2.</td>
<td>902</td>
</tr>
<tr>
<td>3.</td>
<td>1344</td>
</tr>
<tr>
<td>4.</td>
<td>978</td>
</tr>
<tr>
<td>5.</td>
<td>1748</td>
</tr>
<tr>
<td>6.</td>
<td>1344</td>
</tr>
<tr>
<td>7.</td>
<td>1701</td>
</tr>
<tr>
<td>8.</td>
<td>1344</td>
</tr>
<tr>
<td>9.</td>
<td>743</td>
</tr>
<tr>
<td>S.E.(mean)</td>
<td>112.8 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Maize (Rabi).
Object :- To find out the most economical manurial dose for Maize crop in chalka soils.

1. BASAL CONDITIONS:
   (i) (a) No. (b) Maize. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Karimnagar. (iii) 9.12.1953.
   (iv) (a) Two ploughings, harrowing and levelling. (b) Sown by hand dibbling. (c) N.A. (d) 2'x1'. (e) One grain/hole.
   (v) Nil. (vi) Jaunpore (early). (vii) Irrigated. (viii) Twice cultivator run and once weeded.
   (ix) Nil. (x) 15.4.1954.
2. TREATMENTS:

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

1) 3 levels of N: N₀ = 3, N₁ = 50 and N₂ = 100 lb./ac.
2) 3 levels of P₂O₅: P₀ = 0, P₁ = 50 and P₂ = 100 lb./ac.
3) 3 levels of K₂O: K₀ = 1, K₁ = 50 and K₂ = 100 lb./ac.

N as A.S, P₂O₅ as Super and K₂O as Pot. Sul. Half of N and full doses of P₂O₅ and K₂O were applied at sowing; and the other half of N applied one month later. Manures were broadcast on the surface and then worked into the soil with cultivator and spades.

3. DESIGN:

(i) 3² factorial confounded. (i) (a) 9 plots/block and 3 blocks/replication. (b) N.A. (ii) 2. (iv) (a) 1 70 ac. (b) 1 1/109 ac. (v) One row to right; two plants from ends of each row. (vi) Yes.

4. GENERAL:

(i) Normal, 20°~ lodging at harvest. (ii) Stemorer 8-10%. Dead hearts removed and burnt. (iii) Grain yield. (iv) (a) 1933-1954. (b) Yes. (c) N.A. (v) (a), (b) No. (vi) and (vii) Nil.

5. RESULTS:

(i) 1954 lb./ac.
(ii) <27.7 lb./ac.
(iii) Only main effect of N is significant.
(iv) Am. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>P₀</th>
<th>P₁</th>
<th>P₂</th>
<th>Mean</th>
<th>K₀</th>
<th>K₁</th>
<th>K₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₀</td>
<td>1635</td>
<td>1481</td>
<td>1668</td>
<td>1595</td>
<td>1675</td>
<td>1550</td>
</tr>
<tr>
<td>N₁</td>
<td>1938</td>
<td>2225</td>
<td>2198</td>
<td>2121</td>
<td>2123</td>
<td>2071</td>
</tr>
<tr>
<td>N₂</td>
<td>1930</td>
<td>2006</td>
<td>2505</td>
<td>2147</td>
<td>2399</td>
<td>2066</td>
</tr>
<tr>
<td>Mean</td>
<td>1834</td>
<td>.904</td>
<td>2124</td>
<td>1954</td>
<td>2065</td>
<td>1896</td>
</tr>
</tbody>
</table>

S.E. of marginal means = 96.0 lb./ac.
S.E. of body of table = 166.0 lb./ac.

Crop: Maize (Kharif).
Type: A.P. 53(3).

Object: To determine the optimum spacing in combination with dates of sowing.

1. BASAL CONDITIONS:

(i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Chalka soil (sandy loam). (b) Refer soil analysis, Himayatsagar.

(ii) As per treatments. (iii) (a) Ploughing the field before sowing. (b) to (e) N.A. (v) N.A. (vi) N.A. (vii) A light wooden plough was worked in the early stages of the crop growth. (ix) N.A. (x) N.A.

2. TREATMENTS:

Main-plot treatments:
Sub-plot treatments:
4 spacings: S₁ = Broadcast, S₂ = 1' X 1', S₃ = 1.5' X 1' and S₄ = 2' X 1'.

3. DESIGN:

(i) Split-plot. (ii) (a) 2 main-plots/block; 4 sub-plots/main-plot. (b) Nil. (iii) 4. (iv) (a) and (b) 1/270 ac. (v) N.A. (vi) Yes.
4. **GENERAL:**

(i) N.A.  
(ii) Slight attack of leaf blight (Helminthosporium turcicum).  
(iii) Grain yield.  
(iv) Heavy rains were received only in the last week of July 1953 and hence the crop had an initial set back in growth.  
(v) Conducted by Rice Specialists' Section.

5. **RESULTS:**

(i) 2481 lb./ac.  
(ii) (a) 734.4 lb./ac.  
(b) 526.5 lb./ac.  
(iv) Grain yield.  
(vi) Dates and spacing effects are significant. Interaction effect is not significant.

\[
\begin{array}{cccc|c}
S_1 & S_2 & S_3 & S_4 & \text{Mean} \\
D_1 & 4185 & 3105 & 3409 & 3105 & 3451 \\
D_2 & 1823 & 1148 & 1316 & 1755 & 1510 \\
\text{Mean} & 3004 & 2126 & 2162 & 2430 & 2481 \\
\end{array}
\]

S.E. of difference of two

1. D marginal means = 259.6 lb./ac.  
2. S marginal means = 263.3 lb./ac.  
3. S means at the same level of D = 372.3 lb./ac.  
4. D means at the same level of S = 414.0 lb./ac.

Crop: Maize (Kharif).  
Site: Agri Res. Stn., Himayatsagar.  
Ref: A.P. 52(86).  
Type: 'C'.

Object: To determine the optimum spacing in combination with dates of sowing.

1. **BASAL CONDITIONS:**

(i) (a) Nil.  
(b) N.A.  
(c) N.A.  
(ii) (a) Chalka soil.  
(b) Refer soil analysis, Himayatsagar.  
(iii) As under treatments.  
(iv) (a) Ploughing and levelling.  
(b) Transplanted.  
(c) As under treatments.  
(d) As under treatments.  
(e) 1.  
(v) N.A.  
(vi) N.A.  
(vii) Irrigated.  
(viii) In the early stages of the crop growth, a light wooden plough was worked.  
(ix) 22.59'.  
(x) N.A.

2. **TREATMENTS:**

All combinations of (1) and (2)  
(i) 2 dates of sowing: D_1 = 11.6.1952 and D_2 = 30.7.1952.  
(2) 4 spacings: S_1 = Broadcast, S_2 = 1'x1', S_3 = 1.5'x1' and S_4 = 2'x1'.

3. **DESIGN:**

(i) 2x4 Fact. in R.B.D.  
(ii) 8. (b) N.A.  
(iii) 4. (iv) (a) N.A.  
(b) 6'x27'.  
(v) N.A.  
(vi) Yes.

4. **GENERAL:**

(i) Normal.  
(ii) N.A.  
(iii) Grain yield.  
(iv) (a) 1952-1953.  
(b) No.  
(c) Nil.  
(d) Nil.  
(e) and (b) Nil.  
(f) Means for dates N.A.  
Even raw data is not traceable at the Research Station.  
(vii) Nil.

5. **RESULTS:**

(i) 1110 lb./ac.  
(ii) 213.2 lb./ac.  
(iii) Only spacings effect is significant.

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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S_1</td>
<td>742</td>
</tr>
<tr>
<td>S_2</td>
<td>1247</td>
</tr>
<tr>
<td>S_3</td>
<td>1445</td>
</tr>
<tr>
<td>S_4</td>
<td>1004</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>106.6 lb./ac.</td>
</tr>
</tbody>
</table>
Crop: Maize (Rabi).


Ref: A.P. 52(87).

Type: 'C'.

Object: To determine the optimum spacing in combination with dates of sowing.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Mung (Maize). (c) N.A. (ii) (a) Sandy loam (Chalka). (b) Refer soil analysis, Himayatsagar. (iii) As under treatments. (iv) (a) Ploughing and levelling. (b) Transplanted. (c) Irrigated. (d) As under treatments. (e) (v) N.A. (vi) N.A. (vii) In the early stages of growth, a light wooden plough was worked.

2. TREATMENTS:
   (i) All combinations of (1) and (2)
      (1) 4 spacings: S1 = Broadcast, S2 = 1' x 1', S3 = 1.5' x 1' and S4 = 2' x 1'.
      (2) 2 dates of sowing: D1 = 15.12.1952 and D2 = 7.1.1953.

3. DESIGN:
   (i) 2 x 4 Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 6' x 27'. (v) N.A. (vi) Yes.
5. RESULTS:
   (i) 1397 lb./ac.
   (ii) 286.8 lb./ac.
   (iii) Main effects of spacing and dates of sowing are highly significant. Interaction is not significant.
   (iv) Av. yield of grain is lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td>2172</td>
<td>1698</td>
<td>1528</td>
<td>1458</td>
<td>1713</td>
</tr>
<tr>
<td>D2</td>
<td>1506</td>
<td>1020</td>
<td>996</td>
<td>799</td>
<td>1081</td>
</tr>
<tr>
<td>Mean</td>
<td>1838</td>
<td>1359</td>
<td>1262</td>
<td>1128</td>
<td>1397</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of S = 101.1 lb./ac.
S.E. of marginal mean of D = 71.7 lb./ac.
S.S. of body of table = 143.4 lb./ac.

Crop: Maize. (Rabi).
Site: Agri. Res. Institute, Rajendranagar.
Ref: A.P. 52(88).
Type: 'D'.
Object: To determine the effect of different seed treatments for controlling leaf blotch disease.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Chalka. (b) Refer soil analysis, Rajendranagar. (iii) Nov. 1952.
   (iv) (a) Ploughing and levelling. (b) Transplanted. (c) About 20 lb./ac. (d) N.A. (e) N.A. (f) N.A. (g) N.A.
   (h) Irrigated. (ii) 2 weedings. (ix) N.A. (x) March, 1953.

2. TREATMENTS:
   All combinations of (1), (2) + a control (no chemical).
   (1) 5 seed dressers: C1 = Harvesan, C2 = Landisan, C3 = Tritisan, C4 = Ceresan and C5 = Agrosan.
   (2) 3 doses of seed dressers: D1 = 5, D2 = 6 and D3 = 7 ozs.
   Other details N.A.

3. DESIGN:
   (i) R.B.D. (ii) 4 x 4 x 5. (b) N.A. (iii) 2. (iv) 2. (a) N.A. (b) 1/60.5 ac. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) No leaf blotch throughout growth. (iii) Grain yield. (iv) (a) No. (b) No. (c) No.
   (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 547 lb./ac.
   (ii) 99.2 lb./ac.
   (iii) None of the effects is significant.
   (iv) Av. yield of grain in lb./ac.
   Control—597 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>C5</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td>617</td>
<td>499</td>
<td>557</td>
<td>453</td>
<td>371</td>
<td>499</td>
</tr>
<tr>
<td>D2</td>
<td>772</td>
<td>679</td>
<td>592</td>
<td>558</td>
<td>475</td>
<td>613</td>
</tr>
<tr>
<td>D3</td>
<td>544</td>
<td>442</td>
<td>623</td>
<td>440</td>
<td>544</td>
<td>519</td>
</tr>
<tr>
<td>Mean</td>
<td>644</td>
<td>540</td>
<td>587</td>
<td>484</td>
<td>463</td>
<td>544</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of C = 40.5 lb./ac.
S.E. of marginal mean of D = 31.3 lb./ac.
S.E. of body of table = 70.1 lb./ac.
Crop :- Variga.  Ref :- A.P. 50(63).  
Site : Lam Farm, Guntur.  Type :- 'M'.

Object :— To compare the values of night soil compost and F.Y.M. in stepping up productivity of Variga.

1. BASAL CONDITIONS :
(i) \( N.A \)  (b) \( N.A. \)  (c) \( N.A. \)  (ii) (a) Black soil.  (b) Refer soil analysis, Guntur.  (iii) 23.10.50.  (iv) (a) \( N.A. \)  (b) Dr.:dd.  (c) \( N.A. \)  (d) \( N.A. \)  (e) \( N.A. \)  (v) Nil.  (vi) \( Variga. \)  (vii) Unirrigated.  (viii) 2 or 3 hand weeding.  (ix) 5.78°.  (x) 18.1.51.

2. TREATMENTS :
1. No manure.
2. F.Y.M. at 60 lb./ac. of N.
3. Night soil compost at 60 lb./ac. of N.
Manures applied on 3.10.50.

3. DESIGN :
(i) R.B.D.  (ii) (a) 3.  (b) \( N.A. \)  (iii) 4.  (iv) (a) 38.1' x 18.2'.  (b) 29.7' x 11.9'.  (v) \( N.A. \)  (vi) \( Yes. \)

4. GENERAL :
(i) Satisfactory.  (ii) Nil.  (iii) Grain yield.  (iv) (a) 1950-1951.  (b) No.  (c) Nil.  (v) (a), (b) Nil.  (vi) and (vii) Nil.

5. RESULTS :
(i) 427 lb./ac.
(ii) 154.0 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of grain in lb./ac.  
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>350</td>
</tr>
<tr>
<td>2.</td>
<td>430</td>
</tr>
<tr>
<td>3.</td>
<td>500</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>77.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Variga.  Ref :- A.P. 51 (49).  
Site : Lam Farm, Guntur.  Type :- 'M'.

Object :— To compare the relative manurial value of night soil compost and F.Y.M. to Variga.

1. BASAL CONDITIONS :
(i) (a) Nil.  (b) Jowar.  (c) \( N.A. \)  (ii) (a) Black cotton soil.  (b) Refer soil analysis, Guntur.  (iii) 3.11.1951.  (iv) (a) 2 or 3 ploughings.  (b) to (e) \( N.A. \)  (vi) \( Variga. \)  (vii) Rainfed.  (viii) 2 weedings.  (ix) 0.13°.  (x) 18.1.1952.

2. TREATMENTS :
1. Control (no manure).
2. F.Y.M. at 60 lb./ac. of N.
3. Night soil compost at 60 lb./ac. of N.
Manures applied before sowing, spread on the surface and puddled in.

3. DESIGN :
(i) R.B.D.  (ii) (a) 3.  (b) \( N.A. \)  (iii) 6.  (iv) (a) 38.1' x 18.2'.  (b) 29.7' x 11.9'.  (v) \( N.A. \)  (vi) \( Yes. \)

4. GENERAL :
(i) Satisfactory.  (ii) Nil.  (iii) Grain yield.  (iv) (a) 1950-1951.  (b) No.  (c) \( N.A. \)  (v) (a), (b) \( N.A. \)  (vi) and (vii) Nil.

5. RESULTS :
(i) 384 lb./ac.
(ii) 85.8 lb./ac.
(iii) Treatments do not differ significantly.
Crop : Variga.  
Site : Lam Farm, Guntur.  
Ref : A.P. 51 (48).  
Type : ‘M’.

Object :—To study the comparative residual effect of application of night soil compost and F.Y.M. on Variga.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Chillies. (c) N.A. (ii) (a) Black cotton soil. (b) Refer soil analysis, Guntur. (iii) 24.10.1951.
   (iv) (a) 2 or 3 ploughings. (b) to (e) N.A. (v) Nil. (vi) Variga. (vii) Rainfed. (viii) 2 weedings. (ix) 0.13’.
   (x) 18.1.1952.

2. TREATMENTS:
   1. No manure (control).
   2. F.Y.M. at 60 lb./ac. of N
   3. Night soil compost at 60 lb./ac. of N

Manures applied before ploughing, spread on the surface and puddled n.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 38.1’×18.2’. (b) 29.7’×11.9’. (v) N.A. (vi) Yea.

4. GENERAL
   (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1951—N.A. (b) No. (c) N.A. (v) (a), (b) N.A.
   (vi) and (vii) Nil.

5. RESULTS:
   (i) 708 lb./ac.
   (ii) 317.5 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>688</td>
</tr>
<tr>
<td>2.</td>
<td>656</td>
</tr>
<tr>
<td>3.</td>
<td>781</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 129.6 lb./ac.</td>
</tr>
</tbody>
</table>

Crop : Gram.  
Ref : A.P. 49(14).  
Type : ‘M’.

Object :—To study the residual effect on gram of Phosphatic manures applied to the previous Paddy crop.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Gram. (b) Paddy. (c) As under treatments. (ii) (a) Heavy Alluvial clay. (b) Refer soil analysis, Samalkot. (iii) 14.11.1949. (iv) (a) to (e) N.A. (v) Nil. (vi) N.A. (vii) Irrigated. (viii) 2 weedings (ix) N.A. (x) 10.2.1950.

2. TREATMENTS:
   1. No manure.
   2. 30 lb./ac. of P₂O₅ as Super.
   3. 30 lb./ac. of P₂O₅ as B.M.

Manures applied to the previous paddy crop.
3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a), (b) 29.0' x 15.8' (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) N.A. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 304 lb./ac.
   (ii) 66.3 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.
   Treatment    Av. yield
   1.            295
   2.            319
   3.            298
   S.E./mean    = 27.1 lb./ac.

Crop: Gram.

Object: To study the effect of P manure applied direct to Gram.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Gram. (b) Paddy. (c) As under treatments. (ii) (a) Heavy alluvial clay. (b) Refer soil analysis, Samalkot. (iii) 14.11.1949. (iv) (a) to (c) N.A. (v) Nil. (vi) N.A. (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (x) 1.2.1950.

2. TREATMENTS:
   1. No manure.
   2. 30 lb./ac. of P₂O₅ as Super.
   3. 30 lb./ac. of P₂O₅ as B.M.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) and (b) 29.0' x 15.8'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield data. (iv) (a) N.A. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 326 lb./ac.
   (ii) 61.9 lb. ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of grain in lb./ac.
   Treatment    Av. yield
   1.            357
   2.            331
   3.            289
   S.E./mean    = 25.2 lb./ac.
Crop: Sugarcane.
Site: Sugarcane Res. Stn., Anakapalle.

Object: To find out the optimum time of application of manure to Sugarcane.

1. BASAL CONDITIONS:
   (i) (a) Sugarcane—Paddy—. (b) Paddy. (c) N.A. (ii) (a) Loam. (b) Refer soil analysis, Anakapalle. (iii) March 1948. (iv) (a) 3 to 4 ploughings, making ridges and furrows, deepening trenches. (b) Planted. (c) 15000, three budded setts/ac. (d) 2' 8" between rows. (v) 10 ton/ac. of F.Y.M. (vi) CO-419. (vii) Irrigated. (viii) Earthing up and trenching. (ix) 49.29a (March 1949 to Feb. 1950).

2. TREATMENTS:
   1. No manure.
   2. Night soil compost to supply 250 lb./ac. of N at planting on 12.4.1949. (i) at earthing up on 11.6.1949. F.Y.M. to supply 250 lb./ac. of N at planting on 12.4.1949. (i) at earthing up on 11.6.1949.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 64'×18'×8'. (b) 58'×4'×13'×4'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Yield of sugarcane and growth measurements. (iv) (a) 1949 to 1950. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

---

Crop: Sugarcane.
Site: Sugarcane Res. Stn., Anakapalle.

Object: To test the relative merits of night soil compost and F.Y.M. on Sugarcane.

1. BASAL CONDITIONS:
   (i) (a) Sugarcane—Paddy—. (b) Paddy. (c) N.A. (ii) (a) Loam. (b) Refer soil analysis, Anakapalle. (iii) 12.4.49. (iv) (a) 3 to 4 ploughings, making ridges and furrows, deepening trenches. (b) Planted. (c) 15000, three budded setts/ac. (d) Rows 2' 8" apart. (e) N.A. (vi) Nil. (vii) CO-419. (viii) Irrigated. (ix) Earthing up and trenching. (x) 49.29a (April 1949 to Feb. 1950).

2. TREATMENTS:
   1. No manure.
   2. Night soil compost to supply 250 lb./ac. of N at planting on 12.4.1949. (i) at earthing up on 11.6.1949. F.Y.M. to supply 250 lb./ac. of N at planting on 12.4.1949. (i) at earthing up on 11.6.1949.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 64'×18'×8'. (b) 58'×4'×13'×4'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Yield of sugarcane and growth measurements. (iv) (a) 1949 to 1950. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.
5. RESULTS:
   (i) 43.55 ton/ac.
   (ii) 1.94 ton/ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>41.66</td>
</tr>
<tr>
<td>2</td>
<td>45.22</td>
</tr>
<tr>
<td>3</td>
<td>43.77</td>
</tr>
</tbody>
</table>

S.E./mean = 0.79 ton/ac.

Crop: Sugarcane.
Site: Sugarcane Res. Stn., Anakapalle.
Ref: A.P. 50(66).
Type: 'M'.

Object: To test the relative merits of night soil compost and F.Y.M. on Sugarcane.

1. BASAL CONDITIONS:
   (i) (a) Sugarcane—Paddy. (b) Paddy. (c) As per treatments. (Dose of N is 60 lb/ac.)
   (ii) (a) Clay loam.
   (b) Refer soil analysis, Anakapalle. (iii) 9.4.50.
   (iv) (a) 3 to 4 ploughings, making ridges and furrows, deepening trenches. (b) Planted.
   (c) 15000, three budded setts/ac. (d) Rows 2'-8" apart. (v) Nil.
   (vi) CO-419. (vii) Irrigated. (viii) Earthing up, trenching, etc. (ix) 32.81'. (x) 19.3.1951.

2. TREATMENTS:
   1. No manure.
   2. Night soil compost to supply 250 lb/ac. of N.
   3. N applied at planting on 7.4.50.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 64'X18' 8", (b) 58'4"X13' 4" (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Growth measurements. (iv) (a) 1949-1950. (b) N.A. (c) Nil. (v) (a) and (b)
   Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 48.98 ton/ac.
   (ii) 4.48 ton/ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>41.01</td>
</tr>
<tr>
<td>2</td>
<td>53.14</td>
</tr>
<tr>
<td>3</td>
<td>52.78</td>
</tr>
</tbody>
</table>

S.E./mean = 1.83 ton/ac.
2. TREATMENTS:
150 lb/ac. of N applied as mixture of G.N.C. and A/S in the ratio
\[ R_1 = 1:0, \quad R_2 = 0:1, \quad R_3 = 1:1, \quad R_4 = 1:2, \quad R_5 = 2:1 \quad (\text{control}), \quad R_6 = 1:3, \quad R_7 = 3:1, \quad R_8 = 2:3 \text{ and } R_9 = 3:2. \]
Manure applied half at planting and half at trenching.

3. DESIGN:
(i) R.B.D. (ii) (a) 9, (b) N.A. (iii) 4. (iv) (a) 87.9' x 13.2', (b) 82.6' x 7.9'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) No. (iii) Sugarcane yield and juice content. (iv) (a) 1949–1951. (b) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 47.64 ton/ac.
(ii) 4.00 ton/ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>R_1</td>
<td>46.26</td>
</tr>
<tr>
<td>R_2</td>
<td>48.91</td>
</tr>
<tr>
<td>R_3</td>
<td>44.50</td>
</tr>
<tr>
<td>R_4</td>
<td>48.17</td>
</tr>
<tr>
<td>R_5</td>
<td>47.83</td>
</tr>
<tr>
<td>R_6</td>
<td>49.50</td>
</tr>
<tr>
<td>R_7</td>
<td>47.47</td>
</tr>
<tr>
<td>R_8</td>
<td>48.67</td>
</tr>
<tr>
<td>R_9</td>
<td>47.07</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>2.00 ton/ac.</td>
</tr>
</tbody>
</table>

Site: Sugarcane Res. Sta., Anakapalle. Type: 'M'.

Object: To study the optimum proportion between organic and inorganic forms of N on Sugarcane.

1. BASAL CONDITIONS:
(i) (a) Sugarcane-Paddy. (b) Paddy. (c) N.A. (ii) (a) Loam. (b) Refer: soil analysis, Anakapalle. (iii) 9.3.1950. (iv) (a) digging trenches and planting in trenches. (b) Planting of Setts. (c) Loam, three budded setts/ac. (d) Between rows 2'-8". (e)–. (v) 10 ton/ac. of F.Y.M. (vi) N.A. (vii) Irrigated. (viii) Periodical weeding. (ix) 27.30'. (x) 20.4.1951 to 6.5.1951.

2. TREATMENTS:
150 lb/ac. of N applied as mixture of G.N.C. and A/S in the ratio
\[ R_1 = 1:0, \quad R_2 = 0:1, \quad R_3 = 1:1, \quad R_4 = 1:2, \quad R_5 = 2:1 \quad (\text{control}), \quad R_6 = 1:3, \quad R_7 = 3:1, \quad R_8 = 2:3 \text{ and } R_9 = 3:2. \]
Manure applied half at planting and half at trenching.

3. DESIGN:
(i) R.B.D. (ii) (a) 9, (b) N.A. (iii) 4. (iv) (a) 89.9' x 13'. (b) 82.5' x 7.9'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Sugarcane yield and juice content. (iv) (a) 1949–1951. (b) No. (c) N.A. (v) (a), (b) No. (vi) and (vii) Nil.

5. RESULTS:
(i) 49.90 ton/ac.
(ii) 4.04 ton/ac.
(iii) Treatments do not differ significantly.
Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>R_1</td>
<td>50.09</td>
</tr>
<tr>
<td>R_2</td>
<td>50.29</td>
</tr>
<tr>
<td>R_3</td>
<td>50.03</td>
</tr>
<tr>
<td>R_4</td>
<td>51.21</td>
</tr>
<tr>
<td>R_5</td>
<td>50.34</td>
</tr>
<tr>
<td>R_6</td>
<td>48.62</td>
</tr>
<tr>
<td>R_7</td>
<td>51.73</td>
</tr>
<tr>
<td>R_8</td>
<td>46.70</td>
</tr>
<tr>
<td>R_9</td>
<td>50.2</td>
</tr>
</tbody>
</table>

S.E./mean = 2.02 ton/ac.

Crop :- Sugarcane.
Site :- Sugarcane Res. Stn., Anakapalle.
Ref :- A.P. 51 (45).
Type :- 'M'.

Object :- To study the optimum proportion between organic and inorganic forms of N on Sugarcane.

1. BASAL CONDITIONS:
   (i) (a) Sugarcane-Paddy. (b) Paddy. (c) Nil. (ii) (a) Clay loam. (b) Refer soil analysis, Anakapalle. (iii) 2.4.1951. (iv) (a) 5 times ploughing, digging corners and making ridges and furrows. (b) Planted. (c) 15000, three budded setts/ac. (d) 2'8" between rows. (e) —. (v) 10 ton/ac. of F.Y.M. (vi) N.A. (vii) Irrigated. (viii) 5 weedings and twice hoeing with junior hoe, wrapping and propping. (ix) 12.75'. (x) 17 to 21.4.1952.

2. TREATMENTS:
   150 lb/ac. of N applied as mixture of G.N.C. and A/S in the ratio
   \[ R_1 = 1:0, \quad R_2 = 0:1, \quad R_3 = 1:1, \quad R_4 = 1:2, \quad R_5 = 2:1 (control), \quad R_6 = 1:3, \quad R_7 = 3:1, \quad R_8 = 2:3 \quad \text{and} \quad R_9 = 3:2. \]
   Manure applied half at planting and half at trenching.

3. DESIGN:
   (i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 89'x13'. (b) 82.5'x7.9'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield of sugarcane. (iv) (a) 1949 to 1951. (b) N.A. (c) N.A. (d) N.A. (e) N.A. (f) Nil. (g) Yes. (h) Nil. (i) Nil. (j) Nil.

5. RESULTS:
   (i) 40.67 ton/ac.
   (ii) 3.06 ton/ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>R_1</td>
<td>38.55</td>
</tr>
<tr>
<td>R_2</td>
<td>40.61</td>
</tr>
<tr>
<td>R_3</td>
<td>40.02</td>
</tr>
<tr>
<td>R_4</td>
<td>40.06</td>
</tr>
<tr>
<td>R_5</td>
<td>41.12</td>
</tr>
<tr>
<td>R_6</td>
<td>42.43</td>
</tr>
<tr>
<td>R_7</td>
<td>41.78</td>
</tr>
<tr>
<td>R_8</td>
<td>38.77</td>
</tr>
<tr>
<td>R_9</td>
<td>42.71</td>
</tr>
</tbody>
</table>

S.E./mean = 1.54 ton/ac.
Crop :- Sugarcane.  
Site :- Sugarcane Res. Stn., Anakapalle.

Object :—To test the claims made regarding the beneficial effect of Alphatron (a radioactive soil stimulant) in increasing crop production and inducing early maturity.

1. BASAL CONDITIONS:
(i) (a) N.A. (b) Paddy. (c) N.A. (ii) (a) Loam. (b) Refer soil analysis, Anakapalle. (iii) 20.4.1949. (iv) (a) 3 to 4 ploughings, making ridges and furrows and deepening trenches. (b) Planted. (c) 15000, three budded setts/acre. (d) Spacing between rows 2' 8". (e)—. (v) 100 lb./acre. of N as G.N.C. and A/S in 2:1 proportion on N basis applied on 19.4.1949 and 27.7.1949. (vi) CO. 41%. (vii) Irrigated. (viii) Earthing up and trenching. (ix) 49.43" (April 1949 to March 1950). (x) 21 to 25.3.1950.

2. TREATMENTS:
1. No Alphatron.
2. 5 lb./acre. of Alphatron.
3. 10 lb./acre. of Alphatron.
4. 20 lb./acre. of Alphatron.

Those treatments did not differ significantly.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a), (b) 49°6' x 10°7". (v) Nil (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Germination count, juice analysis and cane weight. (iv) (a) 1949 to 1952. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 31.5"/acre.
(ii) 168"/acre.
(iii) Treatments did not differ significantly.
(iv) Av. yield of sugarcane in ton/acre.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>38.47</td>
</tr>
<tr>
<td>2.</td>
<td>36.69</td>
</tr>
<tr>
<td>3.</td>
<td>38.62</td>
</tr>
<tr>
<td>4.</td>
<td>36.70</td>
</tr>
</tbody>
</table>

S.E./mean = 1.50 ton/acre.

Crop :- Sugarcane.  
Site :- Sugarcane Res. Stn., Anakapalle.

Object :—To test the claims made regarding the beneficial effect of Alphatron (a radioactive soil stimulant) in increasing crop production and inducing early maturity.

1. BASAL CONDITIONS:
(i) (a) N.A. (b) Paddy. (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Anakapalle. (iii) 2.4.1950. (iv) (a) 3 to 4 ploughings, making ridges and furrows and deepening trenches; (b) Planted. (c) 15000, three budded setts/acre. (d) 2'-8" between rows. (e)—. (v) 100 lb./acre. of N in the form of G.N.C. and in 2:1 ratio on N basis. (vi) CO. 41%. (vii) Irrigated. (viii) Earthing up and trenching. (ix) 33.47". (x) 14.15.4.1951.

2. TREATMENTS:
1. No Alphatron.
2. 5 lb./acre. of Alphatron.
3. 10 lb./acre. of Alphatron.
4. 20 lb./acre. of Alphatron.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 55°5' x 16°. (b) 49°6' x 10°7". (v) N.A. (vi) Yes.
4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Cane weight and growth measurements at harvest. (iv) (a) 1949 to 1950, (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 48.10 ton/ac.
(ii) 4.79 ton/ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>48.1</td>
</tr>
<tr>
<td>2.</td>
<td>49.2</td>
</tr>
<tr>
<td>3.</td>
<td>48.7</td>
</tr>
<tr>
<td>4.</td>
<td>46.5</td>
</tr>
<tr>
<td>S.E., mean</td>
<td>1.96 ton/ac</td>
</tr>
</tbody>
</table>

(Object :- To find out the effect of graded doses of N on Sugarcane.)

1. BASAL CONDITIONS:
(i) (a) N.A. (b) Paddy. (c) N.A. (ii) (a) Loam. (b) Refer soil analysis, Anakapalle. (iii) 27.3.50.
(iv) (a) 3 to 4 p’ongbings, making ridges and furrows and deepening trenches. (b) Planted. (c) ’6000, three budded sets/ac. (d) 2’-8” between rows. (e) —. (v) 10 ton/ac. of F.Y.M. (vi) CO-419. (vii) Irrigated. (viii) Earthing up and trenching. (ix) 10.35”. (x) 25,26.3.51.

2. TREATMENTS:
1. Control (no manure).
2. 100 lb./ac. of N.
3. 200 lb./ac. of N.
4. 300 lb./ac. of N.
N as mixture of G.N.C. and A/S in the ratio 2 : 1 applied in two equal doses, one at planting and one at earthing up.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 30.4’×18.5’. (b) 29.7’×13.2’. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Leaf samples by punch method at fortnightly intervals up to July and later at monthly intervals up to harvest time and cane yield. (iv) (a) 1950-51. (b) and (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil,

5. RESULTS:
(i) 41.80 ton/ac.
(ii) 4.51 ton/ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of cane in ton/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>38.45</td>
</tr>
<tr>
<td>2.</td>
<td>44.11</td>
</tr>
<tr>
<td>3.</td>
<td>41.43</td>
</tr>
<tr>
<td>4.</td>
<td>43.21</td>
</tr>
<tr>
<td>S.E., mean</td>
<td>2.26 ton/ac</td>
</tr>
</tbody>
</table>
Crop :- Sugarcane.
Site :- Sugarcane Res. Stn., Anakapalle.

Object :- To study the effect of graded doses of N on Sugarcane.

1. BASAL CONDITIONS:
   (i) (a) Sugarcane—Paddy. (b) Paddy. (c) N.A. (ii) (a) Loam soil. (b) Refer soil analysis, Anakapalle. (iii) 21.2.51. (iv) (a) N.A. (b) Planted. (c) 16000, three budded setts/ac. (d) 2' 8" between rows. (e) —. (v) 10 ton/ac. of F.Y.M. (vi) CO-419. (vii) Irrigated. (viii) Weeding, wrapping and propping up. (ix) 32.75°. (x) 12 to 19.3.1952.

2. TREATMENTS:
   1. Control (no manure).
   2. 100 lb./ac. of N.
   3. 200 lb./ac. of N.
   4. 300 lb./ac. of N.

   N as mixture of G.N.C. and A/S in ratio 2 : 1 applied in two equal doses, one at planting and one at earthing up.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 49.5' × 21.1'. (b) 42.9' × 15.8'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Cane yield and population count. (iv) (a) 1950 to [1951]. (b) and (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 44.54 ton/ac.
   (ii) 3.14 ton/ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of grain in lb./ac.

   Treatment   Av. Yield
   ------  ------
   1.       38.28
   2.       47.43
   3.       45.20
   4.       47.25
   S.E./mean = 1.57 ton/ac.

Crop :- Sugarcane.
Site :- Sugarcane Res. Stn., Anakapalle.

Object :- To study the effects of continuous application of A/S on the yield of Sugarcane and its normal rotational crops Ragi and Paddy.

1. BASAL CONDITIONS:
   (i) (a) Sugarcane—Ragi—Paddy. (b) Paddy. (c) N.A. (ii) (a) Loamy soil. (b) Refer soil analysis, Anakapalle. (iii) 4, 5.5.51. (iv) (a) 4 times ploughing, making ridges and furrows, rectifying ridges and furrows, and deepening trenches. (b) Planting in trenches. (c) 15000, three budded setts/ac. (d) 2'-8" between rows; continuous planting in a row. (e) —. (v) Nil. (vi) CO-419. (vii) Irrigated. (viii) 5 weedings, one hoeing and four times filling up gaps. Twice trenching, wrapping and propping. (ix) 32.75°. (x) 22 to 25.4.1952.

2. TREATMENTS:
   1. No manure (control).
   2. 100 lb./ac. of N as A/S.
   3. 100 lb./ac. of N as G.N.C.
   4. 100 lb./ac. of N as F.Y.M.
   5. 100 lb./ac. of N as mixture of G.N.C. and A/S (2 : 1) N basis.

   N applied in two equal doses, $\frac{1}{2}$ at planting and $\frac{1}{2}$ at the time of earthing up in June and July.
3. DESIGN:
(i) L. sq. (ii) (a) S. (b) N.A. (iii) S. (iv) (a) 39.6' x 37.0'. (b) 33.0' x 36.4'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Sugarcane yield and periodical sampling for juice analysis from Dec. till harvest every month. Yield and population per acre, Jaggery recovery and quality at harvest. (iv) (a) 1951—still continuing. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) While the form of manure applied to the plots is the same year after year, the dose of N is varied with the crop. If sugarcane is grown this year, ragi and paddy are grown in the next year in the same plots and again sugarcane in the third year and so on.

5. RESULTS:
(i) 33.50 ton/ac.
(ii) 5.16 ton/ac.
(iii) Treatments differ significantly.
(iv) Av. yield of sugarcane in ton/ac. Treatment  
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>27.65</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>40.42</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>39.75</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>30.45</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>40.74</td>
<td></td>
</tr>
<tr>
<td>S.E./mean</td>
<td>2.31 ton/ac.</td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Sugarcane.  
Site :- Sugarcane Res. Stn., Anakapalle.  
Ref :- A.P. 52(49).  
Type :- 'M'.

Object :- To study the effects of continuous application of A/S on the yield of Sugarcane and its effect on normal rotational crops Ragi and Paddy.

1. BASAL CONDITIONS:
(i) (a) Sugarcane—Ragi—Paddy. (b) Paddy. (c) 60 lb/ac. of N. (ii) (a) Loamy soil. (b) Ref. soil analysis, Anakapalle. (iii) 31.3.1952 to 2.4.1952. (iv) (a) 4 or 5 times ploughing with country plough, raising ridges and furrows and deepening trenches. (b) Planting in trenches. (c) 15000, three budded setts/row. (d) 2'-3'. between rows. (e)—. (f) Nil. (g) CO-419. (h) Irrigated. (i) Filling up gaps, hoeing twice and weeding once. (k) N.A. (a) 8, 9.3.1953.

2. TREATMENTS
1. No manure (control).
2. 100 lb/ac. of N as A/S.
3. 100 lb/ac. of N as G.N.C.
4. 100 lb/ac. of N as F.Y.M.
5. 103 lb/ac. of N as mixture of G.N.C. and A/S (2 : 1) N basis.

N applied in two equal doses, ½ at planting and ½ at the time of earthing up in June and July.

3. DESIGN:
(i) L. sq. (ii) (a) S. (b) N.A. (iii) S. (iv) (a) 39.6' x 37.0'. (b) 33.0' x 26.4'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Growth satisfactory but stand poor. Lodged on 30.9.1952, due to heavy rains. (ii) Nil. (iii) Sugarcane weight and periodical sampling for juice analysis from Dec., till harvest every month. Yield and population per ac. Jaggery recovery and quality at harvest. (iv) (a) 1951—still continuing. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) While the form of manure applied to the plots is the same year after year the dose of nitrogen is varied with the crop. If sugarcane is grown this year, ragi and paddy are grown in the same plots in the next year and again sugarcane in the third year and so on.

5. RESULTS:
(i) 33.50 ton/ac.
(ii) 3.98 ton/ac.
(iii) Treatments differ significantly.
### Basal Conditions
1. **Crop**: Sugarcane.  
2. **Site**: Sugarcane Res. Stn., Anakapalle.  
3. **Type**: 'M'.  
4. **Object**: To study the effect of continuous application of A/S to Sugarcane (series I).

#### Treatments
1. No manure (control).
2. 100 lb./ac. of N as A/S.
3. 100 lb./ac. of N as G.N.C.
4. 100 lb./ac. of N as F.Y.M.
5. 100 lb./ac. of N as mixture of G.N.C. and A/S. 

#### Design
1. L. Sq.  
2. N.A.  
3. 5.  
4. (a) 39.6' x 36.3'.  
5. (b) 33.0' x 26.4'.  
6. N.A.  
7. No.  
8. Yes.

#### General
1. Normal.  
2. Nil.  
3. Nil.  
4. Nil.  
5. Nil.  
7. Nil.  
8. Nil.  
10. Nil.  

#### Results
1. 36.19 ton/ac.
2. 5.53 ton/ac.
3. Treatments differ significantly.
4. **Av. yield of sugarcane in ton/ac.**

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>24.62</td>
</tr>
<tr>
<td>2.</td>
<td>38.39</td>
</tr>
<tr>
<td>3.</td>
<td>37.54</td>
</tr>
<tr>
<td>4.</td>
<td>29.24</td>
</tr>
<tr>
<td>5.</td>
<td>37.72</td>
</tr>
</tbody>
</table>

S.E./mean = 1.78 ton/ac.
Crop :— Sugarcane.  
Site :— Sugarcane Res. Stn., Anakapalle.  
Ref :— A.P. 53 (38).  
Type :— ‘M’.

Object :- To study the effect of continuous application of A/S (series 2).

1. BASAL CONDITIONS:
   (i) (a) Sugarcane-Punasa Ragi-Paddy-Sugarcane.  (b) Paddy.  
   (c) 60 lb./ac. of N as under treatments. 
   (ii) (a) Clay loam  (b) Refer soil analysis, Anakapalle.  
   (iii) Last week of March, 1953.  (iv) (a) Digging trenches and deepening drains.  
   (b) Plants in trenches 8' deep.  (c) 15,000, three budded setts/ac.  
   (d) 3’—4” apart.  (e)—.  (v) Nil.  (vi) CO.4:9.  (vii) Irrigated.  
   (viii) 2 hoeings and 5 weeddings.  (ix) 51.35°.  
   (x) Third week of March, 1954.

2. TREATMENTS:
   All combinations of (1) and (2)
   (1) Two sources of 100 lb./ac. of N : A 1 = A/S and A 2 = mix. of G.N.C. and A/S in 2 : 1 ratio. 
   (2) Two doses of lime : L 0 =0 and L 1 =1500 lb./ac. of lime prior to planting
   N applied in two equal doses 1/2 at 45 days after planting and 1/2 at the time of earthing up.

3. DESIGN:
   (i) 2x2 F A c t. in R.B.D.  (ii) (a) 4.  (b) N.A.  (iii) 5.  
   (iv) (a) 39.6’x26.4’.  (b) 33’x19.8’.  (v) N.A. 
   (vi) Yes.

4. GENERAL:
   (i) Normal.  (ii) Nil.  (iii) Cane yield, periodical sampling for juice analysis, Jaggery recovery and population.  
   (iv) (a) 1953 to 1955.  (b) Yes.  (c) N.A. 
   (v) (a), (b) Nil.  (vi) Nil.  (vii) While the form of manure applied to the plots is the same year after year the doses vary according to the crop.

5. RESULTS:
   (i) 29.07 ton/ac. 
   (ii) 2.83 ton/ac. 
   (iii) None of the effects is significant. 
   (iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th></th>
<th>A 1</th>
<th>A 2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>L 0</td>
<td>30.19</td>
<td>27.00</td>
<td>28.59</td>
</tr>
<tr>
<td>L 1</td>
<td>29.26</td>
<td>29.85</td>
<td>29.55</td>
</tr>
<tr>
<td>Mean</td>
<td>29.72</td>
<td>28.42</td>
<td>29.07</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 0.89 ton/ac.
S.E. of body of table = 1.17 ton/ac.

Crop :— Sugarcane.  
Site :— Sugarcane Res. Stn., Anakapalle.  
Ref :— A.P. 52(52).  
Type :— ‘M’.

Object :- To compare the relative efficiency of C/N and A/S in giving higher yield.

1. BASAL CONDITIONS:
   (i) Sugarcane—Paddy.  (b) Paddy.  (c) N.A.  
   (ii) (a) Clay loam  (b) Refer soil analysis, Anakapalle.  
   (iii) 15.5.1952.  (iv) (a) 4 times ploughing including once tractor ploughing, breaking clods. Making ridges and furrows. Deepening trenches.  
   (b) Setts planting.  (c) 15000, three budded setts/ac.  
   (d) 2-8” between cane rows.  (c)—.  
   (v) Nil.  (vi) CO.419.  (vii) Irrigated.  
   (viii) Gap filling, weeding and hoeing twice.  (ix) N.A.  
   (x) 8.5.1953.
2. TREATMENTS:

All combinations of (1), (2) and (3)+1 extra treatment
(1) 2 levels of N: N₁=100 and N₂=150 lb/ac.
(2) 2 sources of N: S₁=A/S and S₂=C/N.
(3) 2 basal dressings: B₀=No basal dressing and B₁=1000 lb/ac. of lime+Super 60 lb/ac. of P₂O₅+5 ton/ac. of C.M.+Pot. Sulphate at 60 lb/ac. of K₂O.
Extra treatment i.e. A=1000 lb/ac. of lime+60 lb/ac. of P₂O₅ as Super+C.M. at 5 ton/ac.+60 lb/ac. of K₂O as Pot. Sulphate.

3. DESIGN:

(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a) 73.9' x 13.2'. (b) 66' x 7.9'. (v) N.A. (vi) Yes

4. GENERAL:

(i) Satisfactory. Lodging on 2.10.1952. (ii) Slight incidence of Regulia. (iii) Cane yield and population phase. (iv) (a) 1951—N.A. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 39.28 ton/ac.
(ii) 6.06 ton/ac.
(iii) A vs. other treatments and B significant. 
Sources, levels of N and their interaction are not significant.
(iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th></th>
<th>N₁</th>
<th>N₂</th>
<th>Mean</th>
<th>B₀</th>
<th>B₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
<td>42.86</td>
<td>40.45</td>
<td>41.65</td>
<td>42.96</td>
<td>40.34</td>
</tr>
<tr>
<td>S₂</td>
<td>40.48</td>
<td>36.61</td>
<td>38.55</td>
<td>41.38</td>
<td>35.72</td>
</tr>
</tbody>
</table>

1. S.E. of A vs. others = 2.87 ton/ac.
2. S.E. of any marginal mean = 1.35 ton/ac.
3. S.E. of body of table = 1.92 ton/ac.

Crop:—Sugarcane.
Object:—To compare the relative efficiency of C/N and A/S.

Ref:—A.P. 53(34). Type:—'M'.

1. BASAL CONDITIONS:

(i) (a) Sugarcane—Paddy. (b) Paddy. (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Anakapalle. (iii) 29,30,4.1953. (iv) (a) Digging trenches. Deepening drain. (b) Planting in trenches 8' deep. (c) 15,000 three budded setts/ac. (d) 3'-4" between cane rows. (e) Nil. (f) CO.419. (vii) Irrigated. (viii) 2 hoeings and 5 weedings. (ix) 51.35'. (x) 27 to 31.3.1954.

2. TREATMENTS:

All combinations of (1), (2) and (3)+1 extra treatment.
(1) 2 levels of N: N₁=100, N₂=150 lb/ac.
(2) 2 sources of N: S₁=A/S, S₂=C/N.
(3) 2 basal dressings: B₀=No basal dressing and B₁=1000 lb/ac. of lime+Super at 60 lb/ac. of P₂O₅+C.M. at 5 ton/ac.+Pot. Sulphate at 60 lb/ac. of K₂O.
Extra treatment i.e. A=Lime at 1000 lb/ac.+Super at 60 lb/ac. of P₂O₅+C.M. at 5 ton/ac.+Pot. Sulphate at 60 lb/ac. of K₂O.
3. DESIGN:
   (i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a) 46.2' x 23.1'. (b) 39.6' x 16.5'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Cane weight, periodic samplings for juice analysis, jaggery recovery, yield and population (iv) (a) 1952—N.A. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 35.71 ton/ac.
   (ii) 3.47 ton/ac.
   (iii) Only A vs. others is highly significant. Other effects are not significant.
   (iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>Mean</th>
<th>B9</th>
<th>B1</th>
</tr>
</thead>
<tbody>
<tr>
<td>N2</td>
<td>37.23</td>
<td>34.95</td>
<td>36.09</td>
<td>36.21</td>
<td>35.97</td>
</tr>
<tr>
<td>Mean</td>
<td>36.60</td>
<td>36.14</td>
<td>36.37</td>
<td>35.73</td>
<td>37.01</td>
</tr>
<tr>
<td>B9</td>
<td>36.08</td>
<td>35.87</td>
<td>35.97</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B1</td>
<td>37.74</td>
<td>35.23</td>
<td>36.49</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. S.E. of A vs. others = 1.64 ton/ac.
2. S.E. of marginal means = 0.77 ton/ac.
3. S.E. of body of table = 1.10 ton/ac.

Crop :- Sugarcane.
Site :- Sugarcane Res. Stn., Anakapalle.

Object :- To find out the effect of different doses of N applied at different times on the yield of Sugarcane.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Paddy. (c) N.A. (ii) (a) Clayey loam. (b) Refer soil analysis, Anakapalle. (iii) 31.3.53 to 2.4.53. (iv) (a) N.A. (b) Sets planted. (c) 15000, three budded sets/ac. (d) Rows 3'-4' apart. (e) ...-

2. TREATMENTS:
   All combinations of (1) and (2) + one control (no manure).
   (1) 2 levels of N as A/S: N1 = 100 and N2 = 200 lb./ac.
   (2) 7 times of application of N:
   T1 = Half dose applied at 6 weeks after planting and half at 90—100 days after planting.
   T2 = Half dose applied at 6 weeks after planting and half at 130—140 days after planting.
   T3 = Half dose applied at 170—180 days after planting.
   T4 = Half dose applied at 130—140 days after planting and half at 170—180 days after planting.
   T5 = Half dose applied at 170—180 days after planting.
   T6 = Full dose to be applied at 90—100 days after planting.

3. DESIGN:
   (i) R.B.D. (ii) (a) 15. (b) N.A. (iii) 4. (iv) (a) 44.9' x 29.7'. (b) 34.3' x 19.8'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Cane weight and growth measurements. (iv) (a) 1952—N.A. (v) and (c) Nil.
   (vi) and (vii) Nil.
5. RESULTS:
(i) 40.85 ton/ac.
(ii) 5.14 ton/ac.
(iii) Only control vs. others effect is significant while $N$, $T$ and $N\times T$ are not significant.
(iv) Av. yield of sugarcane in ton/ac.

Control = 34.72 ton/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>
<th>$T_7$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$N_1$</td>
<td>41.94</td>
<td>41.55</td>
<td>41.39</td>
<td>40.56</td>
<td>40.23</td>
<td>38.82</td>
<td>42.37</td>
<td>40.98</td>
</tr>
<tr>
<td>$N_2$</td>
<td>41.72</td>
<td>43.06</td>
<td>40.39</td>
<td>44.72</td>
<td>44.11</td>
<td>37.73</td>
<td>39.43</td>
<td>41.60</td>
</tr>
<tr>
<td>Mean</td>
<td>41.83</td>
<td>42.31</td>
<td>40.89</td>
<td>42.64</td>
<td>42.17</td>
<td>38.27</td>
<td>40.90</td>
<td>41.29</td>
</tr>
</tbody>
</table>

S.E. of marginal means of $N$ = 0.97 ton/ac.

S.E. of marginal means of $T$ = 1.82 ton/ac.

S.E. of body of table = 2.57 ton/ac.

Object: To determine the manurial requirements for different varieties.

1. BASAL CONDITIONS:
(i) (a) Sugarcane-Paddy. (b) Paddy. (c) N.A: (i) (a) and (b) N.A. (ii) 28 and 29.3.48. (iv) (a) N.A. (b) Planted. (c) 16000, three budded setts/ac. (d) 2'-8" between rows. (e) N.A. (v) 10 ton/ac. of F.Y.M. (vi) As per treatments. (vii) Irrigated. (viii) Trenching on 9th and 10th July 1948. (ix) 34.94". (x) N.A.

2. TREATMENTS:
Main-plot treatments:
2 varieties: $V_1$ = CO-419 and $V_2$ = CO-507.

Sub-plot treatments:
3 levels of $N$: $N_1$ = 100, $N_2$ = 150 and $N_3$ = 200 lb./ac.
N as G.N.C. and A/S in the ratio 1:1 applied in 2 equal doses one at planting and one at trenching.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 59.4' x 26.4'.
(b) 52.8' x 21.1'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Yield of cane and sugar. (iv) (a) 1948 to 1950. (b) and (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 36.08 ton/ac.
(ii) (a) 5.83 ton/ac.
(b) 4.74 ton/ac.
(iii) None of the effects is significant.
(iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th></th>
<th>N1</th>
<th>N2</th>
<th>N3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>36.96</td>
<td>37.11</td>
<td>34.12</td>
<td>36.06</td>
</tr>
<tr>
<td>V2</td>
<td>37.68</td>
<td>36.93</td>
<td>33.70</td>
<td>36.10</td>
</tr>
</tbody>
</table>

Mean 37.32

S.E. of difference of two
3. N means at the same level of V = 2.74 ton/ac.
4. V means at the same level of N = 2.96 ton/ac.

Crop :- Sugarcane.
Site :- Sugarcane Res. Stn., Anakapalle.

Object :- To determine the manurial requirements for different varieties.

1. BASAL CONDITIONS :
(i) (a) Sugarcane-Paddy. (b) Paddy. (c) N.A. (ii) (a) N.A. (b) Refer soil analysis, Anakapalle.
(ii) 25.3.1949. (iv) (a) N.A. (b) Setts planted. (c) 16000, three budded setts/ac. (d) 2' 8" between rows.
(e) N.A. (v) 10 ton/ac. of F.Y.M. (vi) As per treatments. (vii) Irrigated. (viii) Earthing up and trenching. (ix) N.A.

2. TREATMENTS :
Main-plot treatments:
2 varieties: V1=CO.419 and V2=CO.527.
Sub-plot treatments:
3 levels of N: N1=100, N2=150 and N3=200 lb./ac.
N applied as G.N.C. and A/S in 2:1 ratio in two equal doses one at planting and one at trenching (7.6.1949).

3. DESIGN :
(i) Split-plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 56' 10" x 26' 4". (b) 52'10" x 21.2'. (v) N.A. (vi) Yes.

4. GENERAL :
(b) No. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 53.55 ton/ac.
(ii) (a) 6.03 ton/ac.
(b) 4.45 ton/ac.
(iii) V effect and interaction N X V is significant.
(iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th></th>
<th>N1</th>
<th>N2</th>
<th>N3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>46.17</td>
<td>51.46</td>
<td>52.16</td>
<td>49.93</td>
</tr>
<tr>
<td>V2</td>
<td>58.15</td>
<td>59.21</td>
<td>54.17</td>
<td>57.18</td>
</tr>
</tbody>
</table>

Mean 52.16

S.E. of difference between two
1. V marginal means = 2.00 ton/ac.
2. N marginal means = 1.81 ton/ac.
3. N means at the same level of V = 2.57 ton/ac.
4. V means at the same level of N = 2.90 ton/ac.
Crop : Sugarcane.
Site : Sugarcane Res. Stn., Anakapalle.
Object : To determine manurial requirement for different varieties.

1. BASAL CONDITIONS :
(i) (a) Sugarcane-Paddy. (b) Paddy: (c) N.A. (ii) Loam. (b) Refer soil analysis, Anakapalle. (iii) 27th and 28th January, 1951. (iv) N.A. (b) Planted. (c) 16000, three-budded setts/ac. (d) 2' 8" between rows. (e)—. (v) 10 ton/ac. of F.Y.M. (vi) As per treatments. (vii) Irrigated. (viii) Earthing up and trenching. (ix) 32.81". (x) 28th to 31st March, 1951.

2. TREATMENTS :
Main-plot treatments :
2 varieties: \(V_1=0.419\) and \(V_2=0.527\).
Sub-plot treatments :
3 levels of N: \(N_1=100\), \(N_2=150\) and \(N_3=200\) lb./ac.
N applied as G.N.C. and A/S in 2:1 ratio on N basis in two equal doses one at planting and one at earthing up.

3. DESIGN :
(i) Split-plot. (ii) (a) 2 main-plots/block 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 59.4'x26.4'. 52.8'x21.1'. (v) N.A. (vi) Yes.

4. GENERAL :
(i) Normal. (ii) Nil. (iii) Growth measurements, yield of sugarcane and jaggery. (iv) (a) 1948 to 1950, (b) N.A. (c) Nil. (v) (vi) and (vii) Nil.

5. RESULTS :
(i) 42.04 ton/ac.
(ii) (a) 3.29 ton/ac.
(b) 3.14 ton/ac.
(iii) None of the effects is significant.
(iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th></th>
<th>(N_1)</th>
<th>(N_2)</th>
<th>(N_3)</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>(V_1)</td>
<td>42.90</td>
<td>43.49</td>
<td>42.32</td>
<td>42.90</td>
</tr>
<tr>
<td>(V_2)</td>
<td>40.09</td>
<td>41.54</td>
<td>41.88</td>
<td>41.17</td>
</tr>
<tr>
<td>Mean</td>
<td>41.50</td>
<td>42.52</td>
<td>42.10</td>
<td>42.04</td>
</tr>
</tbody>
</table>

S.E. of difference between two
1. V marginal means =1.10 ton/ac.
2. N marginal means =1.29 ton/ac.
3. N means at the same level of V =1.82 ton/ac.
4. V means at the same level of N =1.84 ton/ac.

Crop : Sugarcane.
Site : Sugarcane Res. Stn., Anakapalle.
Object : To find out the suitability of rayangan as seed material as compared to top setts and also to fix the optimum spacing between plants.

1. BASAL CONDITIONS :
(i) (a) Sugarcane—Paddy. (b) Paddy. (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Anakapalle. (iii) 30.1.1953 to 14.2.1953. (iv) (a) Digging trenches and deepening drain. (b) Planted in trenches. (c) N.A. (d) 3' 4" between rows. in a row : As under treatments. (e)—. (v) 100 lb./ac. of 'N' as A/S applied in 3 doses: 30 lb. at the time of planting and the rest in the 8th week after planting. (vi) CO-419. (vii) Irrigated. (viii) 2 hoeings and 5 weedings. (ix) 51.35". (x) 2nd week of Feb. 1954.
2. **TREATMENTS**:

**Main-plot treatments**:
2 seed materials: \( T_1 = \text{Rayangan} \) and \( T_2 = \text{Top} \) sets.

**Sub-plot treatments**:
3 spacings: \( S_1 = 6' \), \( S_2 = 12' \) and \( S_3 = 18' \).

3. **DESIGN**:

(i) Split-plot.  \( L; \) (a) 2 main-plots/block; 3 sub-plots/main-plot.  (iii) 6.  (iv) \( 41.6' \times 26'. \)  (b) \( 35.6' \times 19.8'. \)  (v) N.A.  (vi) Yes.

4. **GENERAL**:

(i) Good.  (ii) N.  (iii) Sugarcane yield and periodical sampling for juice analysis and jaggery recovery.  (iv) (a) 1953—contd.  (b) Yes.  (c) N.A.  (v) (a), (b) Nil.  (vi) and (vii) Nil.

5. **RESULTS**:

(i) 43.56 ton/ac.
(ii) (a) 5.39 ton/ac.
(b) 4.85 ton/ac.
(iii) None of the effects is significant.
(iv) Av. yield of cane in ton/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>1</td>
<td>44.44</td>
<td>44.10</td>
<td>39.44</td>
<td>42.66</td>
</tr>
<tr>
<td>2</td>
<td>42.47</td>
<td>45.75</td>
<td>45.14</td>
<td>44.45</td>
</tr>
<tr>
<td>Mean</td>
<td>43.46</td>
<td>44.92</td>
<td>42.29</td>
<td>43.56</td>
</tr>
</tbody>
</table>

S.E. of difference between two
1. \( T \) marginal means \( =1.80 \) ton/ac.
2. \( S \) marginal means \( =1.98 \) ton/ac.
3. \( S \) means at the same level of \( T \) \( =2.80 \) ton/ac.
4. \( T \) means at the same level of \( S \) \( =2.90 \) ton/ac.

---

Crop: Sugarcane.  
Site: Sugarcane Res. Stn., Anakapalle.  
Type: 'CM'.

Ref: A.P. 48(89).

Object: To find out the optimum dose of N and P manures for plant and ratoon crops.

1. **BASAL CONDITIONS**:

(i) (a) Nil.  (b) N.A.  (c) N.A.  
(ii) (a) Loam to clay.  (b) Refer soil analysis, Anakapalle.  
(iii) March 1949.  
(iv) (a) N.A.  
(b) Planted.  
(c) 15000, three-budded sets/ac.  
(d) 2'-8" apart.  
(e) No.  
(v) N.A.  
(vi) CO-419.  
(vii) Irrigated.  
(viii) Earthing up and trenching.  
(ix) 34.94'.  
(x) March 1949.

2. **TREATMENTS**:

**Main-plot treatments**:
2 crops: \( R_1 = \text{Plant crop} \) and \( R_2 = \text{1st ratoon crop} \).

**Sub-plot treatments**:
All combinations of (1) and (2)
(1) 3 levels of \( N : N_1 = 100, N_2 = 150 \) and \( N_3 = 200 \) lb./ac.
(2) 3 levels of \( P_205 : P_1 = 0, P_2 = 50 \) and \( P_3 = 100 \) lb./ac.

N as G.N.C. and A/S in the ratio 2:1 on N basis and \( P_205 \) as Super applied in two doses half at planting and half at trenching.

3. **DESIGN**:

(i) Split-plot.  
(ii) (a) 2 main-plots/block; 9 sub-plots/main-plot.  
(b) N.A.  
(iii) 5.  
(iv) (a) \( 36.4' \times 29.1'. \)  
(b) \( 24.5' \times 23.9'. \)  
(v) N.A.  
(vi) Yes.
4. GENERAL:

(i) Normal. (ii) Nil. (iii) Yield of sugarcane and sugar. (iv) (a) 1947-1949. (b) N.A. (c) Nil. (v) (a), (b) Nil. (vi) Nil. (vii) In sub-block (1) sugarcane was planted during 1947-1948 and ratoon was kept during 1948-1949 and 1949-50. In sub-block (2) Cholam was planted between August to December and sugarcane was planted during 1948-1949. Its ratoon was kept during 1949-50. In sub-block (3) Cholam and Paddy were planted during 1947-48 and 1949-50. Sugarcane was planted during 1949-50. So, during 1949-50 there were 3 main plots consisting of 2nd ratoon in sub-block (1), 1st ratoon in sub-block (2) and plant crop in sub-block (3).

5. RESULTS:

(i) 36.25 ton/ac.
(ii) (a) 9.26 ton/ac.
(b) 4.04 ton/ac.
(iii) Only the interaction NP is significant. Other effects are not significant.
(iv) Av. yield of grain in ton/ac.

<table>
<thead>
<tr>
<th></th>
<th>N1</th>
<th>N2</th>
<th>N3</th>
<th>Mean</th>
<th>P0</th>
<th>P1</th>
<th>P2</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>34.17</td>
<td>37.39</td>
<td>36.44</td>
<td>36.00</td>
<td>35.20</td>
<td>37.11</td>
<td>35.70</td>
</tr>
<tr>
<td>R2</td>
<td>35.38</td>
<td>36.97</td>
<td>37.16</td>
<td>36.50</td>
<td>35.56</td>
<td>36.59</td>
<td>37.37</td>
</tr>
</tbody>
</table>

Mean: 34.76 37.17 36.79 36.25

S.E. of marginal means of N or P = 0.74 ton/ac.
S.E. of body of table N x P = 1.28 ton/ac.
S.E. of difference between two:
1. R marginal means = 1.05 ton/ac.
2. N or P means at the same level of R = 1.47 ton/ac.
3. R means at the same level of N or P = 2.29 ton/ac.

Crop: - Sugarcane.
Site: - Sugarcane Res. Stn., Anakapalle.
Ref: - A.P. 49(66)/48(69).
Type: - "CM".

Objective: - To study the comparative effect of combination of graded doses of N and P manures on plant crop and first and second ratoons of Sugarcane.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) As per treatments. (c) Loam to clay. (d) Refer soil analysis, Anakapalle. (ii) Ratoon II = 16.347. Ratoon 1 = 25.348. Plant crop = 18.349. (iv) (a) N.A. (b) As per treatments. (c) 1500'3, three budded sets/ac. (d) 2'-8" between rows. (e) ~ (v) 10 ton/ac. of F.Y.M. (vii) Irrigated. (vii) Earthing up and trenching. (ix) 49.13", (x) 19.2.50.

2. TREATMENTS:
Main-plot treatments:
3 crops: R1 = Plant crop, R2 = I ratoon crop and R3 = II ratoon crop.
Sub-plot treatments:
All combinations of (1) and (2):
(1) 3 levels of N:\ N1 = 100, N2 = 150 and N3 = 200 lb/ac.
(2) 3 levels of P2O5: P0 = 0, P1 = 50 and P2 = 100 lb/ac.
N as G.N.C. and A/S mixed in ratio 2: 1 and P2O5 as Super, both applied in 2 equal doses one at planting and one at trenching.
3. DESIGN:
(i) Split-plot (ii) (a) 3 main-plots/block; 9 sub-plots/main-plot. (b) N.A. (iii) 5.
(iv) (a) 36'-4' x 9'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Growth measurements, yield of cane and jaggery. (iv) (a) 1947-1949. (b) Yes.
(c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :
(i) 38.61 ton/ac.
(ii) (a) 8.99 ton/ac.
(b) 4.18 ton/ac.
(iii) Main-plot treatments effect, and N effect are highly significant.
(iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th></th>
<th>N1</th>
<th>N2</th>
<th>N3</th>
<th>Mean</th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>43.71</td>
<td>46.44</td>
<td>46.91</td>
<td>45.68</td>
<td>46.09</td>
<td>44.74</td>
<td>46.23</td>
</tr>
<tr>
<td>R2</td>
<td>35.86</td>
<td>39.35</td>
<td>39.06</td>
<td>38.10</td>
<td>36.76</td>
<td>38.89</td>
<td>38.61</td>
</tr>
<tr>
<td>R3</td>
<td>26.94</td>
<td>35.65</td>
<td>33.52</td>
<td>32.04</td>
<td>30.27</td>
<td>33.30</td>
<td>32.52</td>
</tr>
<tr>
<td>Mean</td>
<td>35.51</td>
<td>40.48</td>
<td>39.83</td>
<td>39.61</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P1</td>
<td>34.13</td>
<td>40.50</td>
<td>38.49</td>
<td>37.71</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P2</td>
<td>36.19</td>
<td>40.36</td>
<td>40.42</td>
<td>38.99</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P3</td>
<td>36.21</td>
<td>40.58</td>
<td>40.57</td>
<td>39.12</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of marginal means of N or P = 0.62 ton/ac.
S.E. of body of table N x P = 1.08 ton/ac.
S.E. of difference between two
1. R marginal means = 1.90 ton/ac.
2. N or P means at the same level of R = 1.53 ton/ac.
3. R means at the same level of N or P = 2.27 ton/ac.

Crop :- Sugarcane.
Site :- Sugarcane Res. Stn., Anakapalle.

Object :- To study the effect of time of application, dose of N and population on the efficient utilisation of N.'

1. BASAL CONDITIONS
(i) (a) Sugarcane—Paddy. (b) Paddy. (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Anakapalle.
(iii) 20,21.4.1951. (iv) (a) Digging trenches, planting in trench. (b) Planting. (c) As under treatments.
(d) 2-8' between rows. (e) —. (vi) 10 ton/ac. of F.Y.M. (vi) CO-419. (vii) Irrigated. (viii) Weeding, propping up, etc. (ix) 37.62". (x) 4 to 17.4.51.

2. TREATMENTS:
All combinations of (1) and (2) + an extra treatment
(1) 2 levels of seed rate : R1=16,000 three budded setts/ac. and R2=20,000 three budded setts/ac.
(2) 4 levels of manure : M1=75 lb./ac. of N applied in single dose at 50 days after planting. M2=75 lb./ac. of N applied in 2 doses half at 50 days after planting and half at 100 days after planting. M3=100 lb./ac. of N applied in one dose at 50 days after planting and M4=100 lb./ac. of N applied in two doses half at 50 days after planting and half at 100 days after planting.
Extra treatment : 100 lb./ac. of N, at planting and at the time of earthing up with seedrate 16,000 three budded setts/ac.
3. DESIGN:
   (i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 67.3' x 21.1'. (b) 62.7' x 10.6'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Sugarcane yield. (iv) (a) 1951—N.A. (b) and (c) N.A. (v) (a) and (b) Nil, (vi) and (vii) Nil.

5. RESULTS:
   (i) 43.00 ton/ac. 
   (ii) 4.06 ton/ac. 
   (iii) None of the effects is significant. 
   (iv) Av. yield of sugarcane in ton/ac.

   Extra treatment = 41.34 ton/ac.

<table>
<thead>
<tr>
<th></th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>R₁</td>
<td>42.13</td>
<td>40.82</td>
<td>47.85</td>
<td>46.33</td>
<td>44.28</td>
</tr>
<tr>
<td>R₂</td>
<td>40.85</td>
<td>40.70</td>
<td>43.26</td>
<td>43.68</td>
<td>42.12</td>
</tr>
<tr>
<td>Mean</td>
<td>41.49</td>
<td>40.76</td>
<td>45.55</td>
<td>45.00</td>
<td>43.20</td>
</tr>
</tbody>
</table>

   S.E. of marginal means of M = 1.43 ton/ac. 
   S.E. of marginal means of R = 1.02 ton/ac. 
   S.E. of body of table = 2.03 ton/ac.

   Crop :- Sugarcane. 
   Site :- Sugarcane Res. Stn., Anakapalle. 
   Ref :- A.P. 52(82). 
   Typè :- 'MV'. 
   Object :- To study the effect of time of application, dose of N and population on the efficient utilisation of N. 

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Anakapalle. (iii) N.A. (iv) (a) N.A. (b) Planted. (c) As under treatments. (d) 2'-8' between rows. (e) —. (v) 10 ton/ac. of F.Y.M. (vi) CO-419. (vii) Irrigated. (viii) Weeding, propping up, etc. (ix) N.A. (x) N.A.

2. TREATMENTS:
   All combinations of (1) and (2) + an extra treatment
   (1) 2 levels of seed rate : R₁=16,000 three budded setts/ac. and R₂=20,000 three budded setts/ac.
   (2) 4 manures : M₁=75 lb./ac. of N applied in one dose 50 days after planting, M₂=75 lb./ac. of N applied in 2 doses half at 50 days after planting and half at 100 days after planting, M₃=100 lb./ac. of N applied in one dose 50 days after planting and M₄=100 lb./ac. of N applied in two doses half at 50 days after planting and half at 100 days after planting.
   Extra treatment : 100 lb./ac. of N applied at planting and at the time of earthing up with seed rate 16,000 three budded setts/ac.

3. DESIGN:
   (i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 67.3' x 21.1'. (b) 62.7' x 10.6'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Sugarcane yield and population count. (iv) (a) 1951—1952. (b) N.A. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 37.70 ton/ac. 
   (ii) 4.06 ton/ac. 
   (iii) None of the effects is significant.
### Basal Conditions:

1. **Basal Conditions:**
   - (a) N.A. (b) Paddy. (c) N.A. (d) Loam. (e) Refer soil analysis, Anakapalle. (f) As per treatments. (g) 3 to 4 times ploughing, making ridges and furrows and deepening trenches. (h) Sets planted. (i) 15,000, three budded sets/ac. (j) 2’7” between rows. (k) 10 ton/ac. of F.Y.M. on 29.2.1948. 100 lb./ac. of N, P, K, C.A., A’S half at the time of planting and half on 28.7.1948 and 4.9.1948. (l) As per treatments. (m) Irrigated. (n) Earthing up, trenching. (o) 34.94”. (p) 15 to 17.3.1949.

### Treatment:

1. **Treatments:**
   - Main-plot treatments:
     - 4 times of planting: $D_1 = $March 1948, $D_2 = $April 1948, $D_3 = $May 1948 and $D_4 = $June 1948.
   - Sub-plot treatments:
     - 2 varieties
     - $V_1 = $CO-419 and $V_2 = $CO-475.

### Design:

1. **Design:**
   - (a) Split-plot. (ii) (a) 4 main-plots/block; 2 sub-plots/main-plot. (iii) 4. (iv) (a) 42’×21’. (b) 37.6’×15.8’. (v) N.A. (vi) Yes.

### General:

1. **General:**
   - (a) Normal. (ii) Nil. (iii) Yield of cane and jaggery. (iv) $1948-1450$. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) Nil. (vii) Only one S.E. is given in the Annual Report as for R.B.D. The raw data is also not traceable at the Research Station.

### Results:

1. **Results:**
   - (a) 31.79 ton/ac.
   - (b) N.A.
   - (c) N.A.
   - (iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th></th>
<th>$D_1$</th>
<th>$D_2$</th>
<th>$D_3$</th>
<th>$D_4$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_1$</td>
<td>41.88</td>
<td>35.51</td>
<td>32.26</td>
<td>21.64</td>
<td>32.82</td>
</tr>
<tr>
<td>$V_2$</td>
<td>39.80</td>
<td>33.37</td>
<td>26.26</td>
<td>23.64</td>
<td>30.77</td>
</tr>
<tr>
<td>Mean</td>
<td>40.84</td>
<td>34.44</td>
<td>29.26</td>
<td>22.64</td>
<td>31.79</td>
</tr>
</tbody>
</table>

---

Crop: Sugarcane.  
Site: Sugarcane Res. Stn., Anakapalle.  
Ref: A.P. 48(66).  
Type: ‘CV’.  
Object: To study the incidence of borer (Argyria) in plots planted at monthly intervals from March to June.
Object:—To study the incidence of borer (Argyria) in plots planted at monthly intervals from March 27th to June 27th.

1. BASAL CONDITIONS:
   (i) N.A. (b) Paddy, (c) N.A. (ii) (a) Loam, (b) Refer soil analysis, Anakapalle. (iii) As per treatments.
   (iv) (a) 3 to 4 ploughings making ridges and furrows. Deepening trenches. (b) Sets planted. (c) 15000, three budded setts/ac. (d) 2'8" between rows. (e)— (vi) 8 C.L./ac. of F.Y.M. on 25.27.2.1949. 100 lb./ac. of N as G.N.C. and A/S in ratio 2:1 applied in 2 equal doses. First half dose on the date of planting and second half on 13.3.1949 for D1, D2 plantings and on 10.4.1949 for D3, D4 plantings. (vii) Irrigated. (viii) Wrapping operations on 16.7.1949 and 7.10.1949. (ix) 49.81".
   (x) D1 and D2 plantings: 15, 16.4.1950.

2. TREATMENTS:
   Main-plot treatments:
   4 dates of planting: D1 = 27.3.1949, D2 = 27.4.1949, D3 = 27.5.1949 and D4 = 27.6.1949.
   Sub-plot treatments:
   2 varieties: V1 = CO.-419 and V2 = CO.-475.

3. DESIGN:
   (i) Split-plot. (a) 4 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 4; (iv) (a) 41'-11" x 21'-2". (b) 37'-7" x 15'-10". (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Cane weight, population count, etc. juice analysis and jaggery recovery. (iv) (a) 1948—1950. (b) No. (c) Nil. (v) (a), (b) Nil, (vi) and (vii) Nil.

5. RESULTS:
   (i) 27.76 ton/ac.
   (ii) (a) 4.24 ton/ac.
   (b) 7.20 ton/ac.
   (iii) Main effect of dates of planting is significant.
   (iv) Av. yield of sugarcane in ton/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>V1</td>
<td>40.30</td>
<td>33.50</td>
<td>24.90</td>
<td>17.60</td>
<td>29.08</td>
</tr>
<tr>
<td>V2</td>
<td>33.10</td>
<td>30.30</td>
<td>27.00</td>
<td>15.40</td>
<td>26.45</td>
</tr>
<tr>
<td>Mean</td>
<td>36.70</td>
<td>31.90</td>
<td>25.95</td>
<td>16.50</td>
<td>27.76</td>
</tr>
</tbody>
</table>

S.E. of difference between (ton/ac.)
1. D marginal means = 2.12 ton/ac.
2. V marginal mean = 2.55 ton/ac.
3. V means at the same levels of D = 5.9 ton/ac.
4. D means at the same levels of M = 4.18 ton/ac.

258

Crop:—Sugarcane. Site:—Sugarcane Res. Stn., Anakapalle.

Object:—To study the incidence of borer in plots planted at monthly intervals from March 27th to June 27th.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Paddy. (c) N.A. (ii) (a) Sandy Loam: (b) Refer soil analysis, Anakapalle. (iii) As per treatments.
   (iv) (a) 3 to 4 ploughings making ridges and furrows deepening trenches. (b) Sets planted. (c) 15000, three budded setts/ac. (d) 2'8" between rows. (e)— (vi) 8 C.L./ac. of F.Y.M. on 22.3.1950. 100 lb./ac. of N as mixture of G.N.C. and A/S in 2:1 ratio applied in two equal doses. First half dose applied at planting and the second half applied on 22.6.1950 in D1, D2 plantings and on 18.7.1950 in D3, D4 plantings at the time of trenching. (vii) Irrigated. (viii) Trenching and earthing up. (ix) 33.85°.
   (x) D1, D2: 17.4.1951 and D3, D4: 28, 29.4.1951.
TREATMENTS:

Main plot treatments:
- 4 dates of planting: D_1 = 27.3.1950, D_2 = 27.4.1950, D_3 = 27.5.1951, and D_4 = 27.6.1951.

Sub-plot treatments:
- 2 varieties: V_1 = CO. 419 and V_2 = CO. 475.

3. DESIGN:

(i) Split-plot. (ii) (a) 4 main-plots/block; 2 sub-plots/main-plot (b) N.A. (iii) 4. (iv) (a) 42'x21', (b) 37.6'x15' 8' (v) N.A. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Growth measurements and cane weight. (iv) (a) 1948 to 1950. (b) N.A. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 37.95 ton/ac.
(ii) (a) 2.29 ton/ac. (b) 2.72 ton/ac.
(iii) All effects are significant.
(iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th></th>
<th>D_1</th>
<th>D_2</th>
<th>D_3</th>
<th>D_4</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V_1</td>
<td>49.38</td>
<td>46.09</td>
<td>36.59</td>
<td>28.51</td>
<td>40.14</td>
</tr>
<tr>
<td>V_2</td>
<td>43.94</td>
<td>40.62</td>
<td>28.48</td>
<td>29.93</td>
<td>35.73</td>
</tr>
<tr>
<td>Mean</td>
<td>46.66</td>
<td>43.36</td>
<td>32.54</td>
<td>29.22</td>
<td>37.95</td>
</tr>
</tbody>
</table>

S.E. of difference between two
1. D marginal means = 1.15 ton/ac.
2. V marginal means = 0.96 ton/ac.
3. V means at the same level of D = 1.92 ton/ac.
4. D means at the same level of V = 1.78 ton/ac.

Crop: - Sugarcane.
Site: - Sugarcane Res. Stn., Anakapalle.
Ref: - A.P. 48 (71).
Type: - 'CV'.

Object: - To determine the optimum time of harvest for Sugarcane for yield, jaggery, etc.

I. BASAL CONDITIONS:

(i) a) Sugarcane-Paddy. (b) Paddy. (c) N.A. (ii) (a) Loam. (b) Refer soil analysis, Anakapalle. (iii) 13.3.1948 (iv) (a) N. .. (b) Planted. (c) 15,000 three budded setts/ac. (b) Rows 2' 8'' apart. (c) ___. (v) 10 ton/ac. of F.Y.M. and 10 lb/ac. of N as G.N.C and A/S in the ratio of 2:1 applied in two equal doses at planting and at trenching. (vi) As per treatments. (vii) Irrigated. (viii) Earthing up, trenching. (ix) 34 94'. (x) As per treatments.

2. TREATMENTS:

Main-plot treatments:

Sub-plot treatments:
- 2 varieties: V_1 = CO. 419 and V_2 = CO. 527.

Ε. DESIGN:

(i) Split-plot (ii) (a) 6 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 49'-6"x21'-1" (b) 41'3"x15'10". (v) N.A. (vi) Yes.

4. GENERAL:

(i) Normal. (ii) Nil. (iii) Yield of cane and jaggery. (iv) (a) 1946 to 1948. (b) N.A. (c) Nil. (v) (a)_, (b) Nil. (vi) and (vii) Nil.
5. RESULTS:

(i) 31.70 ton/ac.
(ii) (a) 4.84 ton/ac.
(b) 3.33 ton/ac.
(iii) V effect is highly significant. Other effects are not significant.
(iv) Av. yield of cane in ton/ac.

<table>
<thead>
<tr>
<th></th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
<th>D5</th>
<th>D6</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>32.71</td>
<td>36.80</td>
<td>34.98</td>
<td>39.50</td>
<td>36.47</td>
<td>39.62</td>
<td>36.68</td>
</tr>
<tr>
<td>V2</td>
<td>25.24</td>
<td>28.45</td>
<td>23.45</td>
<td>25.60</td>
<td>27.39</td>
<td>30.24</td>
<td>26.73</td>
</tr>
<tr>
<td>Mean</td>
<td>28.97</td>
<td>32.62</td>
<td>29.22</td>
<td>32.55</td>
<td>31.93</td>
<td>34.93</td>
<td>31.70</td>
</tr>
</tbody>
</table>

S.E. of the difference between two
1. D marginal means = 2.42 ton/ac.
2. V marginal means = 0.96 ton/ac.
3. V means at the same level of D = 2.36 ton/ac.
4. D means at the same level of V = 2.94 ton/ac.

Crop: Sugarcane.
Site: Sugarcane Res. Stn., Anakapalle.

Ref: A.P. 48 (67).
Type: ‘T’.

Object: To determine the water requirements of Sugarcane.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Jowar. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Anakapalle. (iii) 10.5.1948.
   (iv) (a) 3 to 4 ploughings, making ridges and furrows, deepening trenches. (b) Planted. (c) 15,000, three budded setts/ac. (d) 2'-3' rows. (e) —. (v) 10 ton/ac. of F.Y.M. and 100 lb./ac. of N (§ G.N.C. + A/S) applied in two doses on 10.5.1948 and 21.7.1948. (vi) CO. 419. (vii) Irrigated. (viii) Earthing up and trenching. (ix) 34.92°. (x) 6 and 7.4.1949.

2. TREATMENTS:
   1. Irrigation once in 12 days. (Total quantity of water by irrigation 33.86'/ac.)
   2. Irrigation once in 18 days. (Total quantity of water by irrigation 21.02'/ac.)
   3. Irrigation once in 24 days. (Total quantity of water by irrigation 19.93'/ac.)

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 62'-8" x 26'-6". (b) 51'-6" x 15'-10". (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Yield of sugarcane and jaggery. (iv) (a) 1948 to 1950. (b) No. (c) Nil
   (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 35.00 ton/ac.
   (ii) 2.94 ton/ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>34.34</td>
</tr>
<tr>
<td>2.</td>
<td>36.63</td>
</tr>
<tr>
<td>3.</td>
<td>34.03</td>
</tr>
</tbody>
</table>

S.E./mean = 1.20 ton/ac.
Crop : Sugarcane.
Site : Sugarcane Res. Stn., Anakapalle.

Object :—To evaluate the water requirements of Sugarcane.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Jowar. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Anakapalle. (iii) 6.4.1949.
   (iv) (a) 3 to 4 ploughings, making ridges and furrows and deepening trenches. (b) Planted. (c) 15,000 three
   budded setts/ac. (d) 2' 8" apart. (e) —. (v) 10 ton/ac. of F.Y.M. and 100 lb/ac. of N (‡ G.N.C. + ‡ A/S)
   applied in two doses on 6.4.1949 and 15.6.1949. (vi) CO. 419. (vii) As per treatments. (viii) Earthing
   up and trenching. (ix) 49.34". (x) 28, 29.3.1950.

2. TREATMENTS:
   1. Irrigation once in 12 days. (Total quantity of water by irrigation 18.37"/ac.)
   2. Irrigation once in 18 days. (Total quantity of water by irrigation 11.65"/ac.)
   3. Irrigation once in 24 days. (Total quantity of water by irrigation 11.23"/ac.)

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 89' - 1" x 25' - 1". (b) 75' - 11" x 10' - 3". (v) N.A. (vi, Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Growth measurements, yield of sugarcane and Jaggery. (iv) (a) 1948 to 1950. (b)
   No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 35.92 ton/ac.
   (ii) 2.23 ton/ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>39.28</td>
</tr>
<tr>
<td>2</td>
<td>34.91</td>
</tr>
<tr>
<td>3</td>
<td>33.58</td>
</tr>
<tr>
<td>S,E./mean</td>
<td>0.91 ton/ac.</td>
</tr>
</tbody>
</table>

Crop : Sugarcane.
Site : Sugarcane Res. Stn., Anakapalle.

Object :—To find out the water requirements of Sugarcane plant crop.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Jowar. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Anakapalle. (iii) 8.4.1950.
   (iv) (a) 3 to 4 ploughings, making ridges and furrows and deepening trenches. (b) Planted. (c) 15,000 three
   budded setts/ac. (d) Sugarcane rows 2' 8" apart. (e) —. (v) 10 ton/ac. of F.Y.M. and 100 lb/ac. of N (‡ G.N.C. and ‡ A/S)
   applied in two equal doses on 8.4.50 and 27.6.53. (vi) CO. 419. (vii) As per treatments. (viii) Earthing
   up and trenching. (ix) 33.85". (x) 4 to 12.4.51.

2. TREATMENTS:
   1. Irrigation once in 12 days. (Total quantity of water by irrigation 15.79"/ac.)
   2. Irrigation once in 18 days. (Total quantity of water by irrigation 13.76"/ac.)
   3. Irrigation once in 24 days. (Total quantity of water by irrigation 10.57"/ac.)

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 62.7' x 26.4'. (b) 51.5' x 15.8'. (v) N.A. (vi, Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Sugarcane weight and growth measurements at harvest. (iv) (a) 1948 to 1950.
   (b) and (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.
5. RESULTS:

(i) 44.80 ton/ac.
(ii) 6.34 ton/ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>47.96</td>
</tr>
<tr>
<td>2</td>
<td>45.37</td>
</tr>
<tr>
<td>3</td>
<td>41.06</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>2.59 ton/ac.</td>
</tr>
</tbody>
</table>

Object: To determine the water requirements of the ratoon Sugarcane crop.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Sugarcane (planted). (c) As per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Anakapalle. (iii) 18.4.1950 (ratooning). (iv) (a) 3 to 4 ploughings, making ridges and furrows and deepening trenches. (b) Plant crop ratooned. (c) 15,000 three budded setts/ac. for the plant crop. (d) Sugarcane rows 2' 8" apart. (e) —. (f) 10 ton/ac. of F.Y.M. applied just before planting and 100 lb/ac. of N (1/2 G.N.C. and 1/2 A/S) applied in two equal doses on 8.5.50 and 30.6.1950. (vi) CO-419. (vii) As per treatments. (viii) Earthing up and trenching. (ix) 33.47°. (x) 29.3.1951 to 3.4.1951.

2. TREATMENTS:

1. Irrigation once in 12 days. (Total quantity of water by irrigation 8.53"/ac.)
2. Irrigation once in 18 days. (Total quantity of water by irrigation 6.21"/ac.)
3. Irrigation once in 24 days. (Total quantity of water by irrigation 5.34"/ac.)

3. DESIGN:

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 21.1'x8.9'. (b) 15.6'x7.6'. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Yield of sugarcane and growth measurements at harvest. (iv) (a) 1950-1951. (b) and (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 38.64 ton/ac.
(ii) 3.12 ton/ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>37.84</td>
</tr>
<tr>
<td>2</td>
<td>39.54</td>
</tr>
<tr>
<td>3</td>
<td>38.53</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>1.27 ton/ac.</td>
</tr>
</tbody>
</table>

Object: To study the water requirement of first ratoon Sugarcane crop.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Sugarcane (plant crop). (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Anakapalle. (iii) 12.4.1951 (ratooning date). (iv) (a) Making ridges. (b) Planting in ridge. (c) 15,000 three budded setts/ac. (d) 2' 8"—. (e) —. (f) 10 ton/ac. of F.Y.M. and 100 lb/ac. of N (1/2 G.N.C. and 1/2 A/S) in two equal doses applied on 9.5.1951 and 20.6.1951. (vi) CO-419. (vii) As per treatments. (viii) Weeding, stock cropping up, etc. (ix) 46.54°. (x) 23, 28.12.1951.
2. TREATMENTS:
1. Irrigation once in 12 days. (Total quantity of water by irrigation 13.15'/ac.).
2. Irrigation once in 15 days. (Total quantity of water by irrigation 6.56'/ac.).
3. Irrigation once in 24 days. (Total quantity of water by irrigation 5.98'/ac.).

3. DESIGN:
(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 62.7' x 26.4' (b) 51.5' x 15.8'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Crop lodged very badly due to heavy rains and gale during November. (ii) Nil. (iii) Cane weight, mill-yard data, juice analysis, etc. (iv) (a) 1952-1953. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 42.20 ton/ac.
(ii) 2.30 ton/ac.
(iii) Treatments differ significantly.
(iv) Av. yield of Sugarcane in ton/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>44.93</td>
</tr>
<tr>
<td>2.</td>
<td>40.85</td>
</tr>
<tr>
<td>3.</td>
<td>40.81</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>0.94 ton/ac</td>
</tr>
</tbody>
</table>


1. BASAL CONDITIONS:
(i) (a) N.E. (b) fodder Jowar. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Anakapalle. (iii) 6.2.1951.
(iv) (a) N.A. (b) planted. (c) 15,000, three-budded setts/ac. (d) 2'8' between rows. (e)---. (v) Nil.
(vi) CO-41%. (vii) Irrigated. (viii) Weeding, wrapping and propping up. (ix) 47.07'. (x) 12, 14.2.52.

2. TREATMENTS:
Main-plots treatments:
2 intervals of irrigation: \( I_1 \) = Once in 12 days and \( I_2 \) = Once in 24 days.
Sub-plot treatments:
3 measures:
- \( M_1 = 100 \text{ lb./ac. of } N \text{ as A/S} \)
- \( M_2 = 100 \text{ lb./ac. of } N \text{ as G.N.C.} \)
- \( M_3 = 100 \text{ lb./ac. of } N \text{ as A/S and G.N.C. in 1:2 ratio on the basis of } N \)

Manures applied in 2 equal doses, half at planting and half at earthing up time.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 42.9' x 31.7'. (b) (b) 36.3' x 21.1'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Nil. (ii) Nil. (iii) Cane yield and population count. (iv) (a) 1951-1953. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 52.43 ton/ac.
(ii) (a) 4.74 ton/ac.
(b) 2.10 ton/ac.
(iii) None of the effects is significant.
Object: To study the water requirements of Sugarcane plant crop in relation to manure.

1. BASAL CONDITIONS:
   (i) Nil. (ii) Sandy loam. (iii) N.A. (iv) 15,000 three-budded setts/ac. (v) 2'8" between sugarcane rows. (vi) Nil.
   (vii) Nil. (viii) Irrigated. (ix) Weeding, wrapping and propping up. (x) N.A.

2. TREATMENTS:
   Main-plot treatments:
   2 irrigations: \( I_1 = \) Once in 12 days and \( I_2 = \) Once in 24 days.
   Sub-plot treatments:
   3 manures: \( M_1 = 100 \) lb./ac. of N as A/S, \( M_2 = 100 \) lb./ac. of N as G.N.C. and \( M_3 = 100 \) lb./ac. of N as A/S and G.N.C. in 1:2 ratio on the basis of N.
   Manures applied in 2 equal doses half at planting and half at earthing up time.

3. DESIGN:
   (i) Split-plot. (ii) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 37.6'x34.3'. (iv) 28.4'x23.8'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Sugarcane yield and population count. (iv) 1951—1953. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 59.77 ton/ac.
   (ii) 6.80 ton/ac.
   (iii) None of the effects is significant.
   (iv) Av. yield of sugarcane in ton/ac.

\[
\begin{array}{cccc}
\text{M}_1 & \text{M}_2 & \text{M}_3 & \text{Mean} \\
\hline
I_1 & 55.62 & 53.15 & 55.22 & 54.70 \\
I_2 & 48.38 & 49.99 & 52.12 & 50.16 \\
\hline
\text{Mean} & 52.00 & 51.57 & 53.72 & 52.43 \\
\end{array}
\]

S.E. of difference between two
1. I marginal means = 1.82 ton/ac.
2. M marginal means = 1.05 ton/ac.
3. M means at the same level of I = 1.49 ton/ac.
4. I means at the same level of M = 2.19 ton/ac.


Crop: Sugarcane. Site: Sugarcane Res. Stn., Anakapalle. Type: 'IM'.

Ref: A.P. 53(84). Type: 'IM'.

Object: To study the water requirements of sugarcane plant crop in relation to manure.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Fodder Jowar. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Anakapalle. (iii) 1.2.1953. (iv) (a) N.A. (b) Planted. (c) 15,000 three-budded setts/ac. (d) 3' 4" between sugarcane rows. (e) Nil. (vi) CO. 419. (vii) Irrigated. (viii) Earthing up and trenching. (ix) 35.66°.

2. TREATMENTS:
   Main-plot treatments:
   2 Irrigations: I₁=Once in 12 days and I₂=Once in 24 days.
   Sub-plot treatments:
   3 manures: M₁=100 lb./ac. of N as A/S, M₂=100 lb./ac. of N as G.N.C. and M₃=100 lb./ac. of N as A/S and G.N.C. in ratio 1 : 2 on the basis of N.

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot (b) N.A. (iii) 4. (iv) (a) 55.4'x19.8'. (b) 50.2'x13.2'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Sugarcane yield and growth measurements. (iv) (a) 1951—1954. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) Nil. (vii) Raw data is N.A.

5. RESULTS:
   (i) 38.37 ton/ac.
   (ii) N.A.
   (iii) Only M effect is significant.
   (iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>I₁</td>
<td>39.72</td>
<td>M₁</td>
<td>40.96</td>
</tr>
<tr>
<td>I₂</td>
<td>37.02</td>
<td>M₂</td>
<td>38.94</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M₃</td>
<td>35.19</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>1.28 ton/ac.</td>
<td>S.E./mean</td>
<td>1.25 ton/ac.</td>
</tr>
</tbody>
</table>


Ref: A.P. 52 (83). Type: 'IM'.

Object: To study the water requirements of sugarcane ratoon crop in relation to N manure.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Sugarcane. (c) As per treatments. (ii) (a) Sandy loam. (b) Refer soil analysis, Anakapalle. (iii) N.A. (iv) (a) N.A. (b) Ratooned. (c) 15,000 three-budded setts/ac. (d) 2' 8" between rows for plant crop. (e) N.A. (v) Nil. (vi) CO. 419. (vii) Irrigated. (viii) Weeding, wrapping and propping up. (ix) N.A. (x) N.A.

2. TREATMENTS:
   Main-plot treatments:
   2 Irrigations: I₁=Irrigation once in 12 days and I₂=Irrigation once in 24 days.
   Sub-plot treatments:
   3 manures: M₁=100 lb./ac. of N as A/S, M₂=100 lb./ac. of N as G.N.C. and M₃=100 lb./ac. of N as A/S and G.N.C. in ratio 1 : 2 on the basis of N.

Manures applied in two equal doses half at planting and half at earthing up.

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 42.9'x31.7'. (b) 36.3'x22.1'. (v) N.A. (vi) Yes.
4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Yield and population count. (iv) (a) 1952 to 1954, (b) No, (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 33.98 ton/ac.
   (ii) (a) 4.07 ton/ac.
   (b) 1.93 ton/ac.
   (iii) Only M effect is significant.
   (iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th></th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>I₁</td>
<td>37.69</td>
<td>32.27</td>
<td>34.23</td>
<td>34.73</td>
</tr>
<tr>
<td>I₂</td>
<td>35.32</td>
<td>30.70</td>
<td>33.71</td>
<td>33.24</td>
</tr>
<tr>
<td>Mean</td>
<td>36.50</td>
<td>31.49</td>
<td>33.97</td>
<td>33.98</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. I marginal means = 1.66 ton/ac.
2. M marginal means = 0.96 ton/ac.
3. M means at the same level of I = 1.36 ton/ac.
4. I means at the same level of M = 2.00 ton/ac.


Ref: ~ A.P. 53 (85). Type: ~ 'IM'.

Object: ~ To study water requirements of Sugarcane ratoon crop in relation to manure.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Sugarcane. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Anakapalle. (iii) 7, 8, 4, 1953 (ratooning). (iv) (a) N.A. (b) Ratooned. (c) 20". (d) 20" between rows. (e) Nil. (vi) CO.419. (vii) Irrigated. (viii) Earthing up and trenching. (ix) 35.66°, (x) 28, 29, 12, 1953.

2. TREATMENTS:
   Main-plot treatments:
   2 Irrigation: I₁=Irrigation once in 12 days and I₂=Irrigation once in 24 days.

   Sub-plot treatments:
   3 manures: M₁=100 lb./ac. of N as A/S, M₂=100 lb./ac. of N as G.N.C. and M₃=100 lb./ac. of N as A/S and G.N.C. in 1:2 ratio on the basis of N.

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 33.7° x 34.2°. (b) 28.4° x 23.8°. (v) Yes. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Growth measurements. (iv) (a) 1952 to 1954. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Raw data is not traceable at the research station. Hence two way table is not given.

5. RESULTS:
   (i) 32.61 ton/ac.
   (ii) N.A.
   (iii) Both I and M effects are not significant.
   (iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>I₁</td>
<td>35.05</td>
<td>M₁</td>
<td>33.10</td>
</tr>
<tr>
<td>I₂</td>
<td>30.17</td>
<td>M₂</td>
<td>30.78</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M₃</td>
<td>33.99</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>1.66 ton/ac.</td>
<td>S.E./mean</td>
<td>1.19 ton/ac.</td>
</tr>
</tbody>
</table>
Crop : Sugarcane.  
Site : Sugarcane Res. Stn., Anakapalle. 

Object : To estimate the loss in yield due to the attack of smuts.

1. BASAL CONDITIONS :  
(i) (a) Sugarcane-Paddy. (b) Paddy. (c) F.Y.M. and A/S. Quantity N.A. (ii) (a) Loamy. (b) Refer soil analysis, Anakapalle. (iii) 21.3.1952. (iv) (a) Digging of trenches. (b) Setts are planted in trenches. (c) N.A. (d) 3 ft. between rows. (e) —. (v) 10 tons ac. of F.Y.M. 100 lb. of N in the form of A/S in two doses; first dose 45 days after planting and the second dose 90 days after planting. (vi) CO: 419. (vii) Irrigated. (viii) 3 or 4 weedicings, wrapping and propping up 3 times. (ix) 37.62°. (x) 7.3.1952.

2. TREATMENTS :  
1. Healthy setts planted.  
2. Setts inoculated with smut pores and planted.

3. DESIGN :  
(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) 62' x 10.6'. (b) 62' x 5.3'. (v) N.A. (vi) Yes.

4. GENERAL :  
(i) Satisfactory. (ii) Nil. (iii) Incidence of smuts for each clump, length, and weight of canes. (iv) (a) 1951 to 1954. (b) No. (c) N.A. (v) Nil. (vi) Nil. (vii) Raw data not available.

5. RESULTS :  
(i) to (iv).

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Treatments</th>
<th>1</th>
<th>2</th>
<th>S.E. of mean diff.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Av. no. of millable cane/clump</td>
<td>3.72</td>
<td>2.84</td>
<td>0.1427</td>
<td></td>
</tr>
<tr>
<td>2. Av. weight of millable cane/clump in lb.</td>
<td>14.15</td>
<td>8.62</td>
<td>0.5006</td>
<td></td>
</tr>
<tr>
<td>3. Av. length of cane in inches</td>
<td>124.75</td>
<td>108.33</td>
<td>2.0949</td>
<td></td>
</tr>
<tr>
<td>4. Av. no. of lateral nodes cane</td>
<td>25.33</td>
<td>22.25</td>
<td>2.0949</td>
<td></td>
</tr>
<tr>
<td>5. Av. girth of cane in cm</td>
<td>2.63</td>
<td>2.39</td>
<td>0.0480</td>
<td></td>
</tr>
<tr>
<td>6. Av. wt. of single cane in lb.</td>
<td>3.80</td>
<td>3.04</td>
<td>0.0558</td>
<td></td>
</tr>
<tr>
<td>7. No. of cane studied</td>
<td>307</td>
<td>283</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The treatments are significantly different for all the Characters studied.

Crop : Sugarcane.  
Site : Sugarcane Res. Stn., Anakapalle.  

Object : To estimate the loss in yield due to smuts.

1. BASAL CONDITIONS :  
(i) (a) Sugarcane-Paddy. (b) Paddy. (c) F.Y.M. and A/S. Quantity N.A. (ii) (a) Loamy. (b) Refer soil analysis, Anakapalle. (iii) 21.3.1952. (iv) (a) Digging of trenches. (b) Setts planted in trenches. (c) N.A. (d) 3 ft. between rows. (e) —. (v) 10 tons ac. of F.Y.M. 100 lb. ac. N as A/S in two doses; first dose 45 days after planting and the second 90 days after planting. (vi) CO: 419. (vii) Irrigated. (viii) 3 or 4 weedicings, wrapping and propping up 3 times. (ix) N.A. (x) 19 to 23.2.1953.

2. TREATMENTS :  
1. Healthy setts planted.  
2. Setts inoculated with smut pores and planted.

3. DESIGN :  
(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) 62' x 10.6'. (b) 62' x 5.3'. (v) N.A. (vi) Yes.

4. GENERAL :  
(i) Satisfactory. (ii) Nil. (iii) Incidence of smuts for each clump, length, wt. etc. (iv) (a) 1951 to 1954. (b) No. (c) N.A. (v) Nil. (vi) Nil. (vii) Raw data not available.
5. RESULTS:

(i) to (iv).

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Treatments</th>
<th>S.E. of mean diff.</th>
<th>Significant or not</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Av. no. of malleable cane/clump</td>
<td>1</td>
<td>3.64</td>
<td>1.86</td>
</tr>
<tr>
<td>2. Av. weight of malleable cane/clump in lb.</td>
<td>2</td>
<td>12.56</td>
<td>5.57</td>
</tr>
<tr>
<td>3. Av. length of cane in inches</td>
<td>1</td>
<td>120.01</td>
<td>108.03</td>
</tr>
<tr>
<td>4. Av. number of internodes/cane</td>
<td></td>
<td>24.07</td>
<td>22.43</td>
</tr>
<tr>
<td>5. Av. girth of cane in centimeter</td>
<td></td>
<td>2.37</td>
<td>2.28</td>
</tr>
<tr>
<td>6. Av. weight of single cane in lb.</td>
<td></td>
<td>3.43</td>
<td>2.82</td>
</tr>
<tr>
<td>7. No. of cane studied</td>
<td></td>
<td>481</td>
<td>756</td>
</tr>
</tbody>
</table>

Crop :- Sugarcane.
Sit:- Sugarcane Res. Stn., Anakapalle.

Object:- To estimate the loss in yield due to attack of smuts.

1. BASAL CONDITIONS:

(i) (a) Sugarcane—Paddy. (b) Paddy. (c) F.Y.M. and A/S. Quantity N.A. (ii) (a) Loamy. (b) Refer soil analysis, Anakapalle. (iii) 17,18.5.1948. (iv) (a) Digging trenches in which cane setts are planted. (b) N.A. (c) N.A. (d) 3' 4" between rows. (e) —. (v) 10 ton/ac. of F.Y.M. 100 lb./ac. of N as A/S in two doses first dose 45 days after planting and the second 90 days after planting. (vi) CO.419. (vii) Irrigated. (viii) 3 to 4 weedings, wrapping and propping up 3 times. (ix) N.A. (x) 4 to 9.1.1954.

2. TREATMENTS:

1. Healthy setts planted.
2. Setts inoculated with smut pores and planted.

3. DESIGN:

(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) 62' x 10.6'. (b) 62' x 5.3'. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Incidence of smuts for each clump length and weight of cane. (iv) (a) 1951–1954. (b) Nil. (c) N.A. (v) and (b) Nil. (vi) Nil. (vii) Raw data not available.

5. RESULTS:

(i) to (iv)

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Treatments</th>
<th>S.E. of mean difference</th>
<th>Significant or not</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Av. number of malleable cane/clump</td>
<td>1</td>
<td>4.37</td>
<td>2.23</td>
</tr>
<tr>
<td>2. Av. weight of malleable cane/clump in lb.</td>
<td>2</td>
<td>10.43</td>
<td>4.57</td>
</tr>
<tr>
<td>3. Av. length of malleable cane in feet</td>
<td></td>
<td>7.35</td>
<td>6.96</td>
</tr>
<tr>
<td>4. Av. no. of internodes/cane</td>
<td></td>
<td>21.05</td>
<td>21.01</td>
</tr>
<tr>
<td>5. Av. girth of cane in centimeter</td>
<td></td>
<td>2.39</td>
<td>2.28</td>
</tr>
<tr>
<td>6. Av. wt. of single cane in lb.</td>
<td></td>
<td>2.43</td>
<td>2.23</td>
</tr>
<tr>
<td>7. Av. cane yield in ton/ac.</td>
<td></td>
<td>23.97</td>
<td>21.33</td>
</tr>
</tbody>
</table>

Crop :- Sugarcane.
Sit:- Sugarcane Res. Stn., Anakapalle.

Object:- To find out the protective and stimulating effect of immersion of setts in bordeaux mixture and water for different periods on germination and growth under irrigated and unirrigated conditions.

1. BASAL CONDITIONS

(i) (a) Sugarcane—Paddy. (b) Paddy. (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Anakapalle. (iii) 17,18.5.1948. (iv) (a) N.A. (b) Setts planted. (c) 15,000 three-budded setts/ac. (d) Rows 2' 8" apart. (e)—. (v) 10 ton/ac. of compost applied on Feb. 48+100 lb. of N in the form of G.N.C. and A/S in 2 : 1 proportion on N basis in two doses, half dose on 17,18.5.1948 and half on 16,17.7.1948. (vi) N.A. (vii) Irrigated. (viii) Earthing up and trenching. (ix) 34.94'. (x) 22 to 26.4.1949.

Ref :- A.P. 53(10).
Type :- 'D'.
2. TREATMENTS:
   Main-plot treatments:
   2 levels of irrigation: \( I_0 = \text{No irrigation during the period of germination} \) and \( I_1 = \text{Irrigation} \).
   Sub-plot treatments:
   7 ways of immersing:
   \( M_0 = \text{No immersing} \), \( M_1 = \text{Immersing the setts in running water for 6 hours} \), \( M_2 = \text{Immersing the setts in running water for 12 hours} \), \( M_3 = \text{Immersing the setts in running water for 24 hours} \), \( M_4 = \text{Immersing the setts in Bordeaux mixture 1\% for 6 hours} \), \( M_5 = \text{Immersing the setts in Bordeaux mixture 1\% for 12 hours} \), \( M_6 = \text{Immersing the setts in Bordeaux mixture 1\% for 24 hours} \).

3. DESIGN:
   (i) Split-plot. (ii) 2 main-plots/block; 7 sub-plots/main-plot. (iii) N.A. (iv) 31.7' x 10.6'.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Yield and growth measurements. (iv) (a) 1948-49. (b) and (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 37.89 ton/ac.
   (ii) (a) 10.56 ton/ac.
   (b) 7.62 ton/ac.
   (iii) Only main-plot treatments effect is significant.
   (iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th></th>
<th>( M_0 )</th>
<th>( M_1 )</th>
<th>( M_2 )</th>
<th>( M_3 )</th>
<th>( M_4 )</th>
<th>( M_5 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( I_0 )</td>
<td>39.48</td>
<td>34.62</td>
<td>36.29</td>
<td>37.25</td>
<td>34.71</td>
<td>32.71</td>
<td>34.15</td>
</tr>
<tr>
<td>( I_1 )</td>
<td>39.99</td>
<td>37.76</td>
<td>37.64</td>
<td>38.78</td>
<td>39.75</td>
<td>42.34</td>
<td>44.80</td>
</tr>
<tr>
<td>Mean</td>
<td>39.74</td>
<td>36.19</td>
<td>36.97</td>
<td>38.02</td>
<td>37.28</td>
<td>37.53</td>
<td>39.48</td>
</tr>
</tbody>
</table>

S.E. of differences of two:
1. I marginal means = 2.31 ton/ac.
2. M marginal means = 3.11 ton/ac.
3. M means at the same level of I = 4.40 ton/ac.
4. I means at the same level of M = 4.68 ton/ac.

Crop: Sugarcane.
Site: Sugarcane Res. Strn., Anakapalle.
Ref: A.P. 49(53).
Type: 'DI'.

Object: To find out the protective and stimulating effect of immersion of setts in Bordeaux mixture and water for different periods on germination and growth under irrigated and non-irrigated conditions.

1. BASAL CONDITIONS:
   (i) (a) Sugarcane—Paddy. (b) Paddy. (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Anakapalle. (iii) 20, 21.4, 24.9. (iv) (a) N.A. (b) Setts planted. (c) 15,000 three-budded setts/ac. (d) Row: 23’ apart. (e) (v) 10 tons of F.Y.M. applied in February 1949 and 100 lb. of N in the form of G.N.C. and A.S in 2:1 proportion on B basis, half applied on 20, 21.4 1949 and half applied on 15.6.1949. (vi) N.A. (vii) As per treatments. (viii) Earthing up and trenching. (ix) 49.13. (x) 10 to 12.3.1950.

2. TREATMENTS:
   Main-plot treatments:
   2 levels of irrigation: \( I_0 = \text{No irrigation during the period of germination} \) and \( I_1 = \text{Irrigated} \).
   Sub-plot treatments:
   7 ways of immersing:
   \( M_0 = \text{No immersing} \), \( M_1 = \text{Immersing the setts in running water for 6 hours} \), \( M_2 = \text{Immersing the setts in running water for 12 hours} \), \( M_3 = \text{Immersing the setts in running water for 24 hours} \), \( M_4 = \text{Immersing the setts in Bordeaux mixture 1\% for 6 hours} \), \( M_5 = \text{Immersing the setts in Bordeaux mixture 1\% for 12 hours} \), \( M_6 = \text{Immersing the setts in Bordeaux mixture 1\% for 24 hours} \).
3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block ; 7 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 31.7°X10.6°. (b) 26.4°X5.3°. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Growth measurements, yield of sugarcane, jaggery. (iv) (a) 1948-1949. (b) No. (c) Nil. (v) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 38.74 ton/ac.
(ii) (a) 12.05 ton/ac.
(b) 8.73 ton/ac.
(iii) Only sub-plot treatments effect is significant.
(iv) Av. yield of sugarcane in ton/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>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>I₀</td>
<td>41.33</td>
<td>35.06</td>
<td>31.27</td>
<td>37.39</td>
<td>33.60</td>
<td>40.01</td>
<td>41.97</td>
<td>37.23</td>
</tr>
<tr>
<td>I₁</td>
<td>42.59</td>
<td>35.74</td>
<td>39.32</td>
<td>37.87</td>
<td>37.87</td>
<td>39.57</td>
<td>48.80</td>
<td>40.25</td>
</tr>
</tbody>
</table>

Mean: 41.96 35.40 35.30 37.63 35.73 39.79 45.38 38.74

S.E of difference of two
1. I marginal means =2.63 ton/ac.
3. M means at the same level of I =5.04 ton/ac.
4. I means at the same level of M =5.36 ton/ac.

Site: Sugarcane Res. Stn., Ankapalle. Type: 'DI'.

Object: To find out the protective and stimulating effect of treatment of setts with fungicides on germination and yield of Sugarcane.

1. BASAL CONDITIONS:
(i) (a) Sugarcane—Paddy. (b) Paddy. (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Ankapalle. (iii) 15.5.1948. (iv) (a) N.A. (b) Setts planted. (c) 15,000, three-budded setts/ac. (d) 2'8' between rows. (e) --. (v) 10 tons of F.Y.M. applied in Feb. 1948+100 lb. of N as G.N.C. and A/S in 2 : 1 ratio on N basis applied ; half on 15.5.1948 and half on 13, 14.7.1948. (vi) N.A. (vii) As per treatments. (viii) Earthing up and trenching. (ix) 34.94R. (x) April, 1949.

2. TREATMENTS:
Main-plot treatments:
2 levels of irrigation: I₀=No irrigation for 2 months from the date of planting and I₁=Irrigated.
Sub-plot treatments:
7 ways of dipping: M₀=Control, M₁=Agrosan—1 lb. in 10 gallons of water, M₂=Agrosan—2 lb. in 10 lb. gallons of water. M₃=Ceresan—1 lb. in 10 gallons of water. M₄=Ceresan—2 lb. in 10 gallons of water. M₅=Bordeaux paste. M₆=Soaking for 6 hours in bordeaux mixture of 1%.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block ; 7 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 31.7°X10.6°. (b) 26.4°X5.3°. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Growth measurements, yield of sugarcane and jaggery. (iv) (a) 1948—1950. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.
5. RESULTS:

(i) 37.20 ton/ac.
(ii) (a) 8.995 ton/ac.
(b) 5.369 ton/ac.
(iii) None of the effects is significant.
(iv) Av. yield of sugarcane in ton/ac.

\[
\begin{array}{cccccccc}
\text{M}_0 & \text{M}_1 & \text{M}_2 & \text{M}_3 & \text{M}_4 & \text{M}_5 & \text{Mean} \\
10 & 35.50 & 32.96 & 35.85 & 32.96 & 36.03 & 38.71 & 31.32 & 34.76 \\
11 & 41.26 & 39.03 & 37.70 & 39.31 & 40.70 & 39.13 & 40.42 & 39.65 \\
\hline
\text{Mean} & 38.38 & 36.00 & 36.77 & 36.13 & 38.36 & 35.89 & 37.20 \\
\end{array}
\]

S.E. of difference of two

1. I marginal means = 2.40 ton/ac.
2. M marginal means = 2.69 ton/ac.
3. M means at the same level of I = 3.80 ton/ac.
4. I means at the same level of M = 4.26 ton/ac.

---

Crop :- Sugarcane.
Site :- Sugarcane Res. Stn., Anakapalle.
Ref :- A.P. 49(64).
Type :- 'DI'.

Object :- To find out the protective and stimulating effect of treatment of setts with fungicides on germination and yield of cane.

1. BASAL CONDITIONS:

(i) (a) Sugarcane—Paddy. (b) Paddy. (c) N.A. (d) Loamy. (b) N.A. (iii) 5.4.1949. (iv) (a) N.A. (b) Setts planted. (c) 15,000 three-budded setts/ac. (d) Cane rows 2' 8" apart. (e) (v) 10 tons of F.Y.M. applied in Feb. 1949 and half on 5.4.1949 and half on 15.6.1949. (vi) N.A. (vii) As per treatments. (viii) Earthing up and trenching. (ix) 49.13" (x) 8, 9, 3. 1950.

2. TREATMENTS:
Main-plot treatments :
2 levels of irrigation : I_0 = No irrigation for 2 months from the date of planting and I_1 = Irrigated.
Sub-plot treatments :
7 ways of dipping :

\[\begin{array}{c}
\text{M}_0 = \text{Control} \\
\text{M}_1 = \text{Agrosan—1 lb. in 10 gallons of water} \\
\text{M}_2 = \text{Agrosan—2 lb. in 10 gallons of water} \\
\text{M}_3 = \text{Ceresan—1 lb. in 10 gallons of water} \\
\text{M}_4 = \text{Ceresan—2 lb. in 10 gallons of water} \\
\text{M}_5 = \text{Bordeaux paste} \\
\text{M}_6 = \text{Soaking for 6 hours in Bordeaux mixture of 1%}
\end{array}\]

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block ; 7 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 31' 8" x 10' 7". (b) 26' 4" x 5' 4". (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Growth measurements, yield of cane and jaggery. (iv) (a) 1948—1950. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 37.31 ton/ac.
(ii) (a) 10.90 ton/ac.
(b) 6.96 ton/ac.
(iii) None of the effects is significant.
(iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<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>I₀</td>
<td>38.50</td>
<td>34.11</td>
<td>36.45</td>
<td>35.23</td>
<td>35.02</td>
<td>37.24</td>
<td>37.32</td>
</tr>
<tr>
<td>I₁</td>
<td>38.05</td>
<td>41.96</td>
<td>43.35</td>
<td>40.88</td>
<td>41.82</td>
<td>32.78</td>
<td>39.62</td>
</tr>
<tr>
<td>Mean</td>
<td>38.27</td>
<td>38.03</td>
<td>39.90</td>
<td>38.06</td>
<td>38.42</td>
<td>30.01</td>
<td>38.47</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. I marginal means = 2.91 ton/ac.
3. M means at the same level of I = 4.92 ton/ac.
4. I means at the same level of M = 5.41 ton/ac.

Crop :- Sugarcane.
Site :- Sugarcane Res. Stn., Anakapalle.

Object :- To find out the protective and stimulating effect of treatment of setts with fungicides on germination and stand.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Paddy. (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Anakapalle. (iii) 29.3.1950. (iv) (a) 3 to 4 ploughing, making ridges and furrows and deepening trenches. (b) Setts planted. (c) 15,000 three-budded setts/ac. (d) Cane rows 2'-8" apart. (e) — (v) 10 ton/ac. of F.Y.M. + 100 lb./ac. of N in form of G.N.C. and A/S in 2:1 ratio on N basis. (vi) CO419. (vii) Irrigated. (viii) Earthing up and trenching. (ix) 33.85°. (x) 26.2.1951.

2. TREATMENTS:
   Main-plot treatments:
   2 levels of irrigation: I₀ = No irrigation for 2 months from the date of planting and I₁ = Irrigated.
   Sub-plot treatments:
   7 ways of dipping:
   M₀ = Control. M₁ = Agrosan—1 lb in 10 gallons of water. M₂ = Agrosan—2 lb. in 10 gallons of water.
   M₃ = Ceresan—1 lb. in 10 gallons of water.
   M₄ = Ceresan—2 lb. in 10 gallons of water.
   M₅ = Bordeaux paste.
   M₆ = Soaking for 6 hours in Bordeaux mixture of 1%.

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block; 7 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 31.7" x 10.6". (b) 26.4' x 5.3' (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Cane weight and growth measurements. (iv) (a) 1948—1950. (b) N.A. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS:
   (i) 46.71 ton/ac.
   (ii) N.A.
   (iii) Only M and I effects are highly significant.
   (iv) Av. yield of sugarcane in ton/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>I₀</td>
<td>42.12</td>
<td>M₀</td>
<td>48.67</td>
</tr>
<tr>
<td>I₁</td>
<td>51.30</td>
<td>M₁</td>
<td>51.16</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>2.50 ton/ac.</td>
<td>M₂</td>
<td>44.50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M₃</td>
<td>45.47</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M₄</td>
<td>49.70</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M₅</td>
<td>45.69</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M₆</td>
<td>41.76</td>
</tr>
<tr>
<td></td>
<td></td>
<td>S.E./mean</td>
<td>2.76 ton/ac.</td>
</tr>
</tbody>
</table>
Object: To study the effect of previous leguminous crops on the succeeding Cotton crop.

1. BASAL CONDITIONS:
   (i) (a) Jowar-Groundnut-Redgram-Cotton. (b) As under treatments. (c) As under treatments. (ii) (a) Black cotton soil. (b) Refer soil analysis, Guntur. (iii) N.A. (iv) (a) N.A. (b) Drilled. (c) to (e) N.A. (v) Nil. (vi) Cocanada. (vii) Rainfed. (viii) 2 or 3 weedings, and thinning, interculture with H.M. Guntaka. (ix) 9.4' (Sept. 1950 to April 1951). (x) N.A.

2. TREATMENTS:
   Main-plot treatments:
   All combinations of (1) and (2)
   (1) 5 previous crops: Jowar, Groundnut, Redgram, Jowar+Redgram and Groundnut+Redgram.
   (2) 2 levels of P\textsubscript{0} as Super P\textsubscript{0} = 0, and P\textsubscript{1} = 30 lb./ac. of P\textsubscript{2} O\textsubscript{5}.
   Sub-plot treatments:
   2 levels of N: N\textsubscript{0} = 0, and N\textsubscript{1} = 30 lb./ac. of N as A/S applied to cotton crop before sowing.

3. DESIGN:
   (i) Split-plot. (ii) (a) 10 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 52.8 x 28.5 (main-plot); 2.34 cents (sub-plot). (b) Sub-plot: 39.6' x 11'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield of cotton. (iv) (a) 1950 to 1952. (b) No. (c) Nil. (v) (a) Nandyal. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 230 lb./ac.
   (ii) (a) 85.0 lb./ac.
   (b) 135.0 lb./ac.
   (iii) None of the effects is significant.
   (iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>Jowar</th>
<th>Groundnut</th>
<th>Redgram</th>
<th>Jowar+Redgram</th>
<th>G.N.+Redgram</th>
</tr>
</thead>
<tbody>
<tr>
<td>P\textsubscript{0}</td>
<td>P\textsubscript{1}</td>
<td>P\textsubscript{0}</td>
<td>P\textsubscript{1}</td>
<td>P\textsubscript{0}</td>
</tr>
<tr>
<td>N\textsubscript{0}</td>
<td>250</td>
<td>292</td>
<td>180</td>
<td>190</td>
</tr>
<tr>
<td>N\textsubscript{1}</td>
<td>270</td>
<td>245</td>
<td>181</td>
<td>254</td>
</tr>
<tr>
<td>Mean</td>
<td>260</td>
<td>269</td>
<td>181</td>
<td>222</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. main-plot treatment means = -42.4 lb./ac.
2. sub-plot treatment means = 30.1 lb./ac.
3. sub-plot treatment means at the same level of main-plot treatment = -95.4 lb./ac.
4. main-plot treatment means at the same level of sub-plot treatment = 79.8 lb./ac.
2. TREATMENTS:

Main-plot treatments:
All combinations of (1) and (2)
(1) 5 previous crops: Jowar, Groundnut, Redgram, Jowar+Redgram, and Groundnut+Redgram.
(2) 2 levels of P$_2$O$_5$ as Super (P$_2$O$_5$ applied to plots in 1949): P$_0$=0, and P$_1$=30 lb./ac. of P$_2$O$_5$.

Sub-plot treatments:
2 levels of N: N$_0$=0 and N$_1$=30 lb./ac. of N as A/S applied to cotton crop before sowing.

3. DESIGN:
(i) Split-plot. (ii) (a) 10 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 52.1'x38.5' (main-plot); 2.34 cents (sub-plot). (b) 39.6'x11' (sub-plot). (v) N.A. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Yield of kapas. (iv) (a) 1950 to 1952. (b) No. (c) Nil. (v) (a) Nandyal. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(ii) 496 lb./ac. (iii) None of the effects is significant. 
(iv) Av. yield of Kapas in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>Jawar</th>
<th>G.N.</th>
<th>Redgram</th>
<th>Jawar+Redgram</th>
<th>G.N.+Redgram</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P$_0$</td>
<td>P$_1$</td>
<td>P$_0$</td>
<td>P$_1$</td>
<td>P$_0$</td>
</tr>
<tr>
<td>N$_0$</td>
<td>512</td>
<td>538</td>
<td>470</td>
<td>460</td>
<td>477</td>
</tr>
<tr>
<td>N$_1$</td>
<td>498</td>
<td>592</td>
<td>453</td>
<td>515</td>
<td>533</td>
</tr>
<tr>
<td>Mean</td>
<td>505</td>
<td>565</td>
<td>462</td>
<td>488</td>
<td>505</td>
</tr>
</tbody>
</table>

Crop :- Cotton.  
Site :- Lam Farm, Guntur.  
Object :- To study the effect of previous leguminous crops on the succeeding Cotton crop.

1. BASAL CONDITIONS:
(i) (a) Jowar—Groundnut—Redgram—Cotton. (b) and (c) As under treatments. (ii) (a) Black cotton soil. (b) Refer soil analysis, Guntur. (iii) 26.9.1952. (iv) (a) N.A. (b) Drilled. (c) to (e) N.A. (v) Nil. (vi) Cocandas-1 (early). (vii) Rainfed. (viii) Interculture with Junior Hoe on 1.11.1952 and 3.11.52. Thinning on 29.10.1952 and 30.10.1952. Interculture with H.M. Guntaka on 20.12.1952. (ix) N.A. (x) 25.3.1953 to 10.4.1953.

2. TREATMENTS:
Main-plot treatments:
All combinations of (1) and (2)
(1) 5 previous crops: Jowar, Groundnut, Redgram, Jowar+Redgram and Groundnut+Redgram.
(2) 2 levels of P$_2$O$_5$ as Super (P$_2$O$_5$ applied to plots in 1949): P$_0$=0 and P$_1$=30 lb./ac. of P$_2$O$_5$.

Sub-plot treatments:
2 levels of N: N$_0$=0 and N$_1$=30 lb./ac. of N as A/S applied to cotton crop before sowing.

3. DESIGN:
(i) Split-plot. (ii) (a) 10 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 52.8'x38.5' (main-plot); 2.34 cents (sub-plot). (b) 39.6'x11' (sub-plot). (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Heavy shedding due to insect attack. (iii) Yield of Kapas. (iv) (a) 1950—1952. (b) and (c) No. (v) (a) Nandyal. (b) Nil. (vi) and (vii) Nil.
5. RESULTS:

(i) 271 lb./ac.
(ii) (a) 30.0 lb./ac.
(b) 361.0 lb./ac.

(iii) Only "previous crops" effect is significant.
(iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>Jowar</th>
<th>G.N.</th>
<th>Redgram</th>
<th>Jowar + Redgram</th>
<th>G.N. + Redgram</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P₀</td>
<td>P₁</td>
<td>P₀</td>
<td>P₁</td>
</tr>
<tr>
<td>N₀</td>
<td>357</td>
<td>309</td>
<td>304</td>
<td>354</td>
</tr>
<tr>
<td>N₁</td>
<td>364</td>
<td>421</td>
<td>511</td>
<td>396</td>
</tr>
<tr>
<td>Mean</td>
<td>361</td>
<td>365</td>
<td>408</td>
<td>375</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. main-plot treatment means = 40.0 lb./ac.
2. sub-plot treatment means = 36.1 lb./ac.
3. sub-plot treatment means at the same level of main-plot treatment = 114.1 lb./ac.
4. main-plot treatment means at the same level of sub-plot treatment = 89.9 lb./ac.

Crop :- Cotton.
Site :- Plant Breeding Stn., Mudhol.

Object :- To study the N and P₂O₅ requirements of Cotton.

1. BASAL CONDITIONS:
(i) (a) Kharif Jowar—Cotton. (b) Kharif Jowar. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Mudhol. (iii) 13.7.1950. (iv) (a) One ploughing and three bakharings. (b) Furrows opened with marker and seeds hand dibbled. (c) 16 lb./ac. (d) Rows 18' apart. (e) --. (vi) Nil. (vi) Gao-6. (vii) Irrigated. (viii) Three weedings and five hoeings (4 with planet junior hand hoe and one with bullock-hoe). (ix) 21.58'. (x) 15.11.1950, 13.12.50, 29.11.50 and 13.1.1951.

2. TREATMENTS
All combinations of (1), (2) and (3)
(1) 2 sources of N : S₁ = A,S and S₂ = G.N.C.
(2) 2 levels of Ν : N₀ = 0 and N₁ = 30 lb./ac.
(3) 2 levels of P₂O₅ : P₀ = 0 and P₁ = 30 lb./ac.
P₂O₅ as Super.

3. DESIGN:
(i) 2² Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 127' x 15'. (b) 121' x 9'. (v) Two rows on each flank together with 3' at each extremity of each row. (vi) Yes.

4. GENERAL:
(b) No. (c) N.A. (v) (a) Nanded and Latur. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 337 lb./ac.
(ii) 74.8 lb./ac.
(iii) Selective Ν, others effect is highly significant ; Ν effect is also significant. Others are not significant.
(iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>Selective</th>
<th>Averaged over N₀ plots</th>
</tr>
</thead>
<tbody>
<tr>
<td>P₀</td>
<td>430</td>
</tr>
<tr>
<td>P₁</td>
<td>523</td>
</tr>
</tbody>
</table>

S.E./mean = 26.4 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N₀S₁</th>
<th>N₀S₂</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>P₀</td>
<td>601</td>
<td>525</td>
<td>563</td>
</tr>
<tr>
<td>P₁</td>
<td>669</td>
<td>550</td>
<td>610</td>
</tr>
</tbody>
</table>

S.E. of marginal mean = -26.4 lb./ac.
S.E. of body of table = -27.4 lb./ac.

Crop := Cotton.

Site := Plant Breeding Stn., Mudhol.

Object := To study the N and P₂O₅ requirements of Cotton.

1. BASAL CONDITIONS:
   (i) (a) Kharif Jowar-Cotton. (b) Kharif Jowar. (c) Nil.
   (ii) (a) Medium black soil. (b) Refer soil analysis, Mudhol.
   (iii) N.A.
   (iv) (a) One ploughing and 2 bakhering. (b) Furrows opened with marker and seeds dibbled with hand.
   (c) 16 lb./ac. (d) Rows 11" apart. (e) Nil. (vi) Gao-6. (vii) Rainfed.
   (viii) 3 seedings and 2 hoeings. (ix) 31.90". (x) N.A.

2. TREATMENTS:
   All combinations of (1), (2) and (3)
   (1) 2 sources of N : S₁=A/S and S₂=G.N.C.
   (2) 2 levels of N : N₀=0 and N₁=30 lb./ac.
   (3) 2 levels of P₂O₅ : P₀=0 and P₁=30 lb./ac.
   P₂O₅ as Super.

3. DESIGN:
   (i) 2³ Fact. in R.B.D. (ii) 8. (b) N.A. (iii) 4
   (iv) (a) 127'x15'. (b) 121'x9' (v) Two rows on each flank together with 3' at each extremity of each row. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Plant weight at fortnightly intervals, period of boll maturity, number of bolls picked, wt. of 100 bolls, yield of kapas and ginning percentage.
   (iv) (a) 1950 to 1952. (b) No. (c) N.A.
   (v) (a) N.A. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 447 lb./ac.
   (ii) 57.20 lb./ac.
   (iii) 'Selective vs. others' effect, P effect and interaction NP are highly significant. N effect is not significant.
   (iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>Selectives</th>
<th>Averaged over N₀ plots</th>
</tr>
</thead>
<tbody>
<tr>
<td>P₀</td>
<td>391</td>
</tr>
<tr>
<td>P₁</td>
<td>441</td>
</tr>
</tbody>
</table>

S.E./mean = 20.2 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N₀S₁</th>
<th>N₀S₂</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>P₀</td>
<td>373</td>
<td>485</td>
<td>429</td>
</tr>
<tr>
<td>P₁</td>
<td>570</td>
<td>488</td>
<td>529</td>
</tr>
</tbody>
</table>

S.E. of marginal mean = 20.2 lb./ac.
S.E. of body of table = 28.6 lb./ac.
Object:—To study primarily the effect of organic manures and its mixture with A/S on the yield of Cotton and secondly to study their residual effect on the rotation crop.

1. BASAL CONDITIONS:
   (i) Polwar-Cotton. (b) Kharif Jowar. (c) Nil. (ii) (a) Medium black cotton soil. (b) Refer soil analysis, Mudhol. (iii) 24.6.1953. (iv) (a) Ploughings, 2 harrowings and 2 bakherings. (b) Seeds sown through moghas running behind coultered wooden drill. (c) 16 lb./ac. (d) 18" between rows. (e)—. (v) Nil. (vi) Gao-6. (vii) Rainfed. (viii) Handweedings and hoeings (ix) 48.55°. (x) (Nov. 23rd Dec. 1953).
2. TREATMENTS:
All combinations of (1) and (2)
(1) 2 levels of F.Y.M. : \( F_0 = 0 \) and \( F_1 = 4 \) ton/ac.
(2) 2 levels of A/S : \( N_0 = 0 \) and \( N_1 = 109 \) lb./ac.
Manures applied in the middle of May, 1953.

3. DESIGN:
(i) 2^2 Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) 127'x15'. (b) 121'x9'. (v) Two rows at each flank and 3' at each extremity of the row. (vi) Yes.

4. GENERAL:
(i) Below normal due to excessive rains; Heavy shedding of buds and bolls. (ii) Nil. (iii) Germination stand, number of node at which the first fruiting branch appears. Halo length, ginning%. (iv) (a) 1953 to 1955. (b) (b) Yes. (c) N.A. (v) (a) Napped, Latur. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 225 lb./ac.
(ii) 23.4 lb./ac.
(iii) Main effects of N, F are significant. Interaction N\times F is not significant.
(iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>( N_0 )</th>
<th>( N_1 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( F_0 )</td>
<td>148</td>
<td>272</td>
<td>210</td>
</tr>
<tr>
<td>( F_1 )</td>
<td>180</td>
<td>301</td>
<td>240</td>
</tr>
<tr>
<td>Mean</td>
<td>164</td>
<td>287</td>
<td>228</td>
</tr>
</tbody>
</table>

S.E. of marginal mean = 7.4 lb./ac.
S.E. of body of table = 10.5 lb./ac.


Object: To study the effects of previous leguminous crops and manures on Cotton.

1. BASAL CONDITIONS:
(i) (a) Groundnut-Indigo and Jowar-Cotton. (b) As under treatments. (c) As under treatments. (ii) (a) Black cotton soil. (b) Refer soil analysis, Nandyal. (iii) Second week of Sept., 1953. (iv) (a) to (e) N.A. (v) Nil. (vi) N-14. (vii) Unirrigated. (viii) 2 weedings. (ix) N.A. (x) N.A.

2. TREATMENTS:
Main-plot treatments:
All combinations of (1) and (2)
(1) 4 previous crops: Jowar, Jowar + Indigo, Indigo and Groundnut.
(2) 2 levels of \( P_2O_5 \) (as Super applied to the above crops) : \( P_0 = 0 \) and \( P_1 = 30 \) lb./ac.
Sub-plot treatments:
2 levels of N: \( N_0 = 0 \) and \( N_1 = 30 \) lb./ac. of N as A/S applied to the present crop, cotton.

3. DESIGN:
(i) Split-plot. (ii) (a) 8 main-plots/replication, 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 2.81 cents. (b) 1.45 cents. Main-plot area : 5.62 cents. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Not satisfactory. Heavy rains in the latter part of Sept. caused considerable damage to standing crop. Stand gappy. (ii) Nil. (iii) Yield of kapas. (iv) (a) 1948 to 1952. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Standard Errors not given in the report. Raw data also not available.
5. RESULTS:
(i) 297 lb/ac.
(ii) (a) N.A.
(b) N.A.
(iii) Only the effect of previous crops and N effect are significant.
(iv) Av. yield of kapas in lb/ac.

<table>
<thead>
<tr>
<th>Crop</th>
<th>Jowar</th>
<th>Jowar and Indigo</th>
<th>Indigo</th>
<th>Groundnut</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P₀</td>
<td>P₁</td>
<td>P₀</td>
<td>P₁</td>
</tr>
<tr>
<td>N₀</td>
<td>220</td>
<td>219</td>
<td>219</td>
<td>214</td>
</tr>
<tr>
<td>N₁</td>
<td>272</td>
<td>276</td>
<td>277</td>
<td>228</td>
</tr>
<tr>
<td>Mean</td>
<td>245</td>
<td>247</td>
<td>248</td>
<td>221</td>
</tr>
</tbody>
</table>

Crop: Cotton.
Object: To study the effects of previous crops and manures on Cotton (old set).

1. BASAL CONDITIONS:
(i) (a) Groundnut—Indigo, Jowar—Cotton. (b) As under treatments. (c) As under treatments. (ii) (a) Black cotton soil. (b) Refer soil analysis, Nandyal. (iii) 11.9.1951. (iv) (a) to (e) N.A. (v) Nil. (vi) N-14. (vii) Unirrigated. (viii) 2 weedings. (ix) 2.16. (x) N.A.

2. TREATMENTS:
Main-plot treatments:
(i) 4 previous crops: Jowar, Jowar+Indigo, Indigo and Groundnut.
(ii) 2 levels of P₂₀ as Super applied to the above crops: P₀=0 and P₁=30 lb/ac.

Sub-plot treatments:
2 levels of N: N₀=0 and N₁=10 lb/ac of N as A/S applied to the present crop, cotton.

3. DESIGN:
(i) Split-plot. (ii) 3 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) N.A. (b) main-p at 2.20 sub-plot 1.446 cents. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Kapas yield. (iv) (a) 1948—1952. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) Nil.
(vii) Raw data N.A.

5. RESULTS:
(i) 235 lb/ac.
(ii) N.A.
(iii) N.A.
(iv) Av. yield of kapas in lb/ac.

<table>
<thead>
<tr>
<th>Crop</th>
<th>Jowar</th>
<th>Jowar+Indigo</th>
<th>Indigo</th>
<th>Groundnut</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P₀</td>
<td>P₁</td>
<td>P₀</td>
<td>P₁</td>
</tr>
<tr>
<td>Jowar</td>
<td>209</td>
<td>242</td>
<td>231</td>
<td>215</td>
</tr>
<tr>
<td>Jowar+Indigo</td>
<td>229</td>
<td>245</td>
<td>240</td>
<td>219</td>
</tr>
<tr>
<td>Mean</td>
<td>219</td>
<td>244</td>
<td>235</td>
<td>217</td>
</tr>
</tbody>
</table>
Crop : Cotton.  
Site : Agri Res. Stn., Nandyal.  
Ref : A.P. 52(65).  
Type : 'M'.  

Object : To study the effect of previous leguminous crops and manure on cotton.

1. BASAL CONDITIONS :  
(i) (a) Groundnut+Indigo and Jowar—Cotton. (b), (c) As under treatments. (ii) (a) Black cotton soil. (b) Refer soil analysis, Nandyal. (iii) 25.9.1952. (iv) (a) to (e) N.A. (v) Nil. (vi) N-14. (vii) Unirrigated. (viii) 2 weedings. (ix) N.A. (x) 15.2.1953 to 30.3.1953.

2. TREATMENTS :  
Main-plot treatments :  
All combinations of (1) and (2)  
(1) 4 previous crops : Jowar, Jowar+Indigo, Indigo and Groundnut.  
(2) 2 levels of $P_0$O$_5$ (as super applied to the above crops) : $P_0=0$ and $P_1=30$ lb./ac.

Sub-plot treatments :  
2 levels of N : $N_0=0$ and $N_1=30$ lb./ac. of N as A/S applied to the present crop, cotton.

3. DESIGN :  
(i) Split-plot (ii) (a) 8 main-plots/block ; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 5.62 cents. (b) 2.90 cents. (v) N.A. (vi) Yes.

4. GENERAL :  
(i) Satisfactory. (ii) Jassids attack in early stage. Guessorol sprayed. (iii) Yield of cotton. (iv) (a) 1948—1952. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Standard Errors not available in the annual report. Raw data also not available at the Research Station.

5. RESULTS :  
(i) 293 lb./ac.  
(ii) N.A.  
(iii) N.A.  
(iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>Jowar</th>
<th>Jowar+Indigo</th>
<th>Indigo</th>
<th>Groundnut</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$P_0$</td>
<td>265</td>
<td>298</td>
<td>282</td>
<td>286</td>
<td>285</td>
</tr>
<tr>
<td>$P_1$</td>
<td>303</td>
<td>340</td>
<td>322</td>
<td>265</td>
<td>301</td>
</tr>
<tr>
<td>Mean</td>
<td>284</td>
<td>319</td>
<td>302</td>
<td>276</td>
<td>293</td>
</tr>
</tbody>
</table>

S.E.s N.A.

Crop : Cotton.  
Site : Govt. main Farm, Warangal.  
Ref : A.P. 48(50).  
Type : 'M'.  

Object : To find out the type of manure, the optimum dose and the method of application best suited to cotton crop.

1. BASAL CONDITIONS :  
(i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Regur. (b) Refer soil analysis, Warangal. (iii) 18.7.1948. (iv) (a) N.A. (b) Sown by hand in furrows made by a country seed drill. (c) —. (d) 18" apart. (e) —. (v) Nil. (vi) Indicum-38. (vii) Rainfed. (viii) Weeding once and hoeing thrice. (ix) 33.33" (June to Dec.). (x) 22.11.1948.  

2. TREATMENTS :  
All combinations of (1), (2) and (3).  
(1) 2 sources of N : $S_1=A/S$ and $S_2=G.N.C.$  
(2) 4 levels of N : $N_0=0$, $N_1=20$, $N_2=40$ and $N_3=60$ lb./ac.  
(3) 2 methods of application of N : $M_1=$ By broadcasting just before sowing and $M_2=$ By drilling in furrows about 9" away from the seed furrows.
3. DESIGN:
(i) 2x2x4 Fact. in R.B.D. (ii) (a) 16. (b) N.A. (iii) 2. (iv) (a) 63'/x12'. (b) 60'/x71'. (v) 2 outer rows on either side of flank ; rows of each plot and strip 18' wide at either end of each plot. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Yield of kapas. (iv) (a) 1946—1949. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 556 lb./ac.
(ii) 89.09 lb./ac.
(iii) 'Control vs. others effect and 'Source' effect are highly significant. Others are not significant.
(iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>N1</th>
<th>N2</th>
<th>N3</th>
<th>Mean</th>
<th>M1</th>
<th>M2</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>715</td>
<td>693</td>
<td>643</td>
<td>684</td>
<td>723</td>
</tr>
<tr>
<td>S2</td>
<td>535</td>
<td>582</td>
<td>606</td>
<td>574</td>
<td>577</td>
</tr>
<tr>
<td>Mean</td>
<td>625</td>
<td>637</td>
<td>625</td>
<td>629</td>
<td>650</td>
</tr>
</tbody>
</table>

S E. of marginal mean of N = 31.5 lb./ac.
S E. of marginal mean of M or S = 25.7 lb./ac.
S E. of body of table N x M or N x S = 44.6 lb./ac.
S E. of body of table M x S = 36.4 lb./ac.
S E. of control mean = 31.5 lb./ac.

Crop : Cotton.
Site : Govt. Main Farm, Warangal.

Object : To find out the type of manure, the optimum dose and the method of application best suited to the cotton crop.

1. BASAL CONDITIONS:
(i) (a) N.A. (b) N.A. (c) N.A. (ii) (a) Chalka. (b) Refer soil analysis, Warangal. (iii) 17.7.1948. (iv) (a) N.A. (b) Sown by hand in furrows made by a country seed drill. (c) N.A. (d) 8' apart. (e) —. (v) Nil. (vi) Indi.cem-38. (vii) Rainfed. (viii) Weeding once and hoeing thrice. Gap filling to the extent of 50", on 24.7.1948, as the germination was obstructed by the formation of hard soil due to a drizzle after sowing. (ix) 33.33" (June to Dec. (x) 5.11.1948/21.11.1948/7.12.1948, picking days.

2. TREATMENTS:
All combinations of (1), (2) and (3)
(1) 2 sources of N : S1 = A:S and S2 = G.N.C.
(2) 4 levels of N : N1 = 0, N2 = 20, N3 = 40, and N4 = 60.
(3) 2 methods of application of N : M1 = By broadcasting just before sowing and M2 = By drilling in furrows about 9" away from the seed furrows.

3. DESIGN:
(i) 2x2x4 Fact. in R.B.D. (ii) (a) 16. (b) N.A. (iii) 2. (iv) (a) 63'/x12'. (b) 60'/x71'. (v) Two outer rows on either side of flank rows of each plot and strip 18' wide at either end of each plot. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) In the early seedling stage attack of hairy caterpillar. Brought under control by hand picking and killing. (iii) Yield of kapas. (iv) (a) 1946—1949. (b) N.A. (c) N.A. (v) (a) Nil. (b) Nil. (vii) and (viii) Nil.
5. RESULTS:

(i) 639 lb./ac.
(ii) 101.8 lb./ac.
(iii) Effects 'Control vs others', N, M and S are highly significant. Interactions MN, MS&SN are not significant.
(iv) Av. yield of kapas in lb./ac.

Control= 420 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
<th>Mean</th>
<th>M₁</th>
<th>M₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
<td>629</td>
<td>840</td>
<td>869</td>
<td>779</td>
<td>871</td>
<td>687</td>
</tr>
<tr>
<td>S₂</td>
<td>493</td>
<td>726</td>
<td>715</td>
<td>645</td>
<td>741</td>
<td>549</td>
</tr>
<tr>
<td>Mean</td>
<td>561</td>
<td>783</td>
<td>792</td>
<td>712</td>
<td>806</td>
<td>618</td>
</tr>
<tr>
<td>M₁</td>
<td>653</td>
<td>828</td>
<td>935</td>
<td>806</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M₂</td>
<td>467</td>
<td>738</td>
<td>649</td>
<td>618</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of marginal mean of N = 35.0 lb./ac.
S.E. of marginal mean of M or S = 29.4 lb./ac.
S.E. of body of table N x M or N x S = 50.9 lb./ac.
S.E. of body of table M x S = 41.6 lb./ac.
S.E. of control mean = 35.0 lb./ac.

CROP: Cotton.

SITE: Plant Breeding Stn., Mudhol.

OBJECT: To determine the response of improved varieties of Gaorani cotton to the application of G.N.C.

1. BASAL CONDITIONS:

(i) (a) Kharif Jowar—Cotton. (b) Kharif Jowar. (c) Nil. (ii) (a) Medium black soil. (b) Refer soil analysis, Mudhol. (iii) 11.7.1948. (iv) (a) No ploughings, 2 bakhering and cleaning. (b) Seeds sown by hand in the furrows made by plant junior hoe with Coulters 18" apart. (c) 16 lb./ac. (d) 18" row to row. (e) —. (f) Nil. (vi) As per treatments. (vii) Unirrigated. (viii) 2 weedings. (ix) N.A. (x) 7.12.1948 to 22.1.1949, at fortnightly intervals.

2. TREATMENTS:

As combinations of (1) and (2).

(2) 3 levels of N: N₀=0, N₁=20 and N₂=40 lb./ac.

N as G.N.C. powdered and applied to different plots on 11.7.48 by broadcasting.

3. DESIGN:

(i) 3×4 Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) 62×13½. (b) 35×9. (v) 'One row on each flank of the plot and 3½ on each extremity of all the rows. (vi) Yes.

4. GENERAL:

(i) Good though stunted. Heavy rains in the first and third week of November damaged the crop considerably. (ii) Boll worm damage (rather heavy in the last pickings). Heavy shedding of bolls. (iii) Plant height at fortnightly intervals period of boll maturity. No. of bolls picked, wt. of 100 bolls, yield of kapas, Ginning percentage. (iv) (a) 1947—1949. (b) No. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) N.A.

5. RESULTS:

(i) 120 lb./ac.
(ii) 30.4 lb./ac.
(iii) V effect is significant, N effect is highly significant. Interaction is not significant.
(iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>Variety</th>
<th>V1</th>
<th>V2</th>
<th>V3</th>
<th>V4</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N2</td>
<td>80</td>
<td>65</td>
<td>98</td>
<td>85</td>
<td>82</td>
</tr>
<tr>
<td>N4</td>
<td>133</td>
<td>99</td>
<td>103</td>
<td>151</td>
<td>122</td>
</tr>
<tr>
<td>N3</td>
<td>149</td>
<td>134</td>
<td>169</td>
<td>173</td>
<td>156</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of V = 8.8 lb./ac.
S.E. of marginal mean of N = 7.6 lb./ac.
S.E. of body of table = 15.2 lb./ac.

Crop: Cotton.
Site: Plant Breeding Stn., Mudhol.

Object: To determine the response of four improved Gacranii varieties to the application of G.N.C.

1. BASAL CONDITIONS:
   (i) (a) Khari Jowar—Cotton. (b) Khari Jowar. (c) Nilt. (ii) (a) Medium black soil. (b) Refer soil analysis, Mudhol. (iii) N.A. (iv) (a) 2 ploughings, 2 buckerings. (b) Seed sown by hand in furrows made by plough and hoe with a scuffle 18" apart. (c) 16 lb. ac. (d) 18" row to row. (e) Nil. (vi) As under treatments. (vii) Unirrigated. (viii) 2 weedings. (ix) 41.63. (a) N.A.

2. TREATMENTS:
   All combinations of (1) and (2):
   (1) 4 varieties: V1 = Gao-6 E-3, V2 = P-II-42-7316, V3 = P-II-43-165 and V4 = Gao-6. (ii) 3 levels of N: N2 = 0, N1 = 20 and N0 = 40 lb. ac. N as G.N.C. powdered and applied by broadcasting.

3. DESIGN:
   (i) 3 x 4 F.A.C. in R.B.D. (ii) (a) N.A. (iii) 4. (iv) (a) 62" x 131". (b) 55" x 99". (v) One row on each flank of the plot and 3" on each extremity of all the rows. (vi) Yes.

4. GENERAL:
   (i) Normal, but season not so favourable. (ii) Nilt. (iii) Plant height at fortnightly intervals. Period of boll maturity. No of boll fruct. wt. of 150 balls. Yield of kapas. Ginning percentage. (iv) (a) 1947—1949. (b) Nilt. (c) N.A. (v) a and b. N.A. (vi) N.A. (vii) The results are available only in the above form. Raw data also not available. Hence it is not possible to give the results in the two way table fashion.

5. RESULTS:
   (i) 345 lb./ac.
   (ii) 56.3 lb./ac.
   (iii) Only main effect of N is significant.
   (iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>367</td>
</tr>
<tr>
<td>V2</td>
<td>365</td>
</tr>
<tr>
<td>V3</td>
<td>325</td>
</tr>
<tr>
<td>V4</td>
<td>319</td>
</tr>
<tr>
<td>N2</td>
<td>250</td>
</tr>
<tr>
<td>N1</td>
<td>370</td>
</tr>
<tr>
<td>N0</td>
<td>412</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of V = 16.3 lb./ac.
S.E. of marginal mean of N = 14.1 lb./ac.
Crop :- Cotton.  
Ref :- A.P. 50 (53).  
Type :- 'C'.

Object :- To test whether there is any difference in the germination, yield and other characters between crops raised with old seeds and with new seeds.

1. BASAL CONDITIONS :
   (i) (a) Cotton-Jowar, (b) Jowar, (c) 5 C.L./ac. of F.Y.M. (ii) (a) Black cotton soil. (b) Refer soil analysis, Nandyal. (iii) 17.9.1950. (iv) (a) N.A. (b) Seeds dibbled. (c) N.A. (d) 1½' between rows. (v) Nil. (vi) N. 14 (late). (vii) Unirrigated. (viii) Interculture with H.M. Guntaka and hand weeding. (ix) 4.86\°. (x) 17.2.1951 to 10.3.1951.

2. TREATMENTS : 
   1. Crop raised with old seeds (seed from 1948-49 crop).
   2. Crop raised with new seeds (seed from 1949-50 crop).

3. DESIGN :
   (i) Paired-plot. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) 1.00 cents. (b) 0.66 cents. (v) N.A. (vi) No.

4. GENERAL :
   1. Normal. (ii) Nil. (iii) Yield of kapas, ginning percentage and seed weight per seed. (iv) (a) 1950 to 1951. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS :
   (i) 653 lb./ac.
   (ii) N.A.
   (iii) Treatments difference is not significant.
   (iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>A v. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>636</td>
</tr>
<tr>
<td>2.</td>
<td>669</td>
</tr>
<tr>
<td>S.E./mean=</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

Crop :- Cotton.  
Ref :- A.P. 51(57).  
Type :- 'C'.

Object :- To test whether there is any difference in the germination, yield and other characters between crops raised with old seeds and with new seeds.

BASAL CONDITIONS :
   (i) (a) N.A. (b) Cotton. (c) G.N.C. at 250 lb./ac. (ii) (a) Black cotton soil. (b) Refer soil analysis, Nandyal. (iii) 10.9.1951. (iv) (a), (b) and (c) N.A. (d) 1½' between rows. (e) N.A. (v) A/S. at 100 lb./ac. (vi) N.14 (late) (vii) Unirrigated. (viii) 2 Weedications. (ix) 2.16\°. (x) 28.2.1952 and 4.3.1952.

2. TREATMENTS :
   1. Crop raised with old seeds.
   2. Crop raised with new seeds.

3. DESIGN :
   (i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 12. (iv) (a) N.A. (b) 0.66 cents. (v) N.A. (vi) Yes.

GENERAL :
   (i) Not satisfactory due to poor rainfall and drought conditions. (ii) Boll worm attack. (iii) Germination percentage, halo length, ginning percentage, lint weight, seed weight, boll length and boll diameter. (iv) (a) 1950 to 1951. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) Rawdata N.A.
5. RESULTS:

(i) 222 lb./ac.

(ii) N.A.

(iii) Treatment differences are not significant.

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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>207</td>
</tr>
<tr>
<td>2.</td>
<td>236</td>
</tr>
</tbody>
</table>

S.E./mean=N.A.


Object:—To determine the optimum time of sowing and assess the response to manuring with N.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) N.A. (ii) (a) Heavy alluvial clay. (b) Refer soil analysis, Samalkot. (iii) As under treatments. (iv) (a) Ploughings and levelling. (b) Planting in lines. (c) 2" x 2". (d) 2 seeds. (e) 216 F. vii) Irrigated. (viii) Weeding and hoeing. (ix) 4.73'. (x) First picking by the end of April 1953.

2. TREATMENTS:

Main-plot treatments:

- T₁—Sowing within 3 days after harvest of paddy (20.11.1951).
- T₂—Sowing a fortnight after T₁ (6.12.1951).
- T₄—Sowing three fortnights after T₁ (6.1.1952).

Sub-plot treatments:

- M₀=No manure.
- M₁-Manure 40 lb./ac. of N as A/S applied in 2 doses of 20 lb. each. First dose applied in bonds 3' away from the row of cotton plants at the time of 1st irrigation, on 21.1.1952. Second dose applied at the time of flowering followed by copious irrigation, on 17.2.1952 and 16.3.1952.

3. DESIGN:

(i) Split-plot. (ii) (a) 4 main-plots/block; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) and (b) Sub-plots: 15.5' x 14'. (v) Nil. (vi) Yes.

4. GENERAL:

(i) Germination poor in the first sown crop. Stand good in the last sown crop. Munding weed growth in the manured plots. (ii) Nil. (iii) Yield of kapas. (iv) (a) 1951-N.A. (b) N.A. (c) N.A. (v) (a); (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 582 lb./ac.

(ii) (a) 107.4 lb./ac.

(b) 81.8 lb./ac.

(iii) Main effects of T and M are highly significant. Interaction T x M is not significant.

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

<table>
<thead>
<tr>
<th></th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>T₄</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>M₀</td>
<td>680</td>
<td>405</td>
<td>527</td>
<td>500</td>
<td>528</td>
</tr>
<tr>
<td>M₁</td>
<td>844</td>
<td>489</td>
<td>586</td>
<td>623</td>
<td>636</td>
</tr>
<tr>
<td>Mean</td>
<td>762</td>
<td>447</td>
<td>557</td>
<td>562</td>
<td>582</td>
</tr>
</tbody>
</table>

S.E. of difference of two:

1. T marginal means = 53.6 lb./ac.
2. M marginal means = 29.0 lb./ac.
3. M means at the same level of T = 57.4 lb./ac.
4. T means at the same level of M = 67.5 lb./ac.
Crop: Cotton.  
Site: Plant Breeding Stn., Mudhol.  

Object: To determine the variety and the spacing suitable for getting higher yield of Cotton.

1. BASAL CONDITIONS:
(i) (a) Kharif Jowar—Cotton. (b) Kharif Jowar. (c) Nil.  
(ii) (a) Medium black cotton soil. (b) Refer soil analysis, Mudhol.  
(iii) 21.7.1952. (iv) (a) Ploughing by Kirloskar hundred, 2 harrowings, 5 bakharings and furrows opened with marker. (b) Seed hand dibbled after rubbing with cow dung and ash. (c) 16 lb./ac. (d) N.A. (e) — (v) Nil. (vi) As under treatments.  

2. TREATMENTS:
All combinations of (1) and (2)  
(1) 2 varieties: \( V_1 = Gao-6 \) and \( V_2 = Gao-6E-3 \).  
(2) 3 spacings between rows: \( S_1 = 12'' \), \( S_2 = 18'' \) and \( S_3 = 24'' \).

3. DESIGN:
(i) 2x3 Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) For 12" spacing: \( 127' \times 12' \), for 18" spacing: \( 127' \times 15' \) and for 24" spacing: \( 121' \times 12' \). (b) 121' x 12'. (v) One row on each flank together with 3' at each extremity of the rows. (vi) Yes.

4. GENERAL:
(i) Normal in the early stages but below normal in later stages due to no rain between 26th August 1952 and 19th September 1952 and heavy rains in Oct. 1952. Heavy shedding of buds and bolls. (ii) Nil. (iii) Germination stand, number of node at which the first fruiting branch appears, weight of 100 bolls in grams, final stand, halo length, ginning percentage and kapas weight. (iv) (a) 1952—1954. (b) No. (c) N.A. (v) (a) Nanded and Latur. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 171.0 lb./ac.  
(ii) 18.9 lb./ac.  
(iii) Main effects of V and S are highly significant. Interaction V x S is not significant.  
(iv) Av. yield of kapas 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>( V_1 )</td>
<td>176</td>
<td>159</td>
<td>141</td>
<td>159</td>
</tr>
<tr>
<td>( V_2 )</td>
<td>200</td>
<td>187</td>
<td>164</td>
<td>184</td>
</tr>
</tbody>
</table>

Mean  

S.E. of marginal mean of V = 4.8 lb./ac.  
S.E. of marginal mean of S = 6.0 lb./ac.  
S.E. of body of table = 8.4 lb./ac.

Crop: Cotton.  
Site: Plant Breeding Stn., Mudhol.  

Object: To determine the variety and spacing suitable for getting higher yield of Cotton.

1.2 BASAL CONDITIONS:
(i) (a) Kharif Jowar—Cotton. (b) Kharif Jowar. (c) 10-15 C.L./ac. of F.Y.M.  
(ii) (a) Medium black cotton soil. (b) Refer soil analysis, Mudhol.  
(iii) 22.6.1953. (iv) (a) Ploughing by Kirloskar hundred, 2 harrowings and 2 bakharings and furrows opened with marker. (b) Seed hand dibbled after rubbing with cow dung ashes. (c) 6 lb./ac. (d) N.A. (e) — (v) Nil. (vi) As under treatments.  
(vii) Rainfed. (viii) Two hand weedings and hoeings.  
(ix) 48.35". (x) Nov. and Dec. 1953.
2. TREATMENTS:
   All combinations of (1) and (2)
   (1): 2 varieties: \( V_1 = \text{Gao-6} \) and \( V_2 = \text{Gao-6E-3} \).
   (2): 3 spacings between rows: \( S_1 = 12' \), \( S_2 = 18' \) and \( S_3 = 24' \).

3. DESIGN:
   (i) 2 x 3 Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) For \( S_1 \) spacing—127' x 12', for \( S_2 \) spacing—127' x 15', and for \( S_3 \) spacing—127' x 16'. (v) One row at each flank together with 3' at each extremity of the rows.
   (vi) Yes.

4. GENERAL:
   (i) Below normal due to excessive rains. Heavy shedding of buds and bolls. (ii) Nil. (iii) Germination stand, number of nodes at which the first fruiting branch appears, weight of 100 bolls in gms, final stand, halo length, ginning percentage and kapas weight. (iv) (a) 1952—1954. (b) No. (c) N.A. (v) Nanded, Latur. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 145.0 lb./ac
   (ii) 139.0 lb./ac.
   (iii) Only main effect of spacing is significant.
   (iv) Av. yield of kapas 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>( V_1 )</td>
<td>150</td>
<td>139</td>
<td>137</td>
<td>142</td>
</tr>
<tr>
<td>( V_2 )</td>
<td>162</td>
<td>142</td>
<td>140</td>
<td>148</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of \( V \) = 3.50 lb./ac.
S.E. of marginal mean of \( S \) = 4.30 lb./ac.
S.E. of body of table = 6.20 lb./ac.

Object: To find out whether presoaking of Cotton seed in nutrient solutions will improve yield of Cotton.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Chillies. (c) N.A. (ii) (a) Black cotton soil. (b) Refer soil analysis, Guntur. (iii) 4.10.1951.
   (iv) (a) 4, 5 ploughings. (b) to (e) N.A. (v) Nil. (vi) Cocanada 1. (vii) Rainfed. (viii) 2 to 3 weedicings.
   (ix) 6.27'. (x) 19.3.1952 and 6.4.1952.

2. TREATMENTS:
   1. Dry seed. (control)
   2. Soaked in water for 24 hrs.
   3. Soaked in one molar Mono-pottassium phosphate for 24 hrs.
   4. Soaked in \( \frac{1}{2} \) molar Mono-pott phosphate for 24 hrs.
   5. Soaked in \( \frac{1}{2} \) molar Mono-pottassium phosphate for 24 hrs.
   7. Soaked in \( \frac{1}{2} \) molar A/S for 24 hrs.
   8. Soaked in \( \frac{1}{2} \) molar A/S for 24 hrs.
   Seed soaked in solution on 3.10.1951 for 24 hrs. dried in shade and sown in the field.

3. DESIGN:
   (i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 44.6' x 7.9'. (b) 37.3' x 4.0'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Not satisfactory. (ii) Nil. (iii) Kapas yield. (iv) (a) No. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 457 lb./ac.
   (ii) 110.0 lb./ac.
   (iii) Treatment differences are significant.
(iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>575</td>
</tr>
<tr>
<td>2.</td>
<td>408</td>
</tr>
<tr>
<td>3.</td>
<td>537</td>
</tr>
<tr>
<td>4.</td>
<td>395</td>
</tr>
<tr>
<td>5.</td>
<td>554</td>
</tr>
<tr>
<td>6.</td>
<td>327</td>
</tr>
<tr>
<td>7.</td>
<td>358</td>
</tr>
<tr>
<td>8.</td>
<td>502</td>
</tr>
</tbody>
</table>

S.E./mean = 54.9 lb./ac.

Crop : Cotton.
Ref : A.P. 50 (54).
Type : 'D'.

Object : To study the effect of presoaking the cotton in dilute solutions of nutrient salts like A/S and mono-potassium phosphate.

1. BASAL CONDITIONS:
   (i) (a) Cotton—Jowar. (b) Jowar. (c) 5 C.L./ac. of F.Y.M. (ii) (a) Black cotton soil. (b) Refer soil analysis, Nandyal. (iii) 17.9.1950. (iv) (a) N.A. (b) Dibbling. (c) N.A. (d) 1'/2 between rows. (e) N.A. (v) Nil. (vi) N—14 (late). (vii) Unirrigated. (viii) Interculture with H.M. Guntaka and hand weeding. (ix) 4'/6". (x) 14.2.1951 to 22.3.1951.

2. TREATMENTS:
   Pre soaking seed with:
   1. 1 molar (132.14 gm. per litter of) solution of A/S.
   2. ½ molar (66.07 gm. per litter of) solution of A/S.
   3. Distilled water.
   4. Non-soaked seed.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 0.57 cents. (b) 0.47 cents. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Yield of kapas ginning percentage and halo length. (iv) (a) 1950-51. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 643 lb./ac.
   (ii) 54.1 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>619</td>
</tr>
<tr>
<td>2.</td>
<td>631</td>
</tr>
<tr>
<td>3.</td>
<td>639</td>
</tr>
<tr>
<td>4.</td>
<td>683</td>
</tr>
</tbody>
</table>

S.E./mean = 22.0 lb./ac.

Crop : Cotton.
Ref : A.P. 51(58).
Type : 'D'.

Object : To test the efficacy of soaking seed in nutrient solutions.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Cotton. (c) G.N.C. at 250 lb./ac. (ii) (a) Black cotton soil. (b) Refer soil analysis, Nandyal. (iii) 13.9.1951. (iv) (a), (b), (c) N.A. (d) 1'/2 between rows. (e) N.A. (v) Nil. (vi) N-14 (vii) Irrigated. (viii) 2 weedings. (ix) 2.16". (x) 15.2.1952 to 31.3.1952.
2. TREATMENTS:
1. Seed soaked in 1 molar solution of A/S.
2. Seed soaked in 1 molar solution of A/S.
3. Seed soaked in 1 molar solution of mono-potassium phosphate.
4. Seed soaked in 1 molar solution of mono-potassium phosphate.
5. Seed soaked in 1 molar solution of mono-potassium phosphate.
6. Seed soaked in 1 molar solution of mono-potassium phosphate.
7. Seed soaked in distilled water.
8. Seed not soaked (control).

3. DESIGN:
(i) R.B.D. (ii) 8. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 0.69 cents. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Not satisfactory due to poor rainfall and drought conditions. (ii) Boll worm attack. (iii) Germination percentage, halo length, ginning percentage, lint weight and seed weight. (iv) (a) 1950—1951. (b) Yes. (c) N.A. (v) & (vi) Nil. (vii) Nil.

5. RESULTS:
(i) 122 lb./ac.
(ii) 27.1 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>142</td>
</tr>
<tr>
<td>2.</td>
<td>148</td>
</tr>
<tr>
<td>3.</td>
<td>76</td>
</tr>
<tr>
<td>4.</td>
<td>141</td>
</tr>
<tr>
<td>5.</td>
<td>128</td>
</tr>
<tr>
<td>6.</td>
<td>105</td>
</tr>
<tr>
<td>7.</td>
<td>130</td>
</tr>
<tr>
<td>8.</td>
<td>105</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>13.7 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Tobacco.  
Site: Lam Farm, Guntur.  
Ref: A.P. 48(14).  
Type: ‘M’.

Object: To compare the effect of F.Y.M. and G.N.C. on the yield of the crop.

1. BASAL CONDITIONS:
(i) (a) Jowar—country tobacco—Variga—Chillies. (b) Jowar. (c) N.A. (ii) (a) Deep black soil. (b) Refer soil analysis, Guntur. (iii) N.A. (iv) (a) 6 to 7 ploughings. (b) Transplanted. (c) —. (d) and (e) N.A. (vi) N.A. (vii) Nil. (viii) Unirrigated. (ix) 3 to 4 weedings. (x) N.A. (a) N.A.

2. TREATMENTS:
1. No manure (control).
2. F.Y.M. at 10,000 lb./ac.
3. G.N.C. at 500 lb./ac.
   F.Y.M. applied one month prior to sowing and ploughed in. G.N.C. applied at sowing and pudd.e.d.

3. DESIGN:
(i) R.B.D. (ii) 3. (b) N.A. (iii) 8. (iv) (a) 1.23 cents. (b) 0.56 cents. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (b) Nil. (iii) Yield of tobacco. (iv) (a) 1944-48. (b) and (c) No. (v) (a) and (b) Nil. (vi) Nil. (vii) Raw data N.A.
5. RESULTS:

(i) 1415 lb./ac.
(ii) N.A.
(iii) There is no significant difference between the treatments.
(iv) Av. yield of tobacco in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1374</td>
</tr>
<tr>
<td>2.</td>
<td>1396</td>
</tr>
<tr>
<td>3.</td>
<td>1476</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

Object:—To study the residual effect of F.Y.M. and G.N.C. on the yield of the crop.

1. BASAL CONDITIONS:

(i) (a) Pym Jonna—country tobacco—Varige—Chillies. (b) Jonna. (c) As per treatments. (iii) N.A.
(iv) (a) 6 to 7 ploughings. (b) Transplanted. (c) —. (d) and (e) N.A. (v) Nil. (vi) Country tobacco-Type 20. (vii) Unirrigated. (viii) 3 to 4 weedings. (ix) and (x) N.A.

2. TREATMENTS:

1. No manure (control).
2. F.Y.M. at 10,000 lb./ac.
3. G.N.C. at 500 lb./ac.

Manure applied to the previous crop.

3. DESIGN:

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 1.25 cents. (b) 0.56 cents. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Yield of tobacco. (iv) (a) 1945—1948. (b) and (c) Nil. (v) (a) and (b) Nil, (vi) Nil. (vii) Raw data N.A.

5. RESULTS:

(i) 1350 lb./ac.
(ii) N.A.
(iii) There is no significant difference between the treatments.
(iv) Av. yield of tobacco in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1309</td>
</tr>
<tr>
<td>2.</td>
<td>1376</td>
</tr>
<tr>
<td>3.</td>
<td>1366</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

Object:—To determine the optimum quantities of sand to be incorporated in black soil to improve the texture and to prevent water stagnation and damping of disease.

1. BASAL CONDITIONS:

(i) (a) No. (b) Tobacco. (c) F.Y.M. at 100 C.L./ac. (ii) (a) Clay soils. (b) Refer soil analysis, Madira.
(iii) 15.8.1951 seedlings transplanted March 1952. (iv) (a) 3 ploughings and preparation of beds. (b) Transplanted. (c) —. (d) and (e) N.A. (v) F.Y.M. at 100 C.L./ac. (vi) H.S. 9. (vii) Irrigated. (viii) Hand weeding. (ix) 37.56'. (x) No harvest of this crop.
2. TREATMENTS:
1. No sand (control of nursery).
2. ½ ton sieved sand/cent of nursery.
3. ¾ ton sieved sand/cent of nursery.
4. 1 ton sieved sand/cent of nursery.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) and (b) 9'x4' (conducted in the nurseries). 4 units of 6'x6' were taken at random for observations. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (a) Nil. (ii) Quantity of water to be used, germination counts, no. of transplantable seedlings and weight of 10 seedlings. (iv) (a) 1950—contd. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) No yield data is maintained. However the experiment has been included as it has been conducted for a number of years with the useful purpose of determining whether the incorporation of sand has improved the texture of seed beds.

5. RESULTS:
(i) 64 germination counts/unit of area.
(ii) 1:1 germination counts/unit of area.
(iii) Treatments differ significantly.
(iv) A., germination counts/unit of area.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Germination counts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>37</td>
</tr>
<tr>
<td>2.</td>
<td>66</td>
</tr>
<tr>
<td>3.</td>
<td>58</td>
</tr>
<tr>
<td>4.</td>
<td>94</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>7.8</td>
</tr>
</tbody>
</table>

Crop: Tobacco.  
Site: Tobacco Res. Stn., Madira.  
Ref: A.P. 52(13) 51(21).  
Type: 'C'.

Object: To find out the optimum quantities of sand to be incorporated in the black soil to improve the texture and to present water stagnation.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Tobacco. (c) F.Y.M. at 100 C.L./ac. (ii) (a) Black clay soil. (b) Refer soil analysis, Madira. (iii) 15.8.1952. (iv) (a) 3 ploughings and preparation of beds. (b), (c), (d) and (e) N.A. (v) F.Y.M. at 100 C.L./ac. (vi) H.S. 9. (vii) Irrigated. (viii) Hand weeding. (ix) 23.45° 8' March 1953 (Actual date N.A.).

2. TREATMENTS:
1. No sand (control).
2. ½ ton of sieved sand/cent of nursery.
3. ¾ ton of sieved sand/cent of nursery.
4. One ton of sieved sand/cent of nursery.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) and (b) 9'x4'. (conducted in the nursery). 4 units of 6'x6' were taken at random for observations. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Quantity of water to be used, germination counts, no. of transplantable seedlings and weight of 10 seedlings. (iv) (a) 1950—contd. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) No yield data is maintained. However the experiment has been included as it is being conducted for a number of years with the useful purpose of determining whether the incorporation of sand in the seed bed has any effect on the number of transplantable seedlings.

5. RESULTS:
(i) 2s
(b) 6
(ii) There is significant difference between the treatments.
Crop :- Tobacco.  
Site :- Tobacco Res. Stn., Madira.  

Object :-To find out the effect of topping on cured leaf produce of Tobacco.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) Chillies.  (c) F.Y.M. at 10 C.L./ac.  (ii) (a) Clay soils.  (b) Refer soil analysis, Madira  
   (iii) October 1950.  (iv) (a) 3 ploughings, harrowing and working with marker.  (b) Transplanting.  (c) —.  
   (d) 33"x33".  (e) N.A.  (f) F.Y.M. 6 C.L./ac.  (vi) Guntur white Ash (Natu tobacco).  (vii) Irrigated.  

2. TREATMENTS:
   1. Topping leaving 12 leaves.  
   2. Topping leaving 14 leaves.  
   3. Topping leaving 16 leaves.  
   4. Topping leaving 18 leaves.  
   5. Only flower head removed.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 5.  (b) N.A.  (iii) 6.  (iv) (a) N.A.  (b) 1/34.91 acre.  (v) N.A.  (vi) Yes.

4. GENERAL:
   (i) Normal.  (ii) Stemborer attack. Larvae removed and killed by making holes by knife on stem.  (iii) Yield  
   of tobacco (cured leaf).  (iv) (a) 1950 – 1954.  (b) No.  (c) N.A.  (v) (a) and (b) Nil.  (vi) and (vii) Nil.

5. RESULTS:
   (i) 426 lb./ac.  
   (ii) 78.9 lb./ac.  
   (iii) Treatments do not differ significantly.  
   (iv) Av. yield of cured leaf in lb./ac.  
   Treatment  | Av. yield
   1.  | 436  
   2.  | 448  
   3.  | 430  
   4.  | 407  
   5.  | 430  
   S.E./mean = 32.3 lb./ac.

Crop :- Tobacco.  
Site :- Tobacco Res. Stn., Madira.  

Object :-To find out the optimum stage of topping.

1. BASAL CONDITIONS:
   (i) (a) No.  (b) Chillies.  (c) F.Y.M. at 10 C.L./ac.  (ii) (a) Clay soils.  (b) Refer soil analysis, Madira  
   (iii) 5.10.1951.  (iv) (a) 3 ploughings, harrowing and working with marker.  (b) Transplanted.  (c) —.  
   (d) 33"x33".  (e) N.A.  (f) F.Y.M. 6 C.L./ac.  (vi) Natu Tobacco (Guntur white Ash).  (vii) Irrigated.  
2. TREATMENTS:
1. Topping leaving 12 leaves.
2. Topping leaving 14 leaves.
3. Topping leaving 16 leaves.
4. Topping leaving 18 leaves.
5. Only flower head removed.

3. DESIGN:
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 1/34.91 acre. (v) No. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Yield of tobacco. (iv) (a) 1930—1954. (b) No. (c) N.A. (v) (a) and (b) nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 496 lb./ac.
(ii) 586 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of cured leaf in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>492</td>
</tr>
<tr>
<td>2.</td>
<td>489</td>
</tr>
<tr>
<td>3.</td>
<td>553</td>
</tr>
<tr>
<td>4.</td>
<td>477</td>
</tr>
<tr>
<td>5.</td>
<td>471</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>23.9 lb./ac.</td>
</tr>
</tbody>
</table>

Crop:— Tobacco.  
Site:— Tobacco Res. Stn., Madira.  
Object:— To determine the optimum stage of topping.

Ref:— A.P. 52/14).  
Type: ‘M’.
(iv) Av. yield of cured leaf in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>685</td>
</tr>
<tr>
<td>2.</td>
<td>648</td>
</tr>
<tr>
<td>3.</td>
<td>653</td>
</tr>
<tr>
<td>4.</td>
<td>580</td>
</tr>
<tr>
<td>5.</td>
<td>653</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>79.0 lb./ac.</td>
</tr>
</tbody>
</table>

Object: To study the influence of topping on cured leaf produce.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Groundnut and Redgram. (c) Nil. (ii) (a) Clay soils. (b) Refer soil analysis, Madira. (iii) 12.8.1953. (iv) (a) 3 ploughings, harrowing and working with marker. (b) Transplanting. (c) (d) 33° x 33°. (e) N.A. (v) Nil. (vi) Natu Tobacco (Guntur white Ash). (vii) Irrigated. (viii) Working blade harrow and weeding. (ix) 43.04°. (x) 11.3.1954.

2. TREATMENTS:
   1. Topping after leaving 12 leaves.
   2. Topping after leaving 14 leaves.
   3. Topping after leaving 16 leaves.
   4. Topping after leaving 18 leaves.
   5. Only flower head removed.

3. DESIGN:
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) and (b) 90° x 12°. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Yield of tobacco. (iv) (a) 1950—1954. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 736 lb./ac.
   (ii) 220 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of cured leaf in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>783</td>
</tr>
<tr>
<td>2.</td>
<td>740</td>
</tr>
<tr>
<td>3.</td>
<td>745</td>
</tr>
<tr>
<td>4.</td>
<td>663</td>
</tr>
<tr>
<td>5.</td>
<td>746</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>89.9 lb./ac.</td>
</tr>
</tbody>
</table>

Object: To find out whether topping is desirable and if so at what stage it has to be done.
2. TREATMENTS:
   1. No topping.
   2. Topping when flower head fully emerged.
   3. Topping after 3rd priming.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) a) 60' x 18'. (b) 60' x 18'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Yield of tobacco. (iv) (a) 1952-1953. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 297 lb./ac.
   (ii) 64.8 lb./ac.
   (iii) Treatments differ significantly.
   (iv) Av. yield of cured leaf in lb./ac.
   Treatment       Av. yield
   1.              393
   2.              253
   3.               24
   S.E., mean = 26.4 lb./ac.

---

Site: Tobacco Res. Stn., Madira.  Type: 'C'.

Objective: To find out whether topping is desirable and if so at what stage it has to be done.

1. BASAL CONDITIONS:
   (i) 'a' Nil. (b) Chillies. (c) F.Y.M. at 3 C.L./ac. (ii) (a) Clay soils. (b) Refer soil analysis, Madira. (iii) 18.11.1953. (iv) (a) 3 ploughings, harrowing of working with marker. (b) Transplanting. (c) 33' x 33'. (d) N.A. (v) F.Y.M. at 3 C.L./ac. (vi) Virginia tobacco. (vii) Irrigated. (viii) Working blade harrow and weeding. (ix) 43.94'. (x) 10.3.1954 and 31.3.1954.

2. TREATMENTS:
   1. No topping.
   2. Topping after flower head fully emerged.
   3. Topping after 3rd priming.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a), (b) 60' x 18'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Yield of tobacco. (iv) (a) 1952-1953. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 477 lb./ac.
   (ii) 233 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of cured leaf in lb./ac.
   Treatment       Av. yield
   1.              543
   2.              487
   3.              400
   S.E., mean = 95.1 lb./ac.
Crop :- Groundnut.
Site :- Agri. Res. Institute, Rajendranagar.

Object :- To determine the manurial requirements of Groundnut.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Groundnut. (c) Nil. (ii) (a) Chalka. (b) Refer soil analysis, Rajendranagar. (iii) 7.7.1948.
(iv) (a) 1 ploughings and 2 harrowings. (b) Sown behind cultivator. (c) N.A. (d) 12"×4'. (e) N.A. (v) Nil.
(vi) Spanish Peanut NO.-5. (vii) N.A. (viii) One hoeing and one weeding. (ix) 34.16" (June to Nov.).
(x) 4.11.1948.

2. TREATMENTS:
All combinations of (1) and (2)
(1) 2 levels of N: 
\[ N_0 = 0 \text{ and } N_1 = 30 \text{ lb./ac.} \]
(2) 2 levels of \( P_{2O_5} \): 
\[ P_0 = 0 \text{ and } P_1 = 30 \text{ lb./ac.} \]
N as G.N.C. and \( P_{2O_5} \) as Super.
Other details N.A.

3. DESIGN:
(i) 2×2 Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 7. (iv) (a), (b) 121'×9'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) N.A. (ii) Nil. (iii) Pod yield. (iv) (a) 1948—1950. (b) N.A. (c) N.A. (v) (a), (b) N.A. (vii) About 300 lb./ac. is the normal yield in Telengana.

5. RESULTS:
(i) 269 lb./ac.
(ii) 134.9 lb./ac.
(iii) None of the effects is significant.
(iv) Av. yield of pods in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>( P_0 )</th>
<th>( P_1 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( N_0 )</td>
<td>209</td>
<td>248</td>
<td>229</td>
</tr>
<tr>
<td>( N_1 )</td>
<td>319</td>
<td>299</td>
<td>309</td>
</tr>
<tr>
<td>Mean</td>
<td>264</td>
<td>274</td>
<td>269</td>
</tr>
</tbody>
</table>

S.E. of marginal mean = 36.1 lb./ac.
S.E. of body of table = 51.0 lb./ac.

Crop :- Groundnut.
Site :- Agri. Res. Institute, Rajendranagar.

Object :- To determine the manurial requirements of Groundnut.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Castor. (c) Nil. (ii) (a) Chalka. (b) Refer soil analysis, Rajendranagar. (iii) 22.6.1949.
(iv) (a) Ploughing and bakharng. (b) Sown behind the cultivator. (c) N.A. (d) 12"×4'. (e) N.A. (v) Nil.
(vi) Spanish Peanut No. 5. (vii) N.A. (viii) One hoeing and one weeding. (ix) 21.70", (x) 23.10.1949.

2. TREATMENTS:
All combinations of (1) and (2)
(1) 2 levels of N: 
\[ N_0 = 0 \text{ and } N_1 = 30 \text{ lb./ac.} \]
2 levels of \( P_{2O_5} \): 
\[ P_0 = 0 \text{ and } P_1 = 30 \text{ lb./ac.} \]
N as G.N.C. and \( P_{2O_5} \) as Super.
Other details N.A.
Crop: Groundnut (Abi).
Site: Agri. Res. Institute, Rajendranagar.
Object: To determine the manurial requirements of Groundnut.

Ref: A.P. 50(40).
Type: 'M'.

3. DESIGN:
(i) 2 x 2 Fact. in R.B.D.  (ii) (a) 4. (b) N.A.  (iii) 7.  (iv) (a), (b) 12' x 9'. (v) No.  (vi) Yes.

4. GENERAL:
(i) Satisfactory.  (ii) Nil. (iii) Pod yield. (iv) (a) 1948—1950. (b) N.A. (c) N.A. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 1461 lb./ac.
(ii) 290.0 lb./ac.
(iii) Only main effect of P is significant.
(iv) Av. yield of pods in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>P₀</th>
<th>P₁</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₀</td>
<td>1228</td>
<td>1532</td>
<td>1380</td>
</tr>
<tr>
<td>N₁</td>
<td>1457</td>
<td>1628</td>
<td>1543</td>
</tr>
<tr>
<td>Mean</td>
<td>1343</td>
<td>1580</td>
<td>1461</td>
</tr>
</tbody>
</table>

S.E. of marginal mean = 77.5 lb./ac.
S.E. of body of table = 109.6 lb./ac.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Sur hemp for seed. (c) Nil.  (ii) (a) Chalka. (b) Refer soil analysis, Rajendranagar. (iii) 8.7.1950.  (iv) 2 dry ploughings, 2 bakherings and levelling. (b) Sown behind the cultivator. (c) N.A. (d) 12' x 4'. (e) —. (f) Nil. (vii) Spanish peanut No. 5.  (vi) N.A. (viii) Two hoeings and one weeding. (ix) 42.15. (x) 8.11.1950.

2. TREATMENTS:
All combinations of (1) and (2)
(1) 2 levels of N : N₀ =0 and N₁ =30 lb./ac.
(2) 2 levels of P₂O₅ : P₀ =0 and P₁ =30 lb./ac.
N as G N C. and P₂O₅ as Super. Other details N.A.

3. DESIGN:
(i) 2 x 2 Fact. in R.B.D.  (ii) (a) 4. (b) N.A.  (iii) 7.  (iv) (a) and (b) 12' x 9'. (v) No.  (vi) Yes.

4. GENERAL:
(b) N.A.  (c) N.A. (v) (a) (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 79 lb./ac.
(ii) 42.3 lb./ac.
(iii) Main effect of P alone is highly significant.
(iv) Av. yield of pods in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>P0</th>
<th>P1</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N0</td>
<td>52</td>
<td>104</td>
<td>78</td>
</tr>
<tr>
<td>N1</td>
<td>56</td>
<td>104</td>
<td>80</td>
</tr>
<tr>
<td>Mean</td>
<td>54</td>
<td>104</td>
<td>79</td>
</tr>
</tbody>
</table>

S.E. of marginal mean = 11.3 lb./ac.
S.E. of body of table = 16.0 lb./ac.

---

Crop: Groundnut.
Site: Lam Farm, Guntur.

Object: To determine the effect of dibbling H-420 Cotton on the yield of standing Groundnut.

1. BASAL CONDITIONS:
   (i) (a) Chilies-Groundnut. (b) Chilies. (c) N.A. (ii) (a) Deep black soil. (b) Refer soil analysis, Guntur. (iii) 26.6.1952. (iv) (a) No ploughing but gunaku. (b), (c), (d) and (e) N.A. (v) Nil. (vi) Groundnut—A.H. 45. (vii) Rainfed. (viii) Weeding twice, gap filling for groundnut, thinning of cotton seedlings. (ix) N.A. (x) 23.10.1952.

2. TREATMENTS:
   1. Groundnut alone.
   2. Groundnut+Cotton sown after one month.
   3. Groundnut+Cotton sown after 45 days.

   Each plot consists of 8 rows of groundnut and 4 rows of cotton. Cotton dibbled in alternate spaces. Four rows of groundnut and 2 rows of cotton taken for experimental purposes.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 39.6' x 7.3', (b) 33.0' x 3.6'. (v) 3.3' on either side of length and 1.7', on either side of breadth of the net plot. (vi) Yes.

4. GENERAL:
   (i) Normal. Germination good. Uniform stand. Pod setting very poor. (ii) Wilt attack. Drenching the soil at the base of the plants by permox. Aphids-gammacynax dusting. (iii) Nil. (iv) (a) 1951 to 1952. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

RESULTS:
   (i) 132 lb./ac.
   (ii) 35.5 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of pods in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>126</td>
</tr>
<tr>
<td>2.</td>
<td>134</td>
</tr>
<tr>
<td>3.</td>
<td>135</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>12.5 lb./ac.</td>
</tr>
</tbody>
</table>
Crop: Groundnut (Kharif).

Object: To find out suitable control measures against 'Tikka' cercospora leaf spots of Groundnut.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Light black soil. (b) Refer soil analysis, Rajendranagar.
   (iii) 4.7.1952. (iv) (a) 3 ploughings. (b) Sown by dibbling. (c) About 80 lb./ac. (d) 9' from hill to
   hill 1' apart (row to row). (e) N.A. (f) N.A. (g) Local (Medium). (h) Unirrigated. (i) 3 or 4
   weedings at an interval of 20 days. (j) 22.59°. (k) 11.11.1952.

2. TREATMENTS:
   2. Agrosan 5 ozs. 10. Landisan 4 ozs.
   3. Agrosan 6 ozs. 11. Landisan 5 ozs.
   7. Feresan 4 ozs. 15. Sulphur 6 ozs.
   8. Feresan 5 ozs. 16. Control

Seeds treated with the above treatments 4 days before sowing.

3. DESIGN:
   (i) R.B.D. (ii) (a) 16. (b) N.A. (iii) 4. (iv) (a) 63'×14'. (b) 60.5'×12'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Not satisfactory. (ii) Nil. (iii) Percentage of infection. Intensity as per grade. No. of plants. Pod yield.
   (iv) (a) 1952 to 1957. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 142.2 lb./ac.
   (ii) 41.1 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of pods in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>163.4</td>
<td>9.</td>
<td>127.4</td>
</tr>
<tr>
<td>2.</td>
<td>106.6</td>
<td>10.</td>
<td>112.2</td>
</tr>
<tr>
<td>3.</td>
<td>114.9</td>
<td>11.</td>
<td>142.4</td>
</tr>
<tr>
<td>4.</td>
<td>156.7</td>
<td>12.</td>
<td>107.9</td>
</tr>
<tr>
<td>5.</td>
<td>113.9</td>
<td>13.</td>
<td>114.2</td>
</tr>
<tr>
<td>6.</td>
<td>135.5</td>
<td>14.</td>
<td>110.4</td>
</tr>
<tr>
<td>7.</td>
<td>143.2</td>
<td>15.</td>
<td>108.9</td>
</tr>
<tr>
<td>8.</td>
<td>115.9</td>
<td>16.</td>
<td>114.3</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>=14.6 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop: Groundnut.
Site: Agri. Res. Institute, Rajendranagar.

Object: To find out suitable control measure against 'Tikka' cercospora leaf spots of Groundnut (Seed
dressers).

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Light Black soil. (b) Refer soil analysis, Rajendranagar.
   (iii) N.A. (iv) (a) 3 ploughings. (b) Sown by dibbling. (c) About 50 lb./ac. (d) 9°×12°. (e) N.A. (f) N.A.
   (vi) Local medium. (vii) Unirrigated. (viii) 3 or 4 weedings at an interval of 20 days. (ix) N.A.
   (x) N.A.
2. TREATMENTS:
   1. Sulphur.
   2. Agrosan G.N.
   3. Landisan.
   5. Harvesan.
   6. Fernisan.
   7. Nonrithane.
   8. Trithane.
   9. Control.
   Other details N.A.

3. DESIGN:
   (i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 1/94.69 ac. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Tikka attack. (iii) Percentage of infection. Intensity as per grades and pod yield. (iv) (a) 1952 to 1957. (b) No. (c) Nil. (v) (a) Nil. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 618 lb./ac.
   (ii) 196.9 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of pods in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>706</td>
</tr>
<tr>
<td>2.</td>
<td>734</td>
</tr>
<tr>
<td>3.</td>
<td>541</td>
</tr>
<tr>
<td>4.</td>
<td>537</td>
</tr>
<tr>
<td>5.</td>
<td>572</td>
</tr>
<tr>
<td>6.</td>
<td>690</td>
</tr>
<tr>
<td>7.</td>
<td>670</td>
</tr>
<tr>
<td>8.</td>
<td>584</td>
</tr>
<tr>
<td>9.</td>
<td>706</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>114.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Groundnut (Kharif).
Site: Agri. Res. Institute, Rajendranagar.
Ref: A.P. 52(90).
Type: 'D'.

Object: To find out a suitable spray or dust against leaf spot for Groundnut.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A. (d) N.A. (e) (a) Light black soil. (b) Refer soil analysis, Rajendranagar. (iii) N.A. (iv) (a) 3 ploughings. (b) Sown by dibbling. (c) About 80 lb./ac. (d) 9" x 12". (e) N.A. (v) N.A. (vi) Local (medium). (vii) Unirrigated. (viii) 3 or 4 hand weedings at the interval of 20 days. (ix) 22.59" (x) N.A.

2. TREATMENTS:
   1. Bordeaux mixture 1%.
   2. Perenox 0.35%.
   3. Cupravit 0.35%.
   4. Agri oop 0.4%.
   5. Sulphur 10 lb./ac.
   6. Control.
   Sprayed and dusted three times at monthly intervals.

3. DESIGN:
   (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 62.5' x 14'. (b) 60' x 12'. (v) N.A. (vi) Yes.
4. GENERAL:
(i) Not satisfactory. (ii) N.A. (iii) Intensity of disease and pod yield. (iv) (a) 1952-1957. (b) No. (c) Nil. (v) (a), (b), Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 60.18 lb./ac.
(ii) 12.10 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of pods in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>52.63</td>
</tr>
<tr>
<td>2.</td>
<td>48.92</td>
</tr>
<tr>
<td>3.</td>
<td>65.18</td>
</tr>
<tr>
<td>4.</td>
<td>62.12</td>
</tr>
<tr>
<td>5.</td>
<td>72.36</td>
</tr>
<tr>
<td>6.</td>
<td>59.85</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>6.09 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Groundnut.
Object: To find out a suitable spray or dust against leaf spot for Groundnut.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Loam. (b) Refer soil analysis, Rajendranagar. (iii) 6.7.1953. (iv) (a) 3 ploughings. (b) Sown by dibbling. (c) About 80 lb./ac. (d) 9'×12'. (e) N.A. (v) N.A. (vi) Local (medium). (vii) Unirrigated. (viii) 3 to 4 hand weedings at the interval of 20 days. (ix) N.A. (x) 14.11.1953.

2. TREATMENTS:
1. Bordeaux mixture 1%.
2. Sulphur dust 20 lb./ac.
3. Diathane Z-78 (1 lb. in 50 gallons).
4. Perox. 0.35%.
5. Ferrousul (1 oz. in 1 gallon).
6. Wetcol 15 (1 oz. in one gallon).
7. Agri cop (4%).
8. Cupravit.
10. Control.

3. DESIGN:
(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 3. (iv) (a) 25'×22'. (b) 23'×20'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) N.A. (iii) Intensity of disease; pod yield. (iv) (a) 1952—1957. (b) No. (c) N.A. (v) (a), (b), Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 613 lb. ac.
(ii) 214.9 lb. ac.
(iii) Treatments do not differ significantly.
(iv) Av. yie'd of pods in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>900</td>
</tr>
<tr>
<td>2.</td>
<td>723</td>
</tr>
<tr>
<td>3.</td>
<td>619</td>
</tr>
<tr>
<td>4.</td>
<td>643</td>
</tr>
<tr>
<td>5.</td>
<td>608</td>
</tr>
<tr>
<td>6.</td>
<td>448</td>
</tr>
<tr>
<td>7.</td>
<td>561</td>
</tr>
<tr>
<td>8.</td>
<td>426</td>
</tr>
<tr>
<td>9.</td>
<td>466</td>
</tr>
<tr>
<td>10.</td>
<td>734</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>124.0 lb./ac.</td>
</tr>
</tbody>
</table>
Crop: Chillies.  
Site: Lam Farm, Guntur.  
Object: To compare the effect of F.Y.M. and G.N.C. on the yield of the crop.

1. BASAL CONDITIONS:
   (i) (a) Jowar-Country tobacco-Variga-Chillies. (b) Variga. (c) N.A.  
   (ii) (a) Deep black soil. (b) Refer soil analysis, Guntur. (iii) N.A.  
   (iv) (a) 6 to 7 ploughings. (b) Transplanted. (c) —. (d) 22" x 11". 
   (e) 1. (v) Nil. (vi) 398. (vii) Unirrigated. (viii) 3 to 4 weedings. (ix) N.A. (x) N.A.

2. TREATMENTS:
   1. G.N.C. at 500 lb./ac.  
   2. F.Y.M. at 10,000 lb./ac.  
   3. No manure.

   F.Y.M. applied one month prior to sowing and ploughed in. G.N.C applied at sowing and puddled.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 33' x 16.5'. (b) 26' x 9.2'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield of chillies. (iv) (a) 1944-1948. (b) No. (c) N.A. (v) (a), (b) Nil. 
   (vi) Nil. (vii) Raw data N.A.

5. RESULTS:
   (i) 782 lb./ac.  
   (ii) N.A.  
   (iii) Treatments do not differ significantly.  
   (iv) Av. yield of ripe chillies in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>710</td>
</tr>
<tr>
<td>2.</td>
<td>819</td>
</tr>
<tr>
<td>3.</td>
<td>817</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>— N.A.</td>
</tr>
</tbody>
</table>

Crop: Chillies.  
Site: Lam Farm, Guntur.  
Object: To study the residual effect of G.N.C. and F.Y.M. on the yield of the crop.

1. BASAL CONDITIONS:
   (i) (a) Jowar-Country tobacco-Variga-Chillies. (b) Variga. (c) As under treatments.  
   (ii) (a) Deep black soil. (b) Refer soil analysis, Guntur. (iii) N.A.  
   (iv) (a) 6 to 7 ploughings. (b) Transplanted. (c) —. (d) 22" x 11". 
   (e) 1. (v) Nil. (vi) 398. (vii) Unirrigated. (viii) 3 to 4 weedings. (ix) N.A. (x) N.A.

2. TREATMENTS:
   1. G.N.C. at 500 lb./ac.  
   2. F.Y.M. at 10,000 lb./ac.  
   3. No manure.

   Manure applied to the previous crop Variga.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 33' x 16.5'. (b) 26' x 9.2'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Chillies yield. (iv) (a) 1945-1948. (b) No. (c) N.A. (v) (a), (b) Nil. 
   (vi) Nil. (vii) Raw data N.A.

Crop: Chillies.  
Site: Lam Farm, Guntur.  
Object: To study the residual effect of G.N.C. and F.Y.M. on the yield of the crop.
5. RESULTS:
(i) 636 lb./ac.
(ii) N.A.
(iii) Treatments do not differ significantly.
(iv) Av. yield of ripe chillies 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>716</td>
<td>N.A.</td>
</tr>
<tr>
<td>2.</td>
<td>632</td>
<td>N.A.</td>
</tr>
<tr>
<td>3.</td>
<td>561</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

Crop: - Chillies.
Site: - Lam Farm, Guntur.

Object: - To study the comparative effects of night soil compost with F.Y.M. in getting high yields.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Black cotton soil. (b) Refer soil analysis, Guntur. (iii) First week of August 50 and 0.1950. (iv) (a) to (c) N.A. (v) Nil. (vi) G-1. (vii) Unirrigated. (viii) 2 or 3 hand weedicings (ix, 5.76° (October to Feb.). (x) 2nd and 24th Feb. 1951.

2. TREATMENTS:
1. F.Y.M. at 120 lb./ac. of N.  
2. Night soil compost at 120 lb./ac. of N.  
3. Control (no manure).  
Manures applied on 1.10.1950.

3. DESIGN:
(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 1.50 cents. (b) 0.68 cents. (v) N.A. (vi) Yes.

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

5. RESULTS:
(i) 828 lb./ac.
(ii) 151.9 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of ripe chillies 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>787</td>
<td>=62.1 lb./ac.</td>
</tr>
<tr>
<td>2.</td>
<td>1122</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>574</td>
<td></td>
</tr>
</tbody>
</table>

Crop: - Chillies.
Site: - Lam Farm, Guntur.

Object: - To find out whether close spacing of plants in rows can be a means to reduce the loss due to grub and thrips.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) fodder Jowar. (c) N.A. (ii) (a) Deep black soil. (b) Refer soil analysis, Guntur. (iii) 29.9.1948. (iv) (a) 6 to 7 ploughings. (b) Transplanted. (c) - . (d) As under treatments. (e) As under treatments. (f) N.A. (g) N.A. (h) Unirrigated. (vii) 3 to 4 weedicings. (ix) 13.26° (Sep. to March 1949). (x) 11.2.1949 to 5.3.1949.
2. TREATMENTS:
1. Spacings between rows 22" x within rows 22" in bunches (control).
2. Spacings between rows 22" x within rows 11" in singles.
3. Spacings between rows 22" x within rows 7.3" in singles.
4. Spacings between rows 22" x within rows 5.5" in singles.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 0.21 cents. (b) 0.10 cents. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Chilies affected owing to excessive rainfall in November 1948. (ii) Nil. (iii) Yield of chillies. (iv) (a) 1947 to 1949. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 2242 lb./ac.
(ii) 345.0 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of ripe chillies in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2141</td>
</tr>
<tr>
<td>2.</td>
<td>2135</td>
</tr>
<tr>
<td>3.</td>
<td>2112</td>
</tr>
<tr>
<td>4.</td>
<td>2581</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>141.0 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Chillies. 
Site :- Lam Farm, Guntur. 
Ref :- A.P. 49(19). 
Type :- 'C'.

Object :- To find out whether close spacing of plants in rows can be a means to reduce the loss due to grubs and thrips.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Jowar with redgram. (c) N.A. (ii) (a) Deep black soil. (b) Refer soil analysis, Guntur. (iii) 20.7.1949/20.9.1949. (iv) (a) 6 to 7 ploughings. (b) Transplanted. (c) —. (d), (e) As under treatments. (v) F.Y.M. at 10 C.L./ac. (vi) G-1. (vii) Unirrigated. (viii) 3 to 4 weedings. (ix) N.A. (x) 16.1.1950 to 20.3.1950.

2. TREATMENTS:
1. Spacings between rows 22" x within rows 22" in branches (control).
2. Spacings between rows 22" x within rows 11" in singles.
3. Spacings between rows 22" x within rows 7.3" in singles.
4. Spacings between rows 22" x within rows 5.5" in singles.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 3.36 cents. (b) 2.48 cents. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Not satisfactory. Heavy rains and cyclonic winds. (ii) Severe attack of cock chaffer grubs, fusarium wilt and thrips. (iii) Yield of chillies. (iv) (a) 1947—1949. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 334 lb./ac.
(ii) 24.6 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of ripe chillies in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>266</td>
</tr>
<tr>
<td>2.</td>
<td>331</td>
</tr>
<tr>
<td>3.</td>
<td>358</td>
</tr>
<tr>
<td>4.</td>
<td>381</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>10.0 lb./ac.</td>
</tr>
</tbody>
</table>
Crop :- Chillies.  Ref :- A.P. 50(1).
Site :- Lam Farm, Guntur.  Type :- 'C'.

Object :- To compare the recommended spacing with the local method of bunch planting.

1. BASAL CONDITIONS:
   (i) (a) No. (b) Millets and redgram mixture. (c) Nil.  (ii) Deep black soil. (b) Refer soil analysis, Guntur, 1950-1951.
   (iii) 15.7.1950, 26.9.1952.  (iv) (a) 5 ploughings. (b) Transplanting.  (c) ---  (d) and (e) As under treatments.
   (ix) 21.95'.  (x) 19.1.1951 to 3.2.1951.

2. TREATMENTS:
   1. Local Method : 22' x 22' spacing, 4 seedlings/bunch and interculture both ways.
   2. Recommended method : 22' x 51' spacing, single seedling per hole, and interculture one way.

3. DESIGN:
   (i)  R.B.D. (ii) 3.  (b) N.A.  (iii) 12.  (iv) (a) 36.3' x 34.1'. (b) 29.0' x 27.2'.  (v) N.A.  (vi) Yes.

4. GENERAL:
   (i) Normal.  (ii) Slight attack of thrips.  (iii) Yield of chillies.  (iv) (a) 1950—1952.  (b) No.  (c) N.A.  (v) Nil.  (vi) and (vii) Nil.

5. RESULTS:
   (i) 1459 lb./ac.  
   (ii) 289.3 lb./ac.
   (iii) Treatments differ highly significantly.
   (iv) Av. yield of dry chillies in lb./ac.
   Treatment  Av. yield
          1.       1223
          2.       1754
   S.E., mean = 83.5 lb./ac.

---

Crop :- Chillies.  Ref :- A.P. 51(28).
Site :- Lam Farm, Guntur.  Type :- 'C'.

Object :- To compare the recommended close planting against local method of bunch planting.

1. BASAL CONDITIONS:
   (i) (a) Chillies—Cotton. (b) Cotton.  (c) N.A.  (ii) (a) Deep black soil.  (b) Refer soil analysis, Guntur, 1950-1951.
   (iii) 5.10.1951, 51.  (iv) (a) 6 ploughings. (b) Transplanted.  (c) ---  (d) and (e) As under treatments.
   (ix) 21.95'.  (x) 6.2.1952 and 17.3.1952.

2. TREATMENTS:
   1. Local method of bunch planting, 4 seedlings/hole at 22' x 22' spacing and interculture both ways.
   2. Local method of bunch planting, 4 seedlings/hole at 22' x 22' spacing and interculture one way only.
   3. Close planting at 22' x 51' spacing, one seedling/hole and interculture one way only.

3. DESIGN:
   (i)  R.B.D. (ii) 3.  (b) N.A.  (iii) 8.  (iv) (a) 25.4' x 36.3'. (b) 10.9' x 29.0'.  (v) N.A.  (vi) Yes.

4. GENERAL:
   (i) Season abnormal after transplanting.  (ii) Nil.  (iii) Yield of chillies.  (iv) (a) 1950—1952.  (b) No.  (c) N.A.  
   (v) Nil.  (vi) and (vii) Nil.

5. RESULTS:
   (i) 254 lb./ac.
   (ii) 49.3 lb./ac.
   (iii) Treatments do not differ significantly.
(iv) Av. yield of dry chillies in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>279</td>
</tr>
<tr>
<td>2.</td>
<td>243</td>
</tr>
<tr>
<td>3.</td>
<td>240</td>
</tr>
</tbody>
</table>

S.E./mean = 17.4 lb./ac.

Crop: - Chillies.
Site: - Lam Farm, Guntur.

Object: - To compare the recommended close spacing against local method of bunch planting.

1. BASAL CONDITIONS:
   (i) (a) Chillies—cotton. (b) Chillies and cotton. (c) N.A. (ii) (a) Black cotton soil. (b) Refer soil analysis, Guntur. (iii) 8.10.1952. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) and (e) As under treatments. (v) F.Y.M. at 10 C.L./ac. + P. pillipesara at 400 lb./ac. + G.N.C. at 30 lb./ac. of N. (vi) Chillies 1402. (vii) Unirrigated. (viii) 2 weedings. (ix) N.A. (x) 25th January, 16th and 28th February, 1953.

2. TREATMENTS:
   1. Local method of bunch planting, 4 seedlings/hole at 22" x 22" spacing and interculture both ways.
   2. Local method of bunch planting, 4 seedlings/hole at 22" x 22" spacing and interculture one way only.
   3. Close planting at 22" x 5" spacing, one seedling/hole and interculture one way only.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 25.4' x 72.6', (b) 10.9' x 58.4'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield of chillies. (iv) (a) 1950—1952. (b) No. (c) N.A. (v) (a) and (b) Nil (vi) and (vii) Nil.

5. RESULTS:
   (i) 604 lb./ac.
   (ii) 160.6 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of dry chillies in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>565</td>
</tr>
<tr>
<td>2.</td>
<td>610</td>
</tr>
<tr>
<td>3.</td>
<td>638</td>
</tr>
</tbody>
</table>

S.E./mean = 65.6 lb./ac.

Crop: - Chillies.
Site: - Lam Farm, Guntur.

Object: - To compare the incidence of thrips by delaying planting and judging yield in relation to thrip incidence.

1. BASAL CONDITIONS:
   (i) (a) No. (b) Millets and redgram mixture. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Guntur. (iii) Nursery raised on 15.7.1950 transplanted on 20.9.1950, nursery raised on 30.7.1950/ transplanted on 5.10.1950, nursery raised on 15.8.1950/ transplanted on 20.10.1950 and nursery raised on 31.8.1950 transplanted on 4.11.1950. (iv) (a) 5 ploughings. (b) Transplanting. (c) —. (d) 22" x 7". (e) 1. (v) F.Y.M. at 20 C.L./ac.+G.N.C. at 30 lb./ac. (vi) Chillies-1402. (vii) Unirrigated. (viii) 2 weedings. (ix) 21.95". (x) 28.1.1951 and 3.2.1951.
2. TREATMENTS:
1. Normal planting.
2. Planting a fortnight later.
3. Planting two fortnights later.
4. Planting three fortnights later.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 31.5’ x 18.2’. (b) 30.2’ x 13.9’. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Late planted crop is poor in growth. (ii) Attack of thrips. (iii) The mean percentage of plants with thrips grade 3 to the total population and chillies yield. (iv) (a) No. (b) No. (c) N.A. (v) ‘a’, (b) Nil. (vi) N.A. (vii) As no yield was available for the fourth treatment the data was analysed without this treatment.

5. RESULTS:
(i) 483 lb. ac.
(ii) 280.3 lb. ac.
(iii) Treatments differ significantly.
(iv) Av. yield of green chillies in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>954</td>
</tr>
<tr>
<td>2.</td>
<td>412</td>
</tr>
<tr>
<td>3.</td>
<td>82</td>
</tr>
<tr>
<td>4.</td>
<td>Failed</td>
</tr>
</tbody>
</table>
| S.E.; mean| 11+0 lb./ac.

Crop :- Chillies.  
Ref :- A.P. 51 (38)  
Site :- Lam Farm, Guntur.  
Type :- ‘C’.

Object :- To find out the number of seedlings required per bunch and optimum spacing between bunches for maximum yield.

1. BASAL CONDITIONS:
(i) Cotton-chillies. (b) Cotton. (c) N.A. (ii) Black cotton soil. (b) Refer soil analysis, Guntur. (iii) 7.10.1951. (iv) a) 5 ploughings. (b) Transplanted. (c) –. (d) 22’ between rows and as per treatments. within rows (e) As under treatments. (v) F.Y.M. at 20 C.L./ac.+G.N.C. at 30 lb./ac. of N. F.Y.M. given as basal close at the time of ploughing and incorporated in the soil. G.N.C. given as top dressing after transplanting. (vi) Chilling 1502. (vii) Unirrigated. (viii) 2 weedings and one interculture with palmist junior hoe. (ix) 10.36”. (x) 31.1.1952 to 15.3.1952.

2. TREATMENTS:
Main-plot treatments :
Spacing between rows x spacing within rows : R₁ = 22” x 5.5", R₂ = 22” x 11” and R₃ = 22” x 22”.
Sub-plot treatments :
No. of seedlings/bunch : S₁ = 1, S₂ = 2, S₃ = 4, S₄ = 6 and S₅ = 8.

3. DESIGN:
(i) S.p.t.-plot. (ii) (a) 3 main-plots/block ; 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 10.9” x 39.9”. (b) 7.3’ x 32.7’. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Progress of the crop not encouraging. Prolonged drought after transplanting. (ii) Heavy incidence of thrips. (iii) Chillies yellow. (iv) ‘a’; 1951 to 1953. (b) No. (c) N.A. (v) ‘a’, (b) Nil. (vi) and (vii) Nil.
5. RESULTS:

(i) 149 lb./ac. 
(ii) (a) 85.19 lb./ac. 
(b) 48.15 lb./ac. 
(iii) None of the effects is significant. 
(iv) Av. yield of dry chillies in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S5</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>174</td>
<td>158</td>
<td>154</td>
<td>175</td>
<td>81</td>
<td>149</td>
</tr>
<tr>
<td>R2</td>
<td>157</td>
<td>101</td>
<td>165</td>
<td>224</td>
<td>140</td>
<td>157</td>
</tr>
<tr>
<td>R3</td>
<td>140</td>
<td>91</td>
<td>139</td>
<td>195</td>
<td>145</td>
<td>142</td>
</tr>
<tr>
<td>Mean</td>
<td>157</td>
<td>116</td>
<td>153</td>
<td>198</td>
<td>122</td>
<td>149</td>
</tr>
</tbody>
</table>

S.E. of difference of two 
1. R marginal means = 34.77 lb./ac. 
2. S marginal means = 15.21 lb./ac. 
3. S means at the same level of R = 34.05 lb./ac. 
4. R means at the same level of S = 44.53 lb./ac.

Crop :- Chillies. 
Site :- Lam Farm, Guntur. 
Ref :- A.P. 52(38). 
Type :- 'C'.

Object :- To find out the number of seedlings required per bunch and optimum spacing between bunches for maximum yield.

1. BASAL CONDITIONS:

(i) (a) Chillies-cotton. (b) Cotton. (c) 25 C.L./ac. of F.Y.M.+5000 lb./ac. of G.L.+40 lb./ac. of N as A/S. (ii) (a) Black cotton soil. (b) Refer soil analysis, Guntur. (iii) Transplanted on 9.10.1952. (iv) (a) 5 ploughings. (b) Transplanting. (c) to (e) As under treatments. (v) F.Y.M. at 10 C.L./ac.+ 4000 lb./ac. of pellipesara as G.M.+30 lb./ac. of N as G.N.C. (vi) Chillies=1402. (vii) Unirrigated. (viii) 2 weedings and one interculture with planet junior hoe. (ix) N.A. (x) 25.1.1953 to 28.2.1953.

2. TREATMENTS:

Main-plot treatments:
Spacing between rows x spacing with in rows: R1=22"x5.5", R2=22"x11" and R3=22"x22".
Sub-plot treatments:
No. of seedlings/hole : S1=1, S2=2, S3=4, S4=6 and S5=8.

DESIGN:
(i) Split-plot. (ii) (a) 3 main-plots/block ; 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 21.8'x33'. (b) 14.5'x30.4'. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Normal. (ii) Nil. (iii) Only yield of chillies (iv) (a) 1951—1953. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 395 lb./ac. 
(ii) (a) 175.9 lb./ac. 
(b) 176.9 lb./ac. 
(iii) None of the effects is significant.
Av. yield of dry chillies in lb/ac.

<table>
<thead>
<tr>
<th></th>
<th>S₁</th>
<th>S₂</th>
<th>S₃</th>
<th>S₄</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>R₁</td>
<td>591</td>
<td>383</td>
<td>609</td>
<td>394</td>
<td>381</td>
</tr>
<tr>
<td>R₂</td>
<td>256</td>
<td>335</td>
<td>486</td>
<td>376</td>
<td>483</td>
</tr>
<tr>
<td>R₃</td>
<td>221</td>
<td>264</td>
<td>320</td>
<td>321</td>
<td>500</td>
</tr>
</tbody>
</table>

Mean    | 356| 310| 471| 363| 454  | 395  |

S.E. of difference of two

1. R marginal means = 55.9 lb/ac.
2. S marginal means = 72.7 lb/ac.
3. S means at the same level of R = 125.1 lb/ac.
4. R means at the same level of S = 125.0 lb/ac.

Crop: Chillies.

Site: Lam Farm, Guntur. Type: 'C'.

Object: To find out the number of seedlings required per bunch and optimum spacing between bunches for maximum yield.

1. BASAL CONDITIONS:
   1. (a) No. (b) Chillies. (c) 10 C.L./ac. of F.Y.M.+1 cwt./ac. of A/S+2 bags/ac. of G.N.C. (ii) (a) Deep black clayey soil. (b) Refer soil analysis, Guntur. (iii) 17.7.1953/18.9.1953. (iv) (a) 6 ploughings. (b) Transplanting. (c), (d) and (e) As under treatments. (v) 10 C.L./ac. of F.Y.M.+1 cwt. ac. of A/S+2 bags/ac. of G.N.C. (vi) G-1. (vii) Irrigated. (viii) 2 weedings and one interculture with plant junior hoe. (x) 16.5'. (x) 3.1.1954 to 24.2.1954.

2. TREATMENTS:
   Main-plot treatments:
   - Spacing between rows x spacing within rows: R₁ = 22' x 5.5', R₂ = 22' x 11' and R₃ = 22' x 22'.
   - Sub-plot treatments:
     - No. of seedlings/hole: S₁ = 1, S₂ = 2, S₃ = 4, S₄ = 6 and S₅ = 8.

3. DESIGN:
   (i) Split-plot. (ii) 3 main-plots/replication; 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 21.8' x 33'. (b) 14.5' x 30'. (v) 3.6' breadth wise; 1.3' length wise. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Thrips attack, aggnocide P 530 was sprayed. (iii) Yield of chillies only. (v) (a) 1951-1953. (b) No. (c) N.A. (v) (a); (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 595 lb/ac.
   (ii) 127.5 lb/ac.
   (b) 87.8 lb/ac.
   (iii) A1 effects are highly significant.
   (iv) Av. yield of dry chillies in lb/ac.

<table>
<thead>
<tr>
<th></th>
<th>S₁</th>
<th>S₂</th>
<th>S₃</th>
<th>S₄</th>
<th>S₅</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>R₁</td>
<td>332</td>
<td>403</td>
<td>424</td>
<td>494</td>
<td>623</td>
<td>455</td>
</tr>
<tr>
<td>R₂</td>
<td>493</td>
<td>476</td>
<td>634</td>
<td>644</td>
<td>698</td>
<td>589</td>
</tr>
<tr>
<td>R₃</td>
<td>699</td>
<td>635</td>
<td>780</td>
<td>778</td>
<td>816</td>
<td>742</td>
</tr>
</tbody>
</table>

Mean 507 505 613 639 712 595

S.E. of difference of two

1. R marginal means = 40.3 lb/ac.
2. S marginal means = 35.9 lb/ac.
3. S means at the same level of R = 62.1 lb/ac.
4. R means at the same level of S = 68.7 lb/ac.
Crop :- Chillies. Ref :- A.P. 53(19).
Site :- Lam Farm, Guntur. Type :- ‘C’.

Object :- To compare the yields of recommended close spacing with singles receiving one-way interculture against local bunch planting with and without two-way interculture.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Chillies. (c) 25 C.L./ac. of F.Y.M.+5000 lb./ac. of G.L.+40 lb./ac of N as A/S. (ii) (a) Black cotton soil. (b) Refer soil analysis, Guntur. (iii) 19.9.1953. (iv) (a) 5 ploughings. (b) Transplanting. (c)-. (d) and (e) As under treatments. (v) 25 C.L./ac. of F.Y.M.+5000 lb./ac. of G.L.+40 lb./ac. of N as A/S. (vi) Chillies-1402. (vii) Unirrigated. (viii) 2 weedings. (ix) 16.2”. (x) 2.1.1954 ; 30.1.1954 ; 24.2.1954.

2. TREATMENTS :
   1. Recommended method : 1 seedling/hill, 51”x22” spacing and one way interculture.
   2. Local method of bunch planting : 4 seedlings per hill, distance between hill to hill and row to row 22” with length wise and cross wise interculture.
   3. Local method of bunch planting : 4 seedlings per hill, distance between hill to hill and row to row 22”, with one way interculture.

3. DESIGN :
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 58.1’x43.6’. (b) 54.5’x39.9’. (v) About 2’ on all sides left as border. (vi) Yes.

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

5. RESULTS :
   (i) 614 lb./ac.
   (ii) 12.46 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of dry chillies in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>626</td>
</tr>
<tr>
<td>2.</td>
<td>614</td>
</tr>
<tr>
<td>3.</td>
<td>665</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>5.08 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Chillies. Ref :- A.P. 53(21).
Site :- Lam Farm, Guntur. Type :- ‘C’.

Object :- To find out the optimum age of seedlings for transplanting along with methods of planting.

1. BASAL CONDITIONS :
   (i) (a) Chillies after chillies. (b) Chillies. (c) 25 C.L./ac. of F.Y.M.+5000 lb./ac. of G.L.+40 lb./ac. of N as A/S. (ii) (a) Black cotton soil. (b) Refer soil analysis, Guntur. (iii) Planting on 16.9.1953. (iv) (a) 5 ploughings. (b) Transplanting. (c)-. (d) and (e) N.A. (v) 25 C.L./ac. of F.Y.M.+5000 lb./ac. of G.L.+40 lb./ac. of N as A/S. (vi) G.2-chillies. (vii) Unirrigated. (viii) 2 weedings, (ix) 16.2”, (a) 14.1.1954 to 22.2.1954.

2. TREATMENTS :
   Main-plot treatments :
   Methods of planting : M1=Close and M2=Bunch.
   Sub-plot treatments :
   Age of seedlings : A1=8 weeks old, A2=7 weeks old, A3=6 weeks old, A4=5 weeks old and A5=4 weeks old.

3. DESIGN :
   (i) Split-plot. (ii) (a) 2 main-plots/block ; 5 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 1.210 cents. (b) 0.817 cents. (v) N.A. (vi) Yes.
4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Chillies yield. (iv) (a) No. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 787 lb./ac.
(ii) (a) 202.6 lb./ac.
(b) 99.1 lb./ac.
(iii) Only 'age of seedlings' effect is highly significant.
(iv) Av. yield of dry chillies in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>A1</th>
<th>A2</th>
<th>A3</th>
<th>A4</th>
<th>A5</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td>872</td>
<td>853</td>
<td>843</td>
<td>616</td>
<td>717</td>
<td>784</td>
</tr>
<tr>
<td>M2</td>
<td>928</td>
<td>833</td>
<td>903</td>
<td>575</td>
<td>710</td>
<td>790</td>
</tr>
<tr>
<td>Mean</td>
<td>900</td>
<td>843</td>
<td>873</td>
<td>676</td>
<td>714</td>
<td>787</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. M marginal means =52.3 lb./ac.
2. A marginal means =40.4 lb./ac.
3. A means at the same level of M = 57.1 lb./ac.
4. M means at the same level of A = 73.2 lb./ac.

Crop :- Chillies.
Site :- Lam Farm, Guntur.

Ref.:- A.P. 50(3).
Type.:- 'D'.

Object :- To compare the effects of B.H.C. and D.D.T. (dusts and sprays) in checking deterioration due to thrips damage and their effects on the yield.

1. BASAL CONDITIONS:

(i) (a) No. (b) Jowar. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Guntur. (iii) 12 7.50 and 8.10.1950. (iv) (a) 5 ploughings. (b) Transplanting. (c) -. (d) 22"x22" bunch planting. (e) 4 x 5. (v) 10 C.L./ac. of P.Y.M. (vi) Chillies-1402. (vii) Unirrigated. (viii) 2 weedings. (ix) 21.95". (x) 23.1.51 and 5.3.1951.

2. TREATMENTS:

1. Control.
2. Gammaxene P-520 spray 1 oz. in one gallon of water at 50 gallons spray per acre.
3. Guerrol-410 dust at 15 lb./ac.
4. Guerrol-50 spray at 1 oz. in one gallon of water at 53 gallons spray per acre.
5. Gammaxene dust D .025 at 15 lb./ac.

3. DESIGN:

(i) R.B.D. (ii) 5. (b) N.A. (iii) 4. (iv) (a) 36.3'x25.4'. (b) 29.0'x18.2'. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Normal. (ii) Attack of thrips. (iii) Stand, wt. of plants and chillies weight. The plants were thrip graded and the percentage of grade 3 plants per unit area calculated at two different dates. (iv) (c) 1951—1953. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 1350 lb./ac.
(ii) 181.7 lb./ac.
(iii) Treatments differ highly significantly.
(iv) Av. yield of green chillies in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1090</td>
</tr>
<tr>
<td>2.</td>
<td>1705</td>
</tr>
<tr>
<td>3.</td>
<td>1274</td>
</tr>
<tr>
<td>4.</td>
<td>1285</td>
</tr>
<tr>
<td>5.</td>
<td>1455</td>
</tr>
</tbody>
</table>

S.E./mean = 90.9 lb./ac.
Crop: - Chillies.
Site: - Lam Farm, Guntur.

Object: - To compare the effects of different B.H.C. strengths by different methods of application in checking thrips damage to Chillies.

1. BASAL CONDITIONS:
(i) (a) Chillies-Jowar. (b) Jowar with Redgram. (c) Nil. (ii) (a) Deep black soil. (b) Refer soil analysis, Guntur. (iii) 29.8.1952/26.9.1952. (iv) (a) 5 ploughings. (b) Transplanting. (c) - . (d) 22" x 22" bunch. (e) 4 or 5. (v) F.Y.M. at 20 C.L./ac. + G.N.C. at 30 lb./ac. of N. (vi) 1-402. (vii) Unirrigated. (viii) 2 hand weedings and one interculture with planet junior hoe. (ix) 21.22". (x) 20.1.1953 and 16.28.2.1953.

2. TREATMENTS:

(1) Treatments 1 to 6 applied in two rounds as follows:
First round on 21st November 1961 when leaf curl just appeared. Treatments 1 to 3 at 15 lb. of dust per acre and treatments 4 to 6 at 12 lb./ac. of dust.
Second round on 14th Oct. 1951—three weeks later; treatments 1 to 3 at 20 lb./ac. of dust and treatments 4 to 6 at 15 lb./ac. of dust.
(2) Prophylactic round was given on 6.11.1951. before thrip appeared.
(3) Local method of dusting: Allowing the chemical to fall on the plant by shaking a cloth bag of fine texture containing the dust.

3. DESIGN:
(i) R.B.D. (ii) (a) 11. (b) N.A. (iii) 8. (iv) (a) 12.7' x 36.3'. (b) 9.1' x 29.9'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Season abnormal after transplanting. (ii) Nil. (iii) Percentage of thrip grade 3 levels in December. Yield of chillies. (iv) (a) 1951—1953. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 371 lb./ac.
(ii) 70.9 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of dry chillies in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>340</td>
<td>7.</td>
<td>356</td>
</tr>
<tr>
<td>2.</td>
<td>380</td>
<td>8.</td>
<td>437#</td>
</tr>
<tr>
<td>3.</td>
<td>343</td>
<td>9.</td>
<td>401</td>
</tr>
<tr>
<td>4.</td>
<td>347</td>
<td>10.</td>
<td>342</td>
</tr>
<tr>
<td>5.</td>
<td>371</td>
<td>11.</td>
<td>348</td>
</tr>
<tr>
<td>6.</td>
<td>424</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 25.1 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop: - Chillies.
Site: - Lam Farm, Guntur.

Object: - To compare the effects of different strengths of B.H.C. in checking thrips damage to Chillies.

1. BASAL CONDITIONS:
2. TREATMENTS:

2. B.H.C. 5% dusting by local method as adopted by Ryots.
3. B.H.C. 5% dusting with rotary duster.
4. B.H.C. 10% dusting by local method as adopted by Ryots.
5. B.H.C. 10% dusting with rotary duster.
6. B.H.C. 50% spraying.

The insecticides were applied in two rounds—once when leaf curl was just seen and second four weeks later.

Dosages:

- B.H.C. 5%: First round 20 pounds of dust and Second round 25 pounds of dust.
- B.H.C. 10%: First round 15 pounds of dust and Second round 20 pounds of dust.
- B.H.C. 50%: Spraying at 4 oz. in one gallon; first round—50 gallons of fluid per acre and second round—60 gallons of fluid per acre.

3. DESIGN:

(i) R.B.D. (ii) 6. (b) N.A. (iii) 6. (iv) 3. 12.7' x 72.6'. (b) 9.1' x 59.4'. (v) N.A. (vi) Yes.

4. RESULTS:

(i) 583 lb./ac.
(ii) 79.8 lb. ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of dry chillies in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>543</td>
</tr>
<tr>
<td>2</td>
<td>593</td>
</tr>
<tr>
<td>3</td>
<td>624</td>
</tr>
<tr>
<td>4</td>
<td>559</td>
</tr>
<tr>
<td>5</td>
<td>592</td>
</tr>
<tr>
<td>6</td>
<td>583</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>32.6 lb./ac.</td>
</tr>
</tbody>
</table>

Crop:—Chillies.
Site:—Lam Farm, Guntur.

Object:—To compare the effects of different strengths of B.H.C. in checking thrips damage to Chillies.

1. BASAL CONDITIONS:

(a) Chillies after chilies. (b) Chillies. (c) 25 C.L. ac. of F.Y.M. + 500 lb. ac. of G.L. + 40 lb. ac. of N as A.S. (d) Black cotton soil. (e) See soil analysis, Guntur. (iii) 23.3.1953 to 17.9.1953. (iv) 5 ploughings. (v) Transplanting. (vi) 22" x 31".


2. TREATMENTS:

1. Control.
2. B.H.C. 5% spraying.
3. B.H.C. 10% dusting with rotary duster.
4. B.H.C. 10% by local method.
5. B.H.C. 5% rotary duster.
6. B.H.C. 5% local method.

3. DESIGN:

(i) R.B.D. (ii) 6. (b) N.A. (iii) 6. (iv) 4. (a) 2.12 cents. (b) 1.24 cents. (v) N.A. (vi) Y.s.

4. GENERAL:

(a) Satisfactory. (ii) Nil. (iii) Yield of chillies (iv) (a) 1951 to 1953. (b) No. (c) N.A. (d) Nil. (v) and (vi) Nil.
5. RESULTS:
(i) 974 lb./ac.
(ii) 79.1 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of green chillies in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>544</td>
</tr>
<tr>
<td>2.</td>
<td>1022</td>
</tr>
<tr>
<td>3.</td>
<td>968</td>
</tr>
<tr>
<td>4.</td>
<td>977</td>
</tr>
<tr>
<td>5.</td>
<td>934</td>
</tr>
<tr>
<td>6.</td>
<td>998</td>
</tr>
</tbody>
</table>

S.E./mean = 32.2 lb./ac.

Object:—To find out a suitable manurial mixture to Potato crop.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Sannhemp. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Araku Valley. (iii) 20.10.1948. (iv) (a) 3 or 4 ploughings and levelling. (b) Seeds dibbled. (c) 2000 lb./ac. (d) 9"x24". (e) N.A. (v) G.M. crop of Sannhemp raised and ploughed in. Quantity, etc. N.A. (vi) Mysore Rickets. (vii) Irrigated. (viii) 2 or 3 weelings during Nov.-Dec. 1948. (ix) 13.36°. (x) 27.1.1949.

2. TREATMENTS:
4 manure mixture:
1. G.N.C. at 500 lb./ac.+Ammo. Phos. at 300 lb./ac.+concentrated Super at 250 lb./ac.+B.M. at 300 lb./ac.+Pot. Sul. at 200 lb./ac.
2. G.N.C. at 500 lb./ac.+Ammo. Phos. at 300 lb./ac.+ordinary Super at 1000 lb./ac.+Pot. Sul. at 200 lb./ac.
3. G.N.C. at 500 lb./ac.+ordinary Super at 1500 lb./ac.+A/S at 200 lb./ac.+Pot. Sul. at 200 lb./ac.

Manure mixture was evenly distributed in furrows, well stirred with the soil and seeds dibbled.

3. DESIGN:
(i) R.B.D. (ii) 4. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 1/20 acre. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Germination not uniform and stand very patchy. Yields poor and erratic. (ii) Affected by Alternaria Solanici. (iii) Tuber yield. (iv) (a) 1947-1951. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) Yields erratic and poor. The crop can be said to be a failure during the year. (vii) Nil.

5 RESULTS:
(i) 571 lb./ac.
(ii) 362.2 lb./ac.
(iii) Treatments do not differ significantly.
(v) Av. yield of tubers in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>720</td>
</tr>
<tr>
<td>2.</td>
<td>556</td>
</tr>
<tr>
<td>3.</td>
<td>400</td>
</tr>
<tr>
<td>4.</td>
<td>608</td>
</tr>
</tbody>
</table>

S.E./mean = 162.0 lb./ac.
Crop: Potato.  
Site: Demonstration Farm, Araku Valley.  
Ref: A.P. 49 (45)  
Type: ‘M’

Object: To find out a suitable manurial mixture to Potato crop.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Sannhemp. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Araku Valley.  
   (iii) 12.11.1949. (iv) (a) 3 or 4 ploughings and levelling. (b) Seeds dibbled. (c) 2000 lb./ac.  
   (d) 5°x 24° @ N.A. v) G.M. crop of Sannhemp sown on 10.4.1949 and ploughed in early July 49 at 5000 lb./ac. of G.L.  
   (vi) Mysore Rickets. (vii) Irrigated. (viii) 2 or 3 weedings. (ix) 1.26’. (x) 14.3.1950.

2. TREATMENTS:
   4 mixture mixtures:
   1. G.N.C. at 500 lb./ac.+Ammo. Phos. at 300 lb./ac.+concentrated Super at 250 lb./ac.+B.M. at 300 lb./ac.+Pot. Sul. at 200 lb./ac.
   2. G.N.C. at 500 lb./ac.+Ammo. Phos. at 300 lb./ac.+ordinary Super at 1000 lb./ac.+Pot. Sul. at 200 lb./ac.
   3. G.N.C. at 500 lb./ac.+ordinary Super at 1500 lb./ac.+A/S at 200 lb./ac.+Pot. Sul. at 200 lb./ac.

Mixture mixture was evenly distributed in furrows, well stirred with the soil and then seeds dibbled.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) N.A. (b) 5 cents. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) Nil. (iii) Tuber yield. (iv) (a) 1947-1951. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 5263 lb./ac.
   (ii) 834.9 lb./ac.

   (iii) Treatments do not differ significantly.

   (iv) Av. yield of tuber in lb./ac.  
   Treatment Av. yield  
   1. 5170  
   2. 5700  
   3. 5560  
   4. 4620  
   S.E./mean = 373.4 lb./ac.

---

Crop: Potato.  
Site: Demonstration Farm, Araku Valley.  
Ref: A.P. 50(57).  
Type: ‘M’. 

Object: To find out a suitable manurial mixture to Potato crop.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Sannhemp. (c) Nil. (ii) (a) Red sandy loam (5th replicationsaline). (b) Refer soil analysis, Araku Valley.  
   (iii) 22.11.1950. (iv) (a) 3 or 4 ploughings and levelling. (b) Seeds dibbled. (c) 2000 lb./ac.  
   (d) 5°x 24° @ N.A. (e) G.M. crop of sannhemp grown in May and ploughed in. Quantity, etc. N.A.  
   (vi) Mysore Rickets. (vii) Irrigated. (viii) 2 or 3 weedings. (ix) 4.18’ (November 1950 to March 1951). (x) 18.3.1951.
2. TREATMENTS:

4 manure mixtures

1. G.N.C. at 500 lb./ac.+Ammo. Phos. at 300 lb./ac.+concentrated Super at 250 lb./ac.+B.M. at 300 lb./ac.+Pot. Sul. at 200 lb./ac.

2. G.N.C. at 500 lb./ac.+Ammo. Phos. at 300 lb./ac.+ordinary Super at 1000 lb./ac.+Pot. Sul. at 200 lb./ac.

3. G.N.C. at 500 lb./ac.+ordinary Super at 1500 lb./ac.+A/S at 200 lb./ac.+Pot. Sul. at 200 lb./ac.


Manure mixture was evenly distributed in furrows, well stirred with the soil and then seeds dibbled.

3. DESIGN:

(i) R.B.D. (ii) N.A. (iii) 5 (only four replications taken for analysis) (iv) N.A. (v) 5 cents. (vi) Yes.

4. GENERAL:

(i) Stand thin but growth vigorous. 20% sprouting only in the last replication; 50% in the first four replications due to severe winter. (ii) Nil. (iii) Tuber yield. (iv) (a) 1947—1951. (b) No. (c) Nil. (v) (a) (b) Nil. (vi) Since the yields in Block no. 5 were found to be very low, only four replications were taken for analysis. (vii) Nil.

5. RESULTS:

(i) 5843 lb./ac.
(ii) 1730 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of tubers in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>5895</td>
</tr>
<tr>
<td>2.</td>
<td>5165</td>
</tr>
<tr>
<td>3.</td>
<td>5850</td>
</tr>
<tr>
<td>4.</td>
<td>6465</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>864.8 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Potato
Site :- Demonstration Farm, Araku Valley.

Object :- To find out a suitable manurial mixture to Potato crop.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) N.A. (c) Sandy loam. (b) Refer soil analysis, Araku Valley. (iii) 23.11.1951.
(iv) (a) 4 to 5 ploughings. (b) N.A. (c) 2,003 lb./ac. (d) 9" × 24". (e) N.A. (v) Nil. (vi) Mysore Rickets (winter variety). (vii) Unirrigated. (viii) One weeding and hoeing. Turning up of vines. (ix) 5.95'. (x) 20.3.1952.

2. TREATMENTS

4 manure mixtures

1. G.N.C. at 500 lb./ac.+Ammo. Phos. at 300 lb./ac.+concentrated Super at 250 lb./ac.+B.M. at 300 lb./ac.+Pot. Sul. at 200 lb./ac.

2. G.N.C. at 500 lb./ac.+Ammo. Phos. at 300 lb./ac.+ordinary Super at 1000 lb./ac.+Pot. Sul. at 200 lb./ac.

3. G.N.C. at 500 lb./ac.+ordinary Super at 1500 lb./ac.+A/S at 200 lb./ac.+Pot. Sul. at 200 lb./ac.


3. DESIGN:

4. GENERAL:
   (i) Satisfactory.  (ii) Nil.  (iii) Tuber yield.  (iv) (a) 1947—1951.  (b) N.A.  (c) N.A.  (v) (a), (b) Nil.
   (vi) and (vii) Nil.

5. RESULTS:
   (i) 2444 lb. ac.
   (ii) 344.4 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of tubers in lb./ac.
   Treatment  Av. yield
   1.  2372
   2.  2432
   3.  2300
   4.  2472
   S.E./mean  =  154.0 lb./ac.

Crop  :  Potato.
Site  :  Demonstration Farm, Araku Valley.
Type  :  'M'.

Object  :—To determine the manural requirements of Potato crop.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) Vegetables.  (c) N.A.  (ii) (a) Sandy loam.  (b) Refer soil analysis, Araku Valley.  (iii)
   2.7.1953.  (iv) (a) to (e) N.A.  (v) Nil.  (vi) Mysore Rickets.  (vii) Unirrigated.  (viii) N.A.  (ix) 39.42°
   (x) 4.10.1953.

2. TREATMENTS:
   1. C/N—P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O as in Nanjanad mixture.
   2. Urea+K<sub>2</sub>O and P<sub>2</sub>O<sub>5</sub> as in Nanjanad mixture.
   3. A/S as in Nanjanad mixture.
   5. Treatment (1)+5000 lb./ac. of G.L.
   6. Treatment (2)+5000 lb./ac. of G.L.
   7. Treatment (3)+5000 lb./ac. of G.L.
   8. Treatment (4)+5000 lb./ac. of G.L.
   Nanjanad mixture  =—G.N.C. at 503 lb./ac. +concentrated Super at 335 lb./ac.+B.M. at 350 lb./ac.+A.S at
   200 lb./ac. +Pot. Sul. at 224 lb./ac.
   C 'N and Urea applied to supply the equivalent amount of N as from A/S at 200 lb./ac. of N.

3. DESIGN:
   (i) R.B.D.  (ii) a) 8.  (b) N.A.  (iii) 5.  (iv) (a) N.A.  (b) 1 cent.  (v) N.A.  (vi) Yes.

4. GENERAL:
   (i) Satisfactory.  (ii) Nil.  (iii) Tuber yield.  (iv) (a) No.  (b) No.  (c) Nil.  (v) (a), (b) N.A.  (vi) and
   (vii) Nil.

5. RESULTS:
   (i) 2276 lb./ac.
   (ii) N.A.
   (iii) N.A.
   (iv) Av. yield of tubers in lb./ac.
   Treatment  Av. yield
   1.  2140
   2.  2160
   3.  2280
   4.  2110
   5.  2740
   6.  2280
   7.  2340
   8.  2160
   S.E./mean  = N.A.
Crop: Sweet Potato.

Object: To study the application of boric acid to the soil in stimulating tuber yield.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) and (c) N.A. (ii) (a) Deep black clay. (b) Refer soil analysis, Maruteru. (iii) 29.1.1948.
   (iv) (a) to (e) N.A. (v) N.A. (vi) N.A. (vii) Irrigated. (viii) One weeding. (ix) 0.52°. (x) 9.6.1948.

2. TREATMENTS:
   1. No boric acid (control).
   2. 7½ lb./ac. of boric acid.
   3. 15 lb./ac. of boric acid.
   4. 22½ lb./ac. of boric acid.
   5. 30 lb./ac. of boric acid.

3. DESIGN:
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) and (b) 15'×14'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Tuber yield. (iv) (a) N.A. (b) N.A. (c) N.A. (v) (a) N.A. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 9677 lb./ac.
   (ii) 1657.0 lb./ac.
   (iii) Treatments do not differ significantly.
   (iv) Av. yield of tubers in lb./ac.
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>10631</td>
</tr>
<tr>
<td>2.</td>
<td>9856</td>
</tr>
<tr>
<td>3.</td>
<td>9127</td>
</tr>
<tr>
<td>4.</td>
<td>9438</td>
</tr>
<tr>
<td>5.</td>
<td>9334</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>828.5 lb./ac.</td>
</tr>
</tbody>
</table>

Crop: Sweet Potato (main-crop).

Object: To study the effects of application of Borax to soil in stimulating Potato yield.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b), (c) N.A. (ii) (a) Heavy black clay. (b) Refer soil analysis, Maruteru. (iii) 25.8.1949.
   (iv) (a) Ploughing and levelling. (b) Vines planted. (c) N.A. (d) N.A. (e) N.A. (v) N.A. (vi) N.A. (vii) N.A.
   (viii) N.A. (ix) 23.05°. (x) 18.1.1950.

2. TREATMENTS:
   1. No Borax.
   2. Borax applied at 20 lb./ac.
   3. Borax applied at 40 lb./ac.
   4. Borax applied at 80 lb./ac.
   Borax applied to soil on 25.6.1949.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a), (b) 7'×16'. (v) No. (vi) Yes.

4. GENERAL:
   (i) Not satisfactory due to cyclone in October. (b) Nil. (iii) Tuber yield. (iv) (a) 1948-1949. (b) N.A.
   (c) N.A. (v) (a), (b) Nil. (vi) and (vii) Nil.
5. RESULTS:
(i) 3127 lb./ac.
(ii) 685.7 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of tubers in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2366</td>
</tr>
<tr>
<td>2.</td>
<td>4147</td>
</tr>
<tr>
<td>3.</td>
<td>2852</td>
</tr>
<tr>
<td>4.</td>
<td>3144</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>279.9 lb./ac.</td>
</tr>
</tbody>
</table>

Crop :- Cabbage.  
Ref :- A.P. 52(73).

Site :- Demonstration Farm, Araku Valley.  
Type :- 'M'.

Object :- To find the manural value of C/N as compared with A/S.

1. BASAL CONDITIONS:
(i) 'a) Nil. (b) Vegetables. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Araku Valley. (iii) N.A.
(iv) 'a) to (c) N.A. (v) Nil. (vi) Eclipse drumhead. (vii) Unirrigated. (viii) N.A. (ix) 15.52'. (x) N.A.

2. TREATMENTS:
1. Basal dressing of lime at 450 lb./ac. + C.M. at 3 ton/ac. + Super at 30 lb./ac. of P₂O₅.
2. Treatment (1)+A/S at 40 lb./ac. of N
3. Treatment (1)+A/S at 50 lb./ac. of N.
4. A/S alone at 40 lb. ac. of N.
5. A/S alone at 60 lb./ac. of N.
6. Treatment (1)+C/N at 40 lb./ac. of N.
7. Treatment (1)+C/N at 50 lb./ac. of N.
8. C/N alone at 50 lb./ac. of N
9. C/N alone at 70 lb./ac. of N

3. DESIGN:
(1) R.B.D.  (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a) N.A. (b) ½ cent. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Satisfactory.  (ii) Nil. (iii) Yield data. (iv) (a) 1952-1953. (b) No. (c) No. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 11,389 lb./ac.
(ii) 2459.0 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of cabbage in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>7435</td>
</tr>
<tr>
<td>2.</td>
<td>13585</td>
</tr>
<tr>
<td>3.</td>
<td>16020</td>
</tr>
<tr>
<td>4.</td>
<td>7435</td>
</tr>
<tr>
<td>5.</td>
<td>9639</td>
</tr>
<tr>
<td>6.</td>
<td>11344</td>
</tr>
<tr>
<td>7.</td>
<td>15825</td>
</tr>
<tr>
<td>8.</td>
<td>9229</td>
</tr>
<tr>
<td>9.</td>
<td>11986</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>=11114.0 lb./ac.</td>
</tr>
</tbody>
</table>
Crop : - Cabbage.  
Site : - Demonstration Farm, Araku Valley.  
Object : - To find the manurial value of C/N as compared with A/S.

1. BASAL CONDITIONS:

2. TREATMENTS:
1. Basal dressing of lime at 450 lb./ac. + C.M. at 3 ton/ac. + Super at 3 lb./ac. of P_2O_5.
2. Treatment (1) + A/S at 40 lb./ac. of N.
3. Treatment (2) + A/S at 60 lb./ac. of N.
4. A/S alone at 40 lb./ac. of N.
5. A/S alone at 60 lb./ac. of N.
6. Treatment (1) + C/N at 40 lb./ac. of N.
7. Treatment (1) + C/N at 60 lb./ac. of N.
8. C/N alone at 50 lb./ac. of N (more than 40 lb./ac. of N).
9. C/N alone at 70 lb./ac. of N (more than 60 lb./ac. of N).

3. DESIGN:
(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 5. (iv) (a) N.A. (b) ½ cent. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Yield data. (iv) (a) 1952-1953. (b) and (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 9711 lb./ac.
(ii) 1599 lb./ac.
(iii) Treatments differ significantly.
(iv) Av. yield of cabbage in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>7540</td>
</tr>
<tr>
<td>2.</td>
<td>11320</td>
</tr>
<tr>
<td>3.</td>
<td>13320</td>
</tr>
<tr>
<td>4.</td>
<td>10060</td>
</tr>
<tr>
<td>5.</td>
<td>8620</td>
</tr>
<tr>
<td>6.</td>
<td>9640</td>
</tr>
<tr>
<td>7.</td>
<td>10940</td>
</tr>
<tr>
<td>8.</td>
<td>7900</td>
</tr>
<tr>
<td>9.</td>
<td>8060</td>
</tr>
</tbody>
</table>
S.E./mean = 715.1 lb./ac.

Crop : - Brinjal.  
Object : - To determine the manurial requirements of the crop for getting high yield.

1. BASAL CONDITIONS:
(i) (a) N.A. (b) Sann hemp. (c) Nil. (ii) (a) Clay loam. (b) Refer soil analysis, Himayatsagar. (iii) Seedlings transplanted on 19.4.1953. (iv) (a) Ploughings, harrowing and levelling before sowing. (b) to (e) N.A. (v) 60 lb./ac. of P_2O_5 as Super. (vi) Purple long. (vii) N.A. (viii) N.A. (ix) 25.65° (during Abt. 1953-1954). (x) 7.7.53 and 19.8.1953.

2. TREATMENTS:
All combinations of (1) and (2) + a control (no manure).
(1) 4 sources of N : S_1 = A/S, S_2 = Amm. Chloride, S_3 = C/N and S_4 = F.Y.M.
(2) 2 levels of N : N_1 = 30 and N_2 = 60 lb./ac.
3. DESIGN:
(i) R.B.D. (ii) (a) 9, (b) N.A. (iii) 4, (iv) (a) and (b) 57' x 91'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) N.A. (ii) N.A. (iii) Yield data. (iv) (a) 1953—N.A. (b) and (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 626 lb./ac.
(ii) 232.1 lb./ac.
(iii) None of the effects is significant.
(iv) Av. yield in lb./ac.

Crop: Lucerne.
Site: Sugarcane Res. Stn., Anakapalle.

Ref: A.P. 50 (68).
Type: 'M'.

Object: To find out the effect of borax on the growth and yield of Lucerne.

1. BASAL CONDITIONS:
(i) (a) N.A. (b) Jowar (bulk). (c) N.A. (ii) (a) Loamy soil. (b) Refer soil analysis, Anakapalle (iii) 30.3.1950. (iv) (a) to (c) N.A. (v) N.A. (vi) N.A. (vii) N.A. (viii) Gap filling. (ix) N.A. (x) N.A.

2. TREATMENTS:
1. No borax.
2. Borax at 20 lb./ac.
3. Borax at 40 lb./ac.
4. Borax at 80 lb./ac.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 26.4' x 15.8'. (b) 21.1' x 10.6'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Good. (ii) Nil. (iii) Yield data. (iv) (a) No. (b) No. (c) No. (v) (a), (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 4596 lb./ac.
(ii) 1190 lb./ac.
(iii) Treatments do not differ significantly.
(iv) Av. yield of lucerne in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>5085</td>
</tr>
<tr>
<td>2.</td>
<td>5003</td>
</tr>
<tr>
<td>3.</td>
<td>4928</td>
</tr>
<tr>
<td>4.</td>
<td>4604</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>486.0 lb./ac.</td>
</tr>
</tbody>
</table>
Crop :- Citrus (Sathagudi).
Site :- Fruit Res. Stn., Anantharajupet.

Object :- To find out the optimum time of application of N for Sathagudi.

1. BASAL CONDITIONS :

2. TREATMENTS:
1. 1 lb. of N as A/S in December.
2. 2 lb. of N as A/S in December.
3. 3 lb. of N as A/S in December.
4. 1 lb. of N as A/S in two doses in Dec. and June.
5. 2 lb. of N as A/S in two doses in Dec. and June.
6. 3 lb. of N as A/S in two doses in Dec. and June.
7. 1 lb. of N as A/S in four doses in Dec., March, June and Sept.
8. 2 lb. of N as A/S in four doses in Dec., March, June and Sept.
9. 3 lb. of N as A/S in four doses in Dec., March, June and Sept.
10. Control (no additional N).

3. DESIGN:
(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) One. (v) No. (vi) Yes.

4. GENERAL:
(i) Fair. (ii) Dry root rot and deficiency diseases. (iii) Yield of oranges. (iv) (a) 1953-N.A. (b) N.A. (v) and (vi) Nil.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>No. of fruits</th>
<th>Wt. of fruits in lb.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1423</td>
<td>473.7</td>
</tr>
<tr>
<td>2.</td>
<td>1516</td>
<td>331.0</td>
</tr>
<tr>
<td>3.</td>
<td>1591</td>
<td>512.1</td>
</tr>
<tr>
<td>4.</td>
<td>1229</td>
<td>488.5</td>
</tr>
<tr>
<td>5.</td>
<td>1244</td>
<td>492.0</td>
</tr>
<tr>
<td>6.</td>
<td>1565</td>
<td>488.5</td>
</tr>
<tr>
<td>7.</td>
<td>1431</td>
<td>500.5</td>
</tr>
<tr>
<td>8.</td>
<td>1148</td>
<td>457.1</td>
</tr>
<tr>
<td>9.</td>
<td>1367</td>
<td>545.3</td>
</tr>
<tr>
<td>10.</td>
<td>982</td>
<td>393.4</td>
</tr>
<tr>
<td>G.M.</td>
<td>1349</td>
<td>461.0</td>
</tr>
</tbody>
</table>

S.E. of the expt. 555.0
S.E./mean 267.5
Significance Not significant

Crop :- Banana.

Object :- To determine the manurial requirements of Banana.

1. BASAL CONDITIONS :
(i) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Rudrur. (iii) Suckers planted. (iv) Basrai. (v) 3.10.1951, 8' x 8', square method. (vi) N.A. (vii) Nil. (viii) Weeding and hoeing. (ix) Nil. (x) Irrigated. (xi) 37.95°. (xii) N.A.
2. TREATMENTS:

Manual treatment per plant:—
1. 2 pounds of G.N.C.+4 ozs. of Super.
2. 4 pounds of G.N.C.+4 ozs. of Super.
3. 2 pounds of C.C. +4 ozs. of Super.
4. 4 pounds of C.C. +4 ozs. of Super.
5. 5 b.q. of F.Y.M. weighing 10 pounds.

3. DESIGN:


4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Yield only. (iv) N. A. (v) N. A. (vi) Nil.

5. RESULTS:

(i) 1442 lb./ac. (ii) 83.33 lb./ac. (iii) Nil. (iv) N. A. (v) N. A. (vi) Nil.

Crop :- Chillies+Cotton.
Site :- Lam Farm, Guntur.
Object :- To study the desirability of growing Chillies as a mixture with Cotton.

1. BASAL CONDITIONS:


2. TREATMENTS:

1. Pure Chillies.
2. Cotton C.1 and Chillies.

Details N.A.

3. DESIGN:

(i) R.B.D. (ii) [a] 3 (each plot contains 25 holes). (b) N.A. (iii) 6. (iv) (a) 2.64 cents. (b) 1.02 cents. (v) N.A. (vi) Yes.

4. GENERAL:


5. RESULTS:

(i) 1442 lb./ac. (ii) 83.33 lb./ac. (iii) Treatments differ highly significantly. (iv) Av. yield of green chillies in lb./ac.

Treatment Av. yield
1. 1602
2. 1357
3. 1369
S.E./mean = 34.02 lb./ac.
Crop := Cotton+Groundnut.  
Site := Lam Farm, Guntur.  
Object := To study the desirability of growing desi Cotton as mixture with Groundnut.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Millets. (c) N.A. (ii) (a) Black soil. (b) Refer soil analysis, Guntur. (iii) 22.7.1948. 
   (iv) (a) to (e) N.A. (v) N.A. (vi) Yes. (vii) Rainfed. (viii) 3 to 4 weedings. (ix) 22.17' (June 1948 to 

2. TREATMENTS:
   2. Groundnut+Bannilla Cotton.  
   5. Groundnut+35-6 Cotton. 
      Each plot consists of 2 cotton rows and 16 Groundnut rows in two strips.

3. DESIGN:
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 33.0'×16.5'. (b) 26.4'×16.5'. (v) N.A. (vi) Yes. 

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Yield data. (iv) (a) 1948—1950. (b), (c) N.A. (v) (a), (b) Nil. (vi) Nil. 
   (vii) Raw data and other details N.A.

5. RESULTS:
   (i) to (iv) Av. yield in lb./ac. 
   Treatment Groundnut (pods) Cotton (kapas) 
   1. 656 264 
   2. 662 350 
   3. 619 381 
   4. 621 309 
   5. 666 380 
   G.M. 645 337 
   S.E./mean 24.5 24.6 
   Significance No. Yes.

Crop := Cotton+Groundnut.  
Site := Lam Farm, Guntur.  
Object := To study the desirability of growing desi Cotton as mixture with Groundnut.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Maize. (c) N.A. (ii) (a) Black cotton soil. (b) Refer soil analysis, Guntur. (iii) 11.6.1949. 
   (iv) (a) to (e) N.A. (v) N.A. (vi) As per treatments. (vii) Rainfed. (viii) 2 or 3 weedings. (ix) Ground- 
10.10.1949 to 14.5.1950.

2. TREATMENTS:
   1. Pure Groundnut.  
   2. Groundnut+197-3 Cotton in 8 : 1 proportion.  
   5. Groundnut+881-F Cotton in 14 : 1 proportion.

3. DESIGN:
   (i) L, Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 46.2'×41.3'. (b) 39.6'×41.3'. (v) N.A. (vi) Yes.
4. GENERAL:
(i) October cyclone affected adversely the cotton crop which was in buds and flowers. Consequently the pickings were prolonged to the middle of May, 1950. (ii) Nil. (iii) Yield data. (iv) (a) 1948—1950. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS:
(i) to (iv) Av. yield in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Groundnut (pods)</th>
<th>Cotton (kapas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>749</td>
<td>—</td>
</tr>
<tr>
<td>2.</td>
<td>600</td>
<td>93</td>
</tr>
<tr>
<td>3.</td>
<td>575</td>
<td>98</td>
</tr>
<tr>
<td>4.</td>
<td>663</td>
<td>88</td>
</tr>
<tr>
<td>5.</td>
<td>691</td>
<td>83</td>
</tr>
<tr>
<td>G.M.</td>
<td>676</td>
<td>91</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>46.9</td>
<td>11.9</td>
</tr>
<tr>
<td>Significance</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Crop :- Cotton+Groundnut.  
Site :- Lam Farm, Guntur.  
Ref :- A.P. 56(5). Type :- 'X'.

Object :-To study the desirability of growing desi Cotton as a mixture with Groundnut.

1. BASAL CONDITIONS:
(i) (a) N.A. (b) Chilies.  
(c) N.A. (ii) (a) Deep black soil.  
(b) Refer soil analysis, Guntur.  
(iii) 9.615°C.  
(iv) (a) No ploughing but gunataka worked.  
(b) N.A. (c) Groundnut : N.A.  
Cotton : 12—12 lb. ac. (d) 1 or cotton 22' x 9'.  
For groundnut N.A. (e) N.A. (f) 10 C.L./ac. of F.Y.M.  
(i) Groundnut—local, cotton—As under treatments.  
(vii) Rainfed.  
(viii) Weeding and gapfilling.  
(ix) 26.35°.  
(x) For groundnut 21.10.1.50 to 23.10.1950.  

2. TREATMENTS:
1. Groundnut alone.
2. Cotton 197-3 one row + Groundnut 8 rows.
3. Cotton 881-F one row + Groundnut 8 rows.

3. DESIGN:
(i) L. Sq. (ii) (a) 5.  
(b) N.A. (iii) 5.  
(iv) (a) 46.2' x 41.3'.  
(b) 39.6' x 41.3'.  
(v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal.  
(ii) Aphid attack—dusting with gammaxene. (iii) Yield data. (iv) (a) 1948—1950. (b) N.A.  
(v) (a), (b) Nil.  
(vi) Nil.  
(vii) Raw data N.A.

5. RESULTS:
(i) to (iv)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Groundnut Av. yield in lb./ac.</th>
<th>Rs./ac.</th>
<th>Cotton Av. yield in lb./ac.</th>
<th>Rs./ac.</th>
<th>Total value of produce in Rs. ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>681</td>
<td>217.92</td>
<td></td>
<td>—</td>
<td>217.92</td>
</tr>
<tr>
<td>2.</td>
<td>580</td>
<td>185.59</td>
<td>175</td>
<td>61.89</td>
<td>248.49</td>
</tr>
<tr>
<td>3.</td>
<td>531</td>
<td>169.92</td>
<td>152</td>
<td>54.62</td>
<td>224.55</td>
</tr>
<tr>
<td>4.</td>
<td>595</td>
<td>190.40</td>
<td>123</td>
<td>43.84</td>
<td>234.25</td>
</tr>
<tr>
<td>5.</td>
<td>623</td>
<td>199.36</td>
<td>99</td>
<td>35.58</td>
<td>235.94</td>
</tr>
<tr>
<td>G.M.</td>
<td>—</td>
<td>—</td>
<td></td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>22.0</td>
<td>—</td>
<td>8.95</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Significance</td>
<td>Yes</td>
<td>—</td>
<td>Yes</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>
Crop: Cotton + Groundnut.  
Site: Lam Farm, Guntur.

Object: To study the feasibility of growing American Cotton varieties as mixture with Groundnut.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b), (c) N.A. (ii) (a), Black cotton soil. (b) Refer soil analysis, Guntur. (iii) 10.6.1949. (iv) (a) to (c) N.A. (v) N.A. (vi) As under treatments. (vii) Rainfed. (viii) 2 or 3 handweeding. (ix) Groundnut: 24.57" (June to September). Cotton: 35.88" (June 49 to May 50). (x) Groundnut: 30.9.1949. Cotton: 11.10.1949 to 15.5.1950.

2. TREATMENTS:
   1. A.C. 64 Cotton + Groundnut.
   2. A.C. 71 Cotton + Groundnut.
   Cotton : Groundnut in 1:8 ratio.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) N.A. (iv) (a) 0.375 cents. (b) 0.250 cents. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Due to unusually heavy rains and cyclone in October there was much shedding of buds and flowers of cotton varieties. (ii) Cotton varieties suffered from severe Jassid attack and redleaf in December, but they recovered later in January. (iii) Yield data. (iv) (a) 1949-1950, (b) No. (c) Nil. (v) (a), (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS:
   (i) to (iv) Treatment Av. yield in lb./ac.  
       Groundnut Cotton  
       1. 458 176  
       2. 428 72  
       3. 378 133  
       4. 419 130  
       G.M. 421 128  
       S.E./mean 22 21  
       Significance No Yes.

Crop: Cotton + Groundnut.  
Site: Lam Farm, Guntur.

Object: To study the feasibility of growing American Cotton varieties as mixture with Groundnut.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Black cotton soil. (b) Refer soil analysis, Guntur. (iii) 10.6.1950. (iv) (a) to (e) N.A. (v) N.A. (vi) As per treatments. (vii) Rainfed. (viii) 2 or 3 weedings. (ix) Groundnut 26.35" (June to Oct.) Cotton 26.35" (June to Oct.) (x) Groundnut: 29.10.1950 to 31.10.1950; Cotton: 14.10.1950 to 11.12.1950.

2. TREATMENTS:
   1. American Cotton 64 + Groundnut (sown in 1 : 8 ratio).
   3. American Cotton J1 + Groundnut (sown in 1 : 8 ratio).
   5. Pure Groundnut.

3. DESIGN:
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) N.A. (iv) (a) 0.375 cents. (b) 0.250 cents. (v) N.A. (vi) Yes.
4. GENERAL:

(i) Satisfactory. (ii) Cotton varieties severely affected by Jassids but promptly controlled by spraying with Guesorol—550. (iii) Yield data. (iv) (a) 1949-1950. (b) and (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS:

(i) to (iv)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield in lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Groundnut (pods)</td>
</tr>
<tr>
<td>1.</td>
<td>455</td>
</tr>
<tr>
<td>2.</td>
<td>360</td>
</tr>
<tr>
<td>3.</td>
<td>410</td>
</tr>
<tr>
<td>4.</td>
<td>427</td>
</tr>
<tr>
<td>5.</td>
<td>707</td>
</tr>
<tr>
<td>G.M.</td>
<td>642</td>
</tr>
<tr>
<td>S.E. mean</td>
<td>34</td>
</tr>
<tr>
<td>Significance</td>
<td>No</td>
</tr>
</tbody>
</table>

Crop := Cotton + Groundnut. Site := Lam Farm, Guntur.

Ref := A.P. 51(33). Type := 'X'.

Object : To find the possibility of raising an early maturing Cotton (H-420) one month after sowing of Groundnut.

1. BASAL CONDITIONS:

(i) (a) N.A. (b) Chillies. (c) N.A. (ii) (a) Black cotton soil. (b) Refer soil analysis, Guntur. (iii) Groundnut : 30.6.1951; Cotton : As per treatments. (iv) (a) N.A. (b) Dibbled. (c) to (e) N.A. (v) N.A. (vi) Groundnut—Local; Cotton H-420 (early). (vii) Rainfed. (viii) 2 or 3 hand weedings. (ix) Groundnut : 20.93° (June to Oct.) Cotton : 21.71° (June to March). (x) Groundnut : 11.10.1951. Cotton 6.11.1951 to 27.3.1952.

2. TREATMENTS:

1. Groundnut pure (local bunch).
2. Groundnut+H-420 Cotton sown on 28.7.1951 (one month after Groundnut sowing).

Cotton dibbled in alternate row spaces in standing Groundnut.

3. DESIGN:

(i) R.B.D. ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 72.6′×7.3′ (b) 66.0′×3.6′. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Normal for groundnut. Owing to drought and untimely rains the, cotton dibbled two months and three months after groundnut sowing did not establish properly. (ii) Nil. (iii) Yield data. (iv) (a) to (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Cotton crop failed under treatments 2 and 3.

5. RESULTS:

(i) to (iv)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield in lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Groundnut (pods)</td>
</tr>
<tr>
<td>1.</td>
<td>455</td>
</tr>
<tr>
<td>2.</td>
<td>360</td>
</tr>
<tr>
<td>3.</td>
<td>410</td>
</tr>
<tr>
<td>4.</td>
<td>427</td>
</tr>
<tr>
<td>G.M.</td>
<td>413</td>
</tr>
<tr>
<td>S.E. mean</td>
<td>54.9</td>
</tr>
<tr>
<td>Significance</td>
<td>No</td>
</tr>
</tbody>
</table>
Site : Lam Farm, Guntur. Type :- 'X'.

Object :- To find out the possibility of raising an early maturing Cotton variety as a mixture with Groundnut.

1. BASAL CONDITIONS :

2. TREATMENTS :
   1. A.H. 45 Groundnut pure.

3. DESIGN :
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 8. (iv) (a) 39.6' x 7.3'. (b) 33.0' x 3.6'. (v) N.A. (vi) Yes.

4. GENERAL :
   (i) Not satisfactory for Groundnut due to continuous drought and wilt. Germination and stand was uniform in July. Seedlings failed to establish properly in August. (ii) Nil. (iii) Yield data. (iv) (a) No. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS :
   (i) to (iv).

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Groundnut (pods)</th>
<th>Cotton (kapas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>126</td>
<td>—</td>
</tr>
<tr>
<td>2.</td>
<td>134</td>
<td>324</td>
</tr>
<tr>
<td>3.</td>
<td>135</td>
<td>206</td>
</tr>
<tr>
<td>G.M.</td>
<td>132</td>
<td>265</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>5.94</td>
<td>N.A.</td>
</tr>
<tr>
<td>Significance</td>
<td>No.</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

Site : Lam Farm, Guntur. Type :- 'X'.

Object :- To find out whether H—420 Cotton could be profitably raised with Groundnut, side by side determining the optimum time of sowing of H. 420 Cotton in standing Groundnut crop.

1. BASAL CONDITIONS :
   (i) (a) Cotton—Jowar-Cotton. (b) Jowar. (c) Nil. (ii) (a) Black cotton soil. (b) Refer soil analysis, Guntur. (iii) Groundnut 19.6.1953 ; Cotton as under treatments. (iv) (a) 5 ploughings ; (b) to (e) N.A. (v) 15 C.L./ac. of F.Y.M. (vi) Groundnut T.M.V.-2 ; Cotton H-420. (vii) Rainfed. (viii) 2 weedings ; 2 interculture ploughings. (ix) 17.5'. (x) Groundnut—19.10.1953 ; Cotton—23.12.1953 to 27.4.1954.

2. TREATMENTS :

3. DESIGN :
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 39.6' x 7.3'. (b) 33.0' x 3.6'. (v) N.A. (vi) Yes.
4. GENERAL:

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

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Groundnut</th>
<th>Cotton</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1011</td>
<td>—</td>
</tr>
<tr>
<td>2.</td>
<td>780</td>
<td>115</td>
</tr>
<tr>
<td>3.</td>
<td>836</td>
<td>109</td>
</tr>
<tr>
<td>4.</td>
<td>973</td>
<td>40</td>
</tr>
<tr>
<td>5.</td>
<td>—</td>
<td>112</td>
</tr>
<tr>
<td>G.M.</td>
<td>900</td>
<td>94</td>
</tr>
<tr>
<td>S.E., mean</td>
<td>156.6</td>
<td>—</td>
</tr>
<tr>
<td>Significance</td>
<td>Yes</td>
<td>—</td>
</tr>
</tbody>
</table>

Crop: Cotton and Chillies.

Site: Lam Farm, Guntur.

Object: To study the desirability of growing American Cotton as a mixture with Chillies.

1. BASAL CONDITIONS:


2. TREATMENTS:

2. Chillies+ P.A. II Cotton.

Cotton was sown with chillies in every third row and in that also they were sown after every 3 chillies plant. These cotton plants had 66'x41' spacing. Each plot consisted of 6 rows of which cotton occupied 2 rows.

3. DESIGN:

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) and (b) 66'x11'. (v) Nil. (vi) Yes.

4. GENERAL:

(i) American type cotton suffered from high leaf bud and boll shedding; cotton turned green and healthy after the removal of chillies. (ii) American cotton suffered from thrips. (iii) Yield data. (iv) (a) 1948-N.A. (b) N.A. (c) N.A. (v) (a), (b) Nil, (vi) and (vii) Raw data N.A.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Chillies (dry)</th>
<th>Cotton (kapas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>601</td>
<td>97</td>
</tr>
<tr>
<td>2.</td>
<td>975</td>
<td>64</td>
</tr>
<tr>
<td>3.</td>
<td>937</td>
<td>44</td>
</tr>
<tr>
<td>G.M.</td>
<td>938</td>
<td>68</td>
</tr>
<tr>
<td>S.E., mean</td>
<td>52.5</td>
<td>5.24</td>
</tr>
<tr>
<td>Significance</td>
<td>No.</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Crop :- Cotton + Chillies.  
Site :- Lam Farm, Guntur.  
Object :- To study the desirability of growing 881 F-Cotton with Chillies.

1. BASAL CONDITIONS : 
(i) (a) to (c) N.A. (ii) (a) Black cotton soil.  
(b) Refer soil analysis, Guntur. (iii) Chillies—28.9.1949  
Cotton—29.9.1949. (iv) (a) to (e) N.A. (v) N.A.  
(vi) As under treatments. (vii) Rainfed. (viii) 2 or 3 hand weeding.  
(ix) 10.13" (Sept. 49 to May 50). (x) Chillies-28.2.1959 to 6.4.1950; Cotton-25.2.1250 to 15.5.1950.

2. TREATMENTS : 
(1) 881/F-Cotton+G. 1-Chillies (1 : 14).  
(2) G. 1-Cotton+G. 1-Chillies (1 : 14).

3. DESIGN : 
(i) Paired plot. (ii) (a) 2. (b) N.A. (iii) 7. (iv) (a) 8.16 cents. (b) 3.62 cents. (v) N.A. (vi) No.

4. GENERAL : 
(i) Not satisfactory. (ii) Thrip attack on chillies. (iii) Yield data. (iv) (a) No. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS : 
(i) to (iv) Av. yield in lb./ac. 
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Chillies (dry)</th>
<th>Cotton (kapas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>388</td>
<td>36</td>
</tr>
<tr>
<td>2.</td>
<td>339</td>
<td>163</td>
</tr>
<tr>
<td>G.M.</td>
<td>364</td>
<td>100</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>Significance</td>
<td>No.</td>
<td>Yes.</td>
</tr>
</tbody>
</table>

Crop :- Chillies + Cotton.  
Site :- Lam Farm, Guntur.  
Object :- To study the desirability of growing early type Cotton with Chillies.

1. BASAL CONDITIONS : 
(i) (a) Nil. (b) Chillies. (c) 25 C.L./ac. of F.Y.M.+5000 lb./ac. of G.M. (ii) (a) Black cotton soil.  

TREATMENTS : 
1. 2955 Cotton+1402 Chillies.  
2. 2963 Cotton+1402 Chillies.  
3. Lakshmi Cotton+1402 Chillies.  
5. H 105 Cotton+1402 Chillies.  
6. Acala Cotton+1402 Chillies.  
One row of cotton for every 14 rows of chillies.

3. DESIGN : 
(i) R.B.D. (ii) (a) 11. (b) N.A. (iii) 4. (iv) (a) 38.4"x29.0" (b) 27.2"x18.2". (v) One row of chillies left around. (vi) Yes.

4. GENERAL :  
Satisfactory. (ii) Nil. (iii) Yield data. (iv) (a) No. (b) No. (c) Nil. (v) (a), (b) Nil. (vi) Nil. (vii) Raw data N.A.
5. RESULTS:

(i) to (iv)

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Av. yield in lb./ac. for Chillies</th>
<th>Cotton (kapas) in lb./ac.</th>
<th>Halo length</th>
<th>Ginning percentage</th>
<th>Mean monetary value in Rs. per plot.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>498</td>
<td>2657</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>362</td>
<td>2518</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>401</td>
<td>2432</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G.M.</td>
<td>420</td>
<td>2536</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.E./mean</td>
<td>32</td>
<td>235</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Significance: Yes

There is significant difference between the treatments for both Chillies and Cotton.

Crop : Chillies and Tobacco.
Site : Lam Farm, Guntur.
Ref. : A.P. 48(18).
Type : 'X'.

Object : To compare two-course and four-course rotations for Chillies and Tobacco.

1. BASAL CONDITIONS:
   (i) (a) As per treatments. (b) As per treatments. (c) N.A. (ii) (a) Deep black soil. (b) Refer soil analysis, Guntur. (iii) Chillies: 13.26" (Sep. to Feb). Tobacco: 10.59" (Oct. to March).

2. TREATMENTS:
   1. Continuous cropping of Chillies and Tobacco.
   2. Alternate cropping of Chillies and Tobacco.

3. DESIGN:
   (i) R.B.D (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 52.8'x 19.8'. (b) 39.6'x 6.6'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield data. (iv) (a) 1942-1948. (b) Yes. (c) Nil. (v) (a) Nil. (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS:
   (i) to (iv)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield in lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chillies (green)</td>
<td>Tobacco (green leaf)</td>
</tr>
<tr>
<td>1.</td>
<td>498</td>
</tr>
<tr>
<td>2.</td>
<td>362</td>
</tr>
<tr>
<td>3.</td>
<td>401</td>
</tr>
<tr>
<td>G.M.</td>
<td>420</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>32</td>
</tr>
<tr>
<td>Significance</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Object: To study the economics of growing pure crops of Chillies, Brinjal and Tomato as against a mixture of all the three on the dry land.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Millets. (c) N.A. (ii) (a) Black soil. (b) Refer soil analysis, Guntur. (iii) 21.9.1948.
   (iv) (a) 4, 5 ploughings and levelling. (b) to (e) N.A. (v) N.A. (vi) N.A. (vii) Rainfed. (viii) 3 to 4 weedings. (ix) 13.26%. (x) 8.12.1948 to 24.2.1949.

2. TREATMENTS:
   1. Pure chillies.
   2. Pure brinjals.
   3. Pure tomatoes.
   4. Mixture of chillies, brinjals and tomatoes.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 16.5' × 16.5'. (b) 12.9' × 12.9'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Slight attack of thrips on chillies. (iii) Yield data. (iv) (a) 1947—N.A. (b) No. (c) Nil. (v) (a), (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 384.55 (Rs./ac.).
   (ii) 255.12 (Rs./ac.).
   (iii) Treatment differences are not significant.
   Treatment   Money value per acre (Rs./ac.)
   1. 207.12
   2. 591.94
   3. 306.37
   4. 440.75
   * S.E./mean 127.56 Rs./ac.

---

Object: To study the effect of leguminous crop on the succeeding Cotton crop.

1. BASAL CONDITIONS:

2. TREATMENTS:
   1. Groundnut pure with 30 lb./ac. of P_2O_5.
   2. Groundnut pure without P_2O_5.
   3. Groundnut+Redgram in 5 : 1 ratio with 30 lb./ac. of P_2O_5.
   4. Groundnut+Redgram in 5 : 1 ratio without P_2O_5.
   5. Punasa Jowar with 30 lb./ac. of P_2O_5.
   6. Punasa Jowar without P_2O_5.
   7. Punasa Jowar+Redgram in 5 : 1 with 30 lb./ac. of P_2O_5.
   8. Punasa Jowar+Redgram in 5 : 1 ratio without P_2O_5.
   9. Redgram pure with 30 lb./ac. of P_2O_5.
   10. Redgram pure without P_2O_5.

   P_2O_5 as Super applied by drill. Each plot consists of 42 rows and in mixture, every 6th row is Redgram (7 rows) and in pure, every 4th row is Redgram (11 rows).
3. DESIGN:

(i) R.B.D.  (ii) (a) 10.  (b) N.A.  (iii) 4.  (iv) (a) 4.67 cents.  (b) 2.34 cents  (v) N.A.  (vi) Yes.

4. GENERAL:

(i) Jowar—not satisfactory; other crops—satisfactory. (ii) The October cyclone caused premature shedding of Jowar leaves which were attacked by colletotrichum sorghin. (iii) Yield data. (iv) (a) 1949—1951. (v) No.  (vi) A.  (vii) N.  (viii) nil.  (ix) At the time of harvest each gross plot was divided into two halves and produce harvested, weighed and recorded separately for each of the net sub-plots. The sub-plots have dimensions 50 x 16.7 sq. links. Next year one of the sub-plots in each treatment received 'N'. Manure and cotton was sown in all the plots. Raw data N.A.

5. RESULTS:

(j) to (iv) Av. yield in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Jowar (straw)</th>
<th>Groundnut (Pods)</th>
<th>Redgram</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1463</td>
<td>—</td>
<td>753</td>
</tr>
<tr>
<td>2.</td>
<td>1500</td>
<td>—</td>
<td>825</td>
</tr>
<tr>
<td>3.</td>
<td>863</td>
<td>—</td>
<td>778</td>
</tr>
<tr>
<td>4.</td>
<td>663</td>
<td>—</td>
<td>772</td>
</tr>
<tr>
<td>5.</td>
<td>363</td>
<td>—</td>
<td>800</td>
</tr>
<tr>
<td>6.</td>
<td>—</td>
<td>—</td>
<td>859</td>
</tr>
<tr>
<td>G.M.</td>
<td>1122</td>
<td>622</td>
<td>796</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>121</td>
<td>84.3</td>
<td>51</td>
</tr>
<tr>
<td>Significance</td>
<td>Yes.</td>
<td>Yes.</td>
<td>No.</td>
</tr>
</tbody>
</table>

Ref:— A.P. 50(59).

Crop := Groundnut, Jowar and Redgram.

Site := Lam Farm, Guntur.

Type := 'X'.

Object := To study the effect of previous leguminous crops on the succeeding Cotton crop.

1. BASAL CONDITIONS:


2. TREATMENTS:

1. Groundnut pure with 30 lb./ac. of P₃O₅.
2. Groundnut pure without P₃O₅.
3. Groundnut + Redgram in 5 : 1 ratio with 30 lb./ac. of P₃O₅.
5. Purusa Jowar with 30 lb./ac. of P₃O₅.
7. Purusa Jowar + Redgram in 5 : 1 ratio with 30 lb./ac. of P₃O₅.
9. Redgram pure with 30 lb./ac. of P₃O₅.
10. Redgram pure without P₃O₅.

P₃O₅ as super applied by drill. Each plot consists of 42 rows and in mixture, every 6th row is Redgram (7 rows) and in pure, every 4th row is Redgram (11 rows).
3. DESIGN:
(i) R.B.D. (ii) (a) 10, (b) N.A. (iii) 4, (iv) (a) 4.67 cents (b) 2.34 cents. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Redgram failed to germinate. Groundnut—poor. Jowar—normal. (ii) Aphid attack. Dusting with gammexene severe attack of Tikka on groundnut. (iii) Yield data. (iv) (a) 1949—1951. (b) No. (c) Nil. (v) (a) Nandyal. (b) Nil. (vi) Nil. (vii) At the time of harvest each plot was divided in to two halves and produce harvested, weighed and recorded separately for each of the sub-plot. Each of the sub-plot has dimension 60x161 sq. links=1.00 cent Next year one of the sub-plot received Nitrogen Manure and cotton was sown in all the plots.

5. RESULTS:
(i) to (iv) Av. yield in lb./ac. Treatment

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Jowar (straw)</th>
<th>Groundnut (Pods)</th>
<th>Redgram</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>—</td>
<td>247</td>
<td>—</td>
</tr>
<tr>
<td>2.</td>
<td>—</td>
<td>231</td>
<td>—</td>
</tr>
<tr>
<td>3.</td>
<td>—</td>
<td>43</td>
<td>1240</td>
</tr>
<tr>
<td>4.</td>
<td>—</td>
<td>50</td>
<td>1175</td>
</tr>
<tr>
<td>5.</td>
<td>3790</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>6.</td>
<td>4428</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>7.</td>
<td>3676</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>8.</td>
<td>3856</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>9.</td>
<td>—</td>
<td>—</td>
<td>892</td>
</tr>
<tr>
<td>10.</td>
<td>—</td>
<td>—</td>
<td>1329</td>
</tr>
<tr>
<td>G.M.</td>
<td>3938</td>
<td>143</td>
<td>835</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>295</td>
<td>20.6</td>
<td>109</td>
</tr>
<tr>
<td>Significance</td>
<td>No.</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Crop: Groundnut, Jowar and Redgram. Ref :- A.P. 51(31). Type :- 'MX'.

Site :- Lam Farm, Guntur.

Object :- To study the effect of previous leguminous crops on the succeeding Cotton crop.

1. BASAL CONDITIONS:
(i) (a) Jowar, Groundnut and Redgram—Cotton. (b), (c) N.A. (ii) (a) Black cotton soil. (b) Refer soil analysis, Guntur. (iii) 29.6.1951. (iv) (a) to (e) N.A. (v) Nil. (vi) Groundnut—A.H.43; Jowar—G.3; Redgram—Local. (vii) Rainfed. (viii) 2 or 3 weeding. (ix) 21.06° (June to January). (x) Groundnut—27.10.1951, Jowar—31.0.1951 to 2.11.1951, Redgram—19.1.1952.

2. TREATMENTS:
1. Groundnut pure with 30 lb./ac. of P2O5.
2. Groundnut pure without P2O5.
3. Groundnut+Redgram in 5 : 1 ratio with 30 lb./ac. of P2O5.
5. Pusasa Jowar with 30 lb./ac. of P2O5.
6. Pusasa Jowar without P2O5.
7. Pusasa Jowar+Redgram in 5 : 1 ratio with 30 lb./ac. of P2O5.
8. Pusasa Jowar+Redgram in 5 : 1 ratio without P2O5.
9. Redgram pure with 30 lb./ac. of P2O5.
10. Redgram pure without P2O5.

P2O5 as Super applied by drill. Each plot consists of 42 rows and in mixture, every 6th row is Redgram (7 rows) and in pure, every 4th row is Redgram (11 rows).
3. DESIGN:
(i) R.B.D. (ii) (a) 10, (b) N.A. (iii) 4. (iv) (a) 4.67 cents. (b) 2.34 cents. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Satisfactory except for Jowar. (ii) Ca'ocosia attack. (iii) Yield data. (iv) (a) 1949—1951. (b) No. (c) Nil. (v) (a) Nandyal. (b) Nil. (vi) Nil. (vii) Results from annual report. At the time of harvest each gross plot was divided into two halves and produce harvested, weighed and recorded separately for each of the sub-plot. Next year one of the sub-plots received Nitrogen Manure and cotton was grown in all the plots.

5. RESULTS:
(i) to (iv) Av. yield in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Yield of grain or pods</th>
<th>Yield of straw or bhusa</th>
<th>Yield of grain or pods</th>
<th>Yield of straw or bhusa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-plot A</td>
<td></td>
<td></td>
<td>Sub-plot B</td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>369</td>
<td>—</td>
<td>292</td>
<td>—</td>
</tr>
<tr>
<td>2.</td>
<td>372</td>
<td>—</td>
<td>406</td>
<td>—</td>
</tr>
<tr>
<td>3. Groundnut</td>
<td>167</td>
<td>—</td>
<td>242</td>
<td>—</td>
</tr>
<tr>
<td>Redgram</td>
<td>252</td>
<td>6825</td>
<td>416</td>
<td>8175</td>
</tr>
<tr>
<td>4. Groundnut</td>
<td>156</td>
<td>—</td>
<td>223</td>
<td>—</td>
</tr>
<tr>
<td>Redgram</td>
<td>186</td>
<td>4550</td>
<td>214</td>
<td>5175</td>
</tr>
<tr>
<td>5.</td>
<td>—</td>
<td>4600</td>
<td>—</td>
<td>4605</td>
</tr>
<tr>
<td>6.</td>
<td>—</td>
<td>4230</td>
<td>—</td>
<td>4275</td>
</tr>
<tr>
<td>7. Jowar</td>
<td>—</td>
<td>4440</td>
<td>—</td>
<td>4980</td>
</tr>
<tr>
<td>Redgram</td>
<td>161</td>
<td>3850</td>
<td>170</td>
<td>3950</td>
</tr>
<tr>
<td>8. Jowar</td>
<td>—</td>
<td>4395</td>
<td>—</td>
<td>4515</td>
</tr>
<tr>
<td>Redgram</td>
<td>194</td>
<td>4425</td>
<td>303</td>
<td>5950</td>
</tr>
<tr>
<td>9.</td>
<td>270</td>
<td>2225</td>
<td>320</td>
<td>6350</td>
</tr>
<tr>
<td>10.</td>
<td>227</td>
<td>5700</td>
<td>319</td>
<td>6750</td>
</tr>
</tbody>
</table>


Object: To study the desirability of growing early white Cotton mixture with Chillies.

1. BASAL CONDITIONS:
(i) (a) No. (b) Chillies. (c) 25 to 30 C.L./ac. of F.Y.M.+5000 lb./ac. of G.L.+40C.lb./ac. of N as A.S. (ii) (a) Black cotton soil. (b) Refer soil analysis, Guntur. (iii) Cotton sown on 23.9.1953, Chillies transplanted on 22.9.1953. (iv) (a) 5 ploughings. (b) Cotton sown and chillies transplanted. (c) 10—12 lb. c. cotton. (d) Chillies: N.A., Cotton: as per treatments. (e) N.A. (v) 25 to 30 C.L./ac. of F.Y.M.+5C.20 lb./ac. of G.L.4-4C.lb./ac. of N as A/S. (vi) Chillies-1402, Cotton as per treatments. (vii) Rain’d. (viii) 2 seedings and 2 interculture ploughings. (ix) N.A. (x) Cotton: 6.3.1954 to 4.5.1954, Chillies: 20.1.:54 to 27.2.1954.

2. TREATMENTS:
Main-plot treatments:
Spacings between cotton plants: $S_1=6^\circ$ and $S_2=12^\circ$.

Sub-plot treatments:
1. Laxmi cotton+chillies.
2. 3414—cotton+chillies.
3. C. 5202 cotton+chillies.
4. 197-3 cotton+chillies.
5. C-2 cotton + chillies.
6. Chillies only.
3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) $58.1' \times 43.6'$. (b) $54.5' \times 39.9'$. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Jassids found affecting Laksmi variety for which Hexodol-550 was sprayed. Slight attack of thrips on chillies was noticed. 5% gammaxene sprayed. (iii) Yield data. (iv) (a) 1953—55. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS:
(i) to (iv)

<table>
<thead>
<tr>
<th>Ripe chilies in lb./ac.</th>
<th>Cotton kapas in lb./ac.</th>
<th>Total monetary value in Rs./ac.</th>
<th>Ripe chilies in lb./ac.</th>
<th>Cotton kapas in lb./ac.</th>
<th>Total monetary value in Rs./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 1014</td>
<td>105</td>
<td>364</td>
<td>1081</td>
<td>104</td>
<td>386</td>
</tr>
<tr>
<td>2. 1003</td>
<td>80</td>
<td>354</td>
<td>1035</td>
<td>57</td>
<td>359</td>
</tr>
<tr>
<td>3. 843</td>
<td>79</td>
<td>301</td>
<td>987</td>
<td>71</td>
<td>347</td>
</tr>
<tr>
<td>4. 1048</td>
<td>62</td>
<td>365</td>
<td>1042</td>
<td>56</td>
<td>361</td>
</tr>
<tr>
<td>5. 828</td>
<td>159</td>
<td>316</td>
<td>1108</td>
<td>178</td>
<td>414</td>
</tr>
<tr>
<td>6. 1014</td>
<td>—</td>
<td>338</td>
<td>1105</td>
<td>—</td>
<td>368</td>
</tr>
</tbody>
</table>


Object: - To find out a suitable white Cotton variety that can profitably be grown along with Chillies.

1. BASAL CONDITIONS:
(i) (a) No. (b) Jowar for fodder; red gram. (c) Nil. (ii) (a) Black cotton soil. (b) Refer soil analysis Guntur. (iii) Cotton 6.9.1953, Chillies transplanted 22.9.1953. (iv) (a) 5 ploughings. (b) Cotton sown and chillies transplanted. (c) 10—12 lb./ac. of cotton seed. (d) and (e) N.A. (v) 25-30 C.L./ac. of F.Y.M.+5000 lb./ac. of G.L. + 40 lb./ac. of N as A/S. (vi) Chillies-1402, Cotton as per treatments. (vii) Rainfed. (viii) 2 weedings; 2 interculture ploughings. (ix) 16.5'. (x) Chillies 7.1.1954 to 4.3.1953 Cotton 4.3.1954 to 19.4.1954.

2. TREATMENTS:
Main-plot treatments:
Spacing between cotton plants: $S_1=6'$ and $S_2=12'$.

Sub-plot treatments:
1. Laxmi cotton + chillies.
2. 3414 cotton + chillies.
3. C: 520/2 cotton + chillies.
4. 197—3 cotton + chillies.
5. C:2 cotton + chillies.
6. Chillies only.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block; 6 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) $58.1' \times 43.6'$. (b) $54.5' \times 39.9'$. (v) 1.9' border left around. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Jassids attack on the early sown cotton crop was comparatively severe than the late sown cotton crop. Similarly the shedding of floral forms mostly due to boll-worm attack was very severe in early sown cotton crop. (iii) Yield data. (iv) (a) 1953—55. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) Raw data and other details N.A.
5. RESULTS:
   (i) to (iv)

<table>
<thead>
<tr>
<th>Chillies in lb/ac.</th>
<th>Cotton kapas lb/ac.</th>
<th>Monetary value in Rs/ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>J</td>
<td>I</td>
</tr>
<tr>
<td>P_0</td>
<td>845</td>
<td>514</td>
</tr>
<tr>
<td>P_1</td>
<td>869</td>
<td>594</td>
</tr>
</tbody>
</table>

   Mean: 1400 54 478 1388 64 475

Note: G = Groundnut pod yield, J = Jowar grain yield and I = Indigo seed yield.

Crop: - Groundnut, Indigo and Jowar.
Ref: - A.P. 48(23).
Type: - 'X'.

Object: - To study the role of leguminous crops in conjunction with P_2O_5 on the rotational crop Cotton.

1. BASAL CONDITIONS:

2. TREATMENTS:
   All combinations of (1) and (2)
   1. 4 crops: G=Groundnut, J=Jowar, I=Indigo and J+I=Jowar+Indigo.
   2. 2 levels of P_2O_5: P_0=0 and P_1=30 lb/ac. of P_2O_5.
   P_2O_5 as Super.

3. DESIGN:
   (i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a), (b) 2.90 cents. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield data. (iv) (a) 1948 to 1952. (b) No. (c) N.A: (v) (a) and (b) Nil. (vi) Nil. (vii) Raw data N.A.
Crop :- Groundnut, Indigo and Jowar.  
Ref :- A.P. 50(30).  
Type :- 'X'.

Object :- To study the role of leguminous crops in conjunction with P2O5 on the rotational crop Cotton.

1. BASAL CONDITIONS :

2. TREATMENTS :
   All combinations of (1) and (2) 
   1. 4 crops: G=Groundnut, J=Jowar, I=Indigo and J+I=Jowar+Indigo. 
   2. 2 levels of P2O5 : P0=0 and P1=30 lb./ac. of P2O5. 
   P2O5 as Super.

3. DESIGN :
   (i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 5.62 cents. (b) 2.90 cents. (v) N.A. (vi) Yes.

4. GENERAL :
   (i) Satisfactory. (ii) Nil. (iii) Yield data. (iv) (a) 1948 to 1952. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS :
   (i) to (iv) Av. yield in lb./ac.

   |   | G   | J   | I   | J+I |
---|-----|-----|-----|-----|
 P0 | 414 | 475 | 140 | 499+11 |
 P1 | 452 | 537 | 130 | 519+15 |

Note : G=Groundnut pod yield, J=Jowar grain yield, and I=Indigo seed yield.

---

Crop :- Groundnut, Indigo and Jowar.  
Ref :- A.P. 51 (82).  
Type :- 'X'.

Object :- To study the role of leguminous crops in conjunction with P2O5 on the rotational crop Cotton (New set).

1. BASAL CONDITIONS :
2. TREATMENTS:
   All combinations of (1) and (2)
   (1) 4 crops: G=Groundnut, J=Jowar, I=Indigo and J+I=Jowar+Indigo.
   (2) 2 levels of P_2O_5: P_0=0 and P_1=30 lb./ac. of P_2O_5.

3. DESIGN:
   (i) R.B.D. (ii) N.A. (iii) 4. (iv) (a) 5.62 cents. (b) 2.90 cents. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield data. (iv) (a) 1948-1952. (b) No. (c) N.A. (v) (a), (b) Nil. (vi) No. (vii) Raw data N.A.

5. RESULTS:
   (i) to (iv)
   Av. yield in lb./ac.

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>I</td>
<td>J</td>
<td>J+I</td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>P_0</td>
<td>121</td>
<td>112</td>
<td>371</td>
</tr>
<tr>
<td>P_1</td>
<td>155</td>
<td>82</td>
<td>302</td>
</tr>
</tbody>
</table>

   Significance: No No No No
   S. E./Mean: 11 20 90 16

Note: G=Groundnut pod yield, J=Jowar grain yield and I=Indigo seed yield.

---

Crop: Cotton+Groundnut.

Object: To study the possibilities of growing cotton as a mixture with Groundnut.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A. (ii) (a) Black cotton soil. (b) Refer soil analysis, Nandyal. (iii) 27.6.1950.
   (iv) (a) 10.5' between rows. (b) N.A. (c) G.N.C. at 250 lb./ac. (d) As under treatments. (e) Unirrigated. (f) 2 weedings. (g) Cotton 10.96'. (h) Groundnut 23.25'. (i) Groundnut bunch-6th Nov. 1950, Groundnut bunch-28th Nov. 1950 and Cotton bunch-31st Oct. 1950 to 5th March 1951.

2. TREATMENTS:
   1. Groundnut spreading type only.
   2. Groundnut bunch type only.
   5. Groundnut spreading type+197-3 cotton.
   7. Groundnut spreading type+Pratap cotton.
   8. Groundnut bunch type+Pratap cotton.

3. DESIGN:
   (i) R.B.D. (ii) N.A. (iii) 6. (iv) (a) 21'x49.5'. (b) 21'x41.3'. (v) N.A. (vi) Yes.
4. GENERAL:
   (i) Cotton-Satisfactory. Groundnut-not satisfactory. Severe attack by Aphids to Groundnut crop. (iii) Yield data. (iv) (a) 1950-1952. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Groundnut valued at 3 lb./Rupee; raw data N.A.

5. RESULTS:
   (i) to (iv) Yield of produce in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Groundnut pods</th>
<th>Cotton kapas</th>
<th>Money value in Rupees.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>670</td>
<td>—</td>
<td>222</td>
</tr>
<tr>
<td>2.</td>
<td>307</td>
<td>—</td>
<td>103</td>
</tr>
<tr>
<td>3.</td>
<td>656</td>
<td>29</td>
<td>246</td>
</tr>
<tr>
<td>4.</td>
<td>249</td>
<td>81</td>
<td>124</td>
</tr>
<tr>
<td>5.</td>
<td>649</td>
<td>12</td>
<td>224</td>
</tr>
<tr>
<td>6.</td>
<td>264</td>
<td>24</td>
<td>102</td>
</tr>
<tr>
<td>7.</td>
<td>601</td>
<td>19</td>
<td>210</td>
</tr>
<tr>
<td>8.</td>
<td>269</td>
<td>37</td>
<td>108</td>
</tr>
</tbody>
</table>

Significance No
S.E./mean 15 lb./ac. 6.0 lb./ac. 10. Rs./ac.

---

Crop :-Cotton and Groundnut.
Object :-To study the possibilities of growing Cotton as a mixture with Groundnut.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) As under treatments. (c) G.N.C. at 259 lb./ac. (ii) (a) Black cotton soil. (b) Refer soil analysis, Nandyal. (iii) 14.7.1951. (iv) (a), (b) and (c) Nil. (d) 10.5° between rows. (e) Nil. (v) N.A. (vi) As per treatments. (vii) Unirrigated. (viii) 2 weedings. (ix) 13.42". (x) Groundnut bunch type: 12.11.1951 to 18.11.1951; Groundnut Spreading type: 3.12.1951 to 6.12.1951; Cotton: 2.11.1951 to 18.1.1952.

2. TREATMENTS:
   1. Groundnut bunch type only.
   2. Groundnut bunch type+881-F cotton.
   4. Groundnut bunch type+ cotton.
   5. Groundnut bunch type+197-3 cotton.
   7. Groundnut spreading type only.
   10. Groundnut spreading type+ cotton.

One row of cotton for every eleven rows of groundnut.
* variety N.A.

3. DESIGN:
   (i) R.B.D. (ii) (a) 12. (b) Nil. (iii) 6. (iv) (a) 21'×49.5' (b) 21'×41.3'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield data. (iv) (a) 1950-1952. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Raw data N.A.
5. RESULTS:

Yield of produce in lb./ac. | Money value in Rupees.
--- | ---
1. | 431 | — | 86
2. | 397 | 96 | 111
3. | 347 | 82 | 97
4. | 309 | 72 | 102
5. | 395 | 59 | 99
6. | 370 | 42 | 88

Significance: Yes, N.A., N.A.
S.E./mean: 16, N.A., N.A.

7. | 261 | — | 52
8. | 239 | 93 | 81
9. | 228 | 56 | 64
10. | 216 | 62 | 64
11. | 236 | 42 | 61
12. | 245 | 42 | 63

Significance: No, Yes, Yes
S.E./mean: 17, 5.0, 3.5

---

Crop: Cotton+Groundnut.

Object: To study the possibilities of introducing Cotton as a mixture with Groundnut.

41. BASAL CONDITIONS:

(i) a) Nil (b), (c) As under treatments.
(ii) (a) Black cotton soil. (b) Refer soil analysis, Nandyal.

2. TREATMENTS:

1. Groundnut bunch type only.
2. Groundnut bunch type+881-F cotton.
4. Groundnut bunch type+cotton*.
5. Groundnut bunch type+197-3 cotton.
7. Groundnut spreading type only.
10. Groundnut spreading type+cotton*.

One row of cotton for every eleven rows of groundnut.
* Variety N A.

3. DESIGN:

(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) 21'×49.5'. (b) 21'×41.3'. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Groundnut—not satisfactory. (ii) Aphid attack in early stages. (iii) Yield data. (iv) (a) 1950-1952. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS:

Yield of produce in lb./ac. | Money value in Rupees.
--- | ---
1. | 357 | — | 71
2. | 339 | 102 | 102
3. | 291 | 107 | 94
4. | 292 | 108 | 94
5. | 304 | 285 | 89
6. | 299 | 103 | 94
7. | 272 | — | 54
8. | 202 | 100 | 77
9. | 271 | 89 | 83
10. | 256 | 89 | 81
11. | 255 | '06 | 86
12. | 249 | 82 | 82

Significance: Not Significant, Not Significant, Significant
S.E./mean: N.A., N.A., 14 Rs./ac.
Crop := Cotton, Groundnut, etc.  

Ref := A.P. 50(32).  
Type := 'X'.

Object := To study the economy of growing Cotton as a mixture with Groundnut or Korra in preference to Redgram.

1. BASAL CONDITIONS:

2. TREATMENTS:
   2. Groundnut (bunch type)+881-F Cotton in the proportion of 5 : 1.

3. DESIGN:
   (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 21'×49.5'. (b) 21'×41.3'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Groundnut—not satisfactory. Other crops—satisfactory. (ii) Severe attack by aphids to groundnut crop. (iii) Yield of produce: (iv) (a) 1950—1952. (b) Yes. (c) N.A. (v) (d), (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS:
   (i) to (iv) Av. yield in lb./ac.  
   Money value in Rupees

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Redgram</th>
<th>G. Nut</th>
<th>Korra</th>
<th>Cotton</th>
<th>S.E./mean</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>456</td>
<td>188</td>
<td>—</td>
<td>—</td>
<td>104</td>
<td>Yes.</td>
</tr>
<tr>
<td>1.</td>
<td>—</td>
<td>268</td>
<td>—</td>
<td>—</td>
<td>149</td>
<td>Yes.</td>
</tr>
<tr>
<td>2.</td>
<td>—</td>
<td>244</td>
<td>—</td>
<td>—</td>
<td>161</td>
<td>Yes.</td>
</tr>
<tr>
<td>3.</td>
<td>—</td>
<td>446</td>
<td>122</td>
<td>—</td>
<td>53</td>
<td>Yes.</td>
</tr>
<tr>
<td>4.</td>
<td>—</td>
<td>—</td>
<td>166</td>
<td>147</td>
<td>76</td>
<td>Yes.</td>
</tr>
<tr>
<td>5.</td>
<td>—</td>
<td>—</td>
<td>141</td>
<td>217</td>
<td>102</td>
<td>Yes.</td>
</tr>
<tr>
<td>6.</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>Yes.</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>46 lb./ac</td>
<td>15 lb./ac</td>
<td>10 lb./ac</td>
<td>13 lb./ac</td>
<td>6 Rs./ac.</td>
<td></td>
</tr>
<tr>
<td>Significance</td>
<td>Yes.</td>
<td>Yes.</td>
<td>Yes.</td>
<td>Yes.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop := Cotton, Groundnut, etc.  

Ref := A.P. 51(59).  
Type := 'X'.

Object := To study the economy of growing Cotton as a mixture with Groundnut or Korra in preference to Redgram.

1. BASAL CONDITIONS:
2. TREATMENTS:
2. Groundnut (bunch type) + 881-F Cotton in the proportion of 5 : 1.

3. DESIGN:
(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 21' x 49.5'. (b) 21' x 41 3'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Yield of produce. (iv) (a) 1950—1952. (b) N.A. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Raw data N.A.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Groundnut</th>
<th>Korra</th>
<th>Redgram</th>
<th>Cotton</th>
<th>Money value in Rupees</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>279</td>
<td>—</td>
<td>106</td>
<td>—</td>
<td>69</td>
</tr>
<tr>
<td>2.</td>
<td>289</td>
<td>—</td>
<td>—</td>
<td>259</td>
<td>144</td>
</tr>
<tr>
<td>3.</td>
<td>280</td>
<td>—</td>
<td>—</td>
<td>242</td>
<td>136</td>
</tr>
<tr>
<td>4.</td>
<td>—</td>
<td>277</td>
<td>147</td>
<td>—</td>
<td>52</td>
</tr>
<tr>
<td>5.</td>
<td>—</td>
<td>240</td>
<td>—</td>
<td>173</td>
<td>88</td>
</tr>
<tr>
<td>6.</td>
<td>—</td>
<td>236</td>
<td>—</td>
<td>195</td>
<td>97</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>S.E./mean</td>
<td>10 lb./ac.</td>
<td>14 lb./ac.</td>
<td>19 lb./ac.</td>
<td>16 lb./ac.</td>
<td>5 Rs./ac.</td>
</tr>
</tbody>
</table>

Crop :- Cotton, Groundnut, etc.  Ref :- A P. 52 (67).
Site :- Agri. Res. Stn., Nandyal. Type :- 'X'.
Object :- To test whether Cotton would be more profitable than Redgram as a mixture with Groundnut and Korra.

1. BASAL CONDITIONS:

2. TREATMENTS:
2. Groundnut (bunch type) + 881-F Cotton in the proportion of 5 : 1.

3. DESIGN:
(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 2.24 cents. (b) 2.00 cents. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Due to severe drought after sowing, groundnut and Korra yielded very low. Redgram and Cotton-normal.
(ii) Aphid attack in early stages (iii) Yield data. (iv) (a) 1951 to 1952. (b) Yes. (c) N.A. (v) (a), (b) Nil. (vi) Nil. (vii) Raw data N.A.
5. RESULTS:

(i) to (iv) Yield of produce in lb/acre.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Groundnut</th>
<th>Korra</th>
<th>Redgram</th>
<th>Cotton</th>
<th>Money value in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>99</td>
<td>—</td>
<td>390</td>
<td>—</td>
<td>61</td>
</tr>
<tr>
<td>2.</td>
<td>99</td>
<td>—</td>
<td>—</td>
<td>188</td>
<td>74</td>
</tr>
<tr>
<td>3.</td>
<td>97</td>
<td>—</td>
<td>—</td>
<td>195</td>
<td>77</td>
</tr>
<tr>
<td>4.</td>
<td>—</td>
<td>173</td>
<td>—</td>
<td>—</td>
<td>71</td>
</tr>
<tr>
<td>5.</td>
<td>—</td>
<td>169</td>
<td>—</td>
<td>84</td>
<td>49</td>
</tr>
<tr>
<td>6.</td>
<td>—</td>
<td>178</td>
<td>—</td>
<td>126</td>
<td>64</td>
</tr>
</tbody>
</table>

Significance: No

S.E./mean: N.A.

Crop: Tur, Groundnut, and Jowar.

Site: Govt. Main Farm, Warangal.

Ref: A.P. 49 (39).

Object: To ascertain the relative economy of growing Tur as a whole crop and as a mixed crop in association with Groundnut and Jowar.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) N.A. (c) N.A. (ii) N.A. (iii) N.A. (iv) (a) to (e) N.A. (v) N.A. (vi) N.A. (vii) Rainfed. (viii) Weeding once or twice. (ix) 45.66°. (x) N.A.

2. TREATMENTS:
   2. Groundnut alone.
   3. Tur alone.
   4. Groundnut 6 rows + Tur one row.
   5. Groundnut 4 rows + Tur one row.
   7. Jowar 4 rows + Tur one row.

3. DESIGN:
   (i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) 78'×19'. (b) 72'×15'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Very unsatisfactory for Jowar, badly affected by excess of rain. (ii) Nil. (iii) Yield data. (iv) (a) 1949-1953. (b) No. (c) N.A. (v) (a) Nil. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 208.8 Rs./acre.
   (ii) 32.8 Rs./acre.
   (iii) Treatments differ significantly.
   (iv) Av. yield of produce in Rs./acre.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Mean value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>71.6</td>
</tr>
<tr>
<td>2.</td>
<td>287.6</td>
</tr>
<tr>
<td>3.</td>
<td>186.4</td>
</tr>
<tr>
<td>4.</td>
<td>309.6</td>
</tr>
<tr>
<td>5.</td>
<td>321.2</td>
</tr>
<tr>
<td>6.</td>
<td>137.6</td>
</tr>
<tr>
<td>7.</td>
<td>147.6</td>
</tr>
</tbody>
</table>

S.E./mean = 16.4 Rs./acre.
Crop :- Tur, Goundnut and Jowar.  
Site :- Govt. Main Farm, Warangal.  
Object :-To ascertain the relative economy of growing Tur as a whole crop and as a mixed crop with Groundnut and Jowar.

1. BASAL CONDITIONS :  

2. TREATMENTS :  
1. Jowar alone.  
2. Groundnut alone.  
3. Tur alone.  
4. Groundnut 6 rows + Tur one row.  
5. Groundnut 4 rows + Tur one row.  
7. Jowar 4 rows + Tur one row.

3. DESIGN :  
(i) R.B.D. (ii) (a, 7, b) N.A. (iii) 4. (iv) (a) 78' x 19'. (b) 72' x 15'. (v) N.A. (vi) Yes.

4. GENERAL :  
(i) Due to unfavourable seasonal conditions all the crops were adversely affected in different degrees. Poor growth. Besides poor growth the majority of groundnut flowers failed in pod formation due to complete absence of the rain at the time of flowering and the consequent hard texture of the soil, groundnut yields were thus highly affected. Due to highly stunted crop growth, Tur yields were abnormally low. Jowar almost failed in grain setting. (ii) Nil. (iii) Yield data. (iv) (a) 1949–1953. (b) No. (c) N.A. (v) (a) N.A. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :  
(i) 104.4 Rs. ac.  
(ii) 32.6 Rs. ac.  
(iii) Treatments differ significantly.  
(iv) Av. yield of produce in Rs./ac.  

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Mean value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>149.2</td>
</tr>
<tr>
<td>2.</td>
<td>78.4</td>
</tr>
<tr>
<td>3.</td>
<td>38.0</td>
</tr>
<tr>
<td>4.</td>
<td>71.2</td>
</tr>
<tr>
<td>5.</td>
<td>72.8</td>
</tr>
<tr>
<td>6.</td>
<td>157.2</td>
</tr>
<tr>
<td>7.</td>
<td>162.8</td>
</tr>
<tr>
<td>S.E., mean</td>
<td>16.40 Rs./ac.</td>
</tr>
</tbody>
</table>

Crop :- Tur, Goundnut and Jowar.  
Site :- Govt. Main Farm, Warangal.  
Object :-To ascertain the economy of growing Tur as a pure crop and as an associated crop with Groundnut and Jowar.

1. BASAL CONDITIONS :  

2. TREATMENTS :  
1. Jowar alone.  
2. Groundnut alone.  
3. Tur alone.  
4. Groundnut 6 rows + Tur one row.  
5. Groundnut 4 rows + Tur one row.  
7. Jowar 4 rows + Tur one row.
3. DESIGN:
(i) R.B.D.  (ii) (a) 7.  (b) N.A.  (iii) 4.  (iv) (a) N.A.  (b) 1/40 acre. (v) N.A.  (vi) Yes.

4. GENERAL:
(i) N.A.  (ii) N.A.  (iii) Yield data. (iv) (a) 1949—1953.  (b) and (c) N.A.  (v) (a) Nil.  (b) N.A.  (vi) and (vii) Nil.

5. RESULTS:
(i) to (iv) Av. yield in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Jowar</th>
<th>Tur</th>
<th>Groundnut</th>
<th>Monetary return per acre in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>G : 400.0</td>
<td>—</td>
<td>—</td>
<td>198.8</td>
</tr>
<tr>
<td></td>
<td>K : 5320.0</td>
<td>—</td>
<td>760.0</td>
<td>242.8</td>
</tr>
<tr>
<td>2.</td>
<td>—</td>
<td>269.6</td>
<td>—</td>
<td>46.4</td>
</tr>
<tr>
<td>3.</td>
<td>—</td>
<td>318.4</td>
<td>625.2</td>
<td>254.8</td>
</tr>
<tr>
<td>4.</td>
<td>G : 425.2</td>
<td>155.0</td>
<td>—</td>
<td>204.4</td>
</tr>
<tr>
<td></td>
<td>K : 4500.0</td>
<td>—</td>
<td>144.0</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td>370.0</td>
<td>440.0</td>
<td>204.4</td>
</tr>
<tr>
<td>G.M.</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>198.0</td>
</tr>
<tr>
<td>S.E/mean</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>21.13 Rs./ac.</td>
</tr>
</tbody>
</table>

There is significant difference in monetary returns for different treatments.
Note: G : Grain.  
K: Kadbi

Crop : Tur, Groundnut and Jowar.  
Site :- Govt. Main Farm, Warangal.  
Ref :- A.P. 53(9).  
Type :- 'X'.

Object :- To ascertain the economy of growing Tur as a pure crop and as an associated crop with Groundnut or Jowar.

1. BASAL CONDITIONS:

2. TREATMENTS:
1. Jowar alone.
2. Groundnut alone.
3. Tur alone.
4. Groundnut 6 rows and Tur one row.
5. Groundnut 4 rows and Tur one row.
6. Jowar 6 rows and Tur one row.
7. Jowar 4 rows and Tur one row.

3. DESIGN:
(i) R.B.D.  (ii) (a) 7.  (b) N.A.  (iii) 4.  (iv) (a) N.A.  (b) 1/40 acre. (v) N.A.  (vi) Yes.

4. GENERAL:
(i) N.A.  (ii) N.A.  (iii) Yield data. (iv) (a) 1949 to 1953.  (b) N.A.  (c) N.A.  (v) (a) Nil.  (b) N.A.  (vi) and (vii) Nil.
5. RESULTS:

(i) to (iv) Av. yield in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Jowar</th>
<th>Groundnut</th>
<th>Tur</th>
<th>Monetary Return per acre in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>G. 288.0</td>
<td>—</td>
<td>—</td>
<td>179.6</td>
</tr>
<tr>
<td></td>
<td>K. 5610.0</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>—</td>
<td>781.2</td>
<td>—</td>
<td>185.6</td>
</tr>
<tr>
<td>3.</td>
<td>—</td>
<td>—</td>
<td>522.0</td>
<td>70.8</td>
</tr>
<tr>
<td>4.</td>
<td>—</td>
<td>700.0</td>
<td>464.4</td>
<td>265.2</td>
</tr>
<tr>
<td>5.</td>
<td>—</td>
<td>517.2</td>
<td>652.0</td>
<td>226.0</td>
</tr>
<tr>
<td>6.</td>
<td>G. 263.4</td>
<td>—</td>
<td>335.6</td>
<td>172.0</td>
</tr>
<tr>
<td></td>
<td>K. 3800.0</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>G. 188.0</td>
<td>—</td>
<td>370.8</td>
<td>180.4</td>
</tr>
<tr>
<td></td>
<td>K. 4140.0</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
</tbody>
</table>

G.M. 179.6
S.E./mean 185.6
C.D. 70.8

There is significant differences in monetary return for different treatments.

Note:—G—Grain,

K—Kadbi