INSTITUTE OF AGRICULTURAL RESEARCH STATISTICS

NATIONAL INDEX

OF

AGRICULTURAL

FIELD

EXPERIMENTS

VOL. 2 PART 2

ASSAM

1954–59

PUBLISHED BY

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

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

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

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

New Delhi,
March 26, 1965.
PREFACE

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

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

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

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

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

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

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

NEW DELHI,  
March 25, 1965.

V.G. PANSE  
Statistical Adviser,  
<table>
<thead>
<tr>
<th>Region and Headquarter</th>
<th>Statistical staff from the Institute of Agricultural Research Statistics</th>
<th>Regional Supervisors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Andhra Pradesh (Hyderabad)</td>
<td>S.K. Jilani, P.R. Yeri</td>
<td>Dr. Mohd. Quadiruddin Khan, Joint Director of Agricultural.</td>
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<tr>
<td></td>
<td></td>
<td>Late Dr. Syed Waheeduddin.</td>
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<td></td>
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<td>Shri M. Khasim Adoni, Joint Director of Extension.</td>
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<td>Shri N.V. Mohana Rao, Joint Director, Agricultural Research Institute, Rajendranagar.</td>
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<td></td>
<td>Shri L. Venkataratnam, Deputy Director of Agriculture (Research).</td>
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<tr>
<td>2. Maharashtra (Poona)</td>
<td>P.D. Mehta, B. Ramakrishan</td>
<td>Shri D.S. Rangarao, Statistician, Department of Agriculture.</td>
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<td>Dr. D. K. Desai, Deputy Director of Agriculture (Statistics).</td>
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<td>Shri J.B. Trivedi, Deputy Director of Agriculture (Statistics).</td>
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<td>S.P. Doshi</td>
<td>Dr. K. Kishen, Joint Director of Agriculture (Statistics).</td>
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<td>Shri A.C. Khare, Statistician, Department of Agriculture.</td>
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<td>5. Madhya Pradesh (Chhindwara)</td>
<td>T. Lokeswara Rao, H.C. Gupta</td>
<td>Shri Piara Singh Sahota, Director of Crop Insurance.</td>
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<td>Shri Mohinder Singh Pannu, Statistician, Department of Agriculture.</td>
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<td>6. Punjab, Jammu &amp; Kashmir</td>
<td>A.C. Kaitha, B.L. Kaitha, M.S. Batra</td>
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<td>Shri G.P. Singh, Statistician, Department of Agriculture.</td>
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<td>Shri R.S. Roy, Principal, Agricultural Research Institute, Sabour.</td>
</tr>
<tr>
<td>7. Bihar (Sabour)</td>
<td>M.K. Joshi, P.C. Kholia</td>
<td>Shri H.C. Kothari, Statistician, Department of Agriculture,</td>
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<td>Shri H.C. Kothari, Statistician, Department of Agriculture,</td>
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<td></td>
<td></td>
<td>Shri D. Misra, Principal, Uttakal Krushi Mahavidyalaya, Bhubaneswar.</td>
</tr>
<tr>
<td>8. Rajasthan (Jaipur)</td>
<td>B.P. Dyundi, N.K. Ohri</td>
<td>Shri B. Misra, Deputy Director of Agriculture (Hq.).</td>
</tr>
<tr>
<td>9. Odisha (Bhubaneswar)</td>
<td>L.B.S. Somayazulu</td>
<td>Shri S.N. Mukerjee, Statistical Officer, Directorate of Agriculture,</td>
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<td>Shri S.N. Mukerjee, Statistical Officer, Directorate of Agriculture,</td>
</tr>
</tbody>
</table>
11. **MADRAS** (COIMBATORE)

P. Prabhakara Rao

V. Venkateswara Rao

Late Shri M. Bhavani Sankar Rao,
Vice-Principal and Secretary, Research Council, Agriculturn College and Research Institute, Coimbatore.

Shri T. Natarajan,
Agronomist.

Shri A.H. Sarma,
Extension Specialist.

Shri V. Raman,
Secretary, Research Council.

Shri K.R. Nagaraja Rao,
Secretary, Research Council.

12. **ASSAM**

T.K. Gupta

Dr. S.R. Barooha,
Director of Agriculture, Assam.

Shri B.N. Duara,
Joint Director of Agriculture, Assam.

13. **MYSORE** (BANGALORE)

K.A. Balakrishnan

Shri M.A. Wali,
Director of Statistics,

Shri B.V.S. Rao,
Assistant Director of Statistics.

14. **KERALA** (TRIVANDRUM)

V.N. Iyer

Shri M. Janardanan Nair,
Director of Agriculture.

Shri N. Shankara Menon
Director of Agriculture.

Shri P.D. Nair,
Director of Agriculture.
**ABBRéviations Common to Experiments on Annual and Perennial Crops and Experiments on Cultivators' Fields.**

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

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

Abbreviations adopted for States are as follows:

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

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

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

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

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

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

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

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

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

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

Other abbreviations used in the text of experiments:

- Nitro. Phos.—Nitrogen Phosphate
- Amm. Phos.—Ammonium Phosphate
- A/S—Ammonium Sulphate
- A/S/N—Ammonium Sulphate Nitrate
- C/A/N—Calcium Ammonium Nitrate
- A/N—Ammonium Nitrate
- A/C—Ammonium Chloride
- C/N—Chilean Nitrate
- N—Nitrogen
- P—Phosphate
Under the item (ii) (b) of the sub-heading 'Basal conditions' in the text of the experiment, the respective farm station at which the experiment was conducted has been referred to for the soil analysis. The soil analysis of the farm, with other details of the research station is given under the background information of each state. The information regarding the details of experimental stations may be obtained under the respective items as given below:

DETAILS OF EXPERIMENTAL STATIONS

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

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

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

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

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

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

BASAL CONDITIONS

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

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

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

DESIGN

A. For experiments on annual crops:

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

B. For experiments on perennial crops:

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

C. For experiments on cultivators' fields:

(i) Method of selection of experimental sites. (ii) No. and distribution of experiments. (iii) Plot size. (a) Gross. (b) Net. (iv) Whether treatments are randomised.

GENERAL

A. For experiments on annual crops:

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

B. For experiments on perennial crops:

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

C. For experiments on cultivators' fields:

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

<table>
<thead>
<tr>
<th>Unit</th>
<th>Metric Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 foot</td>
<td>304.8 mm</td>
</tr>
<tr>
<td>1 acre</td>
<td>0.404606 hectares</td>
</tr>
<tr>
<td>1 gram</td>
<td>0.035274 ounces = 0.085735 tola = 0.017147 chataks</td>
</tr>
<tr>
<td>1 kg</td>
<td>2.20462 pounds = 1.07169 seers</td>
</tr>
<tr>
<td>1 metric ton</td>
<td>0.9842 tons = 26.7923 maunds</td>
</tr>
<tr>
<td>1 maund</td>
<td>0.373242 quintals = 37.3242 kg</td>
</tr>
<tr>
<td>1 lb/ac.</td>
<td>1.12085 kg/hectare</td>
</tr>
<tr>
<td>1 md/ac.</td>
<td>92.23002 kg/hectare = 0.9223 quintal/hectare</td>
</tr>
<tr>
<td>1 ton/ac.</td>
<td>2.51071 metric tones/hectare</td>
</tr>
<tr>
<td>1 gallon (Imp.)</td>
<td>4.54596 litres</td>
</tr>
<tr>
<td>Sl. No.</td>
<td>Name of Crop</td>
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<tr>
<td>-------</td>
<td>-------------------</td>
</tr>
<tr>
<td>1</td>
<td>Paddy</td>
</tr>
<tr>
<td>2</td>
<td>Maize</td>
</tr>
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<td>3</td>
<td>Mali kalai</td>
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<td>5</td>
<td>Cabbage</td>
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<tr>
<td>6</td>
<td>Cauliflower</td>
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<tr>
<td>7</td>
<td>Brinjal</td>
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<tr>
<td>8</td>
<td>Tomato</td>
</tr>
<tr>
<td>9</td>
<td>Sugarcane</td>
</tr>
<tr>
<td>10</td>
<td>Cotton</td>
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<td>12</td>
<td>Groundnut</td>
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<td>13</td>
<td>Ginger</td>
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<td>14</td>
<td>Mustard</td>
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<td>Sl. No.</td>
<td>Name of Crop</td>
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<tr>
<td>16.</td>
<td>Coconut</td>
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<td>18.</td>
<td>Cardamom</td>
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<td>20.</td>
<td>Pineapple</td>
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GLOSSARY OF VERNACULAR NAME OF CROPS—contd.
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<td>EXPERIMENTAL RESULTS (CROP-WISE)</td>
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<td>Paddy</td>
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<td>Coconut</td>
<td>146</td>
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<tr>
<td>Cashewnut</td>
<td>150</td>
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<tr>
<td>Pineapple</td>
<td>150</td>
</tr>
<tr>
<td>Black pepper</td>
<td>152</td>
</tr>
</tbody>
</table>
ASSAM

1. General:

The State of Assam including N.E.F.A. and Nagaland lies on the far eastern side of India. It is bound by the Himalayan ranges on the north, East-Pakistan on the west and Burma on the east. It is triangular in shape with its base as Himalayas and vertex pointing to the south and comprises of 12 districts. The State has a geographical area of 54,325 thousand acres. The reporting area according to village papers is about 35,764 thousand acres. The land utilization figures for this State are provided in table 1 below:

<table>
<thead>
<tr>
<th>TABLE 1. Land utilisation Statistics of Assam State (1958-59) (Area in '000 acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reporting area as per village papers</td>
</tr>
<tr>
<td>Land under forests</td>
</tr>
<tr>
<td>Barren &amp; uncultivable land</td>
</tr>
<tr>
<td>Land put to non-agricultural uses</td>
</tr>
<tr>
<td>Culturable waste</td>
</tr>
<tr>
<td>Permanent pastures &amp; other grazing land</td>
</tr>
<tr>
<td>Land under miscellaneous tree crops</td>
</tr>
<tr>
<td>Current fallows</td>
</tr>
<tr>
<td>Other fallow land</td>
</tr>
<tr>
<td>Net area sown</td>
</tr>
<tr>
<td>Total cropped area</td>
</tr>
<tr>
<td>Area sown more than once</td>
</tr>
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</table>

2. Topography:

Physiographically, Assam is divided into three natural divisions: (i) the Brahmaputra valley, (ii) The Surma valley and (iii) The Assam range. The Aka Abor, Mishmi and other neighbouring hills, etc., from the eastern part of the Himalayas together with the Naga Hills. Manipur and Lushai Hills surround the east and north-east of Assam. The Brahmaputra valley is an alluvial plain, 450 miles long and about 50 miles broad. It is bounded on all sides, excepting the west, by hills. It is stretched almost east and west towards the lower portions; but at its upper end, it is inclined towards north-east. The Brahmaputra flows through the middle of this plain and receives in its course, the drainage of the Himalayas on the north and the Assam range on the south. The Surma valley is a flat plain about 125 miles long and 60 miles wide, closed on three sides by hill ranges. The Surma river rises on the southern slopes of the mountain ranges at the borders of the Naga Hills and flows south through Manipur. It represents a vast deltaic expanse, liable to deep flooding in the rainy season. Its mean elevation is 87 ft. at Silchar and 48 ft. in Sylhet. The rivers are, therefore, sluggish and deposit large amount of silt raising their banks well above the level of the surrounding country. Consequently the village sites assume a swamp condition in the rains. Occasionally, there are low basins, locally called haors, which retain water almost throughout the year. The surface of the valley is interspersed with small, isolated hillocks called tills. The Assam range of mountains, which separates the Surma and the Brahmaputra valley, projects at right angles from the Burmese mountain range and lies almost due east and west. To the west, a height of 4,600 ft. is attained at Nikrek. Towards the southern face, the Shillong plateau has a very steep slope.

3. Soil types and Agro-climatic regions.

The most important characteristic of the soil of Assam is its acidity. The soil acidity appears to increase with rainfall and heaviness of the soil. The soil of the northern bank of
Brahmaputra are less acidic than those of the southern bank. In the Surma valley, the soil on the *tillas* and *bheels* are markedly acidic. The soils of the low lying tracts are less acidic and neutral or slightly alkaline.

Chemically the soils of the Brahmaputra valley and the Surma valley are not very much different from each other. The soils of the Surma valley are of finer texture as compared to the soils of the Brahmaputra valley. In other respect, e.g., the percentage of the different constitutions the soils are not much different. The Surma valley is characterised by its swampy nature and the abundance of *bheels*, the soils of which contain large percentage of organic matter. The soils on the *tillas* of Cachar differ from the rest only in so far as they occupy a heavy level.

The soils of the Assam range districts are comparatively rich in organic matter and nitrogen. This may be a result of the comparatively virgin nature of the hill soils. Both chemical and mechanical compositions show great variations.

The State of Assam can thus be divided into two distinct regions namely the Assam Hills region and the Assam Plains region. The Brahmaputra and the Surma river valleys owing to the similarity in their soil types together constitute the Assam Hills region, the Assam range being the same as the Assam Plains region. A brief description of these regions is as follows:

1. **Assam Hill Region**: The districts covered by the region are Garo hills, United Khasi and Jaintia Hills, United Mikir and North Cachar Hills, Naga Hills and Mizo Hills. This also included Manipur. Annual rainfall of this region ranges between 1905 to 2540 mm. Paddy and Jute are the main field crops.

2. **Assam Plains Region**: This consists of Goalpara, Kamrup, Cachar, Darrang, Nowgong, Sibsagar and Lakhimpur districts. This area also receives 1905 to 2540 mm. rainfall annually. Soils are alluvial type and undifferentiated. Main field crops of this region are Paddy and Tea.

The annual normal temperature and relative humidity at some selected centres are as follows:

<table>
<thead>
<tr>
<th>Centre</th>
<th>Max°C</th>
<th>Min°C</th>
<th>R.H.%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cherrapunji</td>
<td>20.5</td>
<td>14.2</td>
<td>73</td>
</tr>
<tr>
<td>Dibrugarh</td>
<td>27.3</td>
<td>18.5</td>
<td>85</td>
</tr>
<tr>
<td>Gauhati</td>
<td>29.3</td>
<td>19.2</td>
<td>81</td>
</tr>
<tr>
<td>Shillong</td>
<td>21.1</td>
<td>11.2</td>
<td>69</td>
</tr>
<tr>
<td>Sibsagar</td>
<td>27.5</td>
<td>18.8</td>
<td>87</td>
</tr>
<tr>
<td>Tezpur</td>
<td>28.5</td>
<td>19.5</td>
<td>82</td>
</tr>
</tbody>
</table>

**4. Irrigation.**

The State has a total irrigated area of 1533 thousand acres. The area irrigated through different sources is as follows:

<table>
<thead>
<tr>
<th>Source</th>
<th>Acreage</th>
<th>% irrigated area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Govt. Canals</td>
<td>178</td>
<td>11.6</td>
</tr>
<tr>
<td>Private Canals</td>
<td>721</td>
<td>47.0</td>
</tr>
<tr>
<td>Other sources</td>
<td>634</td>
<td>41.4</td>
</tr>
<tr>
<td>Total</td>
<td>1533</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**5. Agricultural Production and Normal cropping pattern.**

Apart from Tea, the important field crops of this State are Paddy, Sesamum, Rape and Mustard and Jute. The figures for area, production and average yield per acre of various crops in this State are given in Table 3 below:
6. Experimentation and Agricultural Research.

In all 331 experiments conducted during the period 1954–59 were reported from this State. Besides, 52 experiments conducted under the Model Agronomy and Simple Fertilizer Trial Schemes of the Indian Council of Agricultural Research and the experiments conduc-

### TABLE 3.

Area, production and Av. yield per acre of principal crops (1963-64)

<table>
<thead>
<tr>
<th>Crop</th>
<th>Area in '000 ac.</th>
<th>Production in '000 tons.</th>
<th>Yield in lb/ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paddy</td>
<td>4557</td>
<td>1818.8</td>
<td>894</td>
</tr>
<tr>
<td>Maize</td>
<td>50</td>
<td>8.9</td>
<td>397</td>
</tr>
<tr>
<td>Smallmillets</td>
<td>16</td>
<td>2.9</td>
<td>413</td>
</tr>
<tr>
<td>Wheat</td>
<td>10</td>
<td>2.9</td>
<td>661</td>
</tr>
<tr>
<td>Pulses</td>
<td>206</td>
<td>35.3</td>
<td>384</td>
</tr>
<tr>
<td>Castor</td>
<td>5</td>
<td>0.9</td>
<td>441</td>
</tr>
<tr>
<td>Sesamum</td>
<td>22</td>
<td>3.9</td>
<td>401</td>
</tr>
<tr>
<td>Rape &amp; Mustard</td>
<td>294</td>
<td>49.3</td>
<td>471</td>
</tr>
<tr>
<td>Linseed</td>
<td>3</td>
<td>0.9</td>
<td>735</td>
</tr>
<tr>
<td>Mesta</td>
<td>20</td>
<td>28*</td>
<td>1.4*</td>
</tr>
<tr>
<td>Cotton (kapas)</td>
<td>41</td>
<td>6.9</td>
<td>35</td>
</tr>
<tr>
<td>Jute</td>
<td>334</td>
<td>1020*</td>
<td>3.0 *</td>
</tr>
<tr>
<td>Sugarcane</td>
<td>70</td>
<td>1102</td>
<td>15.74**</td>
</tr>
</tbody>
</table>

* '000 bales of 400 lbs, each
** tons/acre

### TABLE 4.

Distribution of experiments crop-wise and type-wise.

<table>
<thead>
<tr>
<th>Crop</th>
<th>M</th>
<th>MV</th>
<th>C</th>
<th>CV</th>
<th>CM</th>
<th>I</th>
<th>D</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paddy</td>
<td>47</td>
<td>4</td>
<td>6</td>
<td></td>
<td>7</td>
<td></td>
<td></td>
<td>79</td>
</tr>
<tr>
<td>Maize</td>
<td>22</td>
<td></td>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>22</td>
</tr>
<tr>
<td>Mati Kalai</td>
<td>2</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Potato</td>
<td>30</td>
<td></td>
<td>2</td>
<td></td>
<td>1</td>
<td>3</td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>Cabbage</td>
<td>3</td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Cauliflower</td>
<td>2</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Brinjal</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Tomato</td>
<td>4</td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Sugarcane</td>
<td>7</td>
<td>1</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Cotton</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Jute</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Groundnut</td>
<td>4</td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Mustard</td>
<td>12</td>
<td>11</td>
<td>7</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td>34</td>
</tr>
<tr>
<td>Ginger</td>
<td>6</td>
<td>8</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Cardamom</td>
<td>4</td>
<td></td>
<td>4</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Coconut</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Cashewnut</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Pineapple</td>
<td>2</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>B. Pepper</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>45</td>
<td>39</td>
<td>8</td>
<td>7</td>
<td>1</td>
<td>20</td>
<td></td>
<td>231</td>
</tr>
</tbody>
</table>
ted on cultivators' fields by the State are also included in the compendium for this period. Jorhat, Karimganj Kokilamukh, Titabar and Upper Shillong are the major agricultural research stations of the State. About 64.5% of experiments have been of purely manurial type while those with manurial treatments are about 70.6%. Maximum number of trials (34.9%), Mustard and maize followed in order with 13.9% and 9.5% of the experiments respectively. The crop and type wise break up of the experiments is given in Table 4.

About 85% of the experiments were laid out in Randomised Block and Latin square designs. Split-plot or strip-plot arrangement of factors was adopted in about 12% of the experiment and these were with factorial arrangement treatments. The block size varied from 2 to 30 plots in an R.B.D. experiment while in split plot the number of sub-plots per main-plot varied from 3 to 30. The net plot size in R.B.D. ranged between 1/700th of an acre and 1/30th of an acre while in the split-plot design it ranged between 1/725th an acre and 1/40th of an acre. The no. of replications varied from 2 to 8.
PARTICULARS OF RESEARCH STATIONS AND SOIL ANALYSIS

1. Government Agriculture Farm, Jorhat.

A. General Information:
   (i) District Sibsagar, 2½ miles from Jorhat R.S. (ii) N.A. (iii) Started in 1923. (iv) and (v) N.A.

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

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

D. Soil type and soil analysis:
   (i) Clay loam. (ii) Chemical and (iii) Mechanical analysis N.A.

E. No. of experiments:
   Paddy—17, Maize—1, Malikalai—2, Potato—8, Cabbage—3, Cauliflower—2, Brinjal—1, Tomato—4, Sugarcane—5, Groundnut—4, Mustard—1, Total=48.

2. Sugarcane Research Station, Jorhat.

A. General Information:
   (i) District Sibsagar, 3 miles from Jorhat R.S. Plain level. (ii) N.A. (iii) Started in 1906. (iv) and (v) N.A.

B. Normal rainfall in mm.:
   1499 mm. in a year, details—N.A.

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

D. Soil type and soil analysis:
   (i) Reddish sandy loam of old alluvium, shallow, hard, sub soil at a depth of one ft. or so, yellowish grey in colour and single grain (old alluvium) in structure. (ii) Chemical analysis: N—0.114. Total P₂O₅—0.025, Available P₂O₅—0.008, Total K₂O—0.115, Available K₂O—0.007 and Acidity (ppm.)—1350. (iii) Mechanical analysis (%): Coarse sand—7.2, fine sand—52.5, Silt—22.6, Fine silt—5.0, Clay—6.6 and moisture and less on ignition—5.1.

E. No. of experiments:
   Same as on Govt. Agri. Farm, Jorhat.

3. Rice Experimentation Station, Karimganj.

A. General Information:
   (i) District Cachar, 5 miles from Karimganj R.S. Two types of land, one is slightly higher than the other. There is no hilly land and no bund around the fencing with a gate for inlet or outlet of water. (ii) It represent plain tract. (iii) Started in 1913. (iv) and (v) N.A.

B. Normal rainfall in mm.:
   740 617 498 393 257 86 3 12 41 134 337 709 3828
   (Av. based on the rainfall data for the period 1949-50 to 1958-59)

C. Irrigation and drainage facilities:
   (i) (a) Yes. (b) Tanks. (ii) Yes.
D. Soil type and soil analysis:
   (i) Sandy and clay loam, blackish and fine. (ii) Chemical analysis and (iii) Mechanical analysis—N.A.

E. No. of experiments:
Paddy—22, Total=22.

4. Seed Farm, Kokilamukh.

A. General information:
   (i) District Sibsagar, 7½ miles from Jorhat R.S. The area is flat. (ii) Alluvial tract. (iii) Started in 1927. (iv) and (v) N.A.

B. Normal rainfall in mm.:
   269 479 363 193 176 28 20 36 47 84 221 468 2376
   (Av. based on the rainfall data for the period 1954 to 1959).

C. Irrigation and drainage facilities:
   (i) (a) and (b) N.A. (ii) Yes.

A. Soil type and soil analysis:
   (i) Sandy loam. (ii) Chemical analysis and (iii) Mechanical analysis as below:
   Chemical analysis (%).
   
   Depth | N. | Avl. P2O5 | Avl. K2O | pH (Water extract) | pH (K2O extract) | Acidity
   ----- | ---- | --------- | -------- | ------------------ | ---------------- | ----
   0"-9" | 0.174 | 0.043 | 0.013 | 5.0 | 4.7 | 39.2
   9"-18" | 0.011 | 0.039 | 0.018 | 5.9 | 4.8 | 28.0

   Mechanical Analysis (%).
   
   Depth | Course sand | Fine sand | Silt | Clay | Moisture | Loss on ignition
   ----- | ------------ | --------- | ---- | ---- | -------- | ------------
   0"-9" | 0.5 | 49.5 | 24.0 | 22.0 | 2.0 | 4.8
   9"-18" | 1.0 | 48.9 | 28.0 | 20.0 | 1.4 | 3.0

E. No. of experiments:
   Mustard—31, Total=31.

5. Rice Experimentation Station, Titabar.

A. General information:
   (i) District Sibsagar, 3 miles from Titabar R.S. (ii) Old alluvium tract. (iii) Started in 1923. (iv) and (v) N.A.

B. Normal rainfall in mm.:
   202 506 316 117 102 16 24 18 23 62 114 340 1841
   (Av. based on the rainfall data for the period 1956 to 1959).

C. Irrigation and drainage facilities:
   (i) (a) and (b) N.A. (ii) Yes.

D. Soil type and soil analysis:
   (i) Heavy clayey loam, 6" deep, grey in colour. (ii) Chemical and (iii) Mechanical analysis—N.A.

E. No. of experiments:
Paddy—21, Total=21.

A. **General information:**
   (i) District Khasi and Jantia Hills, 5 miles from Shillong R.S.  
   (ii) High altitude and cold area.  
   (iii) Started in 1953.  
   (iv) and (v) N.A.

B. **Av. rainfall in mm.:**
   Details N.A.

G. **Irrigation and drainage facilities:**
   (i) (a) and (b) N.A.  
   (ii) N.A.

D. **Soil type and soil analysis:**
   (i) N.A.  
   (ii) Chemical analysis and Mechanical analysis—N.A.

E. **No. of experiments:**
   Paddy—6, Maize—21, Potato—28, Total=55.

*There are 9 more research stations: Barpetta, Burlickson, Kahiokuchi, Kanikar, Lembucherra, Naya bunglow, Nongpoh, Roha and Tura where about 54 more experiments are conducted on crops like Jute, Sugarcane, Coconut, Pineapple, Ginger Cardamom and Cotton.*
Crop :- Paddy (Ahu).
Site :- Govt. Agri. Farm, Jorhat.

Ref :- As. 54(17).
Type :- 'M'.

Object :-To study the effect of different manures on Paddy in acidic soil under limed and un-limed conditions.

1. BASAL CONDITIONS :
   (i) (a) N.A. (b) Mustard. (c) N.A. (ii) (a) Old alluvial, sandy loam and acidic. (b) N.A. (iii) N.A. (iv) (a) 8 ploughings followed by laddering. (b) Broadcasting. (c) to (e) N.A. (v) 200 md./ac. of cowdung and 200 md./ac. of compost. (vi) Rangadoria, Ahu (medium). (vii) Unirrigated. (viii) 1 weeding. (ix) Nil. (x) N.A.

2. TREATMENTS :

   Main-plot treatments :
   2 levels of lime : L₀ = Without lime, L₁ =20 md./ac. of slaked lime.

   Sub-plot treatments :
   7 sources of N : A₁ =Control, A₂ =40 lb./ac. of N as cow-dung, A₃ =40 lb./ac. of N as oilcake, A₄ =20 lb./ac. of N as cow-dung+20 lb./ac. of N as C/N, A₅ =40 lb./ac. of N as C/N, A₆ =20 lb./ac. of N as cow-dung+20 lb./ac. of N as A/S and A₇ =40 lb./ac. of N as A/S.

   DESIGN :
   (i) Split-plot. (ii) (a) 2 main-plots/replication; 7 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) (a) and (b) 40' x 22'. (v) No. (vi) Yes.

4. GENERAL :
   (i) Nil. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—1956. (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) Nil. (vii) Expt. was conducted by Agri. Chemist.

5. RESULTS :
   (i) 184 lb./ac. (ii) (a) 36 lb./ac. (b) 28 lb./ac. (iii) Main effect of A and interaction A x L are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>A₁</th>
<th>A₂</th>
<th>A₃</th>
<th>A₄</th>
<th>A₅</th>
<th>A₆</th>
<th>A₇</th>
</tr>
</thead>
<tbody>
<tr>
<td>L₀</td>
<td>83</td>
<td>264</td>
<td>206</td>
<td>74</td>
<td>173</td>
<td>165</td>
</tr>
<tr>
<td>L₁</td>
<td>140</td>
<td>305</td>
<td>248</td>
<td>115</td>
<td>189</td>
<td>215</td>
</tr>
<tr>
<td>Mean</td>
<td>111</td>
<td>284</td>
<td>227</td>
<td>95</td>
<td>181</td>
<td>190</td>
</tr>
</tbody>
</table>

   S.E. of difference of two
   1. L marginal means = 11.12 lb./ac.
   2. A marginal means = 16.17 lb./ac.
   3. A means at the same level of L = 22.87 lb./ac.
   4. L means at the same level of A = 23.90 lb./ac.
A GENERAL:

i) N.A. ii) N.A. iii) Grain yield. iv) 'a'; 1954—1956. b) Yes. c) No. (v) (a) and (b) N.A. (vi) 1956 expt. failed due to drought. vii) Expt. was conducted by Agri. Chemist.

5. RESULTS:

i) 489 lb./ac. (ii) (a) 50 lb./ac. (b) 83 lb./ac. (iii) Interaction A X L is significant and main effect of A is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>A1</th>
<th>A2</th>
<th>A3</th>
<th>A4</th>
<th>A5</th>
<th>A6</th>
<th>A7</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
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<td>627</td>
<td>710</td>
<td>446</td>
<td>462</td>
<td>330</td>
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<td>61</td>
<td>561</td>
<td>578</td>
<td>347</td>
<td>726</td>
<td>493</td>
</tr>
<tr>
<td>Mean</td>
<td>214</td>
<td>553</td>
<td>635</td>
<td>503</td>
<td>520</td>
<td>338</td>
<td>660</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. L marginal means = 15.43 lb./ac.
2. A marginal means = 47.92 lb./ac.
3. A means at the same level of L = 67.76 lb./ac.
4. L means at the same level of A = 64.61 lb./ac.

Crop:—Paddy (Av).
Site:—Govt. Agri. Farm, Jorhat.

Object:—To study the effect of different manures and methods of application on Paddy.

1. BASAL CONDITIONS:

i) a N.A. b) Mustard. c) 100 m.d. ac. of cow dung= 40 lb./ac. of P_{2}O_{5}. ii) 'a' Old alluvial, sandy loam and acid.: b) N.A. iii) N.A. 'a) 6 ploughings followed by laddering. (b) Broadcasting. c) 1.25 m.d. ac. d) and e) N.A. 'v) 100 m.d. ac. of cow dung. vi) Rongdorlia, Aha medium. (vii) Unirrigated. viii) 1 weeding. ix) and x) N.A.

2. TREATMENTS:

6 manurai treatments with methods of application: M_{0}=0, M_{1}=40 lb./ac. of N as oilcake, M_{2}= M_{1}+40 lb./ac. of P_{2}O_{5} as Super (broadcasting), M_{3}= M_{2}+40 lb./ac. of P_{2}O_{5} as Kata phosphate (broadcasting), M_{4}= M_{2} (placement) and M_{5}= M_{3} (placement).

3. DESIGN:

i. R.B.D. ii) 'a' 6. (b) 132'×40'. iii) 3. (iv) (a) and b) 40'×22'. (v) Ne. (vi) Yes.

4. GENERAL:

i) Fau' ii) Nil. iii) Grain yield. iv) 'a' 1957—1959. b) Yes. c) Nil. (v) 'a' and (b) N.A. (vi) Nil. vii) Expt. was conducted by Agri. Chemist.

5. RESULTS:

i) 923 lb. ac. i) 465 lb. ac. ii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M_{1}</th>
<th>M_{2}</th>
<th>M_{3}</th>
<th>M_{4}</th>
<th>M_{5}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>792</td>
<td>1246</td>
<td>866</td>
<td>784</td>
<td>627</td>
</tr>
<tr>
<td>S.E. mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>268</td>
</tr>
</tbody>
</table>

Crop:—Paddy (Av).
Site:—Govt. Agri. Farm, Jorhat.

Object:—To study the effect of different manures and methods of application on Paddy.
1. BASAL CONDITIONS:
(i) (a) N.A.  (b) Mustard.  (c) 100 md./ac. of cow-dung + 40 lb./ac. of P₂O₅.  (ii) (a) Old alluvial, sandy loam and acidic.  (b) N.A.  (iii) N.A.  (iv) (a) 6 ploughings followed by laddering.  (b) Broadcasting.  (c) 1.25 mds/ac.  (d) and (e) N.A.  (v) 100 mds/ac. of cow-dung.  (vi) *Rangadoria, Ahu* (medium).  (vii) Unirrigated.  (viii) 1 weeding.  (ix) and (x) N.A.

2. TREATMENTS and 3. DESIGN:
Same as in exp. no. 57(37) on page 2.

4. GENERAL:
(i) Fair  (ii) Nil.  (iii) Grain yield.  (iv) (a) 1957–1959.  (b) Yes.  (c) Nil.  (v) (a) and (b) N.A.  (vi) Nil.  (vii) Expt. was conducted by Agri. Chemist.

5. RESULTS:
(i) 1053 lb./ac.  (ii) 258 lb./ac.  (iii) Treatment differences are significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
<th>M₄</th>
<th>M₅</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>536</td>
<td>974</td>
<td>1094</td>
<td>1114</td>
<td>1213</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>149 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Crop:** *Paddy (Ahu)*.  
**Site:** Govt. Agri. Farm, Jorhat.  
**Ref:** As. 59(30).  
**Type:** 'M'.

Object:—To study the effect of different manures and methods of application on Paddy.

---

1. BASAL CONDITIONS:
(i) (a) N.A. (b) *Matikalai*. (c) 0.40 and 60 lb./ac. of N as cow-dung and 0.40 and 60 lb./ac. of P₂O₅ as Super. (ii) (a) Old alluvial, sandy loam and acidic. (b) N.A. (iii) N.A. (iv) (a) 6 ploughings followed by laddering. (b) Broadcasting. (c) 1.25 mds/ac. (d) and (e) N.A. (v) 100 mds/ac. of cow-dung. (vi) *Rangadoria, Ahu* (medium). (vii) Unirrigated. (viii) 1 weeding. (ix) and (x) N.A.

2. TREATMENTS and 3. DESIGN:
Same as in exp. no. 57(37) on page 2.

4. GENERAL:
(i) and (ii) N.A. (iii) Grain yield. (iv) (a) 1957–1959. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) Expt. was conducted by Agri. Chemist.

5. RESULTS:
(i) 1033 lb./ac.  (ii) 258 lb./ac.  (iii) Treatment differences are highly significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
<th>M₄</th>
<th>M₅</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td></td>
<td>974</td>
<td>1094</td>
<td>1114</td>
<td>1213</td>
</tr>
<tr>
<td>S.E./mean</td>
<td></td>
<td>95 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Crop:** *Paddy (Sali)*.  
**Site:** Agri. College, Jorhat.  
**Ref:** As. 58(42).  
**Type:** ‘M’.

Object:—To find out best method of application of N to Paddy.

---

1. BASAL CONDITIONS:
(i) (a) N.A. (b) *Paddy (Ahu)*. (c) 50 mds./ac. of cow-dung. (ii) Sandy loam. (b) N.A. (iii) 16.8.1958. (iv) (a) 4 ploughings followed by laddering. (b) Transplanting. (c) N.A. (d) 9” x 9”. (e) 2 to 3. (v) 40 mds./ac. of cow-dung. (vi) *Prasad bhog*. (vii) Unirrigated. (viii) Nil. (ix) N.A. (x) 8.12.1958.
2. TREATMENTS:
   All combinations of '1' and '2':
   (1) 3 levels of N as A S: N₀=20, N₁=40 and N₂=60 lb./ac.
   (2) 2 methods of application: M₁=Broadcast and M₂=On sub-surface.

3. DESIGN:
   (i) Fact. in R.B.D.  (ii) 6 plots under N₀, 2 each under N₁ and N₂.
   (iii) 3.  (iv) (a) and (b) 61'×7'.  (v) Nil.  (vi) Yes.

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

5. RESULTS:
   (i) 1202 lb./ac.  (ii) 269 lb./ac.  (iii) Only main effect of M is highly significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>Mean</th>
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<tr>
<td>M₁</td>
<td>1506</td>
<td>1244</td>
<td>1343</td>
<td>1364</td>
</tr>
<tr>
<td>M₂</td>
<td>1088</td>
<td>1173</td>
<td>860</td>
<td>1040</td>
</tr>
<tr>
<td>Mean</td>
<td>1297</td>
<td>1208</td>
<td>1101</td>
<td>1202</td>
</tr>
</tbody>
</table>

S.E. of M marginal mean = 77.6 lb./ac.
S.E. of N marginal mean = 95.1 lb./ac.
S.E. of body of table = 134.5 lb./ac.

_Prop._ Paddy (Ahu).
_Site:_ Agri. College, Jorhat.

Object:—To find out suitable dose of N for double cropped Paddy.

1. BASAL CONDITIONS:
   (i) (a) N.A.  (b) Paddy 'stilt'.  (c) 50 md./ac. of cow-dung.  (ii) (a) Sandy loam.  (b) pH—4.5.  N.A.
   (iii) 11.4.1958.  (iv) 6 ploughings followed by laddering.  (b) Broadcasting.  (c) 30 srs/ac.  (d) and (e) N.A.
   (v) 50 md. ac. of cow-dung broadcast before sowing.  (vi) Rangadoria Ahu 'medium'.  (vii) Unirrigated.
   (viii) Nil.  (ix) N.A.  (x) 1.7.1958.

2. TREATMENTS:
   4 levels of N as A S: N₀=0, N₁=20, N₂=40 and N₃=60 lb./ac.

3. DESIGN:
   (i) R.B.D.  (ii) 6 plots under N₀, 2 each under N₁, N₂ and N₃.  (b) N.A.  (iii) 3.  (iv) (a) and (b) 61'×7'.
   (v) Nil.  (vi) Yes.

4. GENERAL:
   (i) Normal.  (ii) Nil.  (iii) Grain yield.  (iv) 1958—contd.  (b) Yes.  (c) Nil.  (v) (a) and (b) N.A.
   (vi) and (vii) Nil.

5. RESULTS:
   (i) 1697 lb./ac.  (ii) 220 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1652</td>
<td>1744</td>
<td>1676</td>
<td>1761</td>
<td></td>
</tr>
</tbody>
</table>

S.E. of N₀ mean = 63.5 lb./ac.
S.E. of any other mean = 89.8 lb./ac.

Ref:—As. 58(43).
_Type:_ 'M'.

---

_Crop:_ Paddy (Ahu).
_Site:_ Agri. College, Jorhat.

Object:—To find out suitable dose of N for double cropped Paddy.

1. BASAL CONDITIONS:
   (i) (a) N.A.  (b) Paddy 'stilt'.  (c) 50 md./ac. of cow-dung.  (ii) (a) Sandy loam.  (b) pH—4.5.  N.A.
   (iii) 11.4.1958.  (iv) 6 ploughings followed by laddering.  (b) Broadcasting.  (c) 30 srs/ac.  (d) and (e) N.A.
   (v) 50 md. ac. of cow-dung broadcast before sowing.  (vi) Rangadoria Ahu 'medium'.  (vii) Unirrigated.
   (viii) Nil.  (ix) N.A.  (x) 1.7.1958.

2. TREATMENTS:
   4 levels of N as A S: N₀=0, N₁=20, N₂=40 and N₃=60 lb./ac.

3. DESIGN:
   (i) R.B.D.  (ii) 6 plots under N₀, 2 each under N₁, N₂ and N₃.  (b) N.A.  (iii) 3.  (iv) (a) and (b) 61'×7'.
   (v) Nil.  (vi) Yes.

4. GENERAL:
   (i) Normal.  (ii) Nil.  (iii) Grain yield.  (iv) 1958—contd.  (b) Yes.  (c) Nil.  (v) (a) and (b) N.A.
   (vi) and (vii) Nil.

5. RESULTS:
   (i) 1697 lb./ac.  (ii) 220 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1652</td>
<td>1744</td>
<td>1676</td>
<td>1761</td>
<td></td>
</tr>
</tbody>
</table>

S.E. of N₀ mean = 63.5 lb./ac.
S.E. of any other mean = 89.8 lb./ac.

Ref:—As. 58(43).
_Type:_ 'M'.

---
Crop :- Paddy (Sali),
Site :- Agri. College, Jorhat.

Object :- To find out suitable dose of N for double cropped Paddy.

1. BASAL CONDITIONS :
   (i) N.A. (b) Paddy (Ahu). (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 23.8.1958. (iv) (a) 4 ploughings followed by laddering. (b) Transplanting. (c) 20 srs/ac. (d) 9"x9". (e) 3 to 4. (iv) 40 lb./plot of T.C. (v) Laudumra. (vii) Unirrigated. (viii) Nil. (x) 17.12.1958.

2. TREATMENTS and 3. DESIGN :
   Same as in expt. no. 58(43) on page 4.

4. GENERAL :
   (i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :
   (i) 2309 lb./ac. (ii) 233 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2327</td>
<td>2386</td>
<td>2066</td>
<td>2436</td>
</tr>
<tr>
<td>S.E. of N₀ mean</td>
<td>–</td>
<td>63.3 lb./ac.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.E. of any other mean</td>
<td>–</td>
<td>95.1 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Paddy (Ahu),
Site :- Agri. College, Jorhat.

Object :- To find out suitable dose of N for double cropped Paddy.

1. BASAL CONDITIONS :
   (i) N.A. (b) Paddy (Sali). (c) As per treatments. (ii) (a) Sandy loam. (b) N.A. (iii) 3.4.1959. (iv) (a) 4 ploughings followed by laddering. (b) Broadcasting. (c) 30 srs/ac. (d) and (e) N.A. (v) 80 lb./plot of cow-dung. (vi) Rangadoria Ahu (medium). (vii) Unirrigated. (viii) Nil. (ix) N.A. (x) 7.7.1959.

2. TREATMENTS and 3. DESIGN :
   Same as in expt. no. 58(43) on page 4.

4. GENERAL :
   (i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :
   (i) 1607 lb./ac. (ii) 221 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1564</td>
<td>1556</td>
<td>1590</td>
<td>1762</td>
</tr>
<tr>
<td>S.E. of N₀ mean</td>
<td>–</td>
<td>63.8 lb./ac.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.E. of any other mean</td>
<td>–</td>
<td>90.2 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. **BASAL CONDITIONS**:
   (i) (a) N.A.  (b) Paddy (‘Ahu’).  (c) As per treatments.  (ii) (a) Sandy loam.  (b) N.A.  (iii) 22.8.1959.  (iv) (a) 4 ploughings followed by laddering.  (b) Transplanting.  (c) 20 srs/ac.  (d) 9"×9".  (e) 3 to 4.  (v) 30 lb./plot of T.C.  (vi) Laudamra.  (vii) Unirrigated.  (viii) Nil.  (ix) N.A.  (x) 18.12.1959.

2. **TREATMENTS and 3. DESIGN**:
   Same as in expt. on 58(43) on page 4.

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

5. **RESULTS**:
   (i) 1875 lb./ac.  (ii) 146 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
<th>Av. yield</th>
<th>S.E. of N₀ mean</th>
<th>S.E. of any other mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1844</td>
<td>1936</td>
<td>1775</td>
</tr>
</tbody>
</table>

---

**Crop**: Paddy (Kharif).  
**Site**: Rice Expt. Stn., Karimganj.  
**Ref**: As. 54(13).  
**Type**: M’.

Object:—To investigate the possibility of increasing Paddy yield by catalysing the release of plant nutrients.

---

1. **BASAL CONDITIONS**:
   (i) (a) No.  (b) Paddy.  (c) As per treatments.  (ii) (a) Clay loam.  (b) N.A.  (iii) 30.3.1954.  (iv) (a) 8 ploughings followed by laddering.  (b) Broadcasting.  (c) 100 lb./ac.  (d) and (e) N.A.  (v) 100 md./ac. of cow-dung at ploughing.  (vi) M—142 koimura/early.  (vii) Unirrigated.  (viii) 2 weedings and 2 hoeings, ix 93.28".  x 5.7.1954 and 6.7.1954.

2. **TREATMENTS**:
   T₁—Control.  
   T₂—16 lb./ac. of Potassium Permanganate.  
   T₃—28 lb./ac. of Ferrous Sulphate.

3. **DESIGN**:
   (i) R.B.D.  
   (ii) (a) 3.  (b) 66'×30'.  (iii) 6.  (iv) (a) 66'×10'.  (b) 64'×8'.  (v) 1' around the net plot.  
   (vi) Yes.

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

5. **RESULTS**:
   (i) 1654 lb./ac.  
   (ii) 199.9 lb./ac.  
   (iii) Treatment differences are not significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1646</td>
<td>1609</td>
<td>1680</td>
<td>S.E./mean</td>
</tr>
</tbody>
</table>

---

**Crop**: Paddy (Kharif).  
**Site**: Rice Expt. Stn., Karimganj.  
**Ref**: As. 55(24).  
**Type**: M’.

Object:—To investigate the possibility of increasing Paddy yield by catalysing the release of plant nutrients.
1. BASAL CONDITIONS:
   (i) (a) No. (b) Paddy. (c) As per treatments. (ii) (a) Clay loam. (b) N.A. (iii) 1.5.1955. (iv) (a)
   8 ploughings followed by laddering. (b) Broadcasting. (c) 100 lb./ac. (d) and (e) N.A. (v) 100 md./ac.
   (ix) 144.5°. (x) 25.7.1955 to 1.8.1955.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. 54(13) on page 6.

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

5. RESULTS:
   (i) 2564 lb./ac. (ii) 142.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av.
   yield of grain in lb./ac.

   Treatment  T_1  T_2  T_3
   Av. yield  5007  2572  2621
   S.E./mean=58.34 lb./ac.

---

Crop : Paddy (Rabi).  
Site : Rice Expt. Stn., Karimganj.  
Ref : As. 56(33).  
Type : 'M'.

Object : To study the effect of different sources of N on Paddy.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Paddy. (c) 100 md./ac. of cow-dung. (ii) (a) Clay loam. (b) N.A. (iii) 4.7.1956/26.8.1956.
   (iv) (a) 8 ploughings followed by laddering. (b) Transplanting. (c) N.A. (d) 9"X9", (e) 4. (f) 100
   md./ac. of cow-dung applied before ploughing. (vi) S.E. 412-56 (swarnasail). (vii) Unirrigated. (viii)
   One mulching with weeding by Japanese weeder. (ix) 65.75°. (x) 21 and 22,12,1956.

2. TREATMENTS:
   T_1=Control.  
   T_2=200 lb./ac. of C/N.  
   T_3=155 lb./ac. of A/S.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) 60.75'X32.25'. (iii) 4. (iv) (a) 20.25'x32.25'. (b) 19.50'x31.50'. (v) One
   row around the net plot. (vi) Yes.

4. GENERAL:
   (i) N.A. (ii) No. (iii) Grain yield. (iv) (a) 1956—1957. (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) and
   (vii) Nil.

5. RESULTS:
   (i) 2838 lb./ac. (ii) 310.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av.
   yield of grain in lb./ac.

   Treatment  T_1  T_2  T_3
   Av. yield  2662  3010  2823
   S.E./mean = 155.3 lb./ac.

---

Crop : Paddy (Rabi).  
Site : Rice Expt. Stn., Karimganj.  
Ref : As. 57(27).  
Type : 'M'.

Object : To study the residual effect of different sources of N on Paddy.
1. **BASAL CONDITIONS**:
   (i) (a) No. (b) Paddy. (c) As per treatments.  (ii) (a) Clay loam. (b) N.A.  (iii) 30.6.1957/28, 29.8.1957.  
   (iv) (a) 8 ploughings followed by laddering. (b) Transplanted. (c) -. (d) 9" × 9". (e) 4. (v) 100 md/ac. of cow-dung applied before ploughing. (vi) S. C. 412—56 (Swarnasai). (vii) Unirrigated. (viii: One weeding. (ix) 65.75°. (x) 6.12 1957.

2. **TREATMENTS and 3. DESIGN**:
   Same as in expt. no. 56;33; on page 7.

3. **RESULTS**:
   (i) 2944 lb./ac. (ii) 341.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3007</td>
<td>2932</td>
<td>2893</td>
<td></td>
</tr>
<tr>
<td>S.E./mean</td>
<td>=</td>
<td>170.6 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Crop**: Paddy (*Rabi*).  
**Site**: Rice Expt. Stn., Karimganj.  
**Ref**: As. 57(29).  
**Type**: ‘M’.

Object:—To study the effect of combinations of N, P and K on Paddy.

1. **BASAL CONDITIONS**:
   (i) (a) No. (b) Paddy. (c) 100 md./ac. of cow-dung. (ii) (a) Clay loam. (b) N.A. (iii) 30.6.1957/26.8.1957 and 29.8.1957. (iv) (a) 8 ploughings followed by laddering. (b) Transplanted. (c) -. (d) 9" × 9". (e) 4. (v) 100 md./ac. of cow-dung during puddling. (vi) S—22 (late sail). (vii) Unirrigated. (viii) One weeding. (ix) 7.91°. (x) 4.12.1957.

2. **TREATMENTS**:
   T1—Control  
   T2 = 60 lb./ac. of N + 30 lb./ac. of P2O5 + 15 lb./ac. of K2O  
   T3 = 40 lb./ac. of N + 20 lb./ac. of P2O5 + 10 lb./ac. of K2O  
   T4 = 20 lb./ac. of N + 10 lb./ac. of P2O5 + 5 lb./ac. of K2O  
   Sources of N, P and K—N.A.

3. **DESIGN**:
   (i) R.B.D.  (ii) 4. (b) N.A. (iii) 4. (iv) (a) 15.75” × 32.25”. (b) 15.0” × 31.5”. (v) One row around the net plot. (vi) Yes.

4. **GENERAL**:
   (i) Good but lodged badly. (ii) Slightly affected by stem borer but damage negligible. Affected plants up-rooted and destroyed. (iii) Grain yield. (iv) (a) 1957—1959. (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. **RESULTS**:
   (i) 2569 lb./ac. (ii) 197.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2620</td>
<td>2531</td>
<td>2541</td>
<td>2583</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>=</td>
<td>98.9 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop :- Paddy.
Site :- Rice Expt. Stn., Karimganj.

Ref :- As. 58(20).
Type :- 'M'.

Object :- To study the effect of combinations of N, P and K on Paddy.

1. BASAL CONDITIONS :
   (i) (a) No. (b) Paddy. (c) As per treatments. (ii) (a) Clay loam. (b) N.A.
   (iii) 22.7.1958/8. 9.8.1958. (iv) (a) 8 ploughings followed by laddering.
   (b) Transplanting. (c) 4 md./ac. (d) 9' x 9". (e) 4. (v) 100 md./ac. of cow-dung.
   (vi) S—22 (latusult) (medium). (vii) Unirrigated. (viii) 1 mulching and
   1 weeding. (ix) 79.11". (x) 5.12.1958.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 57(29) on page 8.

4. GENERAL :
   (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2476 lb./ac. (ii) 118.0 lb. fac. (iii) Treatment differences are not significant.
   (iv) Av. yield of grain in lb./ac.

   Treatment
   T_1  T_2  T_3  T_4  
   Av. yield 2392 2481 2433 2597

   S.E./mean = 59.0 lb./ac.

Crop :- Paddy (Aus).
Site :- Rice Expt. Stn., Karimganj.

Ref :- As. 58(21).
Type :- 'M'.

Object :- To study the effect of different manurial doses on Paddy.

1. BASAL CONDITIONS :
   (i) (a) No. (b) Paddy. (c) 100 md./ac. of cow-dung. (ii) (a) Clay loam. (b) N.A.
   (iii) 29.5.1958/21, 22.6.1958. (iv) (a) 8 ploughings followed by laddering.
   (b) Transplanting. (c) 3 md's/ac. (d) 6" x 6". (e) 4. (v) Nil. (vi) M—142 Keinwaity (medium— Aus).
   (vii) Unirrigated. (viii) 1 weeding. (ix) 109.4'. (x) 5.9.1958.

2. TREATMENTS :
   T_0 = Control.
   T_1 = 100 md./ac. of cow-dung +10 lb./ac. of 
   P_2O_5 as Super during the preparation of field.
   T_2 = Mixed fertilizer, 45 lb./ac. of 
   P_2O_5 as Super during the preparation of field + 30 lb./ac. of N as A/S
   top dressed.

3. DESIGN :
   (i) R.B.D. (ii) 3. (b) N.A. (iii) 4. (iv) (a) 15.75' x 32.25'. (b) 15.0' x 31.5'. (v) One row around the
   net plot. (vi) Yes.

4. GENERAL :
   (i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—1960. (b) Yes. (c) Nil. (v) (a) and (b) N.A.
   (vi) and (vii) Nil.

5. RESULTS:
   (i) 1103 lb./ac. (ii) 276.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain
   in lb./ac.

   Treatment
   T_0  T_1  T_2  
   Av. yield 1065 1220 1014

   S.E./mean = 137.4 lb./ac.
Object: To study the effect of different manurial doses on Paddy.

1. BASAL CONDITIONS:
   (i) (a) No. b. Paddy. (c) As per treatments. (ii) (a) Clay loam. (b) N.A. (iii) 11.9.1959. (iv) (a) 8 ploughings followed by weeding and laddering. (b) Transplanting. (c) 3 md./ac. in seed bed. (d) 6° x 6°. (e) 4. (v) Nil. (vi) M=142 Komzurali (medium). (vii) Unirrigated. (viii) 1 weeding. (ix) 113.9°. (x) 7, 8 and 13.8.1959.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 58(21), on page 9.

4. GENERAL:
   (i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—1960. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2415 lb./ac. (ii) 103.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

   Treatment  |  T₀  |  T₁  |  T₂
   2367  |  2330  |  2548
   S.E. mean = 51.62 lb./ac.

---

Object: To study the effect of treating seedlings with solution of A/S.

1. BASAL CONDITIONS:
   (i) (a) No. b. Paddy. (c) 100 md./ac. of cow-dung. (ii) (a) Clay loam. (b) N.A. (iii) 22.7.1958 19.9.1958. (iv) (a) 8 ploughings followed by laddering. (b) Transplanting. (c) 2 md./ac. (d) 9° x 9°. (e) 2. (f) 200 lb./ac. of mixed fertilizer and 100 md./ac. of cow-dung in seed bed. 40 lb./ac. of N as A/S, 40 lb./ac. of P₂O₅ as Super and 100 md./ac. of cow-dung applied during the preparation of field. (g) S—22(h: 1'-all, medium). (h) Nil. (i) Unirrigated. (j) 2 weedings. (k) 79.11°. (l) 29.11.1958.

2. TREATMENTS:
   (a) Top dressing of A/S top dressed in seed bed 5 days before uprooting the seedling. T₂ = Dipping the roots of seedlings in 8 lb./ac. of A/S solution (about 1°c).

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 5. (iv) (a) 15.75′ x 10.50′. (b) 15.0′ x 9.75′. (v) One row around the net plot. (vi) Yes.

4. GENERAL:
   (i) Crop lodged badly on 12.11.1958. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—1960. (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2426 lb./ac. (ii) 68 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

   Treatment  |  T₀  |  T₁  |  T₂
   2334  |  2539  |  2405
   S.E. mean = 30 lb./ac.
Crop :- Paddy (Sali).
Site :- Rice Expt. Stn., Karimganj.
Object :- To study the effect of treating seedlings with solution of A/S.

1. BASAL CONDITIONS :
   (i) (a) No. (b) Paddy. (c) 100 md./ac. of cow-dung, 40 lb./ac. of N as A/S and 40 lb./ac. of P₂O₅ as Super.
   (ii) (a) Clay Loam. (b) N.A. (iii) 26.6.1959/5.8.1959. (iv) (a) 8 ploughings followed by weeding and laddering.
   (b) Transplanting. (c) 2 mds/ac. in seed bed. (d) 9"x9". (e) 2. (v) 200 lb./ac. of mixed fertilizer+100 md./ac.
   of cow-dung in seed bed. 40 lb./ac. of N as A/S, 40 lb./ac. of P₂O₅ as Super and 100 md./ac. of cow-dung applied
   during the preparation of field. (vi) S-22 (latisail, medium). (vii) Unirrigated. (viii) 2 weedings. (ix) 68.31".

2. TREATMENTS and 3. DESIGN :
   Same as in exp. no. 58(23) on page 10.

4. GENERAL :
   (i) Lodged after maturity. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—1960. (b) Yes. (c) No. (v) (a) and (b) N.A.
   (vi) and (vii) Nil.

5. RESULTS :
   (i) 2808 lb./ac. (ii) 340 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.
   Treatment  T₀  T₁  T₂
   Av. yield  2670 2849 2905
   S.E./mean  = 152 lb./ac.

Crop :- Paddy (Sali).
Site :- Rice Expt. Stn., Karimganj.
Object :- To study the effect of top dressing A/S on Paddy yield.

1. BASAL CONDITIONS :
   (i) (a) No. (b) Paddy. (c) 100 md./ac. of cow-dung. (ii) (a) Clay Loam. (b) N.A. (iii) 22.7.1958/1.9.1959.
   (iv) (a) 8 ploughings followed by weeding and laddering. (b) Transplanting. (c) 2 mds/ac. (d) 9"x9". (e) 2.
   (v) 200 lb./ac. of mixed fertilizer and 100 md./ac. of cow-dung in seed bed, 40 lb./ac. of N as A/S, 40 lb./ac.
   of P₂O₅ as Super and 100 md./ac. of cow-dung applied during the preparation of field. (vi) S-22 (latisail medium).
   (vii) Unirrigated. (viii) 2 weedings. (ix) 79.11". (x) 28.11.1958.

2. TREATMENTS :
   T₀=Control. T₁=50 lb./ac. of A/S top dressed at earing stage.

3. DESIGN :
   (i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 5. (iv) (a) 15.75'x10.50'. (b) 15.00'x9.75'. (v) One row around. (vi) Yes.

4. GENERAL :
   (i) Crop lodged on 12.11.1958. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—1960. (b) Yes. (c) N.A. (v) (a) and (b)
   N.A. (vi) and (vii) Nil.

5. RESULTS :
   (i) 2179 lb./ac. (ii) 114 lb./ac. (iii) Treatment difference is significant. (iv) Av. yield of grain in lb./ac.
   Treatment  T₀  T₁
   Av. yield  2071 2287
   S.E./mean  = 51 lb./ac.
Object: — To study the effect of top dressing A.S on Paddy yield.

1. BASAL CONDITIONS:
   (i) 'a' No. (b) Paddy. (c) 100 md./ac. of cow-dung. (ii) 'a'; Clay loam. (b) N.A. (iii) 26.6.1959/6.8.1959. (iv) a: 8 ploughings followed by weeding and laddering. (b) Transplanting. (c) 21 mds.ac. in seed bed. (d) 9' x 9'. (e) 2. (f) 200 lb./ac. of mixed fertilizer and 100 md./ac. of cow-dung applied during the preparation of field. (g) S-22 (hatisail, medium). (h) Unirrigated. (i) 2 weedings. (j) 68.31°. (k) 9.12.1959.

2. TREATMENTS and DESIGN:
   Same as in exp. no. 58(24), on page 11.

3. GENERAL:
   (i) Lodged after maturity. (ii) Nil. (iii) Grain yield. (iv) 'a) 1958 — 1960. (b) Yes. (c) No. (v) 'a) and 'b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 3486 lb./ac. (ii) 291 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T₀</th>
<th>T₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>279</td>
<td>2923</td>
</tr>
<tr>
<td>S.E., mean</td>
<td>138 lb./ac.</td>
<td></td>
</tr>
</tbody>
</table>

---

Crop: — Paddy (Sali).
Object: — To study the effect of combinations of different doses of manures on Paddy.

1. BASAL CONDITIONS:
   (i) 'a' No. (b) Paddy. (c) < 100 md./ac. of cow-dung. (ii) 'a'; Clay loam. (b) N.A. (iii) 11.6.1959 3 and 4.8.1959. (iv) 'a': 8 ploughings followed by laddering. (b) Transplanting. (c) 31 mds.ac. in seed bed. (d) 9' x 9'. (e) 3. (f) Nil. (v) S-22 (hatisail, medium). (vi) Unirrigated. (vii) 2 weedings. (viii) Yes. (ix) 68.31°. (x) 9.12.1959.

2. TREATMENTS:
   T₀ — Control.
   T₁ = 20 lb./ac. of N + 30 lb./ac. of P₂O₅ + 15 lb./ac. of K₂O.
   T₂ = 20 lb./ac. of N + 20 lb./ac. of P₂O₅ + 10 lb./ac. of K₂O.
   T₃ = 20 lb./ac. of N + 10 lb./ac. of P₂O₅ + 5 lb./ac. of K₂O.

3. DESIGN:
   (i) R.B.D. (ii) 'a' 4. (b) 60' x 32.5. (iii) 4. (iv) 'a) 15' x 32.5'. (b) 14.25' x 31.75'. (v) One row around. (vi) Yes.

4. GENERAL:
   (i) Lodged after maturity. (ii) Nil. (iii) Grain yield. (iv) 'a) 1959 — 1961. (b) Yes. (c) No. (v) 'a) and 'b) N.A. (vi) Nil. and (vii) Nil.

5. RESULTS:
   (i) 3486 lb./ac. (ii) 291 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T₀</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3449</td>
<td>3416</td>
<td>3514</td>
<td>3565</td>
</tr>
<tr>
<td>S.E., mean</td>
<td>145 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop : Paddy (Bao).
Ref : As. 54(4).
Type : 'M'.

Object : To obtain suitable manure for deep water Paddy.

1. BASAL CONDITIONS :

2. TREATMENTS :
   $T_0=\text{Control.}$
   $T_1=200 \text{ lb./ac. of } A/S+200 \text{ md./ac. of cow-dung.}$
   $T_2=200 \text{ md./ac. of cow-dung.}$
   $T_3=100 \text{ lb./ac. of } A/S+100 \text{ lb./ac. of B.M.}$

3. DESIGN :
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) $10' \times 10'$. (b) $8' \times 8'$. (v) 1' around. (vi) Yes.

4. GENERAL :
   (i) N.A. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—1956. (b) and (c) No. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :
   (i) 1110 lb./ac. (ii) 326.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$T_0$</th>
<th>$T_1$</th>
<th>$T_2$</th>
<th>$T_3$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>896</td>
<td>1086</td>
<td>1364</td>
<td>1092</td>
</tr>
</tbody>
</table>

S.E./mean = 163.2 lb./ac.

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Crop : Paddy (Bao).
Ref : As. 55(2).
Type : 'M'.

Object : To obtain suitable manure for deep water Paddy.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Loamy. (b) Refer exp. no. 54(4) above. (iii) N.A. (iv) (a) 5 ploughings and laddering by country method. (b) Broadcast. (c) to (e) N.A. (v) Nil. (vi) Sait badal, (vii) Unirrigated. (viii) Weeding and thinning. (ix) 60'. (x) N.A.

2. TREATMENTS and 3. DESIGN :
   Same as in exp. 54(4) above.

4. GENERAL :
   (i) N.A. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—1956. (b) and (c) No. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :
   (i) 986.9 lb./ac. (ii) 885.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$T_0$</th>
<th>$T_1$</th>
<th>$T_2$</th>
<th>$T_3$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>673</td>
<td>1115</td>
<td>1015</td>
<td>1145</td>
</tr>
</tbody>
</table>

S.E./mean = 443.0 lb./ac.
Crop: Paddy ('Boro',

Ref: As. 56(2).

Type: 'M'.

Object: To obtain suitable manure for deep water Paddy.

1. BASAL CONDITIONS:
   a) Nil.
   b) Paddy. c) Nil. d) 'Loamy'.
   (b) Refer extn. no. 54/4 on page 13. (iii) 24.4.1956.
   (iv) 5 ploughings and laddering with country plough. "B" Broadcast.
   (c) to (e) N.A. (v) Nil. (vi) Sall badda. (vii) Unirrigated. (viii) Weeding. (ix) 64.41". x 24.11.1956.

2. TREATMENTS:
   Same as in extn. no. 54/4 on page 13.

3. DESIGN:
   i) R.B.D. ii) a. 4. b N.A. (iii) 5. (iv) (a) 12 x 12". (v) 10 x 10". (vi) I' around. (vii) Yes.

4. GENERAL:
   i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) 'a' N.A. (v) 'b' and (vi) Nil. (vii) 'a' and (viii) Nil.

5. RESULTS:
   i) 923.9 lb. ac. ii) 405.5 lb. ac. iii) Treatment differences are not significant. (iv) Av. yield of grain in lb. ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T0</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>875.6</td>
<td>1115.1</td>
<td>535.1</td>
<td>850.7</td>
</tr>
<tr>
<td>S.E. mean</td>
<td>= 181.2 lb. ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop: Paddy ('Boro',

Ref: As. 54(7).

Type: 'M'.

Object: To obtain suitable manure for deep water Paddy.

1. BASAL CONDITIONS:
   a) Nil. b) Boro paddy. c) Nil. (ii) 'a' Loamy. (b) Refer extn. no. 54/4 on page 13. (iii) 22.5.1955.
   (iv) 3 ploughings and laddering with country plough. (v) Transplanting. (vi) N.A. (d) 9" x 9". (e) No. (f) 3.
   (g) Nil. (h) Boro paddy No. II. (i) Unirrigated. (ii) Weeding. (iii) and (iv) N.A.

2. TREATMENTS:
   T0, Control.
   T1 = 200 lb. ac. of cow-dung.
   T2 = 100 lb. ac. of A.S.

3. DESIGN:
   (i) R.B.D. (ii) a. 3. b N.A. (iii) 3. (iv) (a) 22 x 17". (b) 20 x 15". (v) I' around. (vi) Yes.

4. GENERAL:
   (i) and (ii) N.A. (iii) Grain yield. (iv) 'a' to (c) N.A. (v) 'a' and (vi) Nil. (vii) and (viii) Nil.

5. RESULTS:
   i) 1586 lb. ac. ii) 1010 lb. ac. 'iii) Treatment differences are not significant. (iv) Av. yield of grain in lb. ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T0</th>
<th>T1</th>
<th>T2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1368</td>
<td>1729</td>
<td>1661</td>
</tr>
<tr>
<td>S.E. mean</td>
<td>= 583.2 lb. ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Crop:** Paddy *(Boro)*.  
**Site:** Deep Water Paddy Res. Stn., Roha.  
**Object:** To obtain the suitable manure for deep water Paddy

1. **BASAL CONDITIONS:**
   - (i) (a) Nil. (b) *Boro* paddy. (c) Nil.  
   - (ii) (a) Loamy. (b) Refer expt. no. 54(4) on page 13. (iii) 6.2.1956.  
   - (iv) (a) 3 ploughings and laddering with country plough. (b) Transplanted. (c) —. (d) 9" x 9".  

2. **TREATMENTS:**
   - 4 levels of P<sub>2</sub>O<sub>5</sub>: P<sub>0</sub>=0, P<sub>1</sub>=10, P<sub>2</sub>=20 and P<sub>3</sub>=30 lb./ac.  
   - Source of manure is N.A.

3. **DESIGN:**
   - (i) R.B.D. (ii) (a) 4. (b) N.A.  
   - (iii) 4. (iv) (a) 22' x 17'. (b) 20' x 15'. (v) 1' alround. (vi) Yes.

4. **GENERAL:**
   - (i) N.A. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—contd. (b) N.O. (c) Nil.  
   - (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. **RESULTS:**
   - (i) 73.69 lb./ac. (ii) 67.95 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>P&lt;sub&gt;0&lt;/sub&gt;</th>
<th>P&lt;sub&gt;1&lt;/sub&gt;</th>
<th>P&lt;sub&gt;2&lt;/sub&gt;</th>
<th>P&lt;sub&gt;3&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>101.64</td>
<td>94.56</td>
<td>85.81</td>
<td>72.74</td>
</tr>
</tbody>
</table>

S.E./mean except P<sub>3</sub> mean = 33.98 lb./ac. S.E. of difference between P<sub>3</sub> and any other mean = 53.18 lb./ac.

---

**Crop:** Paddy *(Boro)*.  
**Site:** Deep Water Paddy Res. Stn., Roha.  
**Object:** To obtain the suitable manure for deep water Paddy

1. **BASAL CONDITIONS:**
   - (i) (a) Nil. (b) *Boro* paddy. (c) Nil.  
   - (ii) (a) Loamy. (b) Refer expt. no. 54(4) on page 13. (iii) 31.1.1957.  
   - (iv) (a) 3 ploughings and laddering with country plough. (b) Transplanted. (c) —. (d) 9" x 9".  

2. **TREATMENTS and 3. DESIGN:**
   - Same as expt. no. 56(8) above.

4. **GENERAL:**
   - (i) N.A. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—contd. (b) No. (c) Nil.  
   - (v) (a) and (b) Nil. (vi) Nil. (vii) There was one missing value in block II for the treatment P<sub>3</sub>.

5. **RESULTS:**
   - (i) 73.69 lb./ac. (ii) 67.95 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>P&lt;sub&gt;0&lt;/sub&gt;</th>
<th>P&lt;sub&gt;1&lt;/sub&gt;</th>
<th>P&lt;sub&gt;2&lt;/sub&gt;</th>
<th>P&lt;sub&gt;3&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>101.64</td>
<td>94.56</td>
<td>85.81</td>
<td>72.74</td>
</tr>
</tbody>
</table>

S.E./mean except P<sub>3</sub> mean = 33.98 lb./ac. S.E. of difference between P<sub>3</sub> and any other mean = 53.18 lb./ac.
Crop :- Paddy (Boro).

Object :- To obtain the suitable manure for deep water Paddy.

1. BASAL CONDITIONS :

| (i) a. Nil. (b) Boro paddy. (c) Nil. (i) Loamy. (b) Refer expt. no. 54/4 on page 13. (iii) 17.11.1957. 2.1.1958. (iv) a) 3 ploughings and laddering. (b) Line method of transplanting. (c) — — (d) 9'x9". (e) 3. v Nil. (vi) Boro No. 1 'early'. (vii) Unirrigated. (viii) Weeding. (ix) 14.82'. (x) 15.5.1958.
| (ii) Nil. (iii) Loamy. (b) Refer expt. no. 54/4, on page 13. (iv) 3.2.1959. N.A.
| (v) Nil. (vi) Boro paddy No. 11. (vii) Unirrigated. (viii) 1 weeding. (ix) 13.23'. (x) 10.5.1959.

2. TREATMENTS:
4 levels of P_{2}O_{5} as B.M. : P_{0} =0, P_{1} =10, P_{2} =20 and P_{3} =33 lb./ac.

3. DESIGN:
Same as in expt. no. 56:8; on page 15.

4. GENERAL:
(i) Unsatisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 453.5 lb./ac. (ii) 279.6 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb. ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>P_{0}</th>
<th>P_{1}</th>
<th>P_{2}</th>
<th>P_{3}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>578.8</td>
<td>320.2</td>
<td>387.4</td>
<td>527.5</td>
</tr>
<tr>
<td>S.E. mean</td>
<td>—139.8 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

Crop :- Paddy (Boro).

Object :- To obtain the suitable manure for deep water Paddy.

1. BASAL CONDITIONS :

| (i) (a) No. (b) Boro paddy. (c) Nil. (ii) (a) Loamy. (b) Refer expt. no. 54/4, on page 13. (iii) 3.2.1959. N.A. (iv) a) 3 ploughings and laddering. (b) Transplanting. (c) — — (d) 9'x9". (e) 3. (f) Nil. (vi) Boro paddy No. 11. (vii) Unirrigated. (viii) I weeding. (ix) 13.23'. (x) 10.5.1959.
| (ii) Nil. (iii) Grain yield. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

2. TREATMENTS:
Same as in expt. no. 58:5, above.

3. DESIGN:
(i) R.B.D. (ii) 4. (b) 20'x30'. (iii) 3. (iv) (a) and (b) 10'x15'. (v) and (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vii) and (viii) Nil.

5. RESULTS:
(i) 1451 lb./ac. (ii) 160 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T_{0}</th>
<th>T_{1}</th>
<th>T_{2}</th>
<th>T_{3}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1418</td>
<td>1494</td>
<td>1567</td>
<td>1324</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>92.35 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop :- Paddy (Baa).

Object :- To obtain suitable manure for deep water Paddy.

1. BASAL CONDITIONS :
(i) (a) Nil. (b) Baa Paddy. (c) Nil. (ii) (a) Loamy. (b) Refer expt. no. 54(4) on page 13. (iii) 21.6.1957. (iv) (a) 4 ploughings followed by laddering. (b) Broadcasting. (c) 60 lb./ac. of A/S. (d) and (e) Nil. (v) E.B. No. 1 (Neghari Baa, medium). (vi) Unirrigated. (vii) 1 weeding. (ix) 32.93°. (x) 24.11.1957.

2. TREATMENTS :
T_0 = Control.  
T_1 = 100 md./ac. of cow-dung.  
T_2 = 200 lb./ac. of A/S.  
T_3 = 400 lb./ac. of mixed fertilizer.

3. DESIGN :
(i) R.B.D. (ii) (a) 4. (b) 32'×16'. (iii) 4. (iv) (a) 8'×16'. (b) 6'×14'. (v) 1' alround. (vi) Yes.

4. GENERAL :
(i) Unsatisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1957—contd. (b) and (c) No. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :
(i) 107 lb./ac. (ii) 160 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T_0</th>
<th>T_1</th>
<th>T_2</th>
<th>T_3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>48</td>
<td>125</td>
<td>173</td>
<td>83</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>80</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

Crop :- Paddy (Baa).

Object :- To obtain suitable manure for deep water Paddy.

1. BASAL CONDITIONS :
(i) (a) Nil. (b) Baa Paddy. (c) Nil. (ii) (a) Loamy. (b) Refer expt. no. 54(4) on page 13. (iii) 13.5.1958. (iv) (a) 4 ploughings, laddering and harrowing. (b) Broadcasting. (c) 60 lb./ac. (d) and (e) Nil. (vi) E.B. No. 1 (Neghari Baa, medium). (vii) Unirrigated. (viii) 3 weedings. (ix) 52.80°. (x) 18.12.1958.

2. TREATMENTS :
Same as in expt. no. 57 (37) above.

3. DESIGN :
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 10'×16.5'. (b) 8'×14.5'. (v) 1' alround. (vi) Yes.

4. GENERAL :
(i) Good. (ii) Nil. (iii) Yield of paddy. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :
(i) 1715 lb./ac. (ii) 98.19 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T_0</th>
<th>T_1</th>
<th>T_2</th>
<th>T_3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1664</td>
<td>1661</td>
<td>1647</td>
<td>1891</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>49.03</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop: Paddy (Bao).


Object: To obtain suitable manure for deep water Paddy.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Bao paddy. (c) Nil. (ii) (a) Loamy. (b) Refer expt. no. 54(4) on page 13. (iii) 11.5.59. (iv) (a) 3 ploughings followed by laddering. (b) Broadcasting. (c) 60 lb./ac. (d) and (e) —. (v) Nil. (vi) E.B. No. 1 (Nagshari Bao, medium). (vii) Unirrigated. (viii) 3 weedings and hoeing. (ix) 48.99". (x) 17.12.1959.

2. TREATMENTS:

Same as in expt. no. 57(37) on page 17.

3. DESIGN:

(i) R.B.D. (ii) (a) 4. (b) 20' x 30'. (iii) 4. (iv) (a) and (b) 10' x 15'. (v) 2' round the block. (vi) Yes.

4. GENERAL:

(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

(i) 1020 lb./ac. (ii) 252 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T₀</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>689</td>
<td>1067</td>
<td>1030</td>
<td>1295</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>126 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop: Paddy (Ahu).

Site: Govt. Rice Expt. Stn., Titabar.

Object: To study the effect of different manures on Paddy.

1. BASAL CONDITIONS:

(i) a) Nil. (b) Paddy. (c) Nil. (ii) (a) Clay loam. (b) N.A. (i) 23.4.1954/20 and 21.5.1954. (iv) (a) One ploughing and laddering. (b) Transplanting in lines. (c) 6 md/acre. (d) 9" x 9". (e) 4. (v) Nil. (vi) Rangadoria (early). (vii) Unirrigated. (viii) 2 weedings. (ix) and (a) N.A.

2. TREATMENTS:

T₀ Control.
T₁ = 200 lb./ac. of A/S.
T₂ = 200 md/acre. of cowdung + 200 lb./ac. of A/S.
T₃ = 200 md/acre. of cowdung + 200 lb./ac. of B/M.
T₄ = 200 lb./ac. of A/S + 200 lb./ac. of B/M.
T₅ = 200 lb./ac. of A/S + 200 lb./ac. of B/M + 200 md/acre. of cowdung.

Manures broadcast on 14.4.1954.

3. DESIGN:

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 20.5' x 15.5'. (b) 20' x 15'. (v) 3' around. (vi) Yes.

4. GENERAL:

(i) Fair. (ii) Nil. (iii) Grain yield. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.
5. RESULTS:
(i) 759.3 lb./ac. (ii) 140.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T₀</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>T₄</th>
<th>T₅</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>768.0</td>
<td>692.0</td>
<td>811.1</td>
<td>716.9</td>
<td>703.3</td>
<td>863.2</td>
</tr>
</tbody>
</table>

S.E./mean = 70.13 lb./ac.

Crop: Paddy (Ahu).
Site: Govt. Rice Expt. Stn., Titabar.

Object: To study the effect of manures on Paddy yield.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Ahu paddy. (c) Nil. (ii) (a) Clay loam. (b) N.A. (iii) 20.4.1955. (iv) (a) Ploughing and laddering by country plough. (b) Broadcast. (c) N.A. (d) and (e) —. (v) Nil. (vi) Rangadoria (early). Irrigated. (vii) 2 weedings. (ix) 67.49". (x) N.A.

2. TREATMENTS:
2 manurial doses: M₀=0 and M₁=55 lb./ac. of Urea+200 md./ac. of cowdung.

3. DESIGN:
(i) R.B.D. (ii) 2. (b) N.A. (iii) 3. (iv) (a) and (b) 66'X31'. (v) No. (vi) Yes.

4. GENERAL:
(i) Unsatisfactory. (ii) Affected by rice bug. (iii) Grain yield. (iv) (a) 1955—1956. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 438.2 lb./ac. (ii) 89.4 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M₀</th>
<th>M₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>387.7</td>
<td>488.8</td>
</tr>
</tbody>
</table>

S.E./mean = 51.61 lb./ac.

Crop: Paddy (Ahu).
Site: Govt. Rice Expt. Stn., Titabar.

Object: To study the effect of manure on Paddy.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Ahu paddy. (c) Nil. (ii) (a) Clay loam. (b) N.A. (iii) 10.5.1956. (iv) (a) Ploughing and laddering by country plough. (b) Broadcast. (c) N.A. (d) and (e) —. (v) Nil. (vi) Rangadoria (early). (vii) Irrigated. (viii) 2 weedings. (ix) 72.89". (x) N.A.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 55 (6) on page 19.

4. GENERAL:
(i) Unsatisfactory. (ii) Slightly affected by rice bug. (iii) Grain yield. (iv) (a) 1955—1956. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.
5. RESULTS:
(i) 855.2 lb./ac. (ii) 179.3 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T₀</th>
<th>T₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>640.5</td>
<td>1070</td>
</tr>
</tbody>
</table>

S.E./mean = 103.5 lb./ac.

Crop: Paddy (Ahu).
Site: Govt. Rice Expt. Stn., Titabar.
Object: To study the effect of manures on Paddy.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Ahu paddy. (c) Nil. (ii) (a) Clay loam. (b) N.A. (iii) 16.4.1955. (iv) (a) Ploughing and laddering by country plough. (b) Broadcast. (c) N.A. (d) and (e) —. (v) Nil. (vi) Rangadoria (early). (vii) Irrigated. (viii) 2 weedings. (ix) 67.49°. (x) N.A.

2. TREATMENTS:
3 manurial doses: M₀ = Control, M₁ = 6 md./ac. of oilcake and M₂ = 200 md./ac. of cowdung.

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

4. GENERAL:
(i) Unsatisfactory. (ii) Slightly affected by rice bug. (iii) Grain yield. (iv) (a) 1955–1956. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 718.4 lb./ac. (ii) 39.16 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M₀</th>
<th>M₁</th>
<th>M₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>589.9</td>
<td>757.8</td>
<td>807.7</td>
</tr>
</tbody>
</table>

S.E./mean = 22.61 lb./ac.
5. RESULTS:

(i) 1282 lb./ac.  (ii) 189.5 lb./ac.  (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$M_0$</th>
<th>$M_1$</th>
<th>$M_2$</th>
<th>$M_3$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1070</td>
<td>1416</td>
<td>1361</td>
<td></td>
</tr>
</tbody>
</table>

S.E./mean = 109.5 lb./ac.

---

**Crop:** Paddy (Sali).

**Site:** Govt. Rice Expt. Stn., Titabar.

Object:—To study the effect of minor elements on Paddy.

---

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Sali paddy. (c) Nil. (ii) (a) Clay loam. (b) N.A. (iii) 26.8.1959. (iv) (a) 8 ploughings followed by laddering. (b) Transplanting. (c) —. (d) 9"×9". (e) 4. (v) 100 md./ac. of cowdung, 100 lb./ac. of A/S and 100 lb./ac. of Super. (vi) S. 126 Loudumra (medium). (vii) Unirrigated. (viii) 1 weeding. (ix) 69.55°. (x) 30.12.1959.

2. TREATMENTS:

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

(1) 3 trace elements: $S_1$ = Ferrous Sul. $S_2$ = Pot. Permanganate and $S_3$ = C/S.

(2) 2 levels of trace elements: $M_1$ = 10 and $M_2$ = 20 lb./ac.

3. DESIGN:

(i) R.B.D. (ii) (a) 7. (b) 90°×15°. (iii) 6. (iv) (a) and (b) 15°×15°. (v) No. (vi) Yes.

4. GENERAL:

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

5. RESULTS:

(i) 1996 lb./ac. (ii) 90 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 1944 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>$M_1$</td>
<td>2002</td>
<td>2062</td>
<td>2025</td>
<td>2030</td>
</tr>
<tr>
<td>$M_2$</td>
<td>1977</td>
<td>1996</td>
<td>1965</td>
<td>1979</td>
</tr>
<tr>
<td>Mean</td>
<td>1990</td>
<td>2029</td>
<td>1995</td>
<td>2005</td>
</tr>
</tbody>
</table>

S.E. of $S$ marginal mean = 25.98 lb./ac.

S.E. of $M$ marginal mean = 21.21 lb./ac.

S.E. of body of $S \times M$ table = 36.74 lb./ac.

---

**Crop:** Paddy (Sali).

**Site:** Govt. Rice Expt. Stn., Titabar.

Object:—To study the effect of different methods of application of A/S on Paddy.

Ref:—As. 59(27).

Object:—To study the effect of different methods of application of A/S on Paddy.

Ref:—As. 59 (28).
1. BASAL CONDITIONS:
   (i) a) Nil.  (b) Salty paddy.  (c) Nil.  (ii) a) Clay loam.  (b) N.A.  (iii) Transplanting on 20.8.1959.
   (iv) a) 8 ploughings followed by laddering.  (b) Transplanting.  (c) N.A.  (d) 9"x9".  (e) 4.  (v) Nil.
   (vi) 126 Kaulamra (medium), 86.55'.  (vii) Nil.  (viii) 1 weeding.  (ix) 69.55'.  (x) 29.12.1959.

2. TREATMENTS:
   1. Control.
   2. 50 lb./ac. of A/S top-dressed, before 5 days of up-rooting the seedlings.
   3. Dipping roots of seedlings for 5 minutes in 0.5% A/S solution.

3. DESIGN:
   (i) R.B.D.  (ii) a) 3.  (b) 58.5"x15".  (iii) 6.  (iv) a) and (b) 15"x9.75".  (v) Nil.  (vi) Yes.

4. GENERAL:
   (i) Good.  (ii) Nil.  (iii) Grain yield.  (iv) a) 1959—contd.  (b) Yes.  (c) Nil.  (v) a) Karimganj.
   (b) N.A.  (vi) and (vii) Nil.

5. RESULTS:
   (i) 1573 lb./ac.  (ii) 180 lb./ac.  (iii) Treatment differences are significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1508</td>
<td>1567</td>
<td>1844</td>
</tr>
</tbody>
</table>

   S.E./mean = 73.48 lb./ac.

---

**Crop:** Paddy (Kharif)

**Site:** Expt. and Res. Stn., Upper Shillong

**Ref:** As. 54(11).

**Type:** 'M'.

Object:—To study the effect of top dressing N on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) a) to c) No.  (ii) a) Brown sandy loam.  (b) N.A.  (iii) 16.4.1954.  (iv) a) Pulverising.  (b) Broadc.
   (c) 60 lb./ac.  (d) and (e) —.  (v) 100 md./ac. of F.Y.M., 80 lb./ac. of A/S and 130 lb./ac.
   (ix) 96.89'.  (x) 28.10.1954.

2. TREATMENTS:
   1. Control.
   2. 20 lb./ac. of N as A/S.
   3. 20 lb./ac. of N as C/N.

Manures top-dressed on 8.7.1954.

3. DESIGN:
   (i) R.B.D.  (ii) a) 3.  (b) 35'x16'.  (iii) 6.  (iv) a) and (b) 11'x16'.  (v) Nil.  (vi) Yes.

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

5. RESULTS:
   (i) 1403 lb./ac.  (ii) 191.3 lb./ac.  (iii) Treatment differences are significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1180</td>
<td>1480</td>
<td>1548</td>
</tr>
</tbody>
</table>

   S.E./mean = 78.1 lb./ac.
Crop :- Paddy (Kharif).
Site :- Expt. Res. Stn., Upper Shillong

Object :-To study the effect of combination of A/S and Super on the yield of Paddy.

1. BASAL CONDITIONS :
(i) (a) No. (b) Paddy. (c) 100 md./ac. of F.Y.M , 150 lb./ac. of B.M. and 100 lb./ac. of A/S. (ii) (a) Brown sandy loam. (b) N.A. (iii) 5.5.1955. (iv) (a) Pulverising. (b) Broadcasting. (c) 60 lb./ac. (d) and (e) -. (v) 100 md./ac. of F.Y.M. (vi) Local balldyngkot (medium). (vii) Unirrigated. (viii) 2 weedings. (ix) 99.59". (x) 10.11.1955.

2. TREATMENTS :
All combinations of (1) and (2) + a control.
(i) 3 levels of A/S : N 1 =100, N 2 =200 and N 3 =300 lb./ac. 
(ii) 3 levels of Super : P 1 =125, P 2 =250 and P 3 =375 lb./ac.

3. DESIGN :
(i) R.B.D. (ii) (a) 10. (b) 16'x110'. (iii) 4. (iv) (a) and (b) 16'x8'. (v) No. (vi) Yes.

4. GENERAL:
(i) Good. (ii) No. (iii) Grain Yield. (iv) 'a' 1955—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :
(i) 350.5 lb./ac. (ii) 165.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Control</th>
<th>P 1</th>
<th>P 2</th>
<th>P 3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N 1</td>
<td>410</td>
<td>320</td>
<td>300</td>
<td>343</td>
</tr>
<tr>
<td>N 2</td>
<td>350</td>
<td>435</td>
<td>390</td>
<td>392</td>
</tr>
<tr>
<td>N 3</td>
<td>360</td>
<td>345</td>
<td>320</td>
<td>342</td>
</tr>
<tr>
<td>Mean</td>
<td>373</td>
<td>367</td>
<td>337</td>
<td>359</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 47.8 lb./ac.
S.E. of body of table = 82.8 lb./ac.

Crop :- Paddy (Kharif).

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

1. BASAL CONDITIONS :
(i) (a) No. (b) Paddy. (c) 100 md./ac. of F.Y.M, 150 lb./ac. of B.M. and 100 lb./ac. of A/S. (i) (a) Brown sandy loam. (b) N.A. (iii) 29.4.1955. (iv) (a) Pulverising. (b) Broadcasting. (c) 60 lb./ac. 
(d) and (e) -. (v) 100 md./ac. of F.Y.M. (vi) Khonorullo (medium). (vii) Unirrigated. (viii) 2 weedings. (ix) 99.59". (x) 7.11.1955.

2. TREATMENTS :
1. Control. 8. 200 lb./ac. of B.M.+154 lb./ac. of A/S/N.
2. 200 lb./ac. of B.M. 9. 200 lb./ac. of B.M.+91 lb./ac. of Urea.
3. 250 lb./ac. of Super. 10. 250 lb./ac. of Super+200 lb./ac. of A/S.
4. 200 lb./ac. of A/S. 11. 250 lb./ac. of Super+154 lb./ac. of A/S/N.
5. 154 lb./ac. of A/S/N. 12. 250 lb./ac. of Super+91 lb./ac. of Urea.
6. 91 lb./ac. of Urea. 13. 200 lb./ac. of mixed fertilizer.
7. 100 lb./ac. of B.M.+100 lb./ac. of A/S/N.

3. DESIGN :
(i) R.B.D. (ii) (a) 13. (b) N.A. (iii) 4. (iv) (a) and (b) 16'x8'. (v) Nil. (vi) Yes.
4. GENERAL:
(i) Good. (ii) No. (iii) Grain yield. (iv) (a) No. (b) and (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 390.4 lb./ac. (ii) 148.3 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>345</td>
<td>280</td>
<td>245</td>
<td>445</td>
<td>375</td>
<td>410</td>
<td>560</td>
<td>530</td>
<td>430</td>
<td>275</td>
<td>455</td>
<td>315</td>
<td>420</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>74.15 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Crop:** Paddy *(Kharif).*

**Site:** Expt. Res. Sta., Upper Shillong.

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

1. BASAL CONDITIONS:
(i) Dark brown sandy loam. (b) N.A. (ii) 25.4.1957. (iv) (a) Pulverising. (b) Broadcast. (c) 60 lb./ac. (d) and (e) -. (v) 100 md./ac. of F.Y.M. (vi) Khonorulu (medium) (vii) L'irrigated. (viii) 2 weedings. (ix) 63.82°. (x) 3.11.1957.

2. TREATMENTS:
1. Control.
2. 200 lb./ac. of B.M.
3. 250 lb./ac. of Super.
4. 200 lb./ac. of A/S.
5. 91 lb./ac. of Urea.
6. 200 lb./ac. of B.M.+200 lb./ac. of A/S.
7. 200 lb./ac. of B.M.+91 lb./ac. of Urea.
8. 250 lb./ac. of Super+200 lb./ac. of A/S.
9. 250 lb./ac. of Super+91 lb./ac. of Urea.
10. 200 lb./ac. of mixed fertilizer.

3. DESIGN:
(i) R.B.D. (ii) (a) 10. (b) 16'×10' (c) 60 lb./ac. of F.Y.M., 150 lb./ac. of B.M. and 100 lb./ac. of A/S.
4. GENERAL:
(i) Good. (ii) No. (iii) Grain yield. (iv) (a) N.A. (b) and (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 302.7 lb./ac. (ii) 147.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>221.6</td>
<td>353.6</td>
<td>287.6</td>
<td>325.3</td>
<td>317.1</td>
<td>273.4</td>
<td>315.9</td>
<td>259.3</td>
<td>330.0</td>
<td>282.9</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>73.9 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Crop:** Paddy *(Kharif).*

**Site:** Expt. Res. Sta., Upper Shillong.

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

1. BASAL CONDITIONS:
(i) Nil. (b) Paddy. (c) 200 md./ac. of F.Y.M., 150 lb./ac. of B.M. and 100 lb./ac. of A/S. (ii) a Dark brown sandy loam. 'b' N.A. (iii) 28.3.1957 to 27.5.1959. (iv) (a) Pulverising. (b) Transplanting. (c) 60 lb./ac. (d) 9°×6°. (e) 3. (v) 100 md./ac. of F.Y.M. at the time of hoeing. (vi) Khonorulu (medium) (vii) Unirrigated. (viii) 2 weedings. (ix) 55.68°. (x) 29.10.1957.
2. TREATMENTS:
1. Control. 6. 200 lb./ac. of A/S+125 lb./ac. of Super.
2. 200 lb./ac. of A/S. 7. 300 lb./ac. of A/S+187.5 lb./ac. of Super.
3. 300 lb./ac. of A/S. 8. 100 lb./ac. of A/S+100 lb./ac. of B.M.
4. 100 lb./ac. of A/S+62.5 lb./ac. of Super. 9. 200 lb./ac. of A/S+100 lb./ac. of B.M.
5. 100 lb./ac. of A/S+100 lb./ac. of Super. 10. 500 lb./ac. of A/S+150 lb./ac. of B.M.

3. DESIGN:
(i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) and (b) 16\times 8. (v) No. (vi) Yes.

4. GENERAL:
(i) Good. (ii) No. (iii) Grain yield. (iv) (a) 1959—N.A. (b) and (c) No. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 1140 lb./ac. (ii) 276 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Av. yield</td>
<td>1360 1080 840 1000 1240 1160 1080 1440 1000 1240</td>
</tr>
</tbody>
</table>

S.E./mean = 188 lb./ac.

---

Crop :- Paddy (Kharif).
Ref :- As. 59(12).
Type :- 'M'.

Object :- To study the effect of combination of Urea and Super on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Fallow. (c) No. (ii) (a) Red sandy loam. (b) N.A. (iii) 4.4.1959. (iv) (a) Pulverising. (b) Broadcasting. (c) 60 lb./ac. (d) and (e) —. (v) 150 md./ac. of F.Y.M. (vi) Abor-red (medium). (vii) Unirrigated. (viii) 2 weedings. (ix) 55.68°. (x) 27.10.1959.

2. TREATMENTS:
6 manural treatments+2 controls: M_1=46 lb./ac. of Urea, M_2=46 lb./ac. of Urea+62.5 lb./ac. of Super, M_3=2M_1, M_4=2M_2; M_3=3M_1 and M_4=3M_2.

3. DESIGN:
(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 16\times 8. (b) 16\times 8. (v) No. (vi) Yes.

4. GENERAL:
(i) Poor. (ii) Pest attack. Gammexane sprayed twice. (iii) Grain yield. (iv) (a) N.A. (b) and (c) No. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS
(i) 98.4 lb./ac. (ii) 29.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M_1</th>
<th>M_2</th>
<th>M_3</th>
<th>M_4</th>
<th>M_5</th>
<th>M_6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>82.5</td>
<td>85.0</td>
<td>87.5</td>
<td>127.5</td>
<td>92.5</td>
<td>90.0</td>
</tr>
</tbody>
</table>

S.E./mean (other than control) = 14.7 lb./ac.
S.E./control mean = 10.4 lb./ac.

---

Crop :- Paddy (Kharif).
Site :- M.A.E. Farm, Tinsukia.
Ref :- As. (MAE).
Type :- 'M'.

Object :- To study the effect of P_2O_5 applied to legume crop and of N to the succeeding Paddy crop.
1. **BASAL CONDITIONS**:
- (a) N.A.
- (b) and (c) As per treatments.
- (ii) (a) Brahmaputra alluvium. (b) N.A. (iii) 1st to 4th of August. (iv) (a) 8 ploughings. (b) Transplanting. (c) N.A. (d) \(8' \times 8'\). (e) N.A. (v) Nil. (vi) N.A. (vii) Unirrigated. (viii) 5 weedicings and 1 hoisting. (ix) N.A. First and second week of Dec.

2. **TREATMENTS**:
- **Main-plot treatments**:
  - All combinations of (1. and (2. + Fallow plot) (LP).
  - (1) 2 legumes: \(L_1=\) Matikalai and \(L_2=\) Pea.
  - (2) 3 levels of \(P_2\) as Super applied to legume crops: \(P_0 = 0\), \(P_1 = 40\) and \(P_2 = 80\) lb./ac.
- **Sub-plot treatments**:
  - 3 levels of \(N\) as A.S applied to paddy crop: \(N_0 = 0\), \(N_1 = 15\) and \(N_2 = 30\) lb./ac.

3. **DESIGN**:
- (i) Split-plot: (ii) (a) 7 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. **GENERAL**:
- (i) Poor. (ii) No. (iii) Grain yield. (iv) (a) 1957—contd. (b) No. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. **RESULTS**:
- (i) 146.5 lb./ac. (a) 143.0 lb./ac. (b) 95.4 lb./ac. (iii) Control vs others is significant. \(N\) effect is highly significant while all other effects are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>L_0P_0</th>
<th>L_1P_0</th>
<th>L_2P_0</th>
<th>L_0P_1</th>
<th>L_1P_1</th>
<th>L_2P_1</th>
<th>L_0P_2</th>
<th>L_1P_2</th>
<th>L_2P_2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N_0</td>
<td>233.7</td>
<td>333.3</td>
<td>383.5</td>
<td>450.1</td>
<td>399.9</td>
<td>383.5</td>
<td>483.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N_1</td>
<td>416.4</td>
<td>433.6</td>
<td>433.6</td>
<td>549.7</td>
<td>516.7</td>
<td>533.2</td>
<td>500.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N_2</td>
<td>333.3</td>
<td>433.6</td>
<td>433.6</td>
<td>483.0</td>
<td>416.4</td>
<td>533.2</td>
<td>483.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>327.8</td>
<td>400.2</td>
<td>416.9</td>
<td>494.3</td>
<td>444.3</td>
<td>483.3</td>
<td>488.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of difference of two.
- 1. LP marginal means = 66.0 lb./ac.
- 2. \(N\) marginal means = 29.4 lb./ac.
- 3. \(N\) means at the same level of LP = 77.9 lb./ac.
- 4. LP means at the same level of \(N\) = 91.7 lb./ac.

---

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

**Site** :- M.A.E. Farm, Tinsukia.

Ref :- As. 59(MAE).

Type :- 'M'.

Object :- Type IV—To study the effect of \(P_2O_5\) applied to legume crop and of \(N\) to the succeeding Paddy crop.

1. **BASAL CONDITIONS** and 2. **TREATMENTS**:
- Same as in expt. no. 58 (MAE) Type IV on page. 25 conducted at Tinsukia.

3. **DESIGN**:
- (i) Split-plot. (ii) (a) 7 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 31' x 14.5'. (v) N.A. (vi) Yes.

4. **GENERAL**:
- (i) Normal. (ii) N.A. (iii) Grain yield. (iv) (a) 1957—contd. (b) No. (c) N.A. (v) Nil. (vi) and (vii) Nil.

5. **RESULTS**:
- (i) 137.9 lb./ac. (ii) a) 137.9 lb./ac. (b) 124.3 lb./ac. (iii) Control vs others is significant. \(N\) effect is highly significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.
Crop :- Paddy (Kharif).
Site :- M.A.E. Farm, Tinsukia.
Object :- Type V - To study the most suitable time for the application of N.

1. BASAL CONDITIONS :
   (i) (a) N.A.  (b) Fallow.  (c) N.A.  (ii) Brahmaputra alluvium. (iii) End of July 1957. (iv) (a) 7 ploughings.  (b) Transplanting.  (c) N.A. (d) 8" × 8".  (e) N.A.  (v) 20 lb./ac. of P₂O₅ as Super.  (vi) N.A. (vii) Unirrigated.  (viii) 2 hoeings and 5 weedings.  (ix) N.A. (x) First week of January 1958.

2. TREATMENTS :
   All combinations of (1) and (2) + a control (no manure).
   (1) 2 sources of 30 lb./ac. of N : S₁=Urea and S₂=A/S.
   (2) 7 times of application of N : T₁=before planting, T₂=at planting, T₃=at tillering, T₄=½ before planting + ½ at tillering, T₅=1/3 at planting + 1/3 at tillering, T₆=½ before planting + ½ at tillering + ½ one week before flowering and T₇=½ at planting + ½ at tillering + ½ one week before flowering.

3. DESIGN :
   (i) R.B.D.  (ii) (a) 15.  (b) N.A.  (iii) 3.  (iv) (a) N.A.  (b) 1/100 ac.  (v) N.A.  (vi) Yes.

4. GENERAL :
   (i) Below normal.  (ii) No.  (iii) Grain yield.  (iv) 1957—contd.  (b) No.  (c) N.A.  (v) to (vii) Nil.

5. RESULTS :
   (i) 533.5 lb./ac.  (ii) 133.15 lb./ac.  (iii) S effect and control vs others are highly significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Control mean</th>
<th>317.9 lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
<td>551.3</td>
</tr>
<tr>
<td>S₂</td>
<td>633.6</td>
</tr>
<tr>
<td>Mean</td>
<td>592.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>T₄</th>
<th>T₅</th>
<th>T₆</th>
<th>T₇</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>551.3</td>
<td>452.6</td>
<td>518.4</td>
<td>452.6</td>
<td>436.1</td>
<td>501.9</td>
<td>419.7</td>
<td>476.1</td>
</tr>
<tr>
<td>633.6</td>
<td>650.0</td>
<td>584.2</td>
<td>732.3</td>
<td>734.9</td>
<td>666.5</td>
<td>551.3</td>
<td>621.8</td>
</tr>
</tbody>
</table>

| Mean | 592.4 | 551.3 | 551.3 | 592.4 | 485.5 | 584.2 | 485.5 | 548.9 |

S.E. of S marginal mean = 29.06 lb./ac.
S.E. of T marginal mean = 54.36 lb./ac.
S.E. of body of table or control mean = 76.88 lb./ac.
Crop: Paddy (Kharif).  
Ref: As. 58(MAE).

Site: M.A.E. Farm, Tinsukia.
Type: 'M'.

Object: To study the most suitable time for the application of N.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) 'a' Brahmaputra alluvium  (b) N.A.  (iii) 1 to 4.8.1958.  (iv) (a) 8 ploughings.  
   (b) Transplanting.  (c) N.A.  (d) 8'x8'.  (e) N.A.  (v) 20 lb./ac. of P₂O₅ as Super.  (vi) N.A.  (vii) Unirrigated.  
   (viii) 5 weeding and 1 hoeing.  (ix) N.A.  (x) First and second week of December.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 57,MAE. Type V on page 27.

3. DESIGN:
   (i) R.B.D.  (ii) 'a' 15.  (b) N.A.  (iii) 3.  (iv) (a) 33'x16.5'. (b) 31'x14.5'. (v) 1' alround. (vi) Yes.

4. GENERAL:
   (i) Poor.  (ii) N.A.  (iii) Grain yield.  (iv) (a) 1957—contd. ‘b' and (c) N.A.  (v) Nil.  (vi) and (vii) Nil.

5. RESULTS:
   (i) 794.5 lb./ac.  (ii) 97.5 lb./ac.  (iii) S and control vs others effects are highly significant. Other effects are not significant.

<table>
<thead>
<tr>
<th></th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
<th>T6</th>
<th>T7</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
<td>666.7</td>
<td>700.0</td>
<td>666.7</td>
<td>800.0</td>
<td>783.3</td>
<td>783.3</td>
<td>800.0</td>
<td>742.9</td>
</tr>
<tr>
<td>S₂</td>
<td>913.3</td>
<td>1000.0</td>
<td>716.7</td>
<td>800.0</td>
<td>850.0</td>
<td>1016.7</td>
<td>766.7</td>
<td>869.1</td>
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<tr>
<td>Mean</td>
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<td>850.0</td>
<td>691.7</td>
<td>800.0</td>
<td>816.6</td>
<td>900.0</td>
<td>783.4</td>
<td>806.0</td>
</tr>
</tbody>
</table>

S.E. of S marginal mean = 21.3 lb. ac.
S.E. of T marginal mean = 39.8 lb. ac.
S.E. of body of table or control mean = 56.3 lb. ac.

---

Crop: Paddy (Kharif).  
Ref: As. 59(MAE).

Site: M.A.E. Farm, Tinsukia.
Type: 'M'.

Object: To study the most suitable time for the application of N.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) 'a' Brahmaputra alluvium  (b) N.A.  (iii) July—August 1959.  (iv) (a) 4 to 6 ploughings.  
   (b) Transplanting.  (c) N.A.  (d) 8'x8'.  (e) N.A.  (v) 20 lb./ac. of P₂O₅ as Super.  (vi) N.A.  (vii) Unirrigated.  

2. TREATMENTS:
   Same as in expt. in 57,MAE. Type V on page 27.

3. DESIGN:
   (i) R.B.D.  (ii) 'a' 15.  (b) N.A.  (iii) 3.  (iv) (a) 33'x16.5'. (b) 31'x14.5'. (v) 1' alround. (vi) Yes.

4. GENERAL:
   (i) Poor.  (ii) N.A.  (iii) Grain yield.  (iv) (a) 1957—contd. ‘b' and (c) N.A.  (v) Nil.  (vi) and (vii) Nil.

5. RESULTS:
   (i) 631.2 lb./ac.  (ii) 184.3 lb./ac.  (iii) Only S effect is highly significant. (iv) Av. yield of grain in lb./ac.

Control mean = 469.0 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
<th>T6</th>
<th>T7</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
<td>661.0</td>
<td>416.9</td>
<td>581.5</td>
<td>499.2</td>
<td>581.5</td>
<td>532.1</td>
<td>548.6</td>
<td>545.8</td>
</tr>
<tr>
<td>S₂</td>
<td>776.2</td>
<td>773.5</td>
<td>548.6</td>
<td>968.2</td>
<td>707.7</td>
<td>710.4</td>
<td>693.9</td>
<td>739.8</td>
</tr>
<tr>
<td>Mean</td>
<td>718.6</td>
<td>595.1</td>
<td>565.0</td>
<td>733.7</td>
<td>644.6</td>
<td>621.2</td>
<td>621.2</td>
<td>642.8</td>
</tr>
</tbody>
</table>
Crop :- Paddy (Kharif).
Site :- M.A.E. Farm, Tinsukia.
Object :- Type VI—To determine the method of placement of fertilizers.

BASAL CONDITIONS:
(i) (a) to (c) N.A.  (ii) (a) Brahmaputra alluvium. (b) N.A.  (iii) From first week to 4th week of August, 1957.  (iv) (a) 7 ploughings. (b) Transplanting. (c) N.A.  (d) 8'×8'.  (e) N.A.  (v) Nil. (vi) N.A.

2. TREATMENTS:
All combinations of (1), (2) and (3)+1 control (no manure)/block.
(1) 2 doses of P₂O₅ : P₁=20 and P₂=40 lb./ac.
(2) 3 sources of P₂O₅ : S₁=Super, S₂=Dical. Phos. and S₃=Ammo. Phos.
(3) 3 methods of application of P₂O₅ : M₁=Broadcasting at puddling time, M₂=Dipping the seedlings in mud slush mixed with the fertilizer before transplanting and M₃=Application of fertilizers in pellets near the roots at the time of planting.
N made up to 30 lb./ac. by applying A/S at planting.

3. DESIGN:
(i) 3²x2+3 confd. Fact. (ii) (a) 7 plots/block; 3 blocks/replication. (b) N.A.  (iii) 4.  (iv) (a) N.A.  (b) 1/100 ac.  (v) N.A.  (vi) Yes.

4. GENERAL:
(i) Poor.  (ii) No. (iii) Grain yield.  (iv) (a) 1957—contd. (b) No.  (c) N.A.  (v) Nil,  (vi) Nil.  (vii) Experiment conducted in the year 1959 was rejected as the crop in a number of plots was grazed by cattle.

5. RESULTS:
(i) 689 lb./ac.  (ii) 175.9 lb./ac.  (iii) Control vs others is highly significant. Interaction S×P is significant. Other effects are not significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
<th>Mean</th>
<th>P₁</th>
<th>P₂</th>
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<tbody>
<tr>
<td>S₁</td>
<td>680</td>
<td>775</td>
<td>715</td>
<td>723</td>
<td>803</td>
<td>643</td>
</tr>
<tr>
<td>S₂</td>
<td>685</td>
<td>650</td>
<td>730</td>
<td>688</td>
<td>630</td>
<td>747</td>
</tr>
<tr>
<td>S₃</td>
<td>750</td>
<td>695</td>
<td>790</td>
<td>745</td>
<td>767</td>
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<tr>
<td>Mean</td>
<td>705</td>
<td>707</td>
<td>745</td>
<td>719</td>
<td>733</td>
<td>705</td>
</tr>
<tr>
<td>P₁</td>
<td>703</td>
<td>747</td>
<td>750</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P₂</td>
<td>707</td>
<td>667</td>
<td>740</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of S or M marginal mean = 35.9 lb./ac.
S.E. of P marginal mean = 29.3 lb./ac.
S.E. of body of S×P or M×P table = 50.4 lb./ac.
S.E. of body of S×M table = 62.2 lb./ac.
Crop: Paddy (Khansf).
Site: M.A.E. Farm, Tinsukia.

Object: — Type VI—To determine the method of placement of fertilizers.

1. BASAL CONDITIONS:
   (i) a) to c) N.A. (ii) 'a' Brahmputra alluvium. (b) N.A. (iii) 1 to 4.5.1958. (iv) a) 8 ploughings. 'b' planting. (c) N.A. (d) 8"×8". (e) N.A. (f) Nil. (vi) N.A. (vii) Unirrigated. (viii) 5 weedings and 1 harrowing. (ix) N.A. (x) First and second week of Dec.

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 57. (MAE) Type VI on page 29.

3. RESULTS:
   (i) = 577.9 lb./ac. (ii) 100.5 lb./ac. (iii) Control vs manures and S effects are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>Mean</th>
<th>P1</th>
<th>P2</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>506.2</td>
<td>550.0</td>
<td>493.7</td>
<td>516.6</td>
<td>537.5</td>
</tr>
<tr>
<td>S2</td>
<td>637.5</td>
<td>675.0</td>
<td>625.0</td>
<td>645.8</td>
<td>608.3</td>
</tr>
<tr>
<td>S3</td>
<td>712.5</td>
<td>700.0</td>
<td>712.5</td>
<td>728.3</td>
<td>687.5</td>
</tr>
<tr>
<td>Mean</td>
<td>618.7</td>
<td>641.7</td>
<td>610.4</td>
<td>623.6</td>
<td>611.1</td>
</tr>
<tr>
<td>P1</td>
<td>604.2</td>
<td>645.8</td>
<td>583.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P2</td>
<td>633.3</td>
<td>637.5</td>
<td>637.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of S or M marginal mean = 20.5 lb./ac.
S.E. of P marginal mean = 16.8 lb./ac.
S.E. of body of S×P or M×P table = 29.0 lb./ac.
S.E. of body of S×M table = 35.5 lb./ac.

Crop: Paddy (1st crop).
Centre: Darrang (c.f.).

Object: — Type II(a)—To study the effect of different levels and sources of N along with P2O5 on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) 'a' to (c) N.A. (ii) Alluvial (loam), pH 5.5. (iii) Nil. (iv) N.A. (v) N.A. (b) Transplanted. (c)—. (d) and (e) N.A. (vi) June—July. (vii) Unirrigated. (viii) and (ix) N.A. (x) Nov.—Dec.

2. TREATMENTS:
   0 — Control.
   N1 = 20 lb./ac. of N as A/S.
   N1N2 = 20 lb./ac. of N as A/S + 20 lb./ac. of P2O5 as Super.
   N1N2 = 20 lb./ac. of N as Crea + 20 lb./ac. of P2O5 as Super.

3. DESIGN:
   i) and (ii) Eleven community project centres, representing the entire paddy growing tract 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 one unreplicated trial was laid out. (iii) N.A. (iv) Yes.
4. GENERAL:
(i) Normal. (ii) No. (iii) Grain yield. (iv) (a) 1953—1955. (b) No. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>N₁</th>
<th>P₁N₁</th>
<th>P₁N₁'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2123</td>
<td>2839</td>
<td>3538</td>
<td>2872</td>
</tr>
</tbody>
</table>

G.M.=2843 lb./ac.; S.E./mean=65.83 lb./ac. and no. of trials=31.

---

**Crop:** Paddy (1st crop).  
**Centre:** Darrang (c.f.).  
**Ref:** Or. 54(TCM).  
**Type:** ‘M’.

Object:—Type II (b)—To study the effect of different levels and sources of N along with P₂O₅ on the yield of Paddy.

1. **BASAL CONDITIONS**:
   Same as in expt. no. 54(TCM) Type II (a) on page 30 conducted at Darrang.

2. **TREATMENTS**:
   0 = Control
   P₁ = 20 lb./ac. of P₂O₅ as Super.
   P₁N₁ = 20 lb./ac. of P₂O₅ as Super + 20 lb./ac. of N as A/S.
   P₁N₁' = 20 lb./ac. of P₂O₅ as Super + 40 lb./ac. of N as A/S.
   P₁N₂ = 20 lb./ac. of P₂O₅ as Super + 20 lb./ac. of N as Urea.
   P₁N₂' = 20 lb./ac. of P₂O₅ as Super + 40 lb./ac. of N as Urea.

3. **DESIGN and 4. GENERAL**:
   Same as in expt. no. 54(TCM) Type II (a) on page 30 conducted at Darrang.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>P₁</th>
<th>P₁N₁</th>
<th>P₁N₁'</th>
<th>P₁N₂</th>
<th>P₁N₂'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2197</td>
<td>3431</td>
<td>3563</td>
<td>2715</td>
<td>2880</td>
<td>2617</td>
</tr>
</tbody>
</table>

G.M.=2900 lb./ac.; S.E.=74.1 lb./ac. and no. of trials=30.

---

**Crop:** Paddy (1st crop).  
**Centre:** Darrang (c.f.).  
**Ref:** As. 54(TCM).  
**Type:** ‘M’.

Object:—Type III—To study the effect of different levels and sources of P₂O₅ along with N on the yield of Paddy.

1. **BASAL CONDITIONS**:
   (i) (a) to (e) N.A.  
   (ii) Alluvial (undifferentiated) loam, pH 5.5.  
   (iii) Nil.  
   (iv) N.A.  
   (v) (a) N.A.  
   (b) Transplanted.  
   (c)—, (d) and (e) N.A.  
   (vi) June—July.  
   (vii) Unirrigated.  
   (viii) and (ix) N.A.  
   (x) Nov.—Dec.

2. **TREATMENTS**:
   0 = Control (no manure)
   N₁ = 20 lb./ac. of N as A/S.
   N₁P₁ = 20 lb./ac. of N as A/S + 20 lb./ac. of P₂O₅ as Super.
   N₁P₁ = 20 lb./ac. of N as A/S + 40 lb./ac. of P₂O₅ as Super.
   N₁P₁' = 20 lb./ac. of N as A/S + 20 lb./ac. of P₂O₅ as Super.
   N₁P₁' = 20 lb./ac. of N as A/S + 40 lb./ac. of P₂O₅ as Super.

Fertilizers applied two days before planting.

3. **DESIGN and 4. GENERAL**:
   Same as in expt. no. 54(TCM) Type II(a) on page 30 conducted at Darrang.
5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>N₁</th>
<th>N₁P₁</th>
<th>N₁P₂</th>
<th>N₁P₁’</th>
<th>N₁P₂’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2172</td>
<td>2938</td>
<td>3612</td>
<td>2246</td>
<td>2732</td>
<td>3283</td>
</tr>
</tbody>
</table>

G.M. =2831 lb./ac.; S.E. =65.83 lb./ac. and no. of trials=29.

Object :—Type I—To study the effect of different levels and sources of N on the yield of Paddy.

1. BASAL CONDITIONS :
   Same as in expt. no. 54(TCM) Type II(a) on page 30 conducted at Darrang.

2. TREATMENTS :
   0 =Control (no manure).
   N₁ =20 lb./ac. of N as A.S.
   N₂ =40 lb./ac. of N as A.S.
   N₁’ =20 lb./ac. of N as Urea.
   N₂’ =40 lb./ac. of N as Urea.
   Fertilizers broadcast two days before planting.

3. DESIGN and 4. GENERAL :
   Same as in expt. no. 54(TCM) Type II(a) on page 30 conducted at Darrang.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>P₁</th>
<th>P₁N₁</th>
<th>P₁N₂</th>
<th>P₁N₁’</th>
<th>P₁N₂’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1670</td>
<td>2083</td>
<td>2081</td>
<td>2295</td>
<td>2204</td>
<td></td>
</tr>
</tbody>
</table>

G.M. =2067 lb./ac.; S.E. =103.7 lb./ac. and no. of trials=14.

Object :—Type II(b)—To study the effect of different levels and sources of N along with P₂O₅ on the yield of Paddy.

1. BASAL CONDITIONS to 4. GENERAL :
   Same as in experiment no. 54(TCM) Type II (b) on page 31 conducted at Darrang.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>N₁</th>
<th>N₁P₁</th>
<th>N₁P₂</th>
<th>N₁P₁’</th>
<th>N₁P₂’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1892</td>
<td>2291</td>
<td>2544</td>
<td>2410</td>
<td>2247</td>
<td>2250</td>
</tr>
</tbody>
</table>

G.M. =2272 lb./ac.; S.E. =107.79 lb./ac. and no. of trials=14.

Object :—Type III—To study the effect of different levels and sources of P₂O₅ along with N on the yield of Paddy.

1. BASAL CONDITIONS to 4. GENERAL :
   Same as in experiment no. 54(TCM) Type III on page 31 conducted at Darrang.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>N₁</th>
<th>N₁P₁</th>
<th>N₁P₂</th>
<th>N₁P₁’</th>
<th>N₁P₂’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1949</td>
<td>2293</td>
<td>2558</td>
<td>2800</td>
<td>2514</td>
<td>2432</td>
</tr>
</tbody>
</table>

G.M. =2424 lb./ac., S.E./mean=148.1 lb./ac. and no. of trials=10.
Crop :- Paddy (Kharif).
Centre :- Lakhimpur (c.f.).

Object :- Type A-To study the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) Alluvium and laterite. (iii) and (iv) N.A. (v) (a) 4 ploughings and plankings. (b) Transplanting. (c)—. (d) and (e) N.A. (vi) July—Aug. (vii) Unirrigated. (viii) and (ix) N.A. (x) Nov.—Dec.

TREATMENTS:
0 =Control (no manure).
n =20 lb./ac. of N as A/S.
np =20 lb./ac. of N as A/S+20 lb./ac. of P₂O₅ as Super.
k =20 lb./ac. of K₂O as Mur. of Potash.
nk =20 lb./ac. of N as A/S+20 lb./ac. of K₂O as Mur. of Pot.
npk =20 lb./ac. of N as A/S+20 lb./ac. of P₂O₅ as Super+20 lb./ac. of K₂O as Mur. Pot.

3. DESIGN:
(i) and (ii) The district has been divided into four agriculturally homogeneous zones and one field assistant has been posted in each zone. The field assistant conducts the trials in one revenue circle or thana in the zone and the circle/thana is changed once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year, 8 on a kharif cereal, 8 on a rabi cereal, 8 on cash crops, 4 on an oilseed crop and 3 on a leguminous crop. Half the number of trials conducted are of type A and the other half of Type B on crops other than the legumes. The three trials on legumes are of type C. Residual effects of phosphate application are studied on type C trials in two out of the four zones in each district every year. The above experiments are laid out in randomly located fields in randomly selected villages in each of the 4 zones at the rate of one experiment per village. (iii) (a) 1/40 ac. (b) 1/80 ac. (iv) Yes.

4. GENERAL:
(i) Normal. (ii) N.A. (iii) Grain yield. (iv) (a) 1959—contd. (b) No. (c) Nil. (v) Lakhimpur and Sibsagar. (vi) and (vii) Nil.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>n</th>
<th>np</th>
<th>k</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2087</td>
<td>2780</td>
<td>2786</td>
<td>2487</td>
<td>2830</td>
<td>2780</td>
<td>2738</td>
</tr>
<tr>
<td>G.M. =2674 lb./ac. ; S.E/mean=170.1 lb./ac. and no. of trials=5.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Paddy (Rabi).
Centre :- Lakhimpur (c.f.).

Object :- Type B-To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) Alluvium and laterite. (iii) and (iv) N.A. (v) (a) 4 to 5 ploughings and plankings. (b) Transplanting. (c)—. (d) and (e) N.A. (vi) November 1959. (vii) Irrigated. (viii) and (ix) N.A. (x) March 1960.

2. TREATMENTS:
0 =Control (no manure).
n₁ =20 lb./ac. of N as A/S.
n₂ =40 lb./ac. of N as A/S.
n₁' =20 lb./ac. of N as Urea.
n₂' =40 lb./ac. of N as Urea.
n₁" =20 lb./ac. of N as A/S/N.
n₂" =40 lb./ac. of N as A/S/N.

3. DESIGN and 4. GENERAL:
Same as in exp. no. 59(SFT) Type A above.
5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>n₁</th>
<th>n₂</th>
<th>n₃</th>
<th>n₄</th>
<th>n₅</th>
<th>n₆</th>
<th>n₇</th>
<th>n₈</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1580</td>
<td>1827</td>
<td>1967</td>
<td>1991</td>
<td>2041</td>
<td>1934</td>
<td>2098</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

G.M. = 1920 lb/ac; S.E./mean = 89.6 lb/ac. and no. of trials = 5.

**Crop:** Paddy (*Kharif*).  
**Centre:** Sibsagar (c.f.).  
**Ref:** As. 59(SFT).  
**Type:** 'M'.

Object:—Type A—To study the response of Paddy to levels of N, P and K applied individually and in combinations.

1. **BASAL CONDITIONS**:
   (i) (a) to (c) N.A.  
   (ii) Hilly (mostly red loam and laterite).  
   (iii) and (iv) N.A.  
   (v) (a) Ploughings and plankings.  
   (b) Transplanting.  
   (c)−.  
   (d) and (e) N.A.  
   (vi) July—August.  
   (vii) Unirrigated.  
   (viii) and (ix) N.A.  
   (x) Dec.

2. **TREATMENTS** to 4. **GENERAL**:
   Same as in expt. no. 59(SFT) Type A on page 33 conducted at Lakhimpur.

5 **RESULTS**:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>n₁</th>
<th>n₂</th>
<th>n₃</th>
<th>n₄</th>
<th>n₅</th>
<th>n₆</th>
<th>n₇</th>
<th>n₈</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1983</td>
<td>2208</td>
<td>2128</td>
<td>2331</td>
<td>2137</td>
<td>2172</td>
<td>2175</td>
<td>2359</td>
<td></td>
</tr>
</tbody>
</table>

G.M. = 2187 lb/ac, S.E./mean = 67.95 lb/ac. and no. of trials = 12.

**Crop:** Paddy (*Kharif*).  
**Centre:** Sibsagar (c.f.).  
**Ref:** As. 59(SFT).  
**Type:** 'M'.

Object:—Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. **BASAL CONDITIONS**:
   (i) (a) to (c) N.A.  
   (ii) Hilly.  
   (iii) Nil.  
   (iv) N.A.  
   (v) (a) 5 ploughings and 3 plankings.  
   (b) Transplanting.  
   (c)−.  
   (d) and (e) N.A.  
   (vi) July—August.  
   (vii) Unirrigated.  
   (viii) and (ix) N.A.  
   (x) N.A.  
   (A) Nov.—Dec.

2. **TREATMENTS** and 3. **DESIGN**:
   Same as in expt. no. 59 (SFT) Type B on page 33 conducted at Lakhimpur.

4. **GENERAL**:
   (i) Normal.  
   (ii) Some trials attacked by stem-borer and case-worm. Control measures taken.  
   (iii) Grain yield.  
   (iv) (a) 1959—contd.  
   (b) No.  
   (c) N.A.  
   (v) Lakhimpur.  
   (vi) and (vii) Nil.

5. **RESULTS**:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>n₁</th>
<th>n₂</th>
<th>n₃</th>
<th>n₄</th>
<th>n₅</th>
<th>n₆</th>
<th>n₇</th>
<th>n₈</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2271</td>
<td>2395</td>
<td>2378</td>
<td>2337</td>
<td>2098</td>
<td>2164</td>
<td>2329</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

G.M. = 2282 lb/ac.; S.E./mean = 107.1 lb/ac. and no. of trials = 10.

**Crop:** Paddy (1st and 2nd crop).  
**Centre:** Agartala (Tripura, c.f.).  
**Ref:** As. 54 (TCM).  
**Type:** 'M'.

Object:—Type I—To study the effect of different levels and sources of N on yield of Paddy.
1. BASAL CONDITIONS to 4. GENERAL:
   Same as in exp. no. 55 (TCM) Type I on page 32 conducted at Udaygiri.

5. RESULTS:

   First crop
   Treatment 0 N₁ N₂ N₃ N₄ N₄'
   Av. yield 1621 1958 2001 1905 1946
   G.M.=1886 lb./ac.; S.E./mean=96.7 lb./ac. and no. of trials=10.

   Second crop
   Treatment 0 N₁ N₂ N₃ N₄ N₄'
   Av. yield 1975 2452 2896 2386 2674
   G.M.=2477 lb./ac.; S.E./mean=181.0 lb./ac. and no. of trials=9.

   Crop: Paddy (1st crop).
   Centre: Agartala (Tripura, c.f.).
   Ref: As. 55(TCM).
   Type: ‘M’.

   Object:—Type I—To study the effect of different sources and levels of N on yield of Paddy.

1. BASAL CONDITIONS:
   Same as in exp. no. 54 (TCM) Type II(a) on page 30 conducted at Darrang.

2. TREATMENTS:
   0 = Control.
   N₁ = 20 lb./ac. of N as A/S.
   N₂ = 40 lb./ac. of N as A/S.
   N₃ = 20 lb./ac. of N as Nitrochalk.
   N₄ = 40 lb./ac. of N as Nitrochalk.
   Fertilizers applied two days before planting.

3. DESIGN:
   Same as in exp. no. 54 (TCM) Type II(a) on page 30 conducted at Darrang.

4. GENERAL:
   (i) Normal heavy lodging. (ii) No. (iii) Grain yield. (iv) (a) 1953—55. (b) No. (c) N.A. (v) (a) and (b) Nil.

5. RESULTS:
   Treatment 0 N₁ N₂ N₃ N₄ N₄'
   Av. yield 1556 1733 1839 1828 1932
   G.M.=1782 lb./ac.; S.E./mean=65.83 lb./ac. and no. of trials=11.

   Crop:—Paddy (1st crop).
   Centre:—Agartala (Tripura, c.f.).
   Ref:—As. 55(TCM).
   Type:—‘M’.

   Object:—Type I—To study the effect of different levels and sources of N on yield of Paddy.

1. BASAL CONDITIONS to 3. DESIGN:
   Same as in exp. 54 (TCM) Type I on page 34 conducted at Agartala.

4. GENERAL:
   Same in exp. no. 55 (TCM) Type I as above.
5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>N1</th>
<th>N2</th>
<th>N1'</th>
<th>N2'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1456</td>
<td>1883</td>
<td>2061</td>
<td>1903</td>
<td>2041</td>
</tr>
</tbody>
</table>

G.M. = 1869 lb./ac.; S.E./mean = 81.79 lb./ac. and no. of trials = 20.

---

Crop: Paddy (1st crop).
Centre: Agartala (Tripura, c.f.).
Object: Type II (b) - To study the effect of different levels of N and P on the yield of Paddy.

1. BASAL CONDITIONS to 4. GENERAL:
   Same as in expt. no. 54 (TCM) Type II (b) on page 31 conducted at Darrang.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>P1</th>
<th>P1N1</th>
<th>P1N2</th>
<th>P1N1'</th>
<th>P1N2'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1962</td>
<td>2334</td>
<td>2422</td>
<td>2767</td>
<td>2567</td>
<td>2481</td>
</tr>
</tbody>
</table>

G.M. = 2422 lb./ac.; S.E./mean = 156.2 lb./ac. and no. of trials = 13.

---

Crop: Paddy (1st crop).
Centre: Agartala (Tripura, c.f.).
Object: Type III - To study the effect of different levels and sources of P along with N on the yield of Paddy.

1. BASAL CONDITIONS to 4. GENERAL:
   Same as in expt. no. 54 (TCM) Type III on page 31 conducted at Darrang.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>N1</th>
<th>N1P1</th>
<th>N1P2</th>
<th>N1P1'</th>
<th>N1P2'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1537</td>
<td>1918</td>
<td>2208</td>
<td>2081</td>
<td>2163</td>
<td>2410</td>
</tr>
</tbody>
</table>

G.M. = 2053 lb./ac.; S.E./mean = 117.4 lb./ac. and no. of trials = 17.

---

Crop: Paddy (2nd crop).
Centre: Agartala (Tripura, c.f.).
Object: Type IV - To study the effect of N, P and K on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) Alluvial (loam). (iii) Nil. (iv) N.A. (v) N.A. (b) Transplanted. (c) —,
   (d) and (e) N.A. (vi) November—December. (vii) Irrigated. (viii) and (ix) N.A. (x) April 1955.

2. TREATMENTS:

<table>
<thead>
<tr>
<th>0 =Control (no manure)</th>
<th>N1</th>
<th>N1P1</th>
<th>N1P2</th>
<th>N1P1K1</th>
<th>N1P1K2</th>
</tr>
</thead>
<tbody>
<tr>
<td>=20 lb./ac. of N as A/S</td>
<td>N1P1</td>
<td>=20 lb./ac. of N as A/S+20 lb./ac. of P2O5 as Super.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N1P2</td>
<td>=20 lb./ac. of N as A/S+40 lb./ac. of P2O5 as Super.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N1P1K1</td>
<td>=20 lb./ac. of N as A/S+20 lb./ac. of P2O5 as Super+20 lb./ac. of K2O as Pot. Sul.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N1P1K2</td>
<td>=20 lb./ac. of N as A/S+20 lb./ac. of P2O5 as Super+40 lb./ac. of K2O as Pot. Sul.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. DESIGN and 4. GENERAL:
   Same as in expt. no. 54(TCM) Type II (a) on page 30 conducted at Darrang.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>N1</th>
<th>N1P1</th>
<th>N1P2</th>
<th>N1P1K1</th>
<th>N1P1K2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1'25</td>
<td>2584</td>
<td>2748</td>
<td>2543</td>
<td>2427</td>
<td>3003</td>
</tr>
</tbody>
</table>

G.M. = 2538 lb./ac.; S.E./mean = 320.9 lb./ac. and no. of trials = 5.
Crop: Paddy (1st crop). Centre: Agartala (Tripura, c.f.).

Object: —Type IV—To study the effect of N, P and K on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) Alluvium (loam). (iii) Nil. (iv) N.A. (v) (a) N.A. (b) Transplanting. (c) —. (d) and (e) N.A. (vi) June—July. (vii) Unirrigated. (viii) and (ix) N.A. (x) November—December.

2. TREATMENT to 4. GENERAL:
   Same as in expt. no. 54(TCM) Type II (b) on page 36 conducted at Darrang.

5. RESULTS:
   Treatment
<table>
<thead>
<tr>
<th>0</th>
<th>N₁</th>
<th>N₁P₁</th>
<th>N₁P₂</th>
<th>N₁P₂K₁</th>
<th>N₁P₂K₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1414</td>
<td>1913</td>
<td>1880</td>
<td>1877</td>
<td>1934</td>
</tr>
</tbody>
</table>
   G.M. = 1849 lb./ac.; S.E./mean = 108.7 lb./ac. and no. of trials = 19.


Object: —To find out suitable doses of fertilizers for different varieties of Paddy.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Paddy. (c) Cowdung at 50 md./ac. (ii) (a) Sandy loam. (b) N.A. (iii) 11.8.1958 to 13.8.1958. (iv) (a) Ploughing 4 times followed by laddering. (b) Transplanted. (c) —. (d) 9" x 9". (e) 2 to 3. (v) Cowdung at 50 md./ac. (vi) As per treatments. (vii) Unirrigated. (viii) Nil. (ix) N.A. (x) 15.12.1958 and 16.12.1958.

2. TREATMENTS:
   Main-plot treatments:
   2 varieties: V₁ = Lassamra and V₂ = Prosad bhog.
   Sub-plot treatments:
   All combinations of (1) and (2)
   (2) 4 levels of N: N₀ = 0, N₁ = 20, N₂ = 40 and N₃ = 60 lb./ac.

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block; 20 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) (a) and (b) 50" x 62". (v) No. (vi) Yes.

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

5. RESULTS:
   (i) 1863 lb./ac. (ii) 679 lb./ac. (b) 813 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>S₄</th>
<th>S₅</th>
<th>Mean</th>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
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</thead>
<tbody>
<tr>
<td>V₁</td>
<td>1781</td>
<td>1934</td>
<td>1907</td>
<td>2125</td>
<td>2229</td>
<td>1995</td>
<td>1955</td>
<td>2162</td>
<td>1986</td>
<td>1877</td>
</tr>
<tr>
<td>V₂</td>
<td>1695</td>
<td>1512</td>
<td>1813</td>
<td>1752</td>
<td>1887</td>
<td>1732</td>
<td>1750</td>
<td>1717</td>
<td>1678</td>
<td>1783</td>
</tr>
<tr>
<td>Mean</td>
<td>1738</td>
<td>1723</td>
<td>1860</td>
<td>1939</td>
<td>2058</td>
<td>1863</td>
<td>1852</td>
<td>1939</td>
<td>1832</td>
<td>1830</td>
</tr>
<tr>
<td>N₁</td>
<td>1922</td>
<td>2010</td>
<td>1750</td>
<td>1692</td>
<td>2323</td>
<td>1995</td>
<td>1955</td>
<td>2162</td>
<td>1986</td>
<td>1877</td>
</tr>
<tr>
<td>N₂</td>
<td>1488</td>
<td>1568</td>
<td>2034</td>
<td>2054</td>
<td>2034</td>
<td>1732</td>
<td>1750</td>
<td>1717</td>
<td>1678</td>
<td>1783</td>
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<tr>
<td>N₃</td>
<td>1833</td>
<td>1356</td>
<td>1768</td>
<td>1945</td>
<td>2246</td>
<td>1863</td>
<td>1852</td>
<td>1939</td>
<td>1832</td>
<td>1830</td>
</tr>
<tr>
<td>Mean</td>
<td>1741</td>
<td>1645</td>
<td>1851</td>
<td>1897</td>
<td>2201</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
Crop : Paddy (Sali).
Site : Govt. Rice Expt. Stn., Titabar.

Object :- To study the catalysing effect of KMnO₄ and FeSO₄ for releasing plant nutrients.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Clay loam. (b) N.A. (iii) 6.9.1954/N.A. (iv) (a) One ploughing and laddering with the help of bullocks. (b) Line method of transplanting. (c) 6 md./ac. (d) 9' x 9'.
   (e) 4. (v) Cowdung broadcast. (vi) As per treatments. (vii) Unirrigated. (viii) Two hand weedings. (ix) 16' approx. (x) 3.1.1955 to 5.1.1955.

2. TREATMENTS :
   Main-plot treatments :
   2 varieties: V₁ = Prosad bhog SL-834/1 and V₂ = Laudumra SL-126.
   Sub-plot treatments :
   3 chemicals: M₀ = Control, M₁ = KMnO₄ at 16 lb./ac. and M₂ = FeSO₄ at 28 lb./ac.

3. DESIGN :
   (i) Split-plot. (ii) (a) 2 main-plots/block ; 3 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) (a) 15' x 15'.
   (b) 14.25' x 14.25. (v) 4.5' x 4.5'. (vi) Yes.

4. GENERAL :
   (i) Fair; no lodging. (ii) Nil. (iii) Paddy yield. (iv) (a) 1954-1958. (b) and (c) Yes. (v) (a) and (b).
   (vi) Nil. (vii) Nil.

5. RESULTS :
   (i) 3656 lb./ac. (ii) (a) 326.9 lb./ac. (b) 148.7 lb./ac. (iii) Main effect of M is highly significant while effect of V and interaction M x V are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M₀</th>
<th>M₁</th>
<th>M₂</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V₁</td>
<td>3102</td>
<td>3915</td>
<td>3861</td>
<td>3626</td>
</tr>
<tr>
<td>V₂</td>
<td>3110</td>
<td>4069</td>
<td>3879</td>
<td>3685</td>
</tr>
<tr>
<td>Mean</td>
<td>3106</td>
<td>3991</td>
<td>3870</td>
<td>3656</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. V marginal means = 154.1 lb./ac.
2. M marginal means = 85.9 lb./ac.
3. M means at the same level of V = 121.4 lb./jac.
4. V means at the same level of M = 183.2 lb./ac.
1. BASAL CONDITIONS:
   (i) (a) No. (b) Paddy. (c) Nil. (ii) (a) Clay loam. (b) N.A. (iii) N.A. (iv) (a) Ploughing with country plough, laddering and harrowing. (b) Transplanting in lines. (c) to (e) N.A. (v) Nil. (vi) As per treatments. (vii) Unirrigated. (viii) Two weedings. (ix) 86.34°. (x) N.A.

2. TREATMENTS and 3. DESIGN:
   Same as in exp. no. 54(6) on page 38.

4. GENERAL:
   (i) Good. (ii) N.A. (iii) Paddy yield. (iv) (a) 1957—1958. (b) No. (c) Nil. (v) (a) and (b) No. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2818 lb./ac. (ii) (a) 673.8 lb./ac. (b) 58.6 lb./ac. (iii) Main effect of M is highly significant while effect of V and interaction M x V are significant. (iv) Av. yield of grain lb./ac.

<table>
<thead>
<tr>
<th>V</th>
<th>M₀</th>
<th>M₁</th>
<th>M₂</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V₁</td>
<td>2681</td>
<td>2909</td>
<td>2842</td>
<td>2811</td>
</tr>
<tr>
<td>V₂</td>
<td>2374</td>
<td>2950</td>
<td>2950</td>
<td>2825</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. V marginal means = 389.0 lb./ac.
2. M marginal means = 41.4 lb./ac.
3. M means at the same level of V = 58.6 lb./ac.
4. V means at the same level of M = 391.9 lb./ac.

Crop :- Paddy (Sali).
Site :- Govt. Rice Expt. Stn., Titabar.  
Ref :- As. 58(7).
Type :- 'MV'.

Object :- To study the catalysing effect of K₂MnO₄ and FeSO₄ for releasing plant nutrients.

1. BASAL CONDITIONS:
   (i) (a) No. (b) Paddy. (c) Nil. (ii) (a) Clay loam. (b) N.A. (iii) N.A. (iv) (a) Ploughing with country plough, laddering and harrowing. (b) Line method of transplanting. (c) to (e) N.A. (v) Nil. (vi) As per treatments. (vii) Unirrigated. (viii) Two weedings. (ix) 67.87° (x) N.A.

2. TREATMENT and 3. DESIGN:
   Same as in exp. no. 54(6) on page 38.

4. GENERAL:
   (i) Good. (ii) N.A. (iii) Paddy yield. (iv) (a) 1957—1958. (b) No. (c) Nil. (v) (a) and (b) No. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2150 lb./ac. (ii) (a) 166.0 lb./ac. (b) 62.1 lb./ac. (iii) Main effect of M is highly significant while effect of V and interaction M x V are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>V</th>
<th>M₀</th>
<th>M₁</th>
<th>M₂</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V₁</td>
<td>2118</td>
<td>2305</td>
<td>2265</td>
<td>2229</td>
</tr>
<tr>
<td>V₂</td>
<td>1850</td>
<td>2239</td>
<td>2105</td>
<td>2071</td>
</tr>
</tbody>
</table>

Mean 1984 2282 2185 2150
Crop :- Paddy (Kharif).
Site :- Rice Expt. Stn., Karimganj.

Object :- To study the effect of broadcasting and dibbling on Paddy yield.

1. BASAL CONDITIONS :
   (i) (a) No. (b) Paddy. (c) N.A.  (ii) (a) Clay loam. (b) N.A.  (iii) 15.3.1954/N.A.  (iv) (a) 8 ploughings followed by laddering. (b) to (e) N.A.  (v) 100 md./ac. of cowdung at ploughing.  (vi) Type M—142 Koi murali (early).  (vii) Unirrigated.  (viii) As per treatments.  (ix) 64.70°.  (x) 27, 28.6.1954.

2. TREATMENTS :
   All combinations of (1) and (2)  
   (1) 2 methods of sowing: S1—Broadcasting seed at 30 srs/ac. and S2—Dibbling at 10 srs/ac. with 2'×6’ spacing.  
   (2) 2 levels of weedings : C0=No weeding and C1=One weeding.

3. DESIGN :
   (i) Fact. in R.B.D.  (ii) (a) 4. (b) 66’×40’. (iii) 4. (iv) (a) 66’×10’. (b) 64’×8’. (v) 1’×1’. (vi) Yes.

4. GENERAL :
   (i) N.A.  (ii) No. (iii) General growth and grain yield. (iv) (a) 1953—1955. (b) Yes. (c) N.A.  (v) (a) and (b) N.A.  (vi) and (vii) Nil.

5. RESULTS :
   (i) 1953 lb./ac.  (ii) 137.8 lb./ac.  (iii) None of the effects is significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>C0</th>
<th>C1</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>1969</td>
<td>1873</td>
<td>1921</td>
</tr>
<tr>
<td>S2</td>
<td>2065</td>
<td>1904</td>
<td>1984</td>
</tr>
<tr>
<td>Mean</td>
<td>2017</td>
<td>1888</td>
<td>1953</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 48.7 lb./ac.
S.E. of body of table = 68.9 lb./ac.

---

Crop :- Paddy (Kharif).
Site :- Rice Expt. Stn., Karimganj.

Object :- To study the effect of broadcasting and dibbling on Paddy yield.

1. BASAL CONDITIONS :
   i: No. (b) Paddy. (c) 100 md./ac. of cowdung.  (ii) (a) Clay loam. (b) N.A.  (iii) 3.5.1955/N.A.  (iv) 8 ploughings followed by laddering. (b) to (e) N.A.  (v) 100 md./ac. of cowdung at ploughing.  (vi) Type M—142 Koi murali (early).  (vii) Unirrigated.  (viii) As per treatments.  (ix) 144.57°.  (x) 3.8.1955 to 5.8.1955.

2. TREATMENTS and 3. DESIGN :
   Same as in expt. no. 54(12) above.
4. GENERAL:
(i) N.A. (ii) No. (iii) General growth and grain yield. (iv) (a) 1953—1955. (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 3483 lb./ac. (ii) 189.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>C0</th>
<th>C1</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>3604</td>
<td>3874</td>
<td>3739</td>
</tr>
<tr>
<td>S2</td>
<td>3137</td>
<td>3318</td>
<td>3228</td>
</tr>
<tr>
<td>Mean</td>
<td>3370</td>
<td>3596</td>
<td>3483</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 66.9 lb./ac.
S.E. of body of table = 94.6 lb./ac.

Crop:—Paddy (Sali).

Site:—Agri. College, Jorhat.

Object:—To find out a suitable crop rotation for Sibsagar district.

1. BASAL CONDITIONS:
(i) (a) N.A. (b) As per treatments. (c) T.C. at 40 lb./plot. (ii) (a) Sandy loam. (b) pH—4.5. (iii) N.A. 21.1.1958. (iv) (a) 4 ploughings followed by laddering. (b) Transplanting. (c) —. (d) 9”x9”. (e) 3. (v) T.C. at 40 lb./plot broadcast just before puddling. (vi) Prosad bhog. (vii) Unirrigated. (viii) Nil. (ix) N.A. (x) 16.12.1958.

2. TREATMENTS:
4 crop rotations: R1 = Ahu paddy—Sali paddy, R2=Fallow—Sali paddy, R3=Jute—Sali paddy and R4 = G.M.—Sali paddy.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) and (b) 66’10”x9”. (v) No. (vi) Yes.

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

5. RESULTS:
(i) 2277 lb./ac. (ii) 247 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>R1</th>
<th>R2</th>
<th>R3</th>
<th>R4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2286</td>
<td>2200</td>
<td>2412</td>
<td>2209</td>
</tr>
</tbody>
</table>

S.E./mean = 123 lb./ac.

Crop:—Paddy (Bao).

Site:—Deep Water Paddy Res. Stn., Roha.

Object:—To obtain a suitable seed rate for Paddy.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Loam. (b) Refer expt. no. 54(4) on page 13. (iii) 30.5.1955. (iv) (a) 5 ploughings and laddering with country plough. (b) Broadcasting. (c) As per treatments. (d) N.A. (e)—. (v) Nil. (vi) Gout (medium). (vii) Unirrigated. (viii) Weeding and thinning. (ix) 60”. (x) 20.12.1955.

2. TREATMENTS:
4 seed rates: R1 =60, R2 =80, R3 =100 and R4 =120 lb./ac.
3. DESIGN:
(i) R.B.D. (ii) [a; 4], (b) N.A. (iii) 4. (iv) (a) 10'×15'. (b) 8'×13'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
(i) N.A. (ii) Nil. (iii) Grain yield. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi); and (vii) Nil.

5. RESULTS:
(i) 3435 lb./ac. (ii) 732.9 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>R1</th>
<th>R2</th>
<th>R3</th>
<th>R4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3310</td>
<td>3071</td>
<td>3633</td>
<td>3727</td>
</tr>
<tr>
<td>S.E./mean = 366.4 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

_Crop:_ Paddy (Bao).
_Site:_ Deep Water Paddy Res. Stn., Roha.

Object:—To obtain a suitable seed rate for Paddy.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) Nil. (d) Cl. (e) Refer expt. no. 54(4) on pag. 13. (iii) 30.3.1956. (iv) (a) 5 ploughings and laddering with country plough. (b) Broadcast. (c) As per treatments. (d) and (e)—. (v) Nil. (vi) Gout Bao. (vii) Unirrigated. (viii) Weeding and thinning. (ix) 69.41. (x) 30.11.1956.

2. TREATMENTS:
Same as in expt. no. 55 (1) on page 41.

3. DESIGN:
(i) R.B.D. (ii) [a; 4], (b) N.A. (iii) 5. (iv) (a) 17'×12'. (b) 15'×10'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
(i) N.A. (ii) No incidence of pests and diseases. (iii) Grain yield. (iv) (a) 1954—1956. (b) o. (c) Nil. (d) [a] and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 1210 lb./ac. (ii) 342.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>R1</th>
<th>R2</th>
<th>R3</th>
<th>R4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1352</td>
<td>1138</td>
<td>1246</td>
<td>1106</td>
</tr>
<tr>
<td>S.E./mean = 153.0 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

_Crop:_ Paddy (Sali).
_Site:_ Rice Expt. Stn., Titabar.

Object:—To study the Chinese and Japanese methods of Paddy cultivation.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) Nil. (d) Cl. (e) Clay loam. (f) N.A. (g) 12,20 and 25.6.1959. (h) (a) 8 ploughings followed by laddering. (b) Transplanting. (c) to (e) As per treatments. (f) Nil. (g) 406 (h) 93—1 medium. (i) Unirrigated. (j) 2 weedings. (k) 69.55. (l) 30.11.1959, 1.12.1959 and 2.12.1959.

2. TREATMENTS:
3. DESIGN
(i) R.B.D. (ii) (a) 3. (b) 18'×30'. (iii) 6. (iv) (a) 30'×30'. (b) 28'×28' for M₁, 26'×26' for M₂ and 27'×27' for M₃. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Not satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1959—contd. (b) Yes. (c) N.A. (v) (a) Karimganj. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 3188 lb./ac. (ii) 250 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>S.E./mean = 102 lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2815</td>
<td>3564</td>
<td>3187</td>
<td></td>
</tr>
</tbody>
</table>

---

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

**Site :- Rice Expt. Stn., Karimganj.**

Object.—To study the Japanese vs. local method of Paddy cultivation.

1. BASAL CONDITIONS:
(i) (a) No. (b) Paddy. (c) N.A. (ii) (a) Clay loam. (b) N.A. (iii) 15.7.1954/18.8.1954. (iv) (a) 8 ploughings followed by laddering. (b) Transplanting. (c) As per treatments. (d) 9'×9' for treatment 1 and 10'×10' for treatment 2. (e) 4. (v) Nil. (vi) Swarna Sul S.C. 412—56 (medium). (vii) Unirrigated. (viii) As per treatments. (ix) 66.96'. (x) 17.12.1954 to 19.12.1954.

2. TREATMENTS:
1. Local method : 6 md./ac. of seed in seed beds, 100 md./ac. of cowdung at the time of ploughing and one weeding.
2. Japanese method : 5 md./ac. of seed in seed beds, 300 md./ac. of cowdung at the time of ploughing, 200 lb./ac. of A/S and B.M. in 1:1 ratio at puddling, one weeding two weeks after transplanting, 200 lb./ac. of manure mixture applied one month after transplanting by deep layering method and one weeding and one mulching a month before flowering.

3. DESIGN:
(i) R.B.D. (ii) (a) 2. (b) 60.75'×31.50'. (iii) 6. (iv) (a) 60.75'×15.75'. (b) 60'×15'. (v) One row kept on all sides. (vi) Yes.

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

5. RESULTS:
(i) 3055 lb./ac. (ii) 209.6 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>S.E./mean = 84.5 lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2981</td>
<td>3128</td>
<td></td>
</tr>
</tbody>
</table>

---

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

**Site :- Rice Expt. Stn., Karimganj.**

Object.—To study Japanese vs. local method of Paddy cultivation.
1. BASAL CONDITIONS:
   (i) No. (b) Paddy. (c) As per treatments. (ii) Clay loam. (b) N.A. (iii) 7.7.1955/20.8.1955. (iv) 8 ploughings followed by laddering. (b) Transplanted. (c) As per treatments. (d) N.A. (e) 4. (v) N.A. (vi) Swarnamali; S.C. 412-56 (medium). (vii) Unirrigated. (viii) As per treatments. (ix) 86.88°. (x) 12, 13.12.1955.

2. TREATMENTS and 3. DESIGN:
   Same as in exp. no. 54(14) on page 43.

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

5. RESULTS:
   (i) 2092 lb./ac. (ii) 87.1 lb./ac. (iii) Treatment difference is highly significant. (iv) Av. yield of grain in lb./ac.

   Treatment
   1 2
   Av. yield 1962 2222
   S.E./mean = 35.6 lb./ac.

---

Crop :- Paddy (Kharif).
Site :- Rice Expt. Stn., Karimganj.
Object :-To study Japanese vs. local method of Paddy cultivation.

1. BASAL CONDITIONS:
   (i) No. (b) Paddy. (c) 100 md./ac. of cowdung. (ii) Clay loam. (b) N.A. (iii) 25.5.1955/21 to 23.6.1955. (iv) 8 ploughings with country plough followed by laddering. (b) Transplanting. (c) As per treatments. (d) 6′ x 6′. (e) 4. (v) 100 md./ac. of cowdung applied before ploughing. (vi) Kasalath As-2 (medium). (vii) Unirrigated. (viii) Hoeing and weeding twice. (ix) 144.57°. (x) 14.9.1955.

2. TREATMENTS:
   1. Local method : 6 md./ac. of seed in seed beds.
   2. Japanese method : 3 md./ac. of seed in seed beds, 200 lb./ac. of Super+200 lb./ac. of A/S applied in two doses first at puddling and second one month after planting.

3. DESIGN:
   (i) R.B.D. (ii) (a) 2. (b) 60.5′x31.0′. (iii) 6. (iv) (a) 60.5′x15.5′. (b) 60′x15′. (v) One row kept on all sides. (vi) Yes.

4. GENERAL:
   (i) Crop under treatment 2 lodged. (ii) Nil. (iii) General growth, tiller count and grain yield. (iv) (a) 1955—1957. (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1939 lb./ac. (ii) 135.5 lb./ac. (i) Treatment difference is not significant. (iv) Av. yield of grain in lb./ac

   Treatment 1 2
   Av. yield 1978 1901
   S.E./mean = 55.3 lb./ac.

---

Crop :- Paddy (Kharif).
Site :- Rice Expt. Stn., Karimganj.
Object :-To study Japanese vs. local method of Paddy cultivation.

1. BASAL CONDITIONS:
   (i) No. (b) Paddy. (c) As per treatments. (ii) Clay loam (b) N.A. (iii) 22.5.1956/15 to 17.6.1956. (iv) 8 ploughings with country plough followed by laddering. (b) Transplanting. (c) As per treatments. (d) 6′ x 6′. (e) 4. (v) 100 md./ac. of cowdung applied before ploughing. (vi) Kasalath As-2 (medium). (vii) Unirrigated. (viii) Hoeing and weeding twice. (ix) 129.96°. (x) 12.9.1956.
2. TREATMENTS AND 3. DESIGN:
Same as in exp. no. 55(26) on page 44.

4. GENERAL:
(i) Crop under treatment 2 lodged. (ii) N.A. (iii) General growth, tiller count and grain yield. (iv) (a) 1955—1957. (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 1968 lb./ac. (ii) 83.4 lb./ac. (iii) Treatment difference is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1821</td>
<td>2115</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>34.1 lb./ac.</td>
<td></td>
</tr>
</tbody>
</table>

**Crop:** Paddy (Kharif).
**Site:** Rice Exp. Sta., Karimganj.

Object:—To study Japanese vs. local method of Paddy cultivation.

1. BASAL CONDITIONS:
(i) (a) No. (b) Paddy. (c) As per treatments. (ii) (a) Clay loam. (b) N.A. (iii) N.A. (iv) (a) 8 ploughings with country plough followed by laddering. (b) Transplanting. (c) As per treatment.
(d) 6'X6'. (e) 4. (v) 100 md./ac. of cowdung applied before ploughing. (vi) Kasalath As-2 (medium). (vii) Unirrigated. (viii) Hoeing and weeding twice. (ix) and (x) N.A.

2. TREATMENTS AND 3. DESIGN:
Same as in exp. no. 55(26) on page 44.

4. GENERAL:
(i) Crop under treatment 5 lodged. (ii) Nil. (iii) General growth, tiller count and grain yield. (iv) (a) 1955—1957. (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 1636 lb./ac. (ii) 197.5 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1620</td>
<td>1652</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>80.6 lb./ac.</td>
<td></td>
</tr>
</tbody>
</table>

**Crop:** Paddy (Sali).
**Site:** Rice Exp. Sta., Titabar.

Object:—To compare Japanese and local methods of Paddy cultivation.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) Cowdung at 100 md./ac. (ii) (a) Clay loam. (b) N.A. (iii) 29.6.1954/7.8.1954. (iv) (a) One ploughing and laddering with the help of bullocks. (b) Line method. (c) 2.5 md./ac. for Japanese and 6 md./ac. for local method. (d) 10'X10' for Japanese method and 9'X9' for local method. (e) 1 for Japanese and 4 for local method. (v) Cowdung at 200 md./ac. before puddling. (vi) Leishumra. (vii) Unirrigated. (viii) Two weedings. (ix) N.A. (x) 24.12.1954.

2. TREATMENTS:
1. Japanese method: Cowdung at 100 md./acre, A/S at 200 lb./ac. B.M. at 200 lb./ac. after final preparation of land.
2. Local method.
3. DESIGN:
(i) R.B.D. (ii) 'a' 2. (b) N.A. (iii) 3. (iv) (a) 16'5 x 9'. (b) 15'x7.5'. (v) 9'x9'. (vi) Yes.

4. GENERAL:
(i) Fair. Slight lodging in treatment (l). (ii) Nil. (iii) Grain yield. (iv) (a) 1953—1955. (b) Yes. (c) N.A. 
(v) (a) Karimganj. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 4993 lb/ac. (ii) 215.3 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>5308</td>
<td>4679</td>
<td>5043</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>124.3 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**Site :- Rice Expt. Stn., Titabar.**

Object :- To compare Japanese and local methods of Paddy cultivation.

1. BASAL CONDITIONS and 2. TREATMENTS:
Same as in expt. no. 54(1) on page 45.

3. DESIGN:
(i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 6. (iv) (a) 31'.5 x 16'.5. (b) 30'x15'. (v) 9'x9'. (vi) Yes.

4. GENERAL:
Same as in expt. no. 54(1) on page 45.

5. RESULTS:
(i) 3831 lb/ac. (ii) 261.2 lb./ac. (iii) Treatment difference is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>4403</td>
<td>3259</td>
<td>3831</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>106.7 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**Site :- Govt. Agri. Farm, Jorhat.**

Object :- To study the effect of weedicide on the yield of Paddy.

1. BASAL CONDITIONS:
(i) 'a' Nil. (b) Mustard. (c) 150 md./ac. of cowdung. (ii) (a) Sandy loam. (b) N.A. (iii) 5.4.1954/N.A.
(iv) (a) 5 ploughings, 2 ladderings and hoeing. (b) Broadcasting. (c) 100 lb./ac. (d) and (e) —. (v) Nil.
(vi) Rangadoria (medium). (vii) Unirrigated. (viii) As per treatments. (ix) 30.4'2". (x) 6.5-1954.

2. TREATMENTS:
T₁ — Control.
T₂ = Spraying Dicotin—2 gallons in 100 gallons of water.
T₃ = T₂ + extra dose of 3 lbs. of Dicotin in 40 gallons of water.
Hand spraying 3 times at intervals of 15 days.

3. DESIGN:
(i) R.B.D. (ii) 'a' 3. (b) 54'x23'. (iii) 4. (iv) (a) 23'x18'. (b) 20'x15'. (v) 1.5'x1.5'. (vi) Yes.
4. GENERAL:
(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1953—1955. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) Expt. was conducted by Botanical section.

5. RESULTS:
(i) 1774 lb./ac. (ii) 605.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1648</td>
<td>2022</td>
<td>1652</td>
</tr>
</tbody>
</table>

S.E./mean = 302.7 lb./ac.

---

Crop :- Paddy (Kharif).
Site :- Govt. Agri. Farm, Jorhat.
Ref :- As. 55(33).
Type :- 'D1'.

Object :- To study the effect of weedicide on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Mustard. (c) 150 md./ac. of cowdung. (ii) (a) Sandy loam. (b) N.A. (iii) 12.4.1955/N.A. (iv) (a) 5 ploughings, 2 ladderings and hoeing. (b) Broadcasting. (c) 100 lb./ac. (d) and (e) —. (v) Nil. (vi) Rangadoria (medium). (vii) Unirrigated. (viii) As per treatments. (ix) 31.29°. (x) 13.7.1955.

2. TREATMENTS:
Same as in expt. no. 54(19) on page 46.

3. DESIGN:
(i) R.B.D. (ii) (a) 3. (b) 54' x 23'. (iii) 4. (iv) (a) 23' x 18'. (b) 20' x 15'. (v) and (vi) Yes.

4. GENERAL:
(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1953—1955. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Expt. was conducted by Botanical section.

5. RESULTS:
(i) 1771 lb./ac. (ii) 221.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1326</td>
<td>1907</td>
<td></td>
</tr>
</tbody>
</table>

S.E./mean = 110.5 lb./ac.

---

Crop :- Paddy (Kharif).
Site :- Govt. Agri. Farm, Jorhat.
Ref :- As. 58(53).
Type :- 'D'.

Object :- To find out the best time and method of application of weedicides to Paddy.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) N.A. (iii) 21.3.1958. (iv) (a) Ploughing and ladderig. (b) Broadcasting. (c) 30 yrs./ac. (d) and (e) —. (v) Cowdung at 100 md./ac. (vi) Rangadoria (vii) Unirrigated. (viii) As per treatments. (ix) N.A. (x) 30.6.1958 and 1.7.1958.

2. TREATMENTS:
9 methods of weeding and application of weedicide : M₀=no manure, M₁=Local method, M₂=Pre-emergence application of weedicide once, M₃=Post-emergence application of weedicide once, M₄=Post-emergence application of weedicide twice, M₅=M₃+M₄, M₆=M₅+cultural method of weeding, M₇=M₅+ cultural method of weeding, M₈=M₅+cultural method of weeding.

Fernoxone at 8 ozs in 60 gallons of water/ac. was used as weedicide for spraying.
3. DESIGN:
(i) R.B.D. (ii) (a) 9. (b) 153'×14'. (iii) 4. (iv) (a) 14'×17'. (b) 12'×15'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii, iv) (a) 1958—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) Expt. was conducted by Mycological section.

5. RESULTS:
(i) 1193 lb./ac. (ii) 143 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M₀</th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
<th>M₄</th>
<th>M₅</th>
<th>M₆</th>
<th>M₇</th>
<th>M₈</th>
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<tr>
<td>Av. yield</td>
<td>666</td>
<td>1210</td>
<td>1089</td>
<td>1016</td>
<td>1150</td>
<td>1065</td>
<td>1271</td>
<td>1331</td>
<td>1936</td>
<td></td>
</tr>
<tr>
<td>S.E./mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>71 lb./ac.</td>
</tr>
</tbody>
</table>

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Crop :- Paddy (Kharif).
Site :- Govt. Agri. Farm, Jorhat.

Object :- To find out the best time and method of application of weedicide to Paddy.

1. BASAL CONDITIONS:
(i) 'a' No. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) N.A. (iii) 30.3.1959. (iv) (a) Ploughing and laddering. (b) Broadcasting. (c) 30 yrs./ac. (d) and (e). (v) Cowdung at 100 mds/ac. (vi) Rangadoria Aha. (vii) Unirrigated. (viii) As per treatments. (ix) N.A. (x) 1.7.1959 and 2.7.1959.

2. TREATMENTS:
Same as in expt. no. 58(53) on page 47 with one extra treatment as follows:
T=Cultural method of weeding (with implements)+a hand weeding.

3. DESIGN
(i) R.B.D. (ii) (a) 10. (b) 138'×17'. (iii) 4. (iv) (a) 14'×17'. (b) 12'×15'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) Expt. was conducted by Mycological section.

5. RESULTS:
(i) 1183 lb./ac. (ii) 482 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M₀</th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
<th>M₄</th>
<th>M₅</th>
<th>M₆</th>
<th>M₇</th>
<th>M₈</th>
<th>T</th>
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<tbody>
<tr>
<td>Av. yield</td>
<td>756</td>
<td>1150</td>
<td>998</td>
<td>1029</td>
<td>1271</td>
<td>1240</td>
<td>1301</td>
<td>1422</td>
<td>1603</td>
<td>1059</td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>241 lb./ac.</td>
</tr>
</tbody>
</table>

---

Crop :- Paddy (Kharif).
Site :- Govt. Agri. Farm, Jorhat.

Object :- To find out a suitable pesticide for Paddy crop.

1. BASAL CONDITIONS:
(i) (a) No. (b) Paddy. (c) Nil. (ii) (a) Sandy loam. (b) N.A. (iii) 21.3.1959. (iv) (a) Ploughing and laddering. (b) Broadcasting. (c) 1 md./ac. (d) and (e). (v) Nil. (vi) Rangadoria. (vii) Unirrigated. (viii) Nil. (ix) N.A. (x) 29.6.1959.
2. TREATMENTS:
1. Foliodol at 7 oz. in 104 gallons/ac. of water.
2. Endrex at 7 oz. in 104 gallons/ac. of water.
3. Ekatox at 7 oz. in 104 gallons/ac. of water.
4. Hexidol at 1 lb. in 104 gallons/ac. of water.
5. Guesarol 550 at 1 lb. in 104 gallons/ac. of water.
6. Control.

3. DESIGN:
(i) R.B.D. (a) 6. (b) 13'8 x 12'. (iii) 5. (iv) (a) 12' x 23'. (b) 11' x 22'. (v) 0.5' around. (vi) Yes.

4. GENERAL:
(i) Fair. (ii) Paddy stem-borer, rice-bug, rice case-worm and rice grass-hopper were noticed. Control measures as per treatments. (iii) 3 sq. ft. area was selected at random from each plot and percentage of plants affected by different pests was observed. (iv) (a) 1959—cond. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) Expt. was conducted by Entomological section.

5. RESULTS:
(i) 10.34 percent. (ii) 0.71 percent. (iii) Treatment differences are highly significant. (iv) Percentage of affected plants.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<tbody>
<tr>
<td>Percentage</td>
<td>8.58</td>
<td>9.73</td>
<td>9.75</td>
<td>10.21</td>
<td>10.70</td>
<td>13.66</td>
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<tr>
<td>S.E./mean = 0.32 percent</td>
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</table>

Crop :- Paddy.  
Site :- Rice Expt. Stn., Karimganj.  
Ref :- As. 58(22).  
Type :- 'D'.

Object :- To study the effect of soaking seed in solution of sodium bicarbonate on Paddy.

1. BASAL CONDITIONS:
(i) (a) No. (b) Paddy. (c) 100 md./ac. of cowdung. (ii) (a) Clay loam. (b) N.A. (iii) 22.7.1958/1.9.1958 (iv) (a) 8 ploughings and laddering. (b) Transplanting. (c) 2/3 md./ac. (d) 9' x 9'. (e) 2. (v) 200 lb./ac. of mixed fertilizer and 100 md./ac. of cowdung in seed bed. 40 lb./ac. of N as A/S, 40 lb./ac. of P₂O₅ as Super and 100 md./ac. of cowdung applied during preparation of field. (vi) 22 (Sand, medium). (vii) Unirrigated. (viii) 2 weedings by Japanese weeder. (ix) 79.1n. (x) 28.11.1958.

2. TREATMENTS:
1. Soaking seeds in sodium bicarbonate solution of 40% strength for two days before sowing.
2. Control (no soaking).

3. DESIGN:
(i) R.B.D. (ii) 2. (b) N.A. (iii) 5. (iv) (a) 15.75' x 10.50'. (b) 15' x 9.75'. (v) 9' x 9'. (vi) Yes.

4. GENERAL:
(i) Crop lodged badly due to heavy wind on 12.11.1958. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—1960 (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 2357 lb./ac. (ii) 78 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2383</td>
<td>2331</td>
</tr>
<tr>
<td>S.E./mean = 35 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop :- Paddy.  
Site :- Rice Expt. Stn., Karimganj.  
Object :- To study the effect of soaking seed in solution of sodium bicarbonate on Paddy.

1. BASAL CONDITIONS :
   (i) (a) No. (b) Paddy. (c) 100 lb./ac. of cowdung: 40 lb./ac. of N as A/S and 40 lb./ac. of P2O5 as Super.
   (ii) (a) Clay loam. (b) N.A. (iii) 26.6.1959/3.8.1959. (iv) (a) 8 ploughings followed by weeding and lodging. (b) Transplanting. (c) 2} mad./ac. in seed bed. (d) 9"x9". (e) 2. (v) 200 lb./ac. of mixed fertilizer and 100 mad./ac. of cowdung in seed bed. 40 lb./ac. of N as A/S, 40 lb./ac. of P2O5 as Super and 100 mad./ac. of cowdung applied during the preparation of field. (vi) 5—22 (Sail, medium). (vii) Unirrigated. (viii) 2 weedicings by Japanese weeder. (ix) 68.31°. (x) 9.12.1959.

2. TREATMENTS and 3. DESIGN :
   Same as in expt. no. 58(22) on page 49.

4. GENERAL :
   (i) Crop lodged. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—1960. (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :
   (i) 301 lb./ac. (ii) 84.89 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of grain in lb./ac.
   Treatment 1 2 3 4 5
   Av. yield 3008 3014 2999 2286 2492
   S.E./mean = 38.12 lb./ac.

Crop :- Paddy (Sail).  
Site :- Govt. Rice expt. Stn., Titabar.  
Ref :- As. 57(51).  
Type :- 'D'.  
Object :- To study the best time of application of weedicide to Paddy.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Clay loam. (b) N.A. (iii) 28.7.1957. (iv) (a) Ploughing and harrowing. (b) Transplanted. (c) N.A. (d) 10"x10". (e) 6. (v) 150 mad./ac. of cowdung at prosad bhag. (vi) Unirrigated. (vii) Nil. (viii) N.A. (ix) 14.12.1957.

2. TREATMENTS :
   2. Local method of weeding.
   3. Post-emergence application of weedicide once.
   4. Post-emergence application of weedicide twice.
   5. Post-emergence application of weedicide once+cultural method of weeding.

Fernoxone at 8 oz. in 60 gallons of water/ac. was sprayed.

3. DESIGN :
   (i) R.B.D. (ii) (a) 5. (b) 36'x72'. (iii) 6. (iv) (a) 36'x15'. (b) 33'x12'. (v) 1.5'x1.5'. (vi) Yes.

4. GENERAL :
   (i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) Expt. was conducted by Mycological section.

5. RESULTS :
   (i) 2313 lb./ac. (ii) 165 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.
   Treatment 1 2 3 4 5
   Av. yield 2134 2354 2199 2386 2492
   S.E./mean = 66 lb./ac.
Crop :- Paddy (*Sali*).

Site :- Govt. Paddy Farm, Titabar.

Object :- To study the best time of application of weedicide to Paddy.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Clay loam. (b) N.A. (iii) 31.7.1958. (iv) (a) Ploughing and harrowing. (b) Transplanted. (c) N.A. (d) 10"x10". (e) 6. (v) Cowdung at 150 md./ac. (vi) *Prosad bhog*. (vii) Unirrigated. (viii) Nil. (ix) 17.63°. (x) 29.11.1958.

2. TREATMENTS and 3. DESIGN:
   Same as in exp. no. 57(51) on page 50.

4. GENERAL :
   (i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) Expt. was conducted by Mycological section.

5. RESULTS:
   (i) 2646 lb./ac. (ii) 192 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2076</td>
<td>2860</td>
<td>2557</td>
<td>2603</td>
<td>3135</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>78 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Crop :- Paddy (*Sali*).

Site :- Govt. Paddy Farm. Titabar.

Object :- To study the best time of application of weedicide to Paddy.

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Clay loam. (b) N.A. (iii) 2.9.1959. (iv) (a) Ploughing and harrowing. (b) Transplanted. (c) N.A. (d) 10"x10". (e) 6. (v) Cowdung at 150 md./ac. (vi) *Prosad bhog*. (vii) Unirrigated. (viii) Nil. (ix) 30°99". (x) 29.12.1959.

2. TREATMENTS :
   1. Control (no weeding).
   2. Local method of weeding.
   3. Post-emergence application of weedicide once.
   4. Post-emergence application of weedicide twice.
   5. Post-emergence application of weedicide once + cultural method of weeding once.
   Fernoxone 8 oz. in 60 gallons/ac. of water sprayed.

3. DESIGN :
   (i) R.B.D. (ii) (a) 6. (b) 15"x213". (iii) 6. (iv) (a) 36"x15". (b) 33"x12". (v) 1.5"x1.5". (vi) Yes.

4. GENERAL :
   (i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) Expt. was conducted by Mycological section.

5. RESULTS:
   (i) 2705 lb./ac. (ii) 129 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2067</td>
<td>2869</td>
<td>2557</td>
<td>2621</td>
<td>3148</td>
<td>2965</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>52 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Crop: Paddy (Sali).
Site: Govt. Paddy Farm, Titabar.

Object: To find out the suitable weedicide and its effective dose to control Paddy weeds.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Clay loam. (b) N.A. (iii) 27.7.1957. (iv) (a) Ploughing and laddering. (b) Transplanting. (c) N.A. (d) $10^\circ \times 10^\circ$. (e) 6. (v) N.A. (vi) Prosad bhog. (vii) Unirrigated. (viii) Nil. (x) N.A. (x) 12 and 13.12.1957.

2. TREATMENTS:
   Main-plot treatments:
   4 weedicides: $S_1$ = Fernoxone, $S_2$ = Dicotox, $S_3$ = Kathon and $S_4$ = Agroxone.
   Sub-plot treatments:
   5 doses of weedicide: $L_0$ = 0, $L_1$ = 8, $L_2$ = 12, $L_3$ = 16 and $L_4$ = 20 oz. in 60 gallons /ac. of water.

3. DESIGN:
   (i) Split-plot. (ii) (a) 4 main-plots/block; 5 sub-plots/main-plot. (b) $70^\circ \times 140^\circ$. (iii) 5. (iv) (a) $35^\circ \times 14^\circ$. (b) $33^\circ \times 12^\circ$. (v) 1' alround. (vi) Yes.

4. GENERAL:
   (i) Crop lodged just after milk stage. (ii) Nil. (iii) Grain yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) Expt. was conducted by Mycological section.

5. RESULTS:
   (i) 2471 lb./ac. (ii) (a) 149 lb./ac. (b) 175 lb./ac. (iii) Main effects of $S$ and $L$ are highly significant. Interaction is not significant. (iv) Av. yield of grain in lb./ac.

|       | $L_0$ | $L_1$ | $L_2$ | $L_3$ | $L_4$ | Mean
|-------|-------|-------|-------|-------|-------|------
| $S_1$ | 2310  | 2668  | 2585  | 2640  | 2613  | 2565 |
| $S_2$ | 2239  | 2365  | 2503  | 2503  | 2393  | 2400 |
| $S_3$ | 2305  | 2393  | 2393  | 2448  | 2448  | 2397 |
| $S_4$ | 2393  | 2503  | 2585  | 2613  | 2519  | 2522 |

Mean 2311 2482 2516 2551 2493 2471

S.E. of difference of two
1. $S$ marginal means = 42 lb./ac.
2. $L$ marginal means = 55 lb./ac.
3. $L$ means at the same level of $S$ = 111 lb./ac.
4. $S$ means at the same level of $L$ = 108 lb./ac.
4. GENERAL:
(i) Crop lodged just after milk stage. (ii) Nil. (iii) Grain yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) Expt. was conducted by Mycological section.

5. RESULTS:
(i) 2481 lb./ac. (ii) (a) 209 lb./ac. (b) 171 lb./ac. (iii) Main effects of S and L are highly significant and interaction S×L 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>L4</th>
<th>Mean</th>
</tr>
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<tbody>
<tr>
<td>S1</td>
<td>2024</td>
<td>2706</td>
<td>2816</td>
<td>3124</td>
<td>3058</td>
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<tr>
<td>S2</td>
<td>1892</td>
<td>2552</td>
<td>2310</td>
<td>2596</td>
<td>2530</td>
</tr>
<tr>
<td>S3</td>
<td>1980</td>
<td>2420</td>
<td>2244</td>
<td>2264</td>
<td>2354</td>
</tr>
<tr>
<td>S4</td>
<td>1980</td>
<td>2514</td>
<td>2574</td>
<td>2992</td>
<td>2486</td>
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<td>Mean</td>
<td>1969</td>
<td>2548</td>
<td>2486</td>
<td>2794</td>
<td>2607</td>
</tr>
</tbody>
</table>

S.E. difference of two
1. S marginal means = 59 lb./ac.
2. L marginal means = 54 lb./ac.
3. L means at the same level of S = 180 lb./ac.
4. S means at the same level of L = 113 lb./ac.

---

Crop :- Paddy (Sali).
Site :- Govt. Paddy Farm, Titabar.
Object :- To study the effective doses of various weedicides to control Paddy weeds.

1. BASAL CONDITIONS:

2. TREATMENTS:
All combinations of (1) and (2) + 2 extra treatments
(1) 4 weedicides : S1=Fernoxone, S2=Dicotox, S3=Kathon and S4=Agroxone.
(2) 3 levels of weedicide : L1=8, L2=16 and L3=24 ozs in 60 gallons/ac. of water.
2 extra treatments : T1=Control (no weeding) and T2=Local method of weeding.

3. DESIGN:
(i) R.B.D. (ii) (a) 14. (b) 15’×498’. (iii) 5. (iv) (a) 36’×15’. (b) 33’×12’. (v) 1.5’×1.5’. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1959—contd. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) Expt. was conducted by Mycological section.

5. RESULTS:
(i) 2696 lb./ac. (ii) 138 lb./ac. (iii) All effects and interactions are highly significant. (iv) Av. yield of grain in lb./ac.

\[ T_1 = 2073 \text{ lb./ac} \quad \text{and} \quad T_2 = 2898 \text{ lb./ac}. \]

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>Mean</th>
</tr>
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<tbody>
<tr>
<td>L1</td>
<td>2739</td>
<td>2585</td>
<td>2409</td>
<td>2530</td>
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<td>L2</td>
<td>2976</td>
<td>2618</td>
<td>2481</td>
<td>2986</td>
<td>2765</td>
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<tr>
<td>L3</td>
<td>3146</td>
<td>2673</td>
<td>2569</td>
<td>3058</td>
<td>2861</td>
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<tr>
<td>Mean</td>
<td>2954</td>
<td>2625</td>
<td>2486</td>
<td>2858</td>
<td>2731</td>
</tr>
</tbody>
</table>
Crop :- Paddy (Sali).
Site :- Rice Expt. Stn., Titabar.

Object :- To find out the effect of the pesticides on Paddy.

1. BASAL CONDITIONS :

2. TREATMENTS :
   1. Folidol at 30 c.c. in 30 lbs/ac. of water.
   2. Endrex at 30 c.c. in 30 lbs/ac. of water.
   3. Ekatox at 30 c.c. in 30 lbs/ac. of water.
   4. Guesarol at 1 lb. in 30 lbs/ac. of water.
   5. Hexidol at 1 lb. in 30 lbs/ac. of water.
   6. Control.

3. DESIGN :
   (i) R.B.D. (ii) (a) 6. (b) 134'×69'. (iii) 5. (iv) (a) 67'×23'. (b) 66'×22'. (v) 2'×0.5'. (vi) Yes.

4. GENERAL :
   (i) Fair. (ii) Attack of stem-borer, case-worm, grasshopper, leafhopper and bugs. Control measures as per treatments. (iii) Grain yield. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) Expt. was conducted by Entomological section.

5. RESULTS :
   (i) 2557 lb./ac. (ii) 62 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<td>Av. yield</td>
<td>2922</td>
<td>2688</td>
<td>2772</td>
<td>2334</td>
<td>2532</td>
<td>2094</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>28 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
3. DESIGN:
   (i) R.B.D. (ii) (a) 6. (b) 134'×69'. (iii) 5. (iv) (a) 67'x23'. (b) 65'x22'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Fair. (ii) Sterr-borer, case-worm, grass-hopper, leaf-hopper and rice bug are generally noticed.
   (iii) Grain yield. (iv) (a) 1958—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Nil. (vii) Expt. was conducted by Entomological section.

5. RESULTS:
   (i) 2359 lb./ac. (ii) 77 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.
   Treatment
   |   | 1  | 2  | 3  | 4  | 5  | 6  |
   |   | Av yield |   |   |   |   |   |
   |   | 2256 | 2148 | 2610 | 2826 | 2388 | 1926 |
   |   | S.E./mean | 34 lb./ac. |

Crop :- Paddy (Ahu).
Centre :- Jorhat (c.f.).
Object :-To find out the most economic and effective way of controlling weeds associated with Ahu Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Fallow. (c) Nil. (ii) Sandy loam. (iii) Cowdung at 200 mds/ac. (iv) Rangadoria.
   (v) (a) Ploughing and laddering. (b) Broadcasting. (c) N.A. (d) and (e) —. (vi) Un-irrigated. (vii) and (ix) N.A. (x) 9 to 11.7.1958.

2. TREATMENTS:
   Same as in expt. no. 57(49) on page 52.

3. DESIGN:
   (i) Split-plot. 4 main-plots/block ; 5 sub-plots/main-plot ; 5 replications. (ii) 5 blocks were selected from the agreeable cultivators in the same locality.

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

5. RESULTS:
   (i) 1261 lb./ac. (ii) (a) 282 lb./ac. (b) 209 lb./ac. (iii) Main effects of S and L are highly significant. Interaction S×L is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>L₀</th>
<th>L₁</th>
<th>L₂</th>
<th>L₃</th>
<th>Mean</th>
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<tr>
<td>S₀</td>
<td>880</td>
<td>1408</td>
<td>1265</td>
<td>1260</td>
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<td>S₁</td>
<td>770</td>
<td>990</td>
<td>935</td>
<td>1100</td>
<td>1375</td>
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<tr>
<td>S₂</td>
<td>660</td>
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<td>1090</td>
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<td>1650</td>
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<td>883</td>
<td>1100</td>
<td>1375</td>
<td>1430</td>
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<tr>
<td>Mean</td>
<td>798</td>
<td>1191</td>
<td>1466</td>
<td>1485</td>
<td>1264</td>
</tr>
</tbody>
</table>

S.E. of difference of two:
1. S marginal means = 68 lb./ac.
2. L marginal means = 66 lb./ac.
3. L means at the same level of S = 122 lb./ac.
4. S means at the same level of L = 137 lb./ac.
Object: To find out the most economic and effective way of controlling weeds associated with Ahu Paddy.

1. BASAL CONDITIONS:
   (i) (a) and (b) Potato. (c) Cowdung at 200 mds/ac. (ii) Sandy loam. (iii) Cowdung at 20 mds/ac. (iv) Rangedoria. (v) (a) Ploughing and laddering. (b) Broadcasting. (c) N.A. (d) and (e) —. (vi) 25.3.1959. (vii) Unirrigated. (viii) and (ix) N.A. (x) 5 and 6.6.1959.

2. TREATMENTS:
   Same as in exp. no. 59(53); on page 53.

3. DESIGN:
   (i) N.A. (ii) 5 blocks were selected from the same village. (iii) (a) 13’ x 11’. (b) 11’ x 9’. (iv) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) to (c) 1959—contd. (v) (a) and (b) N.A. ‘vi’ and ‘vii’ Nil.

5. RESULTS:
   (i) 1411 lb./ac. (ii) 187 lb./jac. (iii) Effects of S, L, T1 vs T2 and ‘T vs others’ are highly significant. Interaction S x L is not significant. (iv) Av. yield of grain in lb./ac. T1 = 704 lb./ac. and T2 = 1430 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
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<td>1165</td>
<td>1672</td>
<td>1474</td>
<td>1512</td>
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<td>1804</td>
<td>1386</td>
<td>1782</td>
<td>1694</td>
<td>1666</td>
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<td>Mean</td>
<td>1679</td>
<td>1181</td>
<td>1599</td>
<td>1415</td>
<td>1668</td>
</tr>
</tbody>
</table>

S.E. of S marginal mean = 48 lb./ac.
S.E. of L marginal mean = 42 lb./ac.
S.E. of body of table = 8 lb./ac.

Object: To study the effect of different fertilizers on Maize.

1. BASAL CONDITIONS:
   (i) (a) N.A. ‘b’ Cabbage. (c) A/S at 50, 100 and 150 lb./ac. Cowdung at 150 md./ac. (ii) (a) Old alluvial acidic soil. (b) N.A. (iii) 6.4.1959. (iv) (a) 5 ploughings followed by laddering. (b) Line sowing. (c) N.A. (d) 18’ x 9’. (e) 1. (v) 20 lb./ac. of N as cowdung broadcast on 4.4.1959. (vi) Local. (vii) Unirrigated. (viii) Weeding. (ix) 4.16’. (x) 31.8.1959.

2. TREATMENTS:
   4 sources of N at 40 lb./ac.: S0 = No manure (control); S1 = A/S, S2 = A/C and S3 = Urea. Super at 40 lb./ac. of P2O5 applied to treatments: S1, S2 and S3.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4; (b) 48’ x 25’. (iii) 3. (iv) (a) and (b) 25’ x 12’. (v) Nil. (vi) Yes.
4. GENERAL:
(i) Poor. (ii) Nil. (iii) Grain yield. (iv) (a) 1959—contd. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 675 lb./ac. (ii) 262 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S_0</th>
<th>S_1</th>
<th>S_2</th>
<th>S_3</th>
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</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>436</td>
<td>781</td>
<td>714</td>
<td>769</td>
</tr>
<tr>
<td>S.E./mean</td>
<td></td>
<td></td>
<td></td>
<td>151</td>
</tr>
</tbody>
</table>

Crop :- Maize.

Object :— To find out the effect of N and P on Maize.

1. BASAL CONDITIONS:
(i) (a) Potato—Maize+Soyabean—Millets—Fallow. (b) Potato. (c) F.Y.M. at 250 mds/ac. and mustard oilcake at 10 mds/ac. (ii) Sandy loam. (b) N.A. (iii) 11.5.1956. (iv) (a) Two ploughings with turn-wrest plough followed by laddering and harrowing. (b) Dibbling. (c) N.A. (d) 3' x 3'. (e) 3 seeds/hill. (v) 100 md./ac. of F.Y.M. applied in hills at the time of sowing. (vi) N.A. (vii) Unirrigated. (viii) Two intercultures. (ix) 57-57". (x) 7.11.1956.

2. TREATMENTS:
1. Control.
2. A/S at 375 lb./ac.
3. A/S at 375 lb./ac.+Super at 225 lb./ac.
Fertilizers applied at sowing.

3. DESIGN:
(i) R.B.D. (ii) (a) 3. (b) 16.5'x102'. (iii) 4. (iv) (a) and (b) 33'x16'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Satisfactory; no lodging. (ii) Nil. (iii) Yield of maize. (iv) (a) 1956—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vi) Nil.

5. RESULTS:
(i) 346.3 lb./ac. (ii) 121.1 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>282.9</td>
<td>411.5</td>
<td>344.6</td>
</tr>
<tr>
<td>S.E./mean</td>
<td></td>
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<td>60.54</td>
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</tbody>
</table>

Crop :- Maize.

Object :— To find out the effect of N and P on Maize.

1. BASAL CONDITIONS:
(i) (a) Potato—Maize+Soyabean—Millets—Fallow. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) N.A. (iii) 18.5.1957. (iv) (a) Two ploughings with turn-wrest plough followed by laddering and harrowing. (b) Dibbling. (c) N.A. (d) 3' x 3'. (e) 3. (v) 200 md./ac. of F.Y.M. applied in hills at sowing. (vi) South African "Pearl" (late). (vii) Unirrigated. (viii) Two intercultures. (ix) 57-57". (x) 7.11.1557.
2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 56.(16) on page 57.

5. RESULTS:
(i) 175.7 lb./ac. (ii) 405.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
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</tr>
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<tbody>
<tr>
<td>Av. yield</td>
<td>46.3</td>
<td>82.3</td>
<td>39.6</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>203.0 lb./ac.</td>
<td></td>
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</table>

Crop :- Maize.

Object :- To find out the effect of N and P on Maize.

1. BASAL CONDITIONS:
(i) (a) Potato—Maize+Soyabean—Millet—Fallow. (b) Potato. (c) F.Y.M. at 200 mds/ac., oikake at 5 mds/ac. and mixed fertilizer at 200 lb./ac. (ii) (a) Sandy loam. (b) N.A. (iii) 19.6.1959. (iv) (a) Ploughing and pulverising. (b) Planting in furrows. (c) 15 yr./ac. (d) 2'x1'. (e) 2. (v) F.Y.M. at 200 mds/ac. applied at sowing. (vi) Local white—round (medium). (vii) Unirrigated. (viii) Earthing up once (ix) 35-16" (x) 12.11.1959.

2. TREATMENTS:
Same as in expt. no. 56(16) on page 57.

3. DESIGN:
(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 4. (iv) (a) and (b) 20'x16'. (v) Nil. (vi) Yes.

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

5. RESULTS:
(i) 323.0 lb./ac. (ii) 207.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>153.0</td>
<td>442.0</td>
<td>374.0</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>103.7 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Maize.

Object :- To find out the effect of different nitrogenous fertilizers on Maize.

1. BASAL CONDITIONS:
(i) (a) Potato—Maize+Soyabean—Millet—Fallow. (b) Potato. (c) F.Y.M. at 250 mds/ac. and mustard oil-cake at 10 mds/ac. (ii) (a) Sandy loam. (b) N.A. (iii) 11, 12.5.1955. (iv) (a) Two ploughings with turn-wrest plough followed by laddering and harrowing. (b) Dibbling. (c) N.A. (d) 3'x3'. (e) 3. (v) 100 mds/ac. of F.Y.M. applied at sowing. (vi) Local Khasi (medium). (vii) Unirrigated. (viii) 2 inter-cultures. (ix) 95.87°. (x) 4.11.1955.

2. TREATMENTS:
1. Control.
2. A/S/N at 300 lb./ac.
3. Urea at 175 lb./ac.
Half dose applied at sowing and half at earthing up.
3. DESIGN and 4. GENERAL:
   Same as in expt. no. 56(16) on page 57.

5. RESULTS:
   (i) 857.3 lb./ac.  (ii) 342.2 lb./ac.  (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

   Treatment  | 1  | 2  | 3
   Av. yield  | 833.3 | 1069.9 | 668.7
   S.E./mean   = 171.1 lb./ac.

---

Crop :- Maize.

Object :- To find out the effect of different nitrogenous fertilizers on Maize.

1. BASAL CONDITIONS:
   (i) (a) Potato—Maize+Soyabean—Millet—Fallow.  (b) Potato.  (c) F.Y.M. at 250 mds/ac. and mustard oilcake at 10 mds/ac.  (ii) (a) Sandy loam.  (b) N.A.  (iii) 11.5.1956.  (iv) (a) Two ploughings with turn-wrest plough followed by laddering and harrowing.  (b) Dibbling.  (c) N.A.  (d) 3' x 3'.  (e) 3.  (v) Nil.  (vi) Local Khazi (medium).  (vii) Unirrigated.  (viii) Two intercultures.  (ix) 131.12'.  (x) 13.11.1956.

2. TREATMENTS:
   1. Control.
   2. Urea at 175 lb./ac.
   3. Urea at 175 lb./ac. + Super at 225 lb./ac.

3. DESIGN and 4. GENERAL:
   Same as in expt. no. 55(16) on page 58.

5. RESULTS:
   (i) 112.3 lb./ac.  (ii) 67.4 lb./ac.  (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

   Treatment  | 1  | 2  | 3
   Av. yield  | 90.0 | 90.0 | 156.9
   S.E./mean   = 33.68 lb./ac.

---

Crop :- Maize.

Object :- To find out the effect of N and P on Maize.

1. BASAL CONDITIONS:
   (i) (a) Potato—Maize+Soyabean—Millet—Fallow.  (b) Potato.  (c) F.Y.M. at 250 mds/ac. and mustard oilcake at 10 mds/ac.  (ii) (a) Sandy loam.  (b) N.A.  (iii) 11.5.1956.  (iv) (a) Two ploughings with turn-wrest plough followed by laddering and harrowing.  (b) Dibbling.  (c) N.A.  (d) 3' x 3'.  (e) 3.  (v) 100 mds/ac. of F.Y.M. applied at sowing.  (vi) Local Khazi (medium).  (vii) Unirrigated.  (viii) Two intercultures.  (ix) 131.12'.  (x) 13.11.1956.

2. TREATMENTS:
   1. Control.
   2. Urea at 175 lb./ac.
   3. Urea at 175 lb./ac. + Super at 225 lb./ac.

Fertilizers were applied at sowing.
3. DESIGN and 4. GENERAL:
Same as in expt. no. 56(16) on page 57.

5. RESULTS:
(i) 190.3 lb./ac. (ii) 82.37 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>174.9</td>
<td>231.5</td>
<td>164.6</td>
</tr>
</tbody>
</table>

S.E./mean = 41.18 lb./ac.

**Crop :- Maize.**

**Site :- Expt. Res. Stn., Upper Shillong.**

Object :-To find out the effect of N and P on Maize.

1. BASAL CONDITIONS:
(i) Potato—Maize+Soyabean—Millet—Fallow. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) N.A. (iii) 18.5.1957. (iv) (a) Two ploughings with turn-wrest plough followed by laddering and harrowing etc. (b) Hill system. (c) N.A. (d) 3'x3'. (e) 3 seeds/hill. (v) 200 md./ac. of F.Y.M. applied at sowing. (vi) South African "Pearl" [late]. (vii) Unirrigated. (viii) Two intercultures. (ix) 57.5. (x) 7.11.1957.

2. TREATMENTS:
Same as in expt. no. 56(18) on page 59.

5. RESULTS:
(i) 197.2 lb./ac. (ii) 84.72 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
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<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>133.7</td>
<td>108.0</td>
<td>349.8</td>
</tr>
</tbody>
</table>

S.E./mean = 42.36 lb./ac.

**Crop :- Maize.**

**Site :- Expt. Res. Stn., Upper Shillong.**

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

1. BASAL CONDITIONS:
(i) Potato—Maize+Soyabean—Millet—Fallow. (b) Potato. (c) F.Y.M. at 20 md./ac. and mixed fertilizer at 200 lb./ac. (ii) 'a'; Sandy loam. (b) N.A. (iii) 20.6.1959. (iv) (a) Ploughing and pulverising. (b) Planting in furrows. (c) 15 sr./ac. (d) 2'x1'. (e) 2. (v) F.Y.M. at 200 md./ac. applied at the time of sowing. (vi) Local white—round (medium). (vii) Unirrigated. (viii) Earthing up once. (ix) 35.46°. (x) 12.11.1959.

2. TREATMENTS:
Same as in expt no. 56(18) on page 59.

Fertilizers were applied at the time of earthing up.

3. DESIGN and 4. GENERAL:
Same as in expt. no. 59 (8) on page 58.

5. RESULTS:
(i) 215.3 lb./ac. (ii) 89.18 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield in grain lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
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</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>238</td>
<td>238</td>
<td>170</td>
</tr>
</tbody>
</table>

S.E./mean = 44.59 lb./ac.
Crop: Maize.  
Object: To find out the effect of different nitrogenous fertilizers on Maize.

1. BASAL CONDITIONS:
   Same as in expt. no. 55 (16) on page 58.

2. TREATMENTS:
   1. Control.
   2. C/N at 500 lb./ac.
   3. A/S/N at 300 lb./ac.
      Half dose of fertilizers was applied at sowing and half dose at the first earthing up.

3. DESIGN and 4. GENERAL:
   Same as in expt. 56(16) on page 57.

5. RESULTS:
   (i) 836.7 lb./jac.  (ii) 242.2 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>720</td>
<td>792</td>
<td>997</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>121.1 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

Crop: Maize.  
Object: To compare the effect of C/N and A/S on Maize.

1. BASAL CONDITIONS:
   (i) (a) Potato—Maize+Soyabean—Millet—Fallow.  (b) Potato.  (c) F.Y.M. at 200 md./ac. and mustard oilcake at 10 md./ac.  (ii) (a) Sandy loam.  (b) N.A.  (iii) 28.4.1954.  (iv) (a) Two ploughings with turn-wrest plough followed by laddering and harrowing.  (b) Dibbling.  (c) N.A.  (d) 3'×3'.  (e) 3 seeds/hill.  (v) Basal dressing of 200 md./ac. of F.Y.M. and 5 md./ac. of oilcake.  (vi) South African ‘Pearl’ (late).  (vii) Unirrigated.  (viii) 2 intercultures.  (ix) 103.34".  (x) 19.11.1954.

2. TREATMENTS:
   1. Control.
   2. C/N at 125 lb./ac.
   3. A/S at 100 lb./ac.
      Fertilizers were applied at the time of 1st interculturing.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 3.  (b) N.A.  (iii) 2.  (iv) (a) and (b) 33'×33'.  (v) Nil.  (vi) Yes.

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

5. RESULTS:
   (i) 1285 lb./ac.  (ii) 371.0 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>844</td>
<td>1276</td>
<td>1738</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 262.4 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop :- Maize.
Object :—To find out the effect of different nitrogenous fertilizers on Maize.

1. BASAL CONDITIONS:
   (i) a. Potato—Maize+Soyabean—Millet—Fallow. (b) Potato. (c) F.Y.M. at 250 mds/ac. and mustard oilcake at 10 mds/ac. (ii) Sandy loam. (b) N.A. (iii) 11.5.1956/N.A. (iv) (a) Two ploughings with turnrow plough followed by laddering and harrowing. (b) Dibbling. (c) N.A. (d) 3’×3’. (e) 3. (v) 100 mds/ac. of F.Y.M. was applied at the time of sowing. (vi) Local Khasi (medium). (vii) Unirrigated. (viii) 2 intercultures. (ix) 13.11.1956.

2. TREATMENTS:
   1. Control.
   2. C/N at 475 lb./ac.
   3. A/S at 375 lb./ac.
Fertilizers were applied at the time of sowing.

3. DESIGN and 4. GENERAL:
   Same as in expt. no. 56(16) on page 57.

5. RESULTS:
   (i) 138.0 lb./ac. (ii) 87.14 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

   Treatment
   Av. yield
   1  118.3
   2  169.7
   3  126.0
   S.E./mean = 43.57 lb./ac.

---

Crop :- Maize.
Object :—To find out the effect of N and P on Maize.

1. BASAL CONDITIONS:
   Same as in Expt. no. 55(17); on page 58.

2. TREATMENTS:
   1. Control.
   2. A/S/N at 300 lb./ac.
   3. A/S/N at 300 lb./ac. + 375 lb./ac. of Super.
   Half dose of fertilizers was applied at sowing and the other half at first interculture.

3. DESIGN and 4. GENERAL:
   Same as in expt. no. 56(16) on page 57.

5. RESULTS:
   (i) 1381 lb./ac. (ii) 280.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

   Treatment
   Av. yield
   1  946
   2  1255
   3  1492
   S.E. mean = 140.2 lb./ac.

---

Crop :- Maize.
Object :—To study the effect of N and P on Maize.
1. BASAL CONDITIONS:
(i) (a) Potato—Maize—Soyabean—Millet—Fallow. (b) Potato. (c) F.Y.M. at 250 mds/ac. and mustard oilcake at 10 mds/ac. (ii) Sandy loam. (b) N.A. (iii) 11.5.1956/N.A. (iv) (a) Two ploughings with turn-west plough followed by laddering and harrowing. (b) Dibbling. (c) N.A. (d) 3'x3'. (e) 3. (v) 100 mds/ac. of F.Y.M. was given at sowing. (vi) Local Khasi (medium). (vii) Unirrigated. (viii) Two intercultures. (ix) 131.12'. (x) 13.11.1956.

2. TREATMENTS:
1. Control.
2. A/S/N at 300 lb./ac.
3. A/S/N at 300 lb./ac. + Super at 225 lb./ac.
Fertilizers were applied at sowing.

3. DESIGN and 4. GENERAL:
Same as in exp. no. 56 (16) on page 57.

5. RESULTS:
(i) 1029 lb./ac. (ii) 270.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Crop => Maize.

Object => To find out the effect of N and P on Maize.

1. BASAL CONDITIONS:
(i) (a) Potato—Maize—Soyabean—Millet—Fallow. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) N.A. (iii) 18.5.1957/N.A. (iv) (a) Two ploughings with turn-west plough, followed by laddering, harrowing, etc. (b) Dibbling. (c) N.A. (d) 3'x3'. (e) 3. (v) 200 mds/ac. of F.Y.M. applied at sowing. (vi) South African 'Pearl' (late). (vii) Unirrigated. (viii) Two intercultures. (ix) 57.57'. (x) 7.11.1957.

2. TREATMENTS:
Same as in exp. no. 56(15) on page 62.

3. DESIGN and 4. GENERAL:
Same as in exp. no. 56(16) on page 57.

5. RESULTS:
(i) 1029 lb./ac. (ii) 270.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

Crop => Maize.

Object => To find out the effect of mixed fertilizers on Maize.

1. BASAL CONDITIONS:
Same as in exp. no. 56(15) on page 62.
2. TREATMENTS:
   1. Control.
   2. Mixed fertilizer at 625 lb./ac.
   3. Mixed fertilizer at 940 lb./ac.

3. DESIGN:
   (i) R.B.D. (a) 4: (b) 135' x 16.5'. (iii) 4. (iv) (a) and (b) 33' x 16.5'. (v) Nil. (vi) Yes.

4. GENERAL:
   Same as in exp. no. 57(8) on page 63.

5. RESULTS:
   (i) 187.7 lb./ac. (ii) 103.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.
   Treatment | 1  | 2  | 3  | 4  | Mean | S.E./mean
             | 181 | 201 | 181 | 121 | 181  | 360.2 lb./ac.

---

**Crop:** Maize.  
**Site:** Expt. Res. Stn., Upper Shillong.  
**Object:** To study the effect of mixed fertilizers combined with Mur. Pot. on Maize.

---

**Crop:** Maize.  
**Site:** Expt. Res. Stn., Upper Shillong.  
**Object:** To study the effect of mixed fertilizer and Mur. Pot. on the yield of Maize.

---

1. BASAL CONDITIONS:
   Same as in exp. no 57(8) on page 63.

2. TREATMENTS:
   1. Control.
   2. Mixed fertilizer at 625 lb./ac.
   3. Mixed fertilizer at 940 lb./ac.
      Fertilizers applied at the time of sowing.

3. DESIGN to 4. GENERAL:
   Same as in exp. no. 56(17) on page 63.

5. RESULTS:
   (i) 1728 lb./ac. (ii) 720.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.
   Treatment | 1  | 2  | 3  | 4  | Mean | S.E./mean
             | 181 | 201 | 181 | 121 | 181  | 360.2 lb./ac.

---

**Crop:** Maize.  
**Site:** Expt. Res. Stn., Upper Shillong.  
**Object:** To study the effect of mixed fertilizer on the yield of Maize.

---

1. BASAL CONDITIONS:
   (i) (a) Potato-Maize+Soyabean—Millet—Fallow. (b) Potato. (c) F.Y.M. at 200 md./ac. and mixed fertilizer at 200 lb./ac. (ii) a) Sandy loam. (b) N.A. (iii) 20.6.1959. (iv) (a) Ploughing and pulverising. (b) Furrow planting. (c) 15 srs./ac. (d) 2 x1' (e) 2. (v) F.Y.M. at 200 md./ac. applied at time of sowing. (vi) Local, white round (medium). (vii) Unirrigated. (viii) Earthing up once and weeding. (ix) 35.46'. (x) 12.11. 1959.
2. TREATMENTS:
   1. Control.
   2. Mixed fertilizer at 625 lb./ac.
   3. Mixed fertilizer at 940 lb./ac.
   Fertilizers were applied at the time of earthing up.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) and (b) 20' x 16'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Poor. (ii) No. (iii) Grain yield. (iv) (a) 1958–1959 (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 187 lb./ac. (ii) 68 lb./ac. (iii) Treatment differences are not significant (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>119</td>
<td>187</td>
<td>170</td>
<td>272</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 34.0 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. BASAL CONDITIONS:
   (i) (a) Potato—Maize+Soyabean—Millet—Fallow. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) N.A. (iii) 18.5.1957. (iv) (a) Two ploughings with turn-wrest plough followed by laddering, harrowing etc. (b) Dibbling. (c) N.A. (d) 3'×3'. (e) 3 seeds/hill. (v) Nil. (vi) South African Pearl. (late). (vii) Unirrigated. (viii) Two intercultures. (ix) 57.57°. (x) 7.11.1957.

2. TREATMENTS:
   1. A/S at 600 lb./ac.
   2. A/S/N at 470 lb./ac.
   3. Urea at 275 lb./ac.
   4. Nitrolime at 750 lb./ac.

Fertilizers were applied at the time of sowing.

3. DESIGN and 4. GENERAL:
   Same as in expt. no. 56(17) on page 63.

5. RESULTS:
   (i) 71.58 lb./ac. (ii) 88.59 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

   Treatment 1 2 3 4
   Av. yield 41.2 33.4 174.9 48.9
   S.E./mean = 44.29 lb./ac.

---

Crop :- Maize.

Object :- To find out the effect of mixed fertilizers on the yield of Maize.

1. BASAL CONDITIONS:
   (i) (a) Potato—Maize+Soyabean—Millet—Fallow. (b) Potato. (c) F.Y.M. at 250 mds/ac. and mustard oil cake at 10 mds/ac. (ii) (a) Sandy loam. (b) N.A. (iii) 11, 12.5.1955. (iv) (a) Two ploughings with turn-wrest plough followed by laddering and harrowing. (b) Dibbling. (c) N.A. 'd', 3'×3'. (e) 3 seeds/hill. (v) 100 mds/ac. of F.Y.M. was applied at sowing. (vi) Local Khasi (medium). (vii) Unirrigated. (viii) Two intercultures. (ix) 95.87°. (x) 4.11.1955.

2. TREATMENTS:
   1. Control.
   2. Mixed fertilizer at 300 lb./ac.
   3. Mixed fertilizer at 450 lb./ac.

Half dose of fertilizers applied at sowing and half at first earthing up.

3. DESIGN and 4. GENERAL:
   Same as in expt. no. 56 (17) on page 63.

5. RESULTS:
   (i) 132.4 lb./ac. (ii) 281.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

   Treatment 1 2 3
   Av. yield 1152 1265 1553
   S.E./mean = 140.5 lb./ac.

---

Crop :- Maize.

Object :- To study the effect of A/S/N and Super on Maize.
1. BASAL CONDITIONS:
   (i) (a) Potato—Maize—Soyabean—Millet—Fallow. (b) Potato. (c) F.Y.M. at 200 mds/ac., oilcake at 5 mds/ac. and mixed fertilizer at 200 lbs/ac. (ii) Sandy loam. (b) N.A. (iii) 19.6.1959. (iv) (a) Ploughing and pulverising. (b) Furrow planting. (c) 15 srs/ac. (d) 2'×1'. (e) 2 seeds/hole. (v) F.Y.M. at 200 mds/ac. applied at the time of sowing. (vi) Local, white round (medium). (vii) Unirrigated. (viii) Earthing up once and weeding. (ix) 35.17'. (x) 12.11.1959.

2. TREATMENTS:
   1. Control.
   2. A/S at 300 lbs/ac.
   3. A/S at 300 lbs/ac. + Super at 225 lb/ac. Fertilizers were applied at the time of earthing up.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 4. (iv) (a) and (b) 20'×16'. (v) No. (vi) Yes.

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

5. RESULTS:
   (i) 396.7 lb/ac. (ii) 136.0 lb/ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>374</td>
<td>442</td>
<td>374</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>680 lb/ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Maize (Kharif).
Centre :- Jorhat (c.f.).
Ref :- As. 59(46).
Type :- 'D'.

Object :- To find out the most economic and effective way of controlling weeds of Maize.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Potato. (c) Cowdung at 200 mds/ac. (ii) Sandy loam. (iii) Cowdung at 200 mds/ac. (iv) Local. (v) (a) Ploughing and laddering. (b) Dibbling. (c) to (e) N.A. (vi) 28.3.1959. (vii) Unirrigated. (viii) and (ix) N.A. (x) 13 to 15.6.1959.

2. TREATMENTS:
   All combinations of (1) and (2)+2 extra treatments.
   (1) 4 weedicides : S₁=Fernoxone, S₂=Dicotox, S₃=Kathon and S₄=Agroxone.
   (2) 3 levels of weedicides : L₁=8, L₂=16 and L₃=24 oz./ac. dissolved in 60 gallons of water and sprayed.
   Extra treatment : T₁=Control (no weeding) and T₂=Local method of weeding (cultural).

3. DESIGN:
   (i) and (ii) 5 block of 14 plots each were selected from the agreeable cultivators in the same locality. (iii) (a) 13'×13'. (b) 11'×11'. (iv) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Grain yield. (iv) (a) 1959—contd. (b) and (c) No. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 548 lb/ac. (ii) 94 lb/ac. (iii) Main effects of S and L and T₁ vs T₂ are highly significant. Others are not significant. (iv) Av. yield of grain in lb/ac.
68

\[ T_1 = 270 \text{ lb./ac. and } T_2 = 792 \text{ lb./ac.} \]

<table>
<thead>
<tr>
<th></th>
<th>S_1</th>
<th>S_2</th>
<th>S_3</th>
<th>S_4</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>L_1</td>
<td>540</td>
<td>360</td>
<td>405</td>
<td>360</td>
<td>416</td>
</tr>
<tr>
<td>L_2</td>
<td>630</td>
<td>360</td>
<td>540</td>
<td>405</td>
<td>484</td>
</tr>
<tr>
<td>L_3</td>
<td>900</td>
<td>630</td>
<td>723</td>
<td>765</td>
<td>754</td>
</tr>
</tbody>
</table>

Mean: 690 450 555 510 = 551

S.E. of S marginal mean = 24.27 lb./ac.
S.E. of L marginal mean = 21.02 lb./ac.
S.E. of body of table = 42.01 lb./ac.

---

**Crop:** Matikalai *(Rabi).*

**Site:** Govt. Agri. Farm, Jorhat.

**Ref:** As. 58(34).

**Type:** 'M'.

**Object:** To study the effect of N applied to Matikalai on acid soils.

1. **BASAL CONDITIONS:**

   (i) a) N.A. (b) Abu paddy. (c) 100 md./ac. of cowdung+40 lb./ac. of P_2O_5. (ii) (a) Old alluvial acid soil. (b) N.A. (iii) 15.9.1958. (iv) (a) 4 ploughings followed by laddering. (b) Broadcasting. (c) 10 yrs/ac. (d) and (e) N.A. (v) 125 md./ac. of cowdung. (vi) Local (early). (vii) Unirrigated. (viii) 1 weeding. (ix) 0.83w. (x) 20.12.1958.

2. **TREATMENTS:**

   All combinations of (1) and (2)

   (1) 3 levels of N as cowdung: N_0 = 0, N_1 = 40 and N_2 = 60 lb./ac.

   (2) 3 levels of P_2O_5 as Triple Super: P_0 = 0, P_1 = 40 and P_2 = 60 lb./ac.

3. **DESIGN:**

   (i) R.B. D Fact. (ii) 9. (b) 44’X17’. (iii) 4. (iv) (a) 44’X13’. (b) 40’X11’. (v) 2’X1’. (vi) Yes.

4. **GENERAL:**

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

5. **RESULTS:**

   (i) 318 lb./ac. (ii) 96 lb./ac. (iii) N effect is highly 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>
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<td>N_0</td>
<td>186</td>
<td>313</td>
<td>248</td>
<td>249</td>
</tr>
<tr>
<td>N_1</td>
<td>334</td>
<td>291</td>
<td>344</td>
<td>323</td>
</tr>
<tr>
<td>N_2</td>
<td>297</td>
<td>359</td>
<td>492</td>
<td>383</td>
</tr>
</tbody>
</table>

Mean: 272 321 361 = 318

S.E. of N or P marginal mean = 27.71 lb./ac.
S.E. of body of table = 48.00 lb./ac.

---

**Crop:** Matikalai *(Rabi).*

**Site:** Govt. Agri. Farm, Jorhat.

**Ref:** As. 59(31).

**Type:** 'M'.

**Object:** To study the effect of Nitrogen applied to Matikalai on acid soils.
1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Ahu Paddy. (c) 100 md/ac. of cowdung+40 lb/ac. of P₂O₅. 
   (ii) (a) Old alluvial acid soil. (b) N.A. (iii) 14.10.1959. (iv) (a) 4 ploughings 
   followed by laddering. (b) Broadcasting. (c) 10 sn/ac. (d) and (e) N.A. (v) 125 md/ac. of cowdung. 

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 58(34) on page 68.

3. RESULTS:
   (i) 78 lb/ac. (ii) 24 lb/ac. (iii) Main effect of P is highly significant. Interaction N×P is significant. (iv) 
   Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th></th>
<th>P₀</th>
<th>P₁</th>
<th>P₂</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₀</td>
<td>32</td>
<td>64</td>
<td>168</td>
<td>88</td>
</tr>
<tr>
<td>N₁</td>
<td>41</td>
<td>63</td>
<td>92</td>
<td>65</td>
</tr>
<tr>
<td>N₂</td>
<td>45</td>
<td>60</td>
<td>136</td>
<td>80</td>
</tr>
<tr>
<td>Mean</td>
<td>39</td>
<td>62</td>
<td>132</td>
<td>78</td>
</tr>
</tbody>
</table>

S.E. of N or P marginal mean = 6.9 lb/ac.
S.E. of body of table = 12.0 lb/ac.

Crop: Potato (Rabi).
Site: Govt. Agri. Farm, Jorhat.
Object: To study the effect of N, P and K on Potato.

1. BASAL CONDITIONS:
   (i) (a) and (b) Maize. (c) 20 lb/ac. of N as cowdung+40 lb/ac. of P₂O₅ as Super+40 lb/ac. of N as 
   A/S, A/C and Urea. (ii) (a) Old alluvial acid soil. (b) N.A. (iii) 11.11.1959. (iv) (a) 5 ploughings 
   followed by laddering. (b) Sown in lines. (c) N.A. (d) 24" x 6'. (e) 1. (v) 60 lb/ac. of N as cowdung 
   broadcast on 10.11.1959. (vi) Local. (vii) Unirrigated. (viii) Hoeing and earthing twice. (ix) 1.26'. 
   (x) 27.2.1960 to 3.3.1960.

TREATMENTS:
4 manurial treatments: T₀=Control, T₁=50 lb/ac. of N as A/S+50 lb/ac. of P₂O₅ as Triple Super+50 
lb/ac. of K₂O as Mur. Pot., T₂=75 lb/ac. of N as A/S+75 lb/ac. of P₂O₅ as Triple Super+75 lb/ac. of K₂O as Mur. Pot. and 
T₃=100 lb/ac. of N as A/S+75 lb/ac. of P₂O₅ as Triple Super+100 lb/ac. of K₂O as Mur. Pot.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) 48' x 25'. (iii) 3. (iv) (a) and (b) 25' x 12'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) Nil. (iii) Yield of potato. (iv) (a) 1959—contd. (b) Yes. (c) Nil. (v) (a) and (b) Nil. 
   (vi) and (vii) Nil.

5. RESULTS:
   (i) 6501 lb/ac. (ii) 587 lb/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of potato 
   in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T₀</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>Av. yield</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6921</td>
<td>11162</td>
<td>9848</td>
<td>10071</td>
<td>S.E./Mean</td>
</tr>
</tbody>
</table>

Ref: As. 59(33).
Type: 'M'.
Crop :- Potato (Rabi).

Site :- Agri. College, Jorhat.

Object :- To find out suitable fertilizers for Potato.

1. BASAL CONDITIONS:
   (i) (a) and (b) G.M. (c) Nil. (ii) (a) Sandy loam. (b) pH-4.5. (iii) 29.10.1958. (iv) (a) 1 ploughing with tractor followed by 3 ploughings with desi plough and laddering. (b) Dibbling. (c) 820 lb./ac. (d) $2' \times 1'$. (e) 1. (v) 200 md./ac. of cowdung+T.C. at 70 lb./plot+1-Mustard oilcake at 1.5 lb./plot. (vi) Local Khasi. (vii) Irrigated. (viii) 1 hoeing and 1 earthing. (ix) N.A. (x) 672.1959.

2. TREATMENTS:
   All combinations of (1), (2) and (3)
   (1) 3 levels of N as A/S: N$0$=0, N$_1$=60 and N$_2$=120 lb./ac.
   (2) 3 levels of P$_{2O_5}$ as Super: P$_0$=0, P$_1$=30 and P$_2$=60 lb./ac.
   (3) 3 levels of K$_2O$ as Pot. Sul.: K$_0$=0, K$_1$=40 and K$_2$=80 lb./ac.

3. DESIGN:
   (i) $3^2$ confd. Fact. (ii) 9. (b) $22' \times 81'$. (iii) 4. (iv) (a) and (b) $22' \times 89'$. (v) No. (vi) Yes.

4. GENERAL:
   Normal. (ii) Perenox sprayed to prevent blight. (iii) Yield of potato. (iv) (a) No. (b) and (c) Nil. (v) (‘a’ and (b) N.A. (vi) and (vii) N.A.

5. RESULTS:
   (i) 6702 lb./ac. (ii) 1245 lb./ac. (iii) Only K effect is significant. (iv) Av. yield of potato in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>P$_0$</th>
<th>P$_1$</th>
<th>P$_2$</th>
<th>Mean</th>
<th>K$_0$</th>
<th>K$_1$</th>
<th>K$_2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>N$_0$</td>
<td>6194</td>
<td>6606</td>
<td>6526</td>
<td>6442</td>
<td>5889</td>
<td>6774</td>
<td>6664</td>
</tr>
<tr>
<td>N$_1$</td>
<td>6882</td>
<td>6632</td>
<td>7065</td>
<td>6859</td>
<td>6810</td>
<td>7526</td>
<td>6242</td>
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<tr>
<td>N$_2$</td>
<td>6025</td>
<td>7122</td>
<td>7264</td>
<td>6804</td>
<td>6723</td>
<td>7173</td>
<td>6515</td>
</tr>
<tr>
<td>Mean</td>
<td>6367</td>
<td>6787</td>
<td>6952</td>
<td>6702</td>
<td>6474</td>
<td>7157</td>
<td>6474</td>
</tr>
<tr>
<td>K$_0$</td>
<td>5896</td>
<td>6883</td>
<td>6643</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K$_1$</td>
<td>6785</td>
<td>7250</td>
<td>7436</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K$_2$</td>
<td>6419</td>
<td>6226</td>
<td>6776</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 207.5 lb./ac.
S.E. of body of any table = 359.4 lb./ac.

---

Crop :- Potato.


Object :- To find out the effect of A/S/N and Super on Potato crop.

1. BASAL CONDITIONS:
   (i) (a) Potato—Maize+Soyabeen—Millet—Fallow. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) N.A. (iii) 13.4.1955 (iv) (a) Two ploughings with turn-wrest plough followed by laddering, harrowing. (b) Planting in furrows. (c) N.A. (d) $2' \times 1'$. (e) N.A. (v) F.Y.M. at 100 md/ac. was applied at the time of planting. (vi) Up-to-date (medium). (vii) Unirrigated. (viii) Two intercultures. (ix) 93.9’. (x) 6.10.1955.

2. TREATMENTS:
   T$_0$—Control.
   T$_1$—300 lb./ac. of A/S/N.
   T$_2$—300 lb./ac. of A/S/N + 375 lb./ac. of Super.
   Fertilizers were applied at the time of planting.
3. DESIGN:
(i) R.B.D.  (ii) (a) 3. (b) N.A.  (iii) 4.  (iv) (a) and (b) 33'×16.5'.  (v) Nil.  (vi) Yes.

4. GENERAL:
(i) No lodging.  (ii) Late blight, two sprayings given during the growth period with perenox.  (iii) Yield of potato. (iv) (a) and (b) No.  (v) Nil.  (v) (a) and (b) N.A.  (vi) and (vii) Nil.

5. RESULTS:
(i) 2016 lb./ac.  (ii) 381.1 lb./ac.  (ii) Treatment differences are highly significant.  (iv) Av. yield of potato in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T₀</th>
<th>T₁</th>
<th>T₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1993</td>
<td>1646</td>
<td>3210</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>190.6 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Crop :- Potato.**  
**Site :- Expt. Res. Stn., Upper Shillong.**  
**Ref :- As. 56(20).**  
**Type :- 'M'.**

Object:—To find out the effect of different nitrogenous fertilizers with and without Super on Potato.

1. BASAL CONDITIONS:
(i) (a) Potato—Maize+Soyabean—Millet—Fallow. (b) Fallow. (c) Nil.  (ii) (a) Sandy loam. (b) N.A.  (iii) 31.3.1956.  (iv) (a) Two ploughings with turn-wrest plough followed by laddering and harrowing. (b) In furrows.  (c) N.A.  (d) 2'×1'.  (e) N.A.  (v) 100 md./ac. of F.Y.M. was applied to all the plots in furrows at the time of planting. (vi) Arran consul (late). (vii) Unirrigated. (viii) One interculture. (ix) 160.21°.  (x) 17.10.1956.

2. TREATMENTS:
T₀=Control.  
T₁=300 lb./ac. of A/S/N.  
T₂=300 lb./ac. of A/S/N+225 lb./ac. of Super.  
Fertilizers were applied at the time of planting.

3. DESIGN:
(i) R.B.D.  (ii) (a) 3. (b) N.A.  (iii) 4.  (iv) (a) and (b) 33'×16.5'.  (v) Nil.  (vi) Yes.

4. GENERAL:
(i) No lodging.  (ii) Late blight—one spraying was given with Copper oxychloride.  (iii) Yield of potato. (iv) (a) and (b) No.  (v) Nil.  (v) (a) and (b) N.A.  (vi) and (vii) Nil.

5. RESULTS:
(i) 219.5 lb./ac.  (ii) 38.79 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of potato in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T₀</th>
<th>T₁</th>
<th>T₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>205.8</td>
<td>205.8</td>
<td>246.9</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>19.39 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Crop :- Potato.**  
**Site :- Expt. Res. Stn., Upper Shillong.**  
**Ref :- As. 57(15).**  
**Type :- 'M'.**

Object:—To find out the effect of different nitrogenous fertilizers with and without Super on Potato.

1. BASAL CONDITIONS:
(i) (a) Potato—Maize+Soyabean—Millet—Fallow. (b) Fallow. (c) Nil.  (ii) (a) Sandy loam. (b) N.A.  (iii) 16.4.1957.  (iv) (a) Two ploughings with turn-wrest plough fallowed by laddering and harrowing. (b) Planting in furrows.  (c) 306 tubers/plot. (d) 2'×1'.  (e) N.A.  (v) 200 md./ac. of F.Y.M. applied at the time of planting. (vi) Inverness Favourite (medium). (vii) Unirrigated. (viii) One interculture. (ix) 60.00°.  
(x) 14.10.1957.
2. TREATMENTS:
Same as in expt. no. 56(20) on page 71.

3. DESIGN:
(i) R.B.D. (ii) a) 3. (b) 16.5'×102'. (iii) 4. (iv) (a) and (b) 33'×16.5'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) No lodging. (ii) Late blight—one spraying was done with N.C.C. fungicide. (iii) Yield of potato. (iv) (a) to c, No. (v) (a, and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 753.9 lb./ac. (ii) 171.3 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of potato in lb.ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T_0</th>
<th>T_1</th>
<th>T_2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>452.6</td>
<td>493.8</td>
<td>1316.8</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>85.65 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Crop:** Potato (Kharif).  
**Site:** Expt. Res. Stn., Upper Shillong.  
**Object:** To study the effect of different nitrogenous fertilizers with and without Super on Potato.

---

1. BASAL CONDITIONS:
(i) (a) Potato—Maize+Soyabean—Millet—Fallow. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) N.A. (iii) 31.3.1958. (iv) (a) Ploughing and pulverising. (b) Furrow planting. (c) 20 md./ac. (d) 2'×1'. (e) 1/200 md./ac. of F.Y.M. applied in furrows at the time of planting. (v) Local Khasi (medium). (vii) Unirrigated. (viii) Weeding and earthing twice. (ix) 47.47'. (x) 10.11.1958.

2. TREATMENTS:
Same as in expt. no. 56(20) on page 71.

3. DESIGN:
(i) R.B.D. (ii) a) 3. (b) N.A. (iii) 4. (iv) (a) and (b) 12'×10'. (v) No. (vi) Yes.

4. GENERAL:
(i) Not good. (ii) Affected by late blight; Copper oxychloride sprayed twice. (iii) Yield of potato. (iv) (a) 1958-1959. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 3569 lb./ac. (ii) 1009 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of potato in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T_0</th>
<th>T_1</th>
<th>T_2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>907</td>
<td>4719</td>
<td>5082</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>504.6 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Crop:** Potato (Kharif).  
**Site:** Expt. Res. Stn., Upper Shillong.  
**Object:** To study the effect of different nitrogenous fertilizers with and without Super on Potato.

---

1. BASAL CONDITIONS:
(i) (a) Potato—Maize+Soyabean—Millet—Fallow. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) N.A. (iii) 15.4.1959. (iv) (a) Ploughing and pulverising. (b) In furrows. (c) 20 md./ac. (d) 2'×1'. (e) 1 tuber/hole. (f) 200 md./ac. of F.Y.M. applied in furrows at the time of planting seed tubers. (g) Up-to-date (medium). (h) Unirrigated. (i) Weeding and earthing once. (j) 58.06'. (k) 13.11.1959.
2. TREATMENTS:

Same as in expt. no. 56 (20) on page 71.

3. DESIGN:

(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 4. (iv) (a) and (b) 20'×16'. (v) No. (vi) Yes.

4. GENERAL:

(i) Most of the plants died due to continuous rain fall. (ii) Affected by late blight and other virus diseases; Copper oxychloride sprayed once. (iii) Yield of potato. (iv) (a) 1958—1559. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

(i) 58.37 lb./ac. (ii) 7.89 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of potato in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$T_0$</th>
<th>$T_1$</th>
<th>$T_2$</th>
<th>$T_3$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>55.42</td>
<td>55.76</td>
<td>63.92</td>
<td></td>
</tr>
</tbody>
</table>

S.E./mean = 3.95 lb./ac.

Crop :- Potato.  

Ref :- As. 58(18).  
Type :- 'M'.

Object :- To study the effect of different doses of mixed fertilizers, alone and in combination with Potash on Potato.

1. BASAL CONDITIONS:

(i) to (ix) Same as in expt. no. 58(13) on page 72. (x) 14.11.1958.

2. TREATMENTS:

$T_0$ = Control.  
$T_1$ = 625 lb./ac. of mixed fertilizers.  
$T_2$ = 940 lb./ac. of mixed fertilizers.  
$T_3$ = 625 lb./ac. of mixed fertilizers + 200 lb./ac. of Mur. of Pot.

3. DESIGN:

(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) and (b) 12'×10'. (v) No. (vi) Yes.

4. GENERAL:

Same as in expt. no. 58(13) on page 72.

5. RESULTS:

(i) 4220 lb./ac. (ii) 838 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of potato in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$T_0$</th>
<th>$T_1$</th>
<th>$T_2$</th>
<th>$T_3$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1634</td>
<td>5264</td>
<td>5264</td>
<td>4719</td>
</tr>
</tbody>
</table>

S.E./mean = 419 lb./ac.

Crop :- Potato (Kharif).  

Ref :- As. 59(4).  
Type :- 'M'.

Object :- To study the effect of mixed fertilizers in different doses and in combination with Potash on Potato.

1. BASAL CONDITIONS:

(i) to (ix) Same as in expt. no. 59(2) on page 72. (x) 14.11.1959.

2. TREATMENTS:

Same as in expt. no. 58(18) above.
3. DESIGN:
(i) R.B.D. (ii) [a] 4. (b) N.A. (iii) 4. (iv) (a) and (b) 20' x 16'. (v) No. (vi) Yes.

4. GENERAL:
Same as in expt. no. 59(2) on page 72.

5. RESULTS:
(i) 91.89 lb./ac. (ii) 19.72 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of potato in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$T_0$</th>
<th>$T_1$</th>
<th>$T_2$</th>
<th>$T_3$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>98.26</td>
<td>102.68</td>
<td>85.34</td>
<td>81.26</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>9.86 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Crop:** Potato.  
**Site:** Expt. Res. Stn., Upper Shillong.

Object:—To find out the effect of A/S and Super on the yield of Potato.

1. **BASAL CONDITIONS:**
Same as in expt. no. 56(20) on page 71.

2. **TREATMENTS:**
$T_0$ = Control.  
$T_1$ = 375 lb./ac. of A/S.  
$T_2$ = 375 lb./ac. of A/S + 225 lb./ac. of Super.
Fertilizers were applied at the time of planting.

3. **DESIGN and 4. GENERAL:**
Same as in expt. no. 56(20) on page 71.

5. **RESULTS:**
(i) 164.6 lb./ac. (ii) 83.43 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of potato in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$T_0$</th>
<th>$T_1$</th>
<th>$T_2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>164.6</td>
<td>144.0</td>
<td>185.2</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>41.72 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Crop:** Potato.  
**Site:** Expt. Res. Stn., Upper Shillong.

Object:—To find out the effect of A/S and Super on the yield of Potato.

1. **BASAL CONDITIONS:**
Same as in expt. no. 57(15) on page 71.

2. **TREATMENTS:**
Same as in expt. no. 56(22) above.

3. **DESIGN and 4. GENERAL:**
Same as in expt. no. 57(15) on page 71.

5. **RESULTS:**
(i) 548.7 lb./ac. (ii) 155.1 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of potato in lb./ac.
Crop :- Potato *(Kharif).*

Object :- To study the effect of A/S alone and with Super on the yield of Potato.

1. BASAL CONDITIONS :
   Same as in expt. no. 58 (13) on page 72.

2. TREATMENTS :
   Same as in expt. no. 56 (22) on page 74.

3. DESIGN and 4. GENERAL :
   Same as in expt. no. 58 (13) on page 72.

5. RESULTS :
   (i) 2601 lb./ac.  (ii) 838 lb./ac.  (iii) Treatment differences are significant.  (iv) Av. yield of potato in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T₀</th>
<th>T₁</th>
<th>T₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1633.5</td>
<td>2541.0</td>
<td>3630.0</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>419 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Potato *(Kharif).*

Ref :- As. 58 (14).
Type :- 'M'.

Object :- To study the effect of A/S alone and with Super on the yield of Potato.

1. BASAL CONDITIONS :
   Same as in expt. no. 58 (13) on page 72.

2. TREATMENTS :
   Same as in expt. no. 56 (22) on page 74.

3. DESIGN and 4. GENERAL :
   Same as in expt. no. 58 (13) on page 72.

5. RESULTS :
   (i) Very poor. Most of the plants died due to continuous rainfall.  (ii) Late blight. Copper oxychloride sprayed once.  (iii) Potato yield.  (iv) (a) 1958—1959.  (b) No.  (c) Nil.  (v) (a) and (b) N.A.  (vi) and (vii) Nil.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T₀</th>
<th>T₁</th>
<th>T₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>119.0</td>
<td>59.5</td>
<td>85.0</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>13.87 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop :- Potato.  Ref :- As. 56(21).
Site :- Expt. Res. Stn., Upper Shillong.  Type :- 'M'.

Object :- To find out the effect of nitrogenous and phosphatic fertilizers on the yield of Potato.

1. BASAL CONDITIONS :
   (i) (a) Potato—Maize+Soyabean—Millet—Fallow. (b) Fallow. (c) Nil.  (ii) (a) Sandy loam. (b) N.A.  (iii) 31.3.1956.  (iv) (a) 2 ploughings with turn-wrest plough followed by laddering and harrowing. (b) and (c) N.A.  (d) 2' x 1'. (e) N.A.  (v) 100 md./ac. of F.Y.M. applied in furrows at the time of planting. (vi) Arran consul (late). (vii) Unirrigated. (viii) 1 interculturing. (ix) 140.21'. (x) 17.10.1956.

2. TREATMENTS :
   T1 = Control.  
   T2 = 175 lb./ac. of Urea.  
   T3 = 175 lb./ac. of Urea+225 lb./ac. of Super.

   Fertilizers were applied at the time of planting.

3. DESIGN :
   (i) R.B.D.  (ii) 3.  (b) N.A.  (iii) 4.  (iv) (a) and (b) 33'x16.5'.  (v) Nil.  (vi) Yes.

4. GENERAL :
   (i) No lodging.  (ii) Late blight; one spraying was given with copper oxychloride.  (iii) Yield of potato.  (iv) (a) and (b) No.  (c) Nil.  (v) 'A' and 'B' N.A.  (vi) and (vii) Nil.

5. RESULTS :
   (i) 137.2 lb./ac.  (ii) 57.79 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of potato in lb./ac.

   Treatment  T1  T2  T3  
   Av. yield  102.9  102.9  205.7
   S.E./mean = 28.89 lb./ac.

Crop :- Potato.  Ref :- As. 57(13).
Site :- Expt. Res. Stn., Upper Shillong.  Type :- 'M'.

Object :- To find out the effect of different nitrogenous and phosphatic fertilizers on the yield of Potato.

1. BASAL CONDITIONS :
   (i) (a) Potato—Maize+Soyabean—Millet—Fallow. (b) Fallow. (c) Nil.  (ii) (a) Sandy loam. (b) N.A.  (iii) 16.4.1957.  (iv) (a) Two ploughings with turn-wrest plough followed by laddering, harrowing, etc. (b) Planting in furrows. (c) 306 tubers/plot. (d) 2'x1'. (e) N.A.  (v) F.Y.M. at 200 mds./ac. applied in furrows at the time of planting. (vi) Inverness favourite (medium). (vii) Unirrigated. (viii) 1 interculturing. (ix) 60'. (x) 14.10.1957.

2. TREATMENTS :
   Same as in expl. no. 56(21) above.

3. DESIGN :
   (i) R.B.D.  (ii) 3.  (b) 16.5'x102'.  (iii) 4.  (iv) (a) and (b) 33'x16.5'.  (v) Nil.  (vi) Yes.

4. GENERAL :
   (i) No lodging.  (ii) Late blight; one spraying was given with N.C.C. fungicide.  (iii) Yield of potato.  (iv) (a) and (b) No.  (c) Nil.  (v) 'A' and 'B' N.A.  (vi) and (vii) Nil.

5. RESULTS :
   (i) 425.2 lb./ac.  (ii) 164.6 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of potato in lb./ac.
Crop :- Potato.


Object :- To study the effect of nitrogenous and phosphatic fertilizers on the yield of Potato.

1. BASAL CONDITIONS :
   (i) to (ix) Same as in expt. no. 58(13) on page 72. (x) 11.11.1958.

2. TREATMENTS :
   Same as in expt. no. 56(21) on page 76.

3. DESIGN and 4. GENERAL :
   Same as in expt. no. 58(13) on page 72.

5. RESULTS :
   (i) 4416 lb./ac. (ii) 1016 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of potato in lb./ac.

Treatment

<table>
<thead>
<tr>
<th>T&lt;sub&gt;1&lt;/sub&gt;</th>
<th>T&lt;sub&gt;2&lt;/sub&gt;</th>
<th>T&lt;sub&gt;3&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>2178</td>
<td>5808</td>
<td>5263</td>
</tr>
</tbody>
</table>

S.E./mean = 508 lb./ac.

Crop :- Potato (Kharif).


Object :- To study the effect of nitrogenous fertilizers on the yield of Potato.

BASAL CONDITIONS :
   (i) to (ix) Same as in expt. no. 59(2) on page 72. (x) 14.11.1959.

2. TREATMENTS :
   Same as in expt. no. 56(21) on page 76.

3. DESIGN and 4. GENERAL :
   Same as in expt. no. 59(2) on page 72.

5. RESULTS :
   (i) 124.8 lb./ac. (ii) 80.21 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of potato in lb./ac.

Treatment

<table>
<thead>
<tr>
<th>T&lt;sub&gt;1&lt;/sub&gt;</th>
<th>T&lt;sub&gt;2&lt;/sub&gt;</th>
<th>T&lt;sub&gt;3&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>127.5</td>
<td>157.4</td>
<td>89.4</td>
</tr>
</tbody>
</table>

S.E./mean = 40.11 lb./ac.

Crop :- Potato (Kharif).


Object :- To study the effect of nitrogenous fertilizers on the yield of Potato.
1. BASAL CONDITIONS:
(i) to (ix) Same as in expt. no. 58(13) on page 72. (x) 12.11.1958.

2. TREATMENTS:

\[ T_0 = \text{Control} \]
\[ T_1 = 475 \text{ lb./ac. of C/N} \]
\[ T_2 = 375 \text{ lb./ac. of A/S} \]

3. DESIGN and 4. GENERAL:
Same as in expt. no. 58(13) on page 72

5. RESULTS:

\[
\begin{array}{ccc}
\text{Treatment} & T_0 & T_1 & T_2 \\
\text{Av. yield} & 2722.5 & 2904.0 & 3993.0 \\
\text{S.E./mean} & 419 \text{ lb./ac.} \\
\end{array}
\]

Crop :- Potato.
Type :- 'M'.

Object :- To study the effect of different nitrogenous fertilizers on the yield of Potato.

1. BASAL CONDITIONS:
(i) (a) Potato—Maize+Soyabean—Millet—Fallow. (b) Fallow. (c) Nil. (i) (a) Sandy loam. (b) N.A. (iii) 16.4.1959. (iv) (a) ploughing and pulverising. (b) Furrow planting. (c) 20 md./ac. (d) 2' x 1'. (e) One tuber/hole. (v) 200 md./ac. of F.Y.M. applied at the time of planting. (vi) Up-to-date (medium) fertilizers. (vii) Unirrigated. (viii) 1 interculturating. (ix) 58#.

2. TREATMENTS:
Same as in expt. no. 58(16) on page 77.

3. DESIGN:
(i) R.B.D. (ii) 3. (b) N.A. (iii) 3. (iv) (a) and (b) 20' x 16'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Very poor. (ii) Late blight and other virus diseases. Copper oxychloride sprayed once. (iii) Potato yield. (iv) (a) 1958—1959. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
\[
\begin{array}{ccc}
\text{Treatment} & T_0 & T_1 & T_2 \\
\text{Av. yield} & 148.9 & 170.0 & 115.3 \\
\text{S.E./mean} & 36.20 \text{ lb./ac.} \\
\end{array}
\]

Crop :- Potato (Kharif).
Type :- 'M'.

Object :- To study the effect of different nitrogenous fertilizers on the yield of Potato.

1. BASAL CONDITIONS:
(i) (a) Potato—Maize+Soyabean—Millet—Fallow. (b) Fallow. (c) Nil. (i) (a) Sandy loam. (b) N.A. (iii) 31.3.1958. (iv) (a) ploughing and pulverising. (b) Furrow planting. (c) 20 md./ac. (d) 2' x 1'. (e) 1 tuber/hole. (f) Nil. (v) Local Khari—(medium). (vi) Unirrigated. (vii) Weeding and earthing up twice. (ix) 47.47#.

(6) 13.11.1958.
2. TREATMENTS:

\[ T_1 = 600 \text{ lb./ac. of A/S.} \]
\[ T_2 = 470 \text{ lb./ac. of A/S/N.} \]
\[ T_3 = 275 \text{ lb./ac. of Urea.} \]

3. DESIGN and 4. GENERAL:

Same as in expt. no. 58(13) on page 72.

5. RESULTS:

(i) 3085 lb./ac.  (ii) 574 lb./ac.  (iii) Treatment differences are significant.  (iv) Av. yield of potato in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>( T_1 )</th>
<th>( T_2 )</th>
<th>( T_3 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2541.0</td>
<td>3993.0</td>
<td>2722.5</td>
</tr>
</tbody>
</table>

S.E./mean = 287 lb./ac.

Crop : - Potato (Kharif).

Object : - To study the effect of different nitrogenous fertilizers on the yield of Potato.

1. BASAL CONDITIONS:

(i) (a) Potato-Maize+Soyabean-Millet-Fallow. (b) Fallow. (c) Nil.  (ii) (a) Sandy loam. (b) N.A.  (iii) 16.4.1959.  (iv) (a) Ploughing and pulverising. (b) Furrow planting. (c) 20 md./ac.  (d) \( 2' \times 1' \). (e) One tuber/hole. (v) Nil.  (vi) Up-to-date (medium). (vii) Unirrigated. (viii) Weeding and earthing once.  (ix) 58".  (x) 16.11.1959.

2. TREATMENTS:

Same as in expt. no. 58(17) on page 78.

3. DESIGN:

(i) R.B.D.  (ii) (a) 3. (b) N.A.  (iii) 3.  (iv) (a) and (b) 20' \( \times 16' \).  (v) Nil.  (vi) Yes.

4. GENERAL:

(i) Most of the plants died due to continuous rainfall.  (ii) Affected by late blight and other virus diseases. Copper oxychloride sprayed once.  (iii) Potato yield.  (iv) (a) 1958—1959. (b) No. (c) Nil.  (v) (a) and (b) N.A.  (vi) and (vii) Nil.

5. RESULTS:

(i) 52.7 lb./ac.  (ii) 23.66 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of potato in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>( T_1 )</th>
<th>( T_2 )</th>
<th>( T_3 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>55.42</td>
<td>68.34</td>
<td>34.34</td>
</tr>
</tbody>
</table>

S.E./mean = 13.66 lb./ac.

Crop : - Potato.

Object : - To find out the effect of different doses of mixed fertilizers on the yield of Potato.

1. BASAL CONDITIONS:

(i) (a) Potato-Maize+Soyabean-Millet-Fallow. (b) Fallow. (c) Nil.  (ii) (a) Sandy loam. (b) N.A.  (iii) 13.4.1955.  (iv) (a) Two ploughings with turn-wrest plough followed by laddering and harrowing. (b) Planting in furrows. (c) N.A.  (d) \( 2' \times 1' \). (e) N.A.  (v) F.Y.M. at 100 md./ac. was applied to all the plots at the time of planting.  (vi) Up-to-date (medium). (vii) Unirrigated. (viii) Two interculturings. (ix) 93.89".  (x) 6.10.1955.
2. TREATMENTS:
1. Control.
2. 300 lb./ac. of mixed fertilizers.
3. 450 lb./ac. of mixed fertilizers.
Fertilizers were applied at the time of planting.

3. DESIGN:
Same as in exp. no. 56(21) on page 76.

4. GENERAL:
(i) No lodging. (ii) Light blight, two sprayings with Peresox during the growth period. (iii) Yield of potato.
(iv) (a) and (b) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 2263 lb./ac. (ii) 531.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of potato in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1893</td>
<td>2346</td>
<td>2551</td>
</tr>
</tbody>
</table>

S.E./mean = 265.6 lb./ac.

---

Crop :- Potato.
Object :- To find out the effect of mixed fertilizers and Potash on Potato crop.

1. BASAL CONDITIONS:
(i) Potato—Maize + Soyabeen—Millet—Fallow. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) N.A. (iii) 31.3.1956. (iv) (a) Two ploughings with turnwrest plough followed by laddering, harrowing etc. (b) Planting in furrows. (c) N.A. (d) 2’x1’. (e) N.A. (v) 100 md./ac. of F.Y.M. applied in furrows at the time of planting. (vi) Arran consul (late). (vii) Unirrigated. (viii) 1 interculturing. (ix) 140.21’. (x) 17.10.1956.

2. TREATMENTS:
1. Control.
2. 625 lb./ac. of mixed fertilizers.
3. 940 lb./ac. of mixed fertilizers.
4. 625 lb./ac. of mixed fertilizers + 200 lb./ac. of Mur. Pot.
Fertilizers were applied at the time of planting.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) 16.5’x135’. (iii) 4. (iv) (a) and (b) 33’x16.5’. (v) Nil. (vi) Yes.

4. GENERAL:
(i) No lodging. (ii) Late blight—one spraying was given with Copper oxychloride. (iii) Yield of potato.
(iv) (a) and (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 110.9 lb./ac. (ii) 34.04 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of potato in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>97.7</td>
<td>111.9</td>
<td>131.2</td>
<td>102.9</td>
</tr>
</tbody>
</table>

S.E./mean = 27.02 lb./ac.
Crop :- Potato. Ref :- As. 57(11).
Site :- Expt. Res. Stn., Upper Shillong. Type :- 'M'.

Object :-To find out the effect of mixed fertilizers and potash on Potato crop.

1. BASAL CONDITIONS :
   Same as in expt. no. 57(13) on page 76.

2. TREATMENTS and 3. DESIGN :
   Same as in expt. no. 56(27) on page 80.

4. GENERAL :
   (i) No lodging. (ii) Late blight—one spraying was given with N.C.C. fungicide. (iii) Yield of potato. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :
   (i) 565.8 lb./ac. (ii) 298.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of potato in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>699.6</td>
<td>617.2</td>
<td>452.6</td>
<td>493.8</td>
</tr>
<tr>
<td>S.E./mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Potato. Ref :- As. 55(13).
Site :- Expt. Res. Stn., Upper Shillong. Type :- 'M'.

Object :-To find out the effect of N in the form of C/N and A/S/N on Potato crop.

1. BASAL CONDITIONS :
   (i) (a) Potato—Maize+Soyabean—Millet—Fallow. (ii) (a) Sandy loam. (b) N.A. (iii) 13.4.1955. (iv) (a) Two ploughings with turn-wrest plough followed by laddering, harrowing etc. (b) Planting in furrows. (c) N.A. (d) 2'X1'. (e) N.A. (v) 100 md./ac. of F.Y M. applied at the time of planting. (vi) Up-to-date main (me,mum). (vii) Unirrigated. (viii) Two intercultures were given to all the plots. (ix) 93.89n. (x) 6.10.1955.

2. TREATMENTS :
   1. Control.
   2. 500 lb./ac. of C/N.
   3. 300 lb./ac. of A/S/N.
   Fertilizers were applied at the time of planting.

3. DESIGN :
   Same as in expt. no. 56(21) on page 76.

4. GENERAL :
   (i) No lodging. (ii) Late blight—two sprayings were given with Perenox. (iii) Yield of potato. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :
   (i) 1152 lb./ac. (ii) 446.0 lb./ac. (iii) Treatment difference are not significant. (iv) Av. yield of potato in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>926</td>
<td>1132</td>
<td>1399</td>
</tr>
<tr>
<td>S.E./mean</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E./mean = 223.0 lb./ac.
Crop :- Potato.  
Object :- To find out the effect of N in the form of C/N and A/S on Potato crop.

1. BASAL CONDITIONS:
Same as in expt. no. 56(21) on page 76.

2. TREATMENTS:
1. Control
2. 475 lb./ac. of C/N.
3. 375 lb./ac. of A/S.
Fertilizers were applied at the time of planting.

3. DESIGN and 4. GENERAL:
Same as in expt. no. 56(21) on page 76.

5. RESULTS:
(i) 185.17 lb./ac.  (ii) 85.66 lb./ac.  (iii) Treatment differences are not significant. (iv) Av. yield of potato in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>164.6</td>
<td>144.0</td>
<td>246.9</td>
</tr>
</tbody>
</table>

S.E./mean = 42.83 lb./ac.

---

Crop :- Potato.  
Object :- To find out the effect of different nitrogenous fertilizers on Potato crop.

1. BASAL CONDITIONS:
Same as in expt. no. 57(13) on page 76.

2. TREATMENTS:
1. Control.
2. 475 lb./ac. of C/N.
3. 475 lb./ac. of Nitro-lime.
4. 375 lb./ac. of A/S.
Fertilizers applied at the time of planting.

3. DESIGN:
(i) R.B.D.  (ii) (a) 4. (b) 16.5'×135'. (iii) 4. (iv) (a) and (b) 33'×16.5'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) No lodging.  (ii) Late blight—one spraying was given with N.C.C. fungicide. (iii) Yield of potato. (iv) (a) and (b) No.  (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 210.9 lb./ac.  (ii) 89.15 lb./ac.  (iii) Treatment differences are not significant. (iv) Av. yield of potato in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>205.8</td>
<td>267.5</td>
<td>164.6</td>
<td>205.8</td>
</tr>
</tbody>
</table>

S.E./mean = 44.57 lb./ac.
Crop :- Potato.  
Object :- To find out the effect of different nitrogenous fertilizers on Potato crop.

1. BASAL CONDITIONS:
   (i) (a) Potato—Maize+Soyabean—Millet—Fallow.  (b) Fallow.  (c) Nil.  (ii) (a) Sandy loam.  (b) N.A.  
   (iii) 13.4.1955.  (iv) (a) Two ploughings with turn-wrest plough followed by laddering and harrowing.  
   (b) Planting in furrows.  (c) N.A.  
   (d) 2'X1'.  (e) N.A.  
   (v) 100 md./ac. of F.Y.M. applied at the time of planting.  
   (vi) Up-to-date main (medium).  (vii) Two interculturings.  (ix) 93.9°.  
   (x) 6.0.1955.

2. TREATMENTS:
   1. Control.  
   2. 300 lb./ac. of A/S/N.  
   3. 175 lb./ac. of Urea.  
   Fertilizers were applied at the time of planting.

3. DESIGN:
   (i) R.B.D.  
   (ii) a) 3.  (b) N.A.  
   (iii) 4.  
   (iv) (a) and (b) 33'X16.5'.  
   (v) Nil.  
   (vi) Yes.

4. GENERAL:
   (i) No lodging.  
   (ii) Late blight—one spraying with Perenox during the growth period.  
   (iii) Yield of potato.  
   (iv) (a) and (b) No.  
   (v) (a) and (b) N.A.  
   (vi) and (vii) Nil.

5. RESULTS:
   (i) 1186 lb./ac.  
   (ii) 545.8 lb./ac.  
   (iii) Treatment differences are not significant. 
   (iv) Av. yield of potato in lb./ac. 
   Treatment  
   1  2  3  
   Av. yield 1029 1337 1193  
   S.E./mean = 272.9 lb./ac.

Crop :- Potato.  
Object :- To find out the effect of different nitrogenous fertilizers on the yield of Potato.

1. BASAL CONDITIONS:
   (i) (a) Potato—Maize+Soyabean—Millet—Fallow.  (b) Fallow.  (c) Nil.  
   (ii) (a) Sandy loam.  (b) N.A.  
   (iii) 16.4.957.  
   (iv) (a) Two ploughings with turn-wrest plough followed by laddering, harrowing, etc. 
   (b) Planting in furrows.  
   (c) 306 tubers/plot.  
   (d) 2'X1'.  
   (e) N.A.  
   (f) Nil.  
   (g) Inverness Favourite (medium).  
   (h) Unirrigated.  
   (i) One interculturing.  
   (j) 60°.  
   (k) 14.10.1957.

2. TREATMENTS:
   1. 600 lb./ac. of A/S.  
   2. 470 lb./ac. of A/S/N.  
   3. 275 lb./ac. of Urea.  
   4. 750 lb./ac. of Nitro-lime.  
   Fertilizers applied in furrows at the time of planting.

3. DESIGN:
   (i) R.B.D.  
   (ii) a) 4.  
   (b) 16.5'X135'.  
   (iii) 4.  
   (iv) (a) and (b) 33'X16.5'.  
   (v) Nil.  
   (vi) Yes.

4. GENERAL:
   (i) No lodging.  
   (ii) Late blight—one spraying was given with N.C.C. fungicide.  
   (iii) Yield of potato.  
   (iv) (a) and (b) No.  
   (v) (a) an (b) N.A.  
   (vi) and (vii) Nil.

5. RESULTS:
   (i) 190.3 lb./ac.  
   (ii) 55.40 lb./ac.  
   (iii) Treatment differences are not significant.  
   (iv) Av. yield of Potato in lb./ac.
Crop :- Potato.  
Ref :- As. 56(24).  
Type :- 'M'.

Object :- To find out the effect of different nitrogenous fertilizers on Potato crop.

1. BASAL CONDITIONS :
(i) (a) Potato—Maize+Soyabean—Millet—Fallow. (b) Fallow. (c) Nil. (ii) a: Sandy loam (b): N.A. (iii) N.A./31.3.1956. (v) (a) Two ploughings with turn-wrest plough followed by laddering and harrowing. (b) and (c) N.A. (d) 2'x1'. (e) N.A. (v) Nil. (vi) Arran consul (late). (vii) Unirrigated. (viii) One interculturing. (ix) 140.21'. (x) 17.10.1956.

2. TREATMENTS :
1. 375 lb./ac. of A,'S.  
2. 300 lb./ac. of A,3/N.  
3. 175 lb./ac. of Urea.

Fertilizers were applied at the time of planting.

3. DESIGN :
(i) R.B.D. (ii) a: 3. (b) N.A. (iii) 4. (iv) (a) and (b) 33'x16.5'. (v) Nil. (vi) Yes.

4. GENERAL :
(i) No lodging. (ii) Late blight—one spraying was given with Copper oxychloride. (iii) Yield of potato. (iv) [a] and (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) No reasons given for low yield. (vii) N.A.

5. RESULTS :
(i) 49.72 lb./jac. (ii) 11.37 lb./jac. (iii) Treatment differences are not significant. (iv) Av. yield of potato in lb./jac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>46.29</td>
<td>61.73</td>
<td>41.15</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>5.68 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Potato (Rabi).  
Site :- Agri. College, Jorhat.  
Ref :- As. 58(37).  
Type :- 'C'.

Object :- To find out a suitable spacing for the cultivation of Potato crop.

1. BASAL CONDITIONS :
(i) (a) N.A. (b) Maize. (c) 100 md./ac. of cowdung. (ii) (a) Sandy loam. (b) pH—4.5. (iii) 24.10.1958. (iv) a: Ploughing once with tractor followed by 4 ploughings with bullocks and laddering. (b) Dibbling. (c) 945 lb. ac. (d) As per treatments. (e) 1. (v) Cowdung at 150 mds/ac., T.C. at 1194 lb./ac., oilcake (mustard) at 403 lb./ac. and 242 lb./ac. of A/S broadcast. (vi) Local Khasi (medium). (vii) Irrigated. (viii) Hoeing, 2 weedings and earthings. (ix) N.A. (x) 5.2.1959.

2. TREATMENTS :
All combinations of (1) and (2)
(1) 3 spacings between rows : R₁ =18', R₂ =24' and R₃ =30'.
(2) 3 spacings between plants : P₁ =6', P₂ =9' and P₃ =12'.

3. DESIGN :
(i) Fact. in R.B.D. (ii) (a) 9. (b) 81'x30'. (iii) 8. (iv) (a) and (b) 30'x9'. (v) Nil. (vi) Yes.
4. GENERAL:
(i) Good. (ii) Perenox was sprayed as preventive measure. (iii) Yield of potato. (iv) (a) 1958–1959. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 5252 lb./ac. (ii) 850 lb./ac. (iii) Main effects of R and P are highly significant. Interaction R×P is not significant. (iv) Av. yield of potato in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>P₁</th>
<th>P₂</th>
<th>P₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>R₁</td>
<td>7404</td>
<td>6378</td>
<td>5007</td>
<td>6263</td>
</tr>
<tr>
<td>R₂</td>
<td>6098</td>
<td>4809</td>
<td>4434</td>
<td>5113</td>
</tr>
<tr>
<td>R₃</td>
<td>5254</td>
<td>4171</td>
<td>3712</td>
<td>4379</td>
</tr>
<tr>
<td>Mean</td>
<td>6252</td>
<td>5119</td>
<td>4384</td>
<td>5252</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 173.5 lb./ac.
S.E. of body of table = 300.5 lb./ac.

**Crop:** Potato *(Rabi).*

**Site:** Agri. College, Jorhat.

**Ref:** As. 59(38).

**Type:** ‘C’.

Object:—To find out a suitable spacing for the cultivation of Potato crop.

1. BASAL CONDITIONS:
(i) (a) N.A. (b) Paddy *(Ahu).* (c) 100 md./ac.of cowdung. (ii) (a) Sandy loam. (b) pH—4.5. (iii) 18.11.1959. (iv) (a) Ploughing with tractor followed by 4 ploughings with bullock and country plough and laddering. (b) Dibbling. (c) 945 lb./ac. (d) As per treatments. (e) 1. (v) Cowdung at 150 mds./ac. and T.C. at 6130 lb./ac. applied on 2.10.1659. A/S at 242 lb./ac. applied on 19.12.1959, mustard oilcake at 403 lb./ac. applied on 12.11.1959 and mixed fertilizer at 323 lb./ac. applied on 15.11.1959. (vi) Local Khali *(medium).* (vii) Irrigated. (viii) Hoeing, weeding and earthing—twice. (ix) N.A. (x) 16.3.1960 to 18.3.1960.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 58(37) on page 84.

RESULTS:
(i) 10101 lb./ac. (ii) 218 lb./ac. (iii) R and P effects are highly significant. Interaction is not significant. (iv) Av. yield of potato in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>P₁</th>
<th>P₂</th>
<th>P₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>R₁</td>
<td>12967</td>
<td>11777</td>
<td>7482</td>
<td>10742</td>
</tr>
<tr>
<td>R₂</td>
<td>12261</td>
<td>10648</td>
<td>9075</td>
<td>10661</td>
</tr>
<tr>
<td>R₃</td>
<td>10265</td>
<td>9539</td>
<td>6897</td>
<td>8900</td>
</tr>
<tr>
<td>Mean</td>
<td>11831</td>
<td>10655</td>
<td>7818</td>
<td>10101</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 44.5 lb./ac.
S.E. of body of table = 77.1 lb./ac.

**Crop:** Potato.

**Site:** Agri. College, Jorhat.

**Ref:** As. 57(45).

**Type:** ‘T’.

Object:—To find out the effect of irrigation on Potato crop.
1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Cucumber. (c) 100 md./ac. of cowdung. (ii) (a) Sandy loam. (b) pH—4.5. (iii) N.A. / 6.10.1957. (iv) (a) 4 ploughings followed by laddering. (b) Line sowing. (c) N.A. d) 18'' x 12''. (c) 1. (v) Cowdung at 50 mds/ac. broadcast after first ploughing. (vi) Majestic (N.P.). (vii) As per treatments. (viii) Hosing on 1.11.1957 and earthing on 28.12.1957. (iv) N.A. (x) 16.1.1958.

2. TREATMENTS:
   2 levels of irrigation: \( I_0 = 0 \) and \( I_1 = 10 \) irrigations. Irrigations given in furrows at 5 days interval one acre-inch each time.

3. DESIGN
   (i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 2. (iv) (a) and (b) 5'-9'' x 3'-2''. (v) No. (vi) Yes.

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

5. RESULTS:
   (i) 10378 lb./ac. (ii) 1165 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of potato in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>( I_0 )</th>
<th>( I_1 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>9089</td>
<td>11667</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>824 lb./ac.</td>
<td></td>
</tr>
</tbody>
</table>

**Crop:** Potato (Rabi),
**Site:** Govt. Agri. Farm, Jorhat.
**Ref.:** As. 59(52).
**Type:** 'D'.

Object:—To study the effective doses of different weedicides to control weeds.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Maize. (c) 200 md./ac. of cowdung. (ii) (a) Sandy loam. (b) N.A. (iii) 19.11.1958. (iv) (a) Ploughing and laddering. (b) Dibbling. (c) 10 md./ac. (d) Between lines—3'. (e) —. (v) 200 md./ac. of cowdung. (vi) Shillong. (vii) Unirrigated. (viii) Earthing once. (ix) N.A. (x) 27.2.1959.

2. TREATMENTS:
   All combinations of (1) and (2 + a control
   (1) 2 weedicides: \( W_1 = \text{Fernoxone} \) and \( W_2 = \text{Agroxone} \)
   (2) 2 concentrations: \( C_1 = 1 \) and \( C_2 = 2 \) lb. in 60 gallons of water per acre.

3. DESIGN:
   (i) R.B.D. (ii) (a) 5. (b) 85'-14''. (iii) 5. (iv) (a) 17'-14''. (b) 15'-12''. (v) 1'-1''. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Potato yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2409 lb./ac. (ii) 259 lb./ac. (iii) Main effect of C is highly significant. Interaction C x W is significant. (iv) Av. yield of potato in lb./ac.

<table>
<thead>
<tr>
<th>Control=1863 lb./ac.</th>
<th>( W_1 )</th>
<th>( W_2 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( C_1 )</td>
<td>2468</td>
<td>2105</td>
<td>2286</td>
</tr>
<tr>
<td>( C_2 )</td>
<td>2504</td>
<td>2710</td>
<td>2807</td>
</tr>
<tr>
<td>Mean</td>
<td>2686</td>
<td>2407</td>
<td>2546</td>
</tr>
</tbody>
</table>
Object:—To study the effective doses of weedicide to control weeds.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Maize. (c) Cowdung at 200 mds./ac. (ii) (a) Sandy loam. (b) N.A. (iii) 29.10.1957. (iv) (a) Ploughing and laddering. (b) Line sowing. (c) 10 mds/ac. (d) Between lines—3'. (e)—. (v) Shillong. (vi) Unirrigated. (vii) Earthing once. (ix) N.A. (x) 24.1.1958.
   (ii) (a) Sandy loam. (b) N.A. (iii) 29.10.1957. (iv) (a) Ploughing and laddering. (b) Line sowing. (c) 10 mds/ac. (d) Between lines—3'. (e)—. (v) Shillong. (vi) Unirrigated. (vii) Earthing once. (ix) N.A. (x) 24.1.1958.

2. TREATMENTS:
   4 concentrations of Fernoxone: C_0 = 0, C_1 = 1, C_2 = 2 and C_3 = 3 lb. in 80 gallons of water per acre.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) 75'x27'. (iii) 5. (iv) (a) 27'x20'. (b) 22'x15'. (v) N.A. (vi) Yes. (vii) N.A. (viii) Nil. (ix) N.A. (x) 24.1.1958.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Potato yield. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1226 lb./ac. (ii) 193 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of potato in lb./ac.

   Treatment | C_0 | C_1 | C_2 | C_3
   ----------|-----|-----|-----|-----
   Av. yield | 911 | 1280| 1261| 1452
   S.E./mean | 86.3 lb./ac.

Object:—To study the effective doses of weedicide to control weeds.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Maize. (c) Cowdung at 200 mds./ac. (ii) (a) Sandy loam. (b) N.A. (iii) 29.10.1957. (iv) (a) Ploughing and laddering. (b) Line sowing. (c) 10 mds/ac. (d) Between lines—3'. (e)—. (v) Shillong. (vi) Unirrigated. (vii) Earthing once. (ix) N.A. (x) 20.2.1958.

2. TREATMENTS:
   Same as in exp. no. 58(54) above.

5. RESULTS:
   (i) 1825 lb./ac. (ii) 494 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of potato in lb./ac.

   Treatment | C_0 | C_1 | C_2 | C_3
   ----------|-----|-----|-----|-----
   Av. yield | 1478| 1782| 2046| 1993
   S.E./mean | 221 lb./ac.

Object:—To find out the most economic and effective way of controlling different weeds associated with Potato.
1. BASAL CONDITIONS:
   (i) (a) N.A.  
   (b) Ahu paddy.  
   (c) Cowdung at 200 mds/ac.  
   (ii) Sandy loam.  
   (iii) Cowdung at 250 mds/ac.  
   (iv) Shillong.  
   (v) Ploughing and laddering.  
   (vi) Dibbling.  
   (vii) N.A.  
   (viii) N.A.  
   (ix) N.A.  
   (x) 6.11.1957.  
   (xi) N.A.  
   (xii) 3.11.1958.  

2. TREATMENTS:
   1. Control.
   2. Local method of weeding.
   3. Application of weedicide 5 days after planting.
   4. Application of weedicide 10 days after planting.
   5. Application of weedicide 5 days after planting + cultural method of weeding.
   6. Application of weedicide 10 days after planting + cultural method of weeding.
   Weedicide used — 6 oz./ac. of Fernox one in water.

3. DESIGN:
   (i) and (ii) 5 blocks of 6 plots each were selected from the agreeable cultivators in the same locality.  
   (iii) (a) 13' x 13'.  
   (b) 11' x 11'.  
   (iv) Yes.

4. GENERAL:
   (i) Normal.  
   (ii) Nil.  
   (iii) Yield of tuber.  
   (iv) (a) 1957—contd.  
   (v) (a) N.A.  
   (vi) Nil.  
   (vii) N.A.  

5. RESULTS:
   (i) 7128 lb./ac.  
   (ii) 1269 lb./ac.  
   (iii) Treatment differences are not significant.  
   (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2592</td>
<td>567 lb./ac</td>
</tr>
<tr>
<td>2</td>
<td>3312</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2880</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>3924</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>4140</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>4644</td>
<td></td>
</tr>
</tbody>
</table>

Ref: As. 58(48).
Type: 1.D'.

Object: To find out the most economic and effective way of controlling weeds associated with Potato.

1. BASAL CONDITIONS:
   (i) (a) N.A.  
   (b) Ahu Paddy.  
   (c) Cowdung at 250 mds/ac.  
   (ii) Sandy loam.  
   (iii) Cowdung at 200 mds/ac.  
   (iv) Shillong.  
   (v) Ploughing and laddering.  
   (vi) Dibbling.  
   (vii) N.A.  
   (viii) N.A.  
   (ix) N.A.  
   (x) 31.11.1958.  
   (xi) N.A.  
   (xii) 28.1.1959.

2. TREATMENTS:
   Same as in expt. no. 57(48) on page 87.

3. DESIGN:
   (i) and (ii) 5 blocks of 6 plots each were selected from the agreeable cultivators in the same locality.  
   (iii) (a) 13' x 13'.  
   (b) 11' x 11'.  
   (iv) Yes.

4. GENERAL:
   (i) Normal.  
   (ii) Nil.  
   (iii) Tuber yield.  
   (iv) (a) 1957—contd.  
   (v) (a) and (b) N.A.  
   (vi) Nil.  
   (vii) N.A.  

5. RESULTS:
   (i) 7128 lb./ac.  
   (ii) 828 lb./ac.  
   (iii) Treatment differences are significant.  
   (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6120</td>
<td>370 lb./ac</td>
</tr>
<tr>
<td>2</td>
<td>7344</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>6480</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>7200</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>7704</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>7920</td>
<td></td>
</tr>
</tbody>
</table>
Crop :- Potato (Rabi).
Centre :- Jorhat (c.f.).
Object :- To find out the most economic and effective way of controlling different weeds associated with Potato.

1. BASAL CONDITIONS :
   (i) (a) N.A. (b) Ahu Paddy. (c) Cowdung at 200 mds/ac. (ii) Sandy loam. (iii) Cowdung at 200 mds/ac. (iv) Shillong. (v) (a) Ploughing and laddering. (b) Dibbling. (c) to (e) N.A. (vi) 5.11.1959. (vii) Unirrigated. (viii) and (ix) N.A. (x) 12.2.1960.

2. TREATMENTS :
   7 methods of weeding: M₀ = Control (no weeding), M₁ = Local method of weeding, M₂ = Application of weedicide 5 days after planting, M₃ = Application of weedicide 10 days after planting, M₄ = Application of weedicide 5 days after planting + cultural method of weeding, M₅ = Application of weedicide 10 days after planting + cultural method of weeding and M₆ = Cultural method of weeding.

3. DESIGN :
   (i) and (ii) 5 blocks were selected from the agreeable cultivators in the same locality. (iii) (a) 13' x 13'. (b) 11' x 11'. (iv) Yes.

4. GENERAL :
   (i) Normal. (ii) Nil. (iii) Tuber yield. (iv) (a) to (c) 1957- contd. (v) (a) and (b) N.A. (vi) and (vii) Nil.

RESULTS:
(i) 7264 lb./ac. (ii) 476 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in lb./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>M₆</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
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<td>7398</td>
<td>6444</td>
<td>7182</td>
<td>7740</td>
<td>7938</td>
<td>8028</td>
</tr>
<tr>
<td>S.E./mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>213</td>
</tr>
</tbody>
</table>

Crop :- Potato (Rabi).
Centre :- Jorhat (c.f.).
Object :- To find out the effect of pesticides on Potato cut-worms.

1. BASAL CONDITIONS :
   (i) (a) N.A. (b) Ahu Paddy. (c) Cowdung at 200 mds/ac. (ii) Sandy loam. (iii) Cowdung at 150 mds/ac. (iv) Shillong. (v) (a) Ploughing and laddering. (b) Dibbling. (c) to (e) N.A. (vi) 7.11.1958. (vii) Unirrigated. (viii) and (ix) N.A. (x) 17, 18.2.1959.

2. TREATMENTS :
   1. Control.
   2. Application of Aldrex 5% D at 15 lb./ac.
   3. Application of Gam Dₖ 25 at 15 lb./ac.
   4. Application of Gammexane W.D.P. at 1 lb./ac. in 30 gallons of water per acre.
   5. Application of Dieldrex at 1 lb./ac. in 30 gallons of water per acre.
   6. Application of Guesarol D.D.T. at 1 lb./ac. in 30 gallons of water per acre.

3. DESIGN :
   (i) and (ii) 5 blocks of 6 plots each were selected from the agreeable cultivators in the same locality. (iii) (a) 24' x 17'. (b) 22' x 15'. (iv) Yes.

4. GENERAL :
   (i) Normal. (ii) Potato cut-worm. Control measures as per treatments. (iii) Tuber yield. (iv) (a) to (c) 1958- contd. (v) (a) and (b) N.A. (vi) and (vii) Nil.
5. RESULTS:
(i) 10894 lb./ac.  (ii) 103 lb./ac.  (iii) Treatment differences are highly significant.  (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>9557</td>
<td>11642</td>
<td>10058</td>
<td>10560</td>
<td>11035</td>
<td>12514</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>46 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop := Potato (Rabi).
Centre := Jorhat (c.f.).

Object := To find out the effect of pesticides on Potato cut-worm.

1. BASAL CONDITIONS:
(i) [a] N.A.  (b) Ahu Paddy.  (c) Cowdung at 250 mds./ac.  (ii) Sandy loam.  (iii) Cowdung at 200 mds./ac.  (iv) Shillong.  (v) (a) Ploughing and laddering.  (b) Dibbling.  (c) to (e) N.A.  (vi) 11.11.1959.  (vii) Unirrigated.  (viii) and (ix) N.A.  (x) 16, 17.1.1960.

2. TREATMENTS:
1. Control.
2. Application of Aldrex 5% D at 15 lb./ac.
3. Application of Gam D 025 at 15 lb./ac.
4. Application of Gammexane W.P.D. at 1 lb. in 30 gallons of water per acre.
5. Application of Endrex 33 c.c. in 30 gallons of water per acre.

3. DESIGN:
(i) and (ii) 5 blocks of 6 plots each were selected from the agreeable cultivators in the same local ty.  (iii) (a) 24’ X 17’.  (b) 22’ X 15’.  (iv) Yes.

4. GENERAL:
(i) Normal.  (ii) Potato cut-worm.  Control measures as per treatments.  (iii) Tuber yield.  (iv) ‘a’ to (c) 1958—contd.  (v) (a) and (b) N.A.  (vi) and (vii) Nil.

5. RESULTS:
(i) 103 lb./ac.  (ii) 25 lb./ac.  (iii) Treatment differences are highly significant.  (iv) Av. yield of tuber in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>8633</td>
<td>11141</td>
<td>10058</td>
<td>11299</td>
<td>11774</td>
<td>9319</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>112 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop := Cabbage (Rabi).
Site := Govt. Agri. Farm, Jorhat.

Object := To study the effect of A/S on Cabbage in acid soil.

1. BASAL CONDITIONS:
(i) [a] N.A.  (b) Ahu Paddy.  (c) 150 mds./ac. of cowdung.  (ii) [a] Old alluvial acid soil.  (b) N.A.  (iii) 30, 31.10.1956.  (iv) (a) 5 hoeings.  (b) Transplanting.  (c) —.  (d) 2’ X 11’.  (e) 1.  (v) 150 mds./ac. of cowdung.  (vi) Drum head (late).  (vii) Irrigated.  (viii) 1 mulching and 4 hoeings.  (ix) 1.27’.  (x) 12.1.1957 to 9.3.1957.

2. TREATMENTS:
4 levels of N as A/S: N₁=0, N₂=50, N₃=100 and N₄=150 lb./ac.

3. DESIGN:
(i) R.B.D.  (ii) 4.  (b) 24’ X 72’.  (iii) 3.  (iv) (a) 24’ X 18’.  (b) 20’ X 16’.  (v) 2’ X 1’.  (vi) Yes.
4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield of cabbage. (iv) (a) 1956-1958. (b) Yes. (c) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 11326 lb./ac. (ii) 3455 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of
cabbage in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>N_0</th>
<th>N_1</th>
<th>N_2</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>12302</td>
<td>13163</td>
<td>10744</td>
<td>9093</td>
</tr>
</tbody>
</table>

**Crop :- Cabbage (Rabi).**

**Site :- Govt. Agri. Farm, Jorhat.**

Object :- To study the effect of A/S on Cabbage in acid soil.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Ahu Paddy. (c) 150 md./ac. of cowdung. (ii) (a) Old alluvial acid soil. (b) N.A. (iii)
8.11.1957. (iv) (a) 5 hoeings. (b) Transplanting. (c) —. (d) 2' x 1'. (e) 1. (v) 150 md./ac. of
to 3.3.1958.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 56(42) on page 90.

5. RESULTS:
   (i) 23441 lb./ac. (ii) 7132 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of
cabbage in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>N_0</th>
<th>N_1</th>
<th>N_2</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>17860</td>
<td>26883</td>
<td>28278</td>
<td>20744</td>
</tr>
</tbody>
</table>

**Crop :- Cabbage (Rabi).**

**Site :- Govt. Agri. Farm, Jorhat.**

Object :- To study the effect of A/S on Cabbage in acid soil.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Ahu Paddy. (c) 150 md./ac. of cowdung. (ii) (a) Old alluvial acid soil. (b) N.A. (iii)
7.11.1958. (iv) (a) 5 hoeings. (b) Transplanting. (c) —. (d) 2' x 1'. (e) 1. (v) 150 md./ac. of

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 56(42) on page 90.

5. RESULTS:
   (i) 16813 lb./ac. (ii) 7454 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of
cabbage in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>N_0</th>
<th>N_1</th>
<th>N_2</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>11744</td>
<td>20116</td>
<td>20952</td>
<td>14444</td>
</tr>
</tbody>
</table>
Crop :- Cauliflower (Rabi).
Site :- Agri. College, Jorhat.
Object :- To find out suitable doses of N and P for Cauliflower.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Cucumber. (c) Cowdung at 200 mds./ac. (ii) (a) Sandy loam. (b) pH—4.5. (iii) 5.11.1957. (iv) (a) Ploughing once with tractor, 4 ploughings with bullock and laddering. (b) Transplanted. (c) —. (d) 30"x24". (e) 1. (v) Cowdung at 200 mds./ac. and T.C. at 18 lb./plot. (vi) Banaras (late). (vii) Irrigated. (viii) 2 hoeings and 1 earthing up. (ix) N.A. (x) —.

2. TREATMENTS:
   All combinations of (1) and (2)
   (1) 2 levels of P_2O_5 as Super: P_2O_5 = 0 and P_2O_5 = 20 lb./ac.
   (2) 5 levels of N as A/S: N_0 = 0, N_1 = 20, N_2 = 40, N_3 = 60 and N_4 = 80 lb./ac.

3. DESIGN:
   (i) R.B.D. Fact. (ii) (a) 10. (b) 15'x100'. (iii) 4. (iv) (a) and (b) 15'x10'. (v) Nil. (vi) Yes.

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

5. RESULTS:
   (i) 2774 lb./ac. (ii) 573 lb./ac. (iii) No effect is significant. (iv) Av. yield of cauliflower in lb./ac.

\[
\begin{array}{cccccc}
N_0 & N_1 & N_2 & N_3 & N_4 & \text{Mean} \\
2202 & 2713 & 2786 & 2737 & 2891 & 2665 \\
2046 & 3030 & 3077 & 3116 & 3147 & 2883 \\
\text{Mean} & 2124 & 2872 & 2930 & 2927 & 3019 \\
\end{array}
\]

S.E. of N marginal mean = 344 lb./ac.
S.E. of P marginal mean = 217 lb./ac.
S.E. of body of table = 485 lb./ac.

Crop :- Cauliflower (Rabi).
Site :- Agri. College, Jorhat.
Object :- To find out suitable doses of N and P for Cauliflower.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Cucumber. (c) Nil. (ii) (a) Sandy loam. (b) pH—4.5. (iii) 5.11.1958. (iv) (a) Ploughing once with tractor, 3 ploughings with bullock and laddering. (b) Transplanted. (c) —. (d) 30"x34". (e) 1. (v) Cowdung at 200 mds./ac. and T.C. at 1 md./plot. (vi) Banaras (late). (vii) Irrigated. (viii) 2 hoeings and earthing up. (ix) N.A. (x) 23.12.1958 to 3.2.1959.

2. TREATMENTS:
   Same as in expt. no. 57(47) above.

5. RESULTS:
   (i) 735 lb./ac. (ii) 1443 lb./ac. (iii) Only N effect is significant. (iv) Av. yield of cauliflower in lb./ac.
Crop : Brinjal (Rabi).
Site : Agri. College, Jorhat.

Object : To find out suitable dose of different fertilizers for Brinjal.

1. BASAL CONDITIONS :
   (i) (a) N.A. (b) Dehinch. (c) Nil. (ii) (a) Sandy loam. (b) N.A. (iii) 30.9.1958. (iv) (a) Ploughing once with tractor, 3 ploughings with bullocks and laddering. (b) Transplanting. (c) —- (d) 2' × 2'. (e) 1.
   (v) Cowdung at 200 mds/ac. and P₂O₅ at 40 lb./ac. (vi) Local. (vii) Irrigated. (viii) 2 weedings and one earthing. (ix) N.A. (x) 1.12.1958 to 12.3.1959.

2. TREATMENTS :
   All combinations of (1), (2) and (3)
   (2) 3 levels of N : N₀ = 0, N₁ = 50 and N₂ = 100 lb./ac.
   (3) 2 levels of K₂O as wood ash : K₁ = 40 and K₂ = 80 lb./ac.

3. DESIGN :
   (i) Fact. in R.B.D. (ii) (a) 30. (b) 60' × 60'. (iii) 3. (iv) (a) and (b) 10' × 12'. (v) Nil. (vi) Yes.

4. GENERAL :
   (i) Normal. (ii) Nil. (iii) Yield of brinjal. (iv) (a) to (c) No. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS :
   (i) 15394 lb./ac. (ii) 5035 lb./ac. (iii) Main effect of N alone is highly significant. (iv) Av. yield of brinjal in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>F₁</th>
<th>F₂</th>
<th>F₃</th>
<th>F₄</th>
<th>F₅</th>
<th>K₁</th>
<th>K₂</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₀</td>
<td>16647</td>
<td>14919</td>
<td>20692</td>
<td>18748</td>
<td>17967</td>
<td>13277</td>
<td>14553</td>
<td>13915</td>
</tr>
<tr>
<td>N₁</td>
<td>13350</td>
<td>14377</td>
<td>13315</td>
<td>17004</td>
<td>14316</td>
<td>15589</td>
<td>13556</td>
<td>14472</td>
</tr>
<tr>
<td>N₂</td>
<td>14998</td>
<td>14648</td>
<td>17004</td>
<td>17876</td>
<td>16142</td>
<td>15122</td>
<td>15666</td>
<td>15394</td>
</tr>
</tbody>
</table>

S.E. of N marginal mean = 919 lb./ac.
S.E. of F marginal mean in F × N table = 2056 lb./ac.
S.E. of F marginal mean in F × K table = 1453 lb./ac.
S.E. of K marginal mean = 751 lb./ac.
S.E. of body of F × N table = 1300 lb./ac.
S.E. of body of K × N table = 1678 lb./ac.

Ref :- As. 58(46).
Type :- 'M'.

Mean

S.E. of N marginal mean
S.E. of F marginal mean in F × N table
S.E. of F marginal mean in F × K table
S.E. of K marginal mean
S.E. of body of F × N table
S.E. of body of K × N table
S.E. of body of K × F table
Crop :- Tomato (Rabi).
Site :- Govt. Agri. Farm, Jorhat.

Object :- To study the effect of P on Tomato in acid soil.

1. BASAL CONDITIONS:
   (i) N.A.  (ii) Aha Paddy.  (c) Cowdung at 150 mds./ac.  (d) N.A.  (iii) 12.1.1956.  (iv) (a): 5 ploughings followed by laddering.  (b) Transplanting.  (c) -.  (d) 3' x 3'.  (e) 1.  (v) Cowdung at 150 mds/ac.  (vi) N.A.  (vii) Irrigated.  (viii) Weeding and hoeing.  (ix) 1.24".  (x) 11.2.1957 to 29.3.1957.

2. TREATMENTS:
   3 levels of P$_2$O$_5$ as Super : P$_0$ = 0, P$_1$ = 60 and P$_2$ = 120 lb./ac.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 3.  (b) 17' x 33'.  (iii) 3.  (iv) (a) and (b) 17' x 11'.  (v) Nil.  (vi) Yes.

4. GENERAL:
   (i) N.A.  (ii) N.A.  (iii) Tomato yield.  (iv) (a) 1956—1959.  (b) Yes.  (c) Nil.  (v) 'a' and b) Nil.  (vi) Nil.  (vii) Expt. was conducted by Agri. Chemist.

5. RESULTS:
   (i) 22051 lb./ac.  (ii) 5783 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of tomato in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>P$_0$</th>
<th>P$_1$</th>
<th>P$_2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>22109</td>
<td>23286</td>
<td>20758</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>3339 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

Crop :- Tomato (Rabi).
Site :- Govt. Agri. Farm, Jorhat.

Object :- To study the effect of P on Tomato in acid soil.

1. BASAL CONDITIONS:
   (i) and (ii) Same as in expt. no. 56(40) above.  (iii) 28.10.1957.  (iv) to (viii) Same as in expt. no. 56(40) above.  (ix) 2.77".  (x) 13.2.1958 to 16.3.1958.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 56(40) above.

5. RESULTS:
   (i) 19116 lb./ac.  (ii) 1053 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of tomato in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>P$_0$</th>
<th>P$_1$</th>
<th>P$_2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>18171</td>
<td>19553</td>
<td>19624</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>608 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. BASAL CONDITIONS:
(i) (a) N.A. (b) Ahu Paddy. (c) Cowdung at 150 mds/ac. (ii) (a) Old alluvial acid soil. (b) N.A. (iii) 12.11.1958. (iv) (a) Five ploughings followed by laddering. (b) Transplanting. (c) —. (d) 3' × 3'. (e) I. (v) Cowdung at 150 mds/ac. (vi) N.A. (vii) Irrigated. (viii) Weeding and hoeing. (ix) 1.36". (x) 21.2.1959 to 27.3.1959.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 56(40) on page 94.

5. RESULTS:
(i) 12110 lb./ac. (ii) 3171 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tomato in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>P0</th>
<th>P1</th>
<th>P2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>8409</td>
<td>1381</td>
<td>14041</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>1831 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop: Tomato (Rabi).  
Site: Govt. Agri. Farm, Jorhat.  
Object: To study the effect of P on Tomato in acid soil.

1. BASAL CONDITIONS:
(i) (a) N.A. (b) Ahu Paddy. (c) Cowdung at 150 mds/ac. (ii) (a) Old alluvial acid soil. (b) N.A. (iii) 26.10.1959. (iv) (a) Five ploughings followed by laddering. (b) Transplanting. (c) —. (d) 3' × 3'. (e) I. (v) Cowdung at 150 mds/ac. (vi) N.A. (vii) Irrigated. (viii) Weeding and hoeing. (ix) 2.08". (x) 3.2.1960 to 26.2.1960.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 56(40) on page 94.

5. RESULTS:
(i) 4087 lb./ac. (ii) 503 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of tomato in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>P0</th>
<th>P1</th>
<th>P2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3184</td>
<td>4458</td>
<td>4617</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>291 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop: Sugarcane.  
Site: Sugarcane Res. Stn., Burlikson.  
Object: To study the effect of P in presence of N, under limed and unlimed conditions.

1. BASAL CONDITIONS:
(i) (a) Sugarcane. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer below*. (iii) 28.1.1959 to 5.2.1959. (iv) (a) One ploughing followed by two harrowings. (b) Planted in trenches 9' deep (c) N.A. (d) Between rows-4'. (e) N.A. (v) Nil. (vi) CO—419 (late). (vii) Unirrigated.(viii) Two weedings and 2 earthings. (ix) 66.31". (x) 8.3.1960 to 12.3.1960.

2. TREATMENTS:
Main-plot treatments:
2 levels of slaked lime : L0=0 and L1=12 mds./ac.

*Coarse Sand 5.1%, Fine Sand—39.6% Silt 36.0% Clay—12.0% Moisture—6.0%, N3—173%, P2O5 0.003% K2O—0.004% pH 5.1 pH(KNO3)4.2.
Sub-plot treatments:

All combinations of (1) and (2)
(1) 2 sources of 160 lb. ac. of N: S₁=Y.M. and S₂=AS.
(2) 3 levels of P₂O₅ as Super: P₀=0, P₁=60 and P₂=120 lb/ac.

3. DESIGN:

(i) Split-plot. (ii) 2 main-plots/block; 6 sub-plots/main-plot. (b) 98'x192'. (iii) 4'x32'. (b) 45'x24'. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Fair. (ii) Nil. (iii) Sugarcanes yield. (iv) (a) 1959–N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

(i) 14.95 tons/ac. (ii) (a) 1.93 tons/ac. (b) 3.73 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of cane in tons/ac.

<table>
<thead>
<tr>
<th></th>
<th>P₀</th>
<th>P₁</th>
<th>P₂</th>
<th>Mean</th>
<th>S₁</th>
<th>S₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>L₀</td>
<td>15.01</td>
<td>14.47</td>
<td>13.21</td>
<td>14.23</td>
<td>15.29</td>
<td>13.18</td>
</tr>
<tr>
<td>L₁</td>
<td>13.71</td>
<td>17.81</td>
<td>15.48</td>
<td>15.67</td>
<td>15.64</td>
<td>15.69</td>
</tr>
<tr>
<td>S₁</td>
<td>13.86</td>
<td>16.58</td>
<td>15.94</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S₂</td>
<td>14.86</td>
<td>15.70</td>
<td>12.75</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. L marginal means = 0.30 tons/ac. 5. S means at the same level of L = 1.52 tons/ac.
2. S marginal means = 1.08 tons/ac. 6. L means at the same level of P = 1.55 tons/ac.
3. P marginal means = 1.32 tons/ac. 7. L means at the same level of S = 1.12 tons/ac.
4. P means at the same level of L = 1.82 tons/ac. 8. means in the body of P x S table = 1.86 tons/ac.

Crop :- Sugarcane. Ref :- As. 54(15).
Site :- Sugarcane Res. Stn., Jorhat. Type :- 'M'.

Object :- To study the effect of organic and inorganic manures and their combinations under limed and unlimed conditions.

1. BASAL CONDITIONS:

(i) (a) Sugarcane—ratoon—Fallow. (b) Fallow. (c) Nil. (ii) (a) Reddish sandy loam of old alluvium. (b) N.A. (iii) 19.4.1954 to 23.4.1954. (iv) (a) to (c) N.A. (v) Cowdung at 100 mds/ac. (vi) CO = 419 (late). (vii) Unirrigated. (viii) N.A. (ix) 72.60'. (x) 1.3.1955 to 8.3.1955.

2. TREATMENTS:

Main-plot treatments:
2 levels of lime : L₀=0 and L₁=12 mds/ac. of slaked line.

Sub-plot treatments:
7 manural doses : M₀=Control, M₁=150 mds/ac. of cowdung, M₂=300 mds/ac. of cowdung, M₃=300 lb/ac. of A/S, M₄=600 lb/ac. of A/S, M₅=150 lb/ac. of A/S+75 md/ac. of cowdung and M₆=300 lb/ac. of A/S+150 md. ac. of cowdung.

3. DESIGN:

(i) Split-plot. (ii) 2 main-plots/block and 7 sub-plots/main-plot. (b) 49’x224’. (iii) 3. (iv) 49’x32’. (b) 45’x24’. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Fair. (ii) N.A. (iii) Stripped cane yield. (iv) (a) 1953—1955. (b) and (c) No. (v) (a) and (b) N.A. (vi) and (vii) Nil.
5. RESULTS:

(i) 16.17 tons/ac.  (ii) (a) 5.55 tons/ac.  (b) 2.16 tons/ac.  (iii) M effect is significant.  (iv) Av. yield of cane in tons/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>( M_6 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( L_0 )</td>
<td>11.40</td>
<td>16.00</td>
<td>15.72</td>
<td>14.19</td>
<td>15.07</td>
<td>17.27</td>
<td>19.85</td>
<td>15.64</td>
</tr>
<tr>
<td>( L_1 )</td>
<td>14.75</td>
<td>14.89</td>
<td>19.55</td>
<td>16.15</td>
<td>18.35</td>
<td>15.84</td>
<td>17.32</td>
<td>16.71</td>
</tr>
<tr>
<td>Mean</td>
<td>13.07</td>
<td>15.50</td>
<td>17.64</td>
<td>15.17</td>
<td>16.71</td>
<td>16.56</td>
<td>18.58</td>
<td>16.17</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. L marginal means = 1.71 tons/ac.
2. M marginal means = 1.25 tons/ac.
3. M means at the same level of L = 1.76 tons/ac.
4. L means at the same level of M = 2.87 tons/ac.

Crop -> Sugarcane.
Site -> Sugarcane Res. Stn., Jorhat.
Ref -> As. 55(28).
Type -> 'M'.

Object:—To study the effect of organic and inorganic manures and their combinations under limed and unlimed conditions.

1. BASAL CONDITIONS:
(i) (a) Sugarcane—ratoon—Fallow.  (b) Fallow.  (c) Nil.  (ii) (a) Reddish sandy loam of old alluvium.  (b) N.A. (iii) 17.2.1955 to 24.2.1955.  (iv) (a) Ploughing followed by 2 harrowings.  (b) Planted in trenches 7" deep.  (d) Between rows—4'.  (e) N.A.  (v) Cowdung at 100 mds/ac.  (vi) CO—419 (late).  (vii) Unirrigated.  (viii) Two weedings and earthing.  (ix) 78.83".  (x) 4.4.1956 to 10.4.1956.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 54(15) on page 96.

4. GENERAL:
(i) Fair.  (ii) Nil.  (iii) Stripped cane yield.  (iv) (a) 1953—1955.  (b) No.  (c) Nil.  (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 17.28 tons/ac.  (ii) (a) 4.58 tons/ac.  (b) 2.32 tons/ac.  (iii) None of the effects is significant.  (iv) Av. yield of cane in tons/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>( M_6 )</th>
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</tr>
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<tbody>
<tr>
<td>( L_0 )</td>
<td>15.30</td>
<td>16.44</td>
<td>18.48</td>
<td>17.26</td>
<td>18.74</td>
<td>17.20</td>
<td>16.57</td>
<td>17.14</td>
</tr>
<tr>
<td>( L_1 )</td>
<td>15.89</td>
<td>16.77</td>
<td>18.22</td>
<td>17.00</td>
<td>17.74</td>
<td>16.26</td>
<td>20.03</td>
<td>17.42</td>
</tr>
<tr>
<td>Mean</td>
<td>15.60</td>
<td>16.60</td>
<td>18.35</td>
<td>17.13</td>
<td>18.24</td>
<td>16.73</td>
<td>18.33</td>
<td>17.28</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. L marginal means = 1.41 tons/ac.
2. M marginal means = .34 tons/ac.
3. M means at the same level of L = 1.89 tons/ac.
4. L means at the same level of M = 2.25 tons/ac.
Crop :- Sugarcane.
Site :- Sugarcane Res. Stn., Jorhat.

Object :—To study the best method and time for application of N as F.Y.M.

1. BASAL CONDITIONS :
(i) (a) Sugarcane—ratoon—Fallow. (b) Fallow. (c) N.A. (ii) Reddish sandy loam of old alluvium (b) N.A. (iii) 21st to 28th March, 1956. (iv) (a) 1 ploughing followed by 2 harrowings. (b) Planted in trenches 9" deep. (c) N.A. (d) Between lines—4'. (e) N.A. (v) Nil. (vi) CO—419. (vii) Unirrigated. (viii) 2 weedings and 2 earthing. (ix) 72.75°. (x) 19th to 25th March, 1957.

2. TREATMENTS :
T₁ = 160 lb. /ac. of N broadcast on 25th January, 1956.
T₂ = 160 lb. /ac. of N applied in trenches on 31st January, 1956.
T₃ = 80 lb. /ac. of N applied in trenches on 14th Feb., 1956 and 80 lb. /ac. of N applied on 19th and 20th June, 1956 along with 1st earthing.

N applied as F.Y.M.

3. DESIGN :
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 49' x 32'. (b) 45' x 32'. (v) and (vi) Yes.

4. GENERAL :
(i) Fair. (ii) N.A. (iii) Stripped cane yield. (iv) (a) 1956—1957. (b) and (c) No. (v) (a) and (b) No. (vi) and (vii) Nil.

5. RESULTS :
(i) 14.89 tons/ac. (ii) 2.60 tons/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of cane in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>T₄</th>
<th>T₅</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>11.62</td>
<td>13.78</td>
<td>17.59</td>
<td>15.68</td>
<td>15.79</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>1.06 tons/ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Sugarcane.
Site :- Sugarcane Res. Stn., Jorhat.

Object :—To study the best method and time for application of N as F.Y.M.

1. BASAL CONDITIONS :
(i) (a) Sugarcane—ratoon—Fallow. (b) Fallow. (c) N.A. (ii) (a) Reddish sandy loam of old alluvium (b) N.A. (iii) 28th March to 4th April 1957. (iv) (a) 1 ploughing followed by 2 harrowings. (b) Planted in 9' deep trenches. (c) N.A. (d) Between lines—4'. (e) N.A. (v) Nil. (vi) CO—419. (vii) Unirrigated. (viii) 2 weedings and 2 earthing. (ix) 91.47°. (x) 6th to 10th April, 1958.

2. TREATMENTS :
T₁ = 160 lb. /ac. of N broadcast on 21st Feb., 1957.
T₂ = 160 lb. /ac. of N broadcast on 21st and 22nd Feb., 1957.
T₃ = 160 lb. /ac. of N applied in trenches on 20th Feb., 1957.
T₄ = 160 lb. /ac. of N applied in trenches on 28th March, 1957.
T₅ = 80 lb. /ac. of N applied in trenches on 5th March, 1957 and 80 lb. /ac. of N applied on 11th July, 1957 along with 1st earthing.

Source of N is N.A.

3. DESIGN :
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 49' x 32'. (b) 45' x 32'. (v) N.A. (vi) Yes.

4. GENERAL :
(i) Fair. (ii) N.A. (iii) Stripped cane yield. (iv) (a) 1956—1957. (b) and (c) No. (v) (a) and (b) No. (vi) and (vii) Nil.
5. RESULTS:
(i) 9.49 tons/ac.  (ii) 1.95 tons/ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of cane in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>T₄</th>
<th>T₅</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>10.06</td>
<td>8.72</td>
<td>9.69</td>
<td>8.18</td>
<td>10.78</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 0.79 tons/ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Sugarcane.
Site :- Sugarcane Res. Sta., Jorhat.

Object :- To study the best method of application of F.Y.M.

1. BASAL CONDITIONS:
(i) (a) Sugarcane—ratoon.  (b) Ratoon.  (c) Nil.  (ii) (a) Reddish sandy loam of old alluvium.  (b) N.A.
(iii) N.A.  (iv) (a) One ploughing followed by two harrowings.  (b) Planted in trenches 9" deep.  (c) N.A.

2. TREATMENTS:
T₁ = 400 md./ac. of F.Y.M. broadcast one month before trenching.
T₂ = 400 md./ac. of F.Y.M. broadcast just before trenching.
T₃ = 400 md./ac. of F.Y.M. applied in trenches one month before planting.
T₄ = 400 md./ac. of F.Y.M. applied in trenches just before planting.
T₅ = 200 md./ac. of F.Y.M. applied in trenches one month before planting and 200 md./ac. of F.Y.M. applied with first earthing.

3. DESIGN:
(i) R.B.D.  (ii) 5.  (b) N.A.  (iii) 6.  (iv) (a) 49' X 32'.  (b) 45' X 24'.  (v) and (vi) Yes.

4. GENERAL:
(i) Fair.  (ii) Nil.  (iii) Stripped cane yield.  (iv) (a) 1956—N.A.  (b) Yes.  (c) Nil.  (v) (a) and (b) N.A.  (vi) and (vii) Nil.

5. RESULTS:
(i) 16.25 tons/ac.  (ii) 2.71 tons/ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of cane in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>T₄</th>
<th>T₅</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>15.25</td>
<td>15.93</td>
<td>17.44</td>
<td>15.67</td>
<td>16.98</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 1.11 tons/ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Sugarcane.
Site :- Govt. Agri. Farm, Lembucherra.

Object :- To study the response of N at various levels on the yield of Sugarcane.

1. BASAL CONDITIONS:
(i) (a) No.  (b) Jute.  (c) Cowdung at 100 md./ac. as B.D. and A/S at 100 lb./ac. as top dressing.  (ii) (a) Sandy loam.  (b) N.A.  (iii) 18.5.1958.  (iv) (a) Ploughing and hoeing.  (b) Planted in trenches 9" deep.  (c) to (e) N.A.  (v) 40 lb./ac. of P₂O₅ as B.M. applied in trenches.  (vi) CO—527.  (vii) Irrigated.  (viii) Weeding once, hoeing once and earthing up twice.  (ix) 64.83".  (x) 23.2.1959.

2. TREATMENTS:
5 levels of N : N₁=0, N₂=40, N₃=80, N₄=120 and N₅=160 lb./ac.

3. DESIGN:
(i) R.B.D.  (ii) (a) 5.  (b) 24' X 40'.  (iii) 4.  (iv) (a) 24' X 8'.  (b) 21' X 5'.  (v) N.A.  (vi) Yes.

Ref :- As. 58(19).
Type :- 'M'.

Ref :- As. 58(1).
Type :- 'M'.
4. GENERAL:
   (i) Good. (ii) No. (iii) Sugarcane yield. (iv) (a) No. (b) and (c)—. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 13.93 tons/ac. (ii) 4.45 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of cane in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>N0</th>
<th>N1</th>
<th>N2</th>
<th>N3</th>
<th>N4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>11.56</td>
<td>11.93</td>
<td>13.83</td>
<td>14.76</td>
<td>17.58</td>
</tr>
</tbody>
</table>

S.E./mean = 2.28 tons/ac.

Crop :- Sugarcane.
Site :- Sugarcane Res. Stn., Burliken.
Object :- To study the effect of time and method of harvesting.

1. BASAL CONDITIONS:
   (i) (a) Sugarcane—ratoon. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer expt. no. 59(62) on page 95.
   (iii) 10 to 12.2.1959. (iv) (a) One ploughing followed by two harrowings. (b) Plowed in trenches 9’ deep.
   (c) N.A. (d) Between rows—4’. (e) N.A. (v) Nil. (vi) CO—419 (late). (vii) Unirrigated. (viii) 2 weedicings and 2 earthing.
   (ix) 66.31”. (x) As per treatments.

2. TREATMENTS:
   Main-plot treatments:
   2 methods of harvesting : H1 = Flush with ridge and H2 = Flush with ground.
   Sub-plot treatments:

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/replication and 5 sub-plots/main-plot. (b) 98’ x 160’. (iii) 3.
   (iv) (a) 49’ x 32’. (b) 45’ x 24’. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Fair. (ii) Nil. (iii) Sugarcane yield. (iv) (a) 1959—N.A. (b) and (c) No. (v) (a) and (b) N.A.
   (vi) and (vii) Nil.

5. RESULTS:
   (i) 15.76 tons/ac. (ii) (a) 3.04 tons/ac. (b) 4.33 tons/ac. (iii) T effect alone is highly significant. (iv) Av. yield of cane in tons/ac.

<table>
<thead>
<tr>
<th></th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
<th>Mean</th>
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<tbody>
<tr>
<td>H1</td>
<td>17.37</td>
<td>25.33</td>
<td>16.93</td>
<td>18.84</td>
<td>9.30</td>
<td>17.55</td>
</tr>
<tr>
<td>H2</td>
<td>19.01</td>
<td>15.71</td>
<td>13.62</td>
<td>10.94</td>
<td>10.54</td>
<td>13.96</td>
</tr>
<tr>
<td>Mean</td>
<td>18.19</td>
<td>20.52</td>
<td>15.28</td>
<td>14.89</td>
<td>9.92</td>
<td>15.76</td>
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</tbody>
</table>

S.E. of difference of two
1. H marginal means = 1.11 tons/ac.
2. T marginal means = 2.50 tons/ac.
3. T means at the same level of H = 3.54 tons/ac.
4. H means at the same level of T = 2.37 tons/ac.

Crop :- Cotton.
Site :- Cotton Res. Stn., Tura.
Object :- To test the relative effect of different nitrogenous manures on Cotton crop.

Ref :- As. 59(61).
Type :- ‘C’.

Ref :- As. 54(8).
Type :- ‘M’.
1. BASAL CONDITIONS:
   (i) (a) Nil. (b) and (c) Nil. (ii) (a) Red sandy clay soil. (b) N.A. (iii) April 1954. (iv) (a) Ploughing and weeding. (b) Dibbling. (c) to (e) N.A. (v) Nil. (vi) *G. arboreum var. cornum* (medium). (vii) Unirrigated. (viii) One weeding. (ix) 117.80°. (x) December 1954.

2. TREATMENTS:
   4 manures to give 60 lb./ac. of N: M₀ = No manure, M₁ = A/S, M₂ = Cowdung and M₃ = Oilcake. Manures applied one week before sowing.

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

4. GENERAL:
   (i) N.A. (ii) Attack of pink boll worm, red bug, aphid and wilt. Spraying Gammexane and Guesarol. (iii) *Kapas* yield. (iv) (a) 1949–1955. (b) and (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 126.9 lb./ac. (ii) 49.64 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of *kapas* in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M₀</th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>62.2</td>
<td>77.6</td>
<td>216.2</td>
<td>151.4</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>20.26 lb./ac.</td>
<td></td>
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</tbody>
</table>

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**Crop**: Cotton.  
**Site**: Cotton Res. Stn., Tura.  
**Ref**: As. 55(8).  
**Type**: *M*.  

Object:—To test the relative effect of nitrogenous manures applied to Cotton crop.

1. BASAL CONDITIONS:
   (i) (a) to (c) Nil. (ii) (a) Red sandy clay soil. (b) N.A. (iii) 22.4.1955. (iv) (a) Ploughing and weeding. (b) Dibbling. (c) to (e) N.A. (v) Nil. (vi) *G. arboreum var. cornum*. (vii) Unirrigated. (viii) Weeding with small hand hoe. (ix) 139.40°. (x) December 1955.

2. TREATMENTS:
   4 manures to give 60 lb./ac. of N: M₀ = No manure, M₁ = A/S, M₂ = Cowdung and M₃ = Mustard oilcake. Manures applied one week before sowing.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) 18'X28'. (b) 15'X26'. (v) Yes. (vi) N.A.

4. GENERAL:
   (i) N.A. (ii) Attack of pink boll worm, red bug, aphid and wilt. Spraying Gammexane and Guesarol. (iii) *Kapas* yield. (iv) (a) 1949–1955. (b) and (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 144.9 lb./ac. (ii) 71.44 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of *kapas* in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M₀</th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
</tr>
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<tbody>
<tr>
<td>Av. yield</td>
<td>100.3</td>
<td>113.6</td>
<td>235.1</td>
<td>130.5</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>31.9 lb./ac.</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

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**Crop**: Cotton.  
**Site**: Cotton Res. Stn., Tura.  
**Ref**: As. 56(13).  
**Type**: *C*.  

Object:—To find out the optimum time of sowing for Cotton.
1. **BASAL CONDITIONS**:
   (i) (a) to (c) Nil. (ii) (a) Red sandy clay soil. (b) N.A. (iii) As per treatments. (iv) (a) Jhum system of cultivation. (b) Dibbling. (c) to (e) N.A. (v) Nil. (vi) *G. arboreum var. cornum* (medium). (vii) Unirrigated. (viii) Weeding. (ix) 139.40°. (x) N.A.

2. **TREATMENTS**:

3. **DESIGN**:
   (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 32’x 18’. (b) 30’x 16’. (v) N.A. (vi) Yes.

4. **GENERAL**:
   (i) N.A. (ii) Attack of pink boll worm, red bug, aphis and wilt. Spraying Gammexane and Guesarol. (iii) *Kapas* yield. (iv) (a) to (c) No. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. **RESULTS**:
   (i) 309 lb./ac. (ii) 128.2 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of *kapas* in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D₁</th>
<th>D₂</th>
<th>D₃</th>
<th>D₄</th>
<th>D₅</th>
<th>D₆</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>335</td>
<td>437</td>
<td>290</td>
<td>316</td>
<td>251</td>
<td>228</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>52.34 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

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**Crop**: Cotton.  
**Site**: Cotton Res. Stn., Tura.  
**Ref**: As. 55(9).  
**Type**: 'C'.

**Object**—To study the economics of production of Cotton.

1. **BASAL CONDITIONS**:
   (i) (a) to (c) Nil. (ii) (a) Red sandy clay soil. (b) N.A. (iii) 6, 7.4.1955. (iv) (a) Ploughing and weeding. (b) Dibbling. (c) to (e) N.A. (v) A/S dibbled at 200 lb./ac. two months after sowing. (vi) *G. arboreum var. cornum* (medium). (vii) Unirrigated. (viii) One weeding. (ix) 139.40°. (x) Dec., 1955.

2. **TREATMENTS**:
   2. Cotton alone.

3. **DESIGN**:
   (i) R.B.D. (ii) (a) 2. (b) N.A. (iii) 6. (iv) (a) 33’x18’. (b) 30’x16’. (v) Yes. (vi) N.A.

4. **GENERAL**:
   (i) N.A. (ii) Attack of pink boll worm, steam weevil, red bug, aphis and wilt—spraying Gammexane and Guesarol. (iii) *Kapas* yield. (iv) (a) to (c) No. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. **RESULTS**:
   (i) 276.6 lb./ac. (ii) 168.7 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of *kapas* in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>181.4</td>
<td>371.8</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>68.9 lb./ac.</td>
<td></td>
</tr>
</tbody>
</table>

---

**Crop**: Cotton.  
**Site**: Cotton Res. Stn., Tura.  
**Ref**: As. 56(12).  
**Type**: ‘C’.

**Object**—To study the economics of production of Cotton.
1. BASAL CONDITIONS:
   (i) (a) to (c) Nil. (ii) (a) Red sandy clay soil. (b) N.A. (iii) April, 1956. (iv) (a) Jhum system of cultivation. (b) Dibbling. (c) to (e) N.A. (v) N.A. (vi) G. arboreum var. cornum (medium). (vii) Unirrigated. (viii) Weeding. (ix) 159.15". (x) Dec., 1956.

2. TREATMENTS:
   2. Cotton+Sannhemp.
   3. Cotton alone.

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

4. GENERAL:
   (i) N.A. (ii) Attack of pink boll worm, aphis, wilt and bug—spraying with Gammexane and Guesarol. (iii) Kapas yield. (iv) (a) to (c) No. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 71.67 lb./ac. (ii) 52.79 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of kapas in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>44.0</td>
<td>32.0</td>
<td>139.0</td>
</tr>
</tbody>
</table>

   S.E./mean = 21.55 lb./ac.

---

Crop: Jute.
Site: Jute Seed Multiplication Farm, Barapetta.
Object:—To compare the manurial values of C/N and A/S.

1. BASAL CONDITIONS:
   (i) (a) Jute—Mustard. (b) Mustard. (c) Nil. (ii) (a) Sandy loam. (b) N.A. (iii) 28.6.1957. (iv) (a) to (e) N.A. (v) About 50 md. of cowdung applied one month before sowing. (vi) J.R.O. 632. (vii) Unirrigated. (viii) One weeding and thinning. (ix) 42.73". (x) 24, 25.10.1957.

2. TREATMENTS:
   All combinations of (1) and (2) + a control.
   (1) 2 levels of N : N_1 = 20 and N_2 = 40 lb./ac.
   (2) 2 sources of N: S_1 = C/N and S_2 = A/S.

3. DESIGN:
   (i) R.B.D (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) and (b) 22×33". (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Fair. (ii) Nil. (iii) Fibre yield. (iv) (a) 1958. (b) No. (c) N.A. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 766 lb./ac. (ii) 151.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of fibre in lb./ac.

   Control = 615 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N_1</th>
<th>N_2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S_1</td>
<td>750</td>
<td>900</td>
<td>825</td>
</tr>
<tr>
<td>S_2</td>
<td>825</td>
<td>750</td>
<td>783</td>
</tr>
<tr>
<td>Mean</td>
<td>783</td>
<td>825</td>
<td>804</td>
</tr>
</tbody>
</table>

   S.E. of N or S marginal mean = 53.49 lb./ac.
   S.E. of body of table or control mean = 75.65 lb./ac.
Crop :- Jute.  
Site :- Jute Seed Multiplication Farm, Barapetta.  
Object :- To compare the manurial values of C/N and A/S.

1. BASAL CONDITIONS:
   (i) (a) Jute-Mustard. (b) Mustard. (c) Nil.  
   (ii) (a) Sandy loam. (b) N.A.  
   (iii) 6.6.1958.  
   (iv) (a) to (e) N.A.  
   (v) Nil.  
   (vi) J.R.O. 632.  
   (vii) Unirrigated.  
   (viii) One weeding and thinning.  
   (ix) 85.45'.  

2. TREATMENTS:
   Same as in exp. no. 57(3) on page 103.

3. DESIGN:
   (i) R.B.D.  
   (ii) 5.  
   (iii) 4.  
   (iv) (a) 49'×20'. (b) 45'×16'. (v) 2'×2'. (vi) Yes.

4. GENERAL:
   (i) Good.  
   (ii) Attack of semi-looper and hairy caterpillar. Dusting and hand picking.  
   (iii) Green crop and fibre yield.  
   (iv) (a) 1957-1958. (b) and (c) Nil.  
   (v) (a) and (b) Nil.  
   (vi) and (vii) Nil.

5. RESULTS:
   (i) 1446 lb./ac.  
   (ii) 279.3 lb./ac.  
   (iii) None of the effects is significant.  
   (iv) Av. yield of fibre in lb./ac.

<table>
<thead>
<tr>
<th>Control = 1316 lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
</tr>
<tr>
<td>1346</td>
</tr>
<tr>
<td>1800</td>
</tr>
<tr>
<td>Mean 1573</td>
</tr>
</tbody>
</table>

   S.E. of N or S marginal mean = 98.8 lb./ac.  
   S.E. of body of table or control mean = 139.6 lb./ac.

Crop :- Jute (Kharif).  
Centre :- Nowgong, Kamrup, Goalpara and Darrang (c.f.).  
Object :- To study the effect of inorganic fertilizers on the yield of Jute fibre.

1. BASAL CONDITIONS:
   (i) (a) to (e) N.A.  
   (ii) Loam.  
   (iii) Nil.  
   (iv) JRC 212 capsularis (improved).  
   (v) N.A.  
   (b) Broadcasting.  
   (d) and (e) 10 lb./ac.  
   (v) 1st week of May.  
   (vii) Unirrigated.  
   (viii) N.A. (ix) N.A.  
   (x) Middle of Sept.

2. TREATMENTS:
   1. Control.
   2. A:S at 100 lb./ac.  
   3. A:S at 150 lb./ac.  
   4. A:S at 150 lb./ac.+Single Super at 187.5 lb./ac.  
   5. A:S at 150 lb./ac.+Mur. of Pot. at 80 lb./ac.  
   6. A:S at 150 lb./ac.+Single Super at 187.5 lb./ac.+Mur. of Pot. at 80 lb./ac.

3. DESIGN:
   (i) and (ii) 12 blocks were selected, 2 each in Nowgong and Goalpara, 3 in Darrang and 5 in Kamrup districts.  
   (iii) (a) 34'×134'. (b) 33'×132'. (iv) Yes.

4. GENERAL:
   (i) Fair.  
   (ii) Nil.  
   (iii) Weight of dry fibre.  
   (iv) (a) 1954—contd. (b) and (c) N.A.  
   (v) (a) and (b) N.A.  
   (vi) and (vii) Nil.
5. RESULTS:
(i) 1117 lb./ac. (ii) 393 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of fibre in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>912</td>
<td>999</td>
<td>1018</td>
<td>1161</td>
<td>1272</td>
<td>1341</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>113 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Jute (Kharif).
Centre :- Nowgong, Kamrup, Goalpara and Darrang (c.f.).
Ref :- As. 55(36). Type :- 'M'.

Object :- To study the effect of inorganic fertilizers on the yield of Jute fibre.

1. BASAL CONDITIONS and 2. TREATMENTS:
Same as in expt. no 54(22) on page 104.

3. DESIGN:
(i) and (ii) 14 blocks were selected, 6 in Nowgong, 5 in Kamrup, 1 in Goalpara and 2 in Darrang districts.
(iii) (a) 34'×134'. (b) 33'×132'. (iv) Yes.

4. GENERAL:
Same as in expt. no. 54(22) on page 104.

5. RESULTS:
(i) 917 lb./ac. (ii) 188 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of fibre in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>723</td>
<td>915</td>
<td>1012</td>
<td>1069</td>
<td>1185</td>
<td>1195</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>50 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Jute (Kharif).
Centre :- Nowgong, Kamrup, Goalpara and Darrang (c.f.).
Ref :- As. 56(45). Type :- 'M'.

Object :- To study the effect of inorganic fertilizers on the yield of Jute fibre.

1. BASAL CONDITIONS and 2. TREATMENTS:
Same as in expt. no. 54(22) on page 104.

3. DESIGN:
(i) and (ii) 10 blocks were selected, 2 each in Nowgong, Kamrup and Goalpara districts and 4 in Darrang district.
(iii) (a) 34'×134'. (b) 33'×132'. (iv) Yes.

4. GENERAL:
Same as in expt. no. 54(22) on page 104.

5. RESULTS:
(i) 1295 lb./ac. (ii) 194 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of fibre in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>920</td>
<td>1142</td>
<td>1272</td>
<td>1491</td>
<td>1432</td>
<td>1510</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>61 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


**Crop:** Jute (*Kharif*).

**Centre:** Nowgong, Kamrup, and Goalpara (c.f.).

**Object:** To study the effect of inorganic fertilizers on the yield of Jute fibre.

1. **BASAL CONDITIONS:**
   Same as in expt. no. 54(22) on page 104.

2. **TREATMENTS:**
   Same as in expt. no. 54(22) on page 104.

3. **DESIGN:**
   (i) and (ii) 12 blocks were selected, 6 from Nowgong, 2 from Kamrup and 4 from Goalpara districts. (iii) (a) 34’x134’. (b) 33’x132’. (iv) Yes.

4. **GENERAL:**
   Same as in expt. no. 54(22) on page 104.

5. **RESULTS:**
   (i) 1225 lb./ac. (ii) 237 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of fibre in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>960</td>
<td>1093</td>
<td>1165</td>
<td>1349</td>
<td>1271</td>
<td>1512</td>
</tr>
</tbody>
</table>

S.E./mean = 68 lb./ac.

---

**Crop:** Jute (*Kharif*).

**Centre:** Nowgong, Kamrup and Goalpara (c.f.).

**Type:** ‘M’.

**Object:** To study the effect of inorganic fertilizers on the yield of Jute fibre.

1. **BASAL CONDITIONS:**
   Same as in expt. no. 54(22) on page 104.

2. **TREATMENTS:**
   Same as in expt. no. 54(22) on page 104.

3. **DESIGN:**
   (i) and (ii) 7 blocks were selected, 4 from Nowgong, 2 from Goalpara and 1 from Kamrup districts. (iii) (a) 34’x134’. (b) 33’x132’. (iv) Yes.

4. **GENERAL:**
   Same as in expt. no. 54(22) on page 104.

5. **RESULTS:**
   (i) 1358 lb./ac. (ii) 254 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of fibre in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1099</td>
<td>1232</td>
<td>1171</td>
<td>1533</td>
<td>1473</td>
<td>1643</td>
</tr>
</tbody>
</table>

S.E./mean = 96 lb./ac.
Crop: Jute (Kharif).
Centre: Nowgong, Kamrup and Goalpara (c.f.).

Object: To study the effect of inorganic fertilizers on the yield of Jute fibre.

1. BASAL CONDITIONS:
   Same as in expt. no. 54(22) on page 104.

2. TREATMENTS:
   Same as in expt. no. 54(22) on page 104.

3. DESIGN:
   (i) and (ii) 7 blocks, 4 from Nowgong, 1 from Kamrup and 2 from Goalpara districts were selected. (iii) (a) 34′×134′. (b) 33′×132′. (iv) Yes.

4. GENERAL:
   Same as in expt. no. 54(22) on page 104.

5. RESULTS:
   (i) 1295 lb./ac. (ii) 301 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of fibre in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1018</td>
<td>1113</td>
<td>1262</td>
<td>1457</td>
<td>1427</td>
<td>1492</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>114 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop: Jute (Kharif).
Centre: Nowgong, Kamrup and Goalpara (c.f.).

Object: To study the effect of inorganic fertilizers on the yield of Jute fibre.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) Loam. (iii) Nil. (iv) JR126 olitorius (improved). (v) (a) N.A. (b) Broadcasting. (c) 6 lb./ac. (d) and (e) —. (vi) 1st week of May. (vii) Unirrigated. (viii) N.A. (ix) N.A. (x) Middle of September.

2. TREATMENTS:
   Same as in expt. no. 54(22) on page 104.

3. DESIGN:
   (i) and (ii) 3 blocks, one from each district were selected. (iii) (a) 34′×134′. (b) 33′×132′. (iv) Yes.

4. GENERAL:
   Same as in expt. no. 54(22) on page 104.

5. RESULTS:
   (i) 886 lb./ac. (ii) 81 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of fibre in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>659</td>
<td>744</td>
<td>829</td>
<td>951</td>
<td>1017</td>
<td></td>
</tr>
<tr>
<td>S.E./mean</td>
<td>47 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. **BASAL CONDITIONS**:
   Same as in expt. no. 55(35) on page 107.

2. **TREATMENTS**:
   Same as in expt. no. 54(22) on page 104.

3. **DESIGN**:
   (i) and (ii) 5 blocks were selected, 2 each in Kamrup and Goalpara districts and one in Darrang District.
   (iii) (a) 34' x 134'. (b) 33' x 132'. (iv) Yes.

4. **GENERAL**:
   Same as in expt. no. 54(22) on page 104.

5. **RESULTS**:
   (i) 1819 lb./ac. (ii) 186 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of fibre in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1464</td>
<td>1835</td>
<td>1932</td>
<td>1947</td>
<td>1979</td>
<td>1755</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>83</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Crop :- Jute (Kharif).**

**Centre :- Nowgong, Kamrup and Goalpara (c.f.).**

Object :- To study the effect of inorganic fertilizers on the yield of Jute fibre.

---

1. **BASEL CONDITIONS**:
   Same as in expt. no. 55(35) on page 107.

2. **TREATMENTS**:
   Same as in expt. no. 54(22) on page 104.

3. **DESIGN**:
   (i) and (ii) 4 blocks, one each from Kamrup and Goalpara districts and 2 from Nowgong district, were selected.
   (iii) (a) 34' x 134'. (b) 33' x 132'. (iv) Yes.

4. **GENERAL**:
   Same as in expt. no. 54(22) on page 104.

5. **RESULTS**:
   (i) 1794 lb./ac. (ii) 284 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of fibre in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1504</td>
<td>1763</td>
<td>1588</td>
<td>1984</td>
<td>1846</td>
<td>7077</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>142</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Crop :- Jute (Kharif).**

**Centre :- Nowgong and Kamrup (c.f.).**

Object :- To study the effect of inorganic fertilizers on the yield of Jute fibre.

---

1. **BASEL CONDITIONS**:
   Same as in expt. no. 55(35) on page 107.
2. TREATMENTS:
Same as in expt. no. 54(22) on page 104.

3. DESIGN:
(i) 5 blocks were selected, 3 from Nowgong and 2 from Kamrup districts. (ii) —. (iii) (a) 34'×134'. (b) 33'×132'. (iv) Yes.

4. GENERAL:
Same as in expt. no. 54(22) on page 104.

5. RESULTS:
(i) 1520 lb./ac. (ii) 118 lb./ac. (iii) Treatments differences are highly significant. (iv) Av. yield of fibre in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1287</td>
<td>1551</td>
<td>1511</td>
<td>1620</td>
<td>1537</td>
<td>1612</td>
</tr>
<tr>
<td>S.E./mean =</td>
<td>53 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Jute (Kharif).
Centre :- Nowgong (C.F.).
Object :- To study the effect of inorganic fertilizers on the yield of Jute fibre.

1. BASAL CONDITIONS:
Same as in expt. no. 55(35) on page 107.

2. TREATMENTS:
Same as in expt. no. 54(22) on page 104.

3. DESIGN:
(i) 2 blocks were selected. (ii) —. (iii) (a) 34'×134'. (b) 32'×132'. (iv) Yes.

4. GENERAL:
Same as in expt. no. 54(22) on page 104.

5. RESULTS:
(i) 1101 lb./ac. (ii) 127 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of fibre in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1037</td>
<td>1074</td>
<td>1048</td>
<td>1083</td>
<td>1166</td>
<td>1197</td>
</tr>
<tr>
<td>S.E./mean =</td>
<td>90 lb./ac.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Crop :- Jute.
Site :- Jute Seed Multiplication Farm, Barapetta.
Object :- To study the response of different varieties of Jute to application of N.

1. BASAL CONDITIONS:
(i) (a) Jute—Mustard (b) Mustard. (c) Nil. (ii) (a) Sandy loam. (b) N A. (iii) 20 and 21.3.1956. (iv) (a) to (e) N.A. (v) About 50 mo. of cowdung applied one month before sowing. (vi) As per treatments. (vii) Unirrigated. (viii) Two weedings and two thinnings. (ix) 87°. (x) 29.8.1956.

2. TREATMENTS:
Strips in one direction:
Strips in the other direction:
4 levels of N : N₀=0, N₁=20, N₂=40 and N₃=60 lb./ac.
N applied as A/S.
3. DESIGN:
(i) Strip-plot. (ii) (a) 16. (b) N.A. (iii) 4. (iv) (a) $28' \times 24'$. (b) $24' \times 20'$. (v) $2' \times 2'$. (vi) Yes.

4. GENERAL:
(i) Fair. (ii) Nil. (iii) Fibre yield. (iv) (a) 1956—1960. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 574.3 lb./ac. (ii) (a) 364.8 lb./ac. (b) 264.8 lb./ac. (c) 228.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of fibre in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$V_1$</th>
<th>$V_2$</th>
<th>$V_3$</th>
<th>$V_4$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$N_0$</td>
<td>453.8</td>
<td>408.4</td>
<td>476.4</td>
<td>521.8</td>
<td>465.1</td>
</tr>
<tr>
<td>$N_1$</td>
<td>657.9</td>
<td>521.8</td>
<td>726.0</td>
<td>589.9</td>
<td>623.9</td>
</tr>
<tr>
<td>$N_2$</td>
<td>431.1</td>
<td>771.4</td>
<td>612.6</td>
<td>431.1</td>
<td>561.6</td>
</tr>
<tr>
<td>$N_3$</td>
<td>726.0</td>
<td>567.2</td>
<td>635.3</td>
<td>657.9</td>
<td>646.6</td>
</tr>
<tr>
<td>Mean</td>
<td>567.2</td>
<td>567.2</td>
<td>612.6</td>
<td>550.2</td>
<td>574.3</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. $V$ marginal means $= 129.0$ lb./ac.
2. $N$ marginal means $= 93.6$ lb./ac.
3. $N$ means at the same level of $V$ $= 190.1$ lb./ac.
4. $V$ means at the same level of $N$ $= 168.1$ lb./ac.

Crop :- Jute.

Site :- Jute Seed Multiplication Farm, Barapetta.

Object :- To study the response of different varieties of Jute to application of N.

1. BASAL CONDITIONS:
(i) (a) Jute—Mustard. (b) Mustard. (c) Nil. (ii) (a) Sandy loam. (b) N.A. (iii) 16.4.1957. (iv) (a) to (c) N.A. (v) About 50 md./ac. of cowdung applied one month before sowing (vi) As per treatments. (vii) Unirrigated. (viii) Two weedings and two thinnings. (ix) 75.0 to 91.9.1957.

2. TREATMENTS and 3. DESIGN:
Same as in exp. no. 56(11) on page 109.

4. GENERAL:
(i) Fair. (ii) Attack of semi-loopers and hairy cater-pillars—dusting and hand picking. (iii) Fibre yield. (iv) (a) 1956—1960. (b) and (c) Yes. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 1417 lb./ac. (ii) (a) 422.4 lb./ac. (b) 472.2 lb./ac. (c) 274.1 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of fibre in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$V_1$</th>
<th>$V_2$</th>
<th>$V_3$</th>
<th>$V_4$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$N_0$</td>
<td>1021</td>
<td>1134</td>
<td>1202</td>
<td>1089</td>
<td>1112</td>
</tr>
<tr>
<td>$N_1$</td>
<td>1384</td>
<td>1588</td>
<td>1634</td>
<td>1248</td>
<td>1464</td>
</tr>
<tr>
<td>$N_2$</td>
<td>1770</td>
<td>1565</td>
<td>1883</td>
<td>1225</td>
<td>1611</td>
</tr>
<tr>
<td>$N_3$</td>
<td>1611</td>
<td>1543</td>
<td>1497</td>
<td>1270</td>
<td>1480</td>
</tr>
<tr>
<td>Mean</td>
<td>1447</td>
<td>1457</td>
<td>1554</td>
<td>1208</td>
<td>1417</td>
</tr>
</tbody>
</table>
111

S.E. of difference of two
1. V marginal means = 149.3 lb./ac.
2. N marginal means = 167.0 lb./ac.
3. N means at the same level of V = 224.7 lb./ac.
4. V means at the same level of N = 236.7 lb./ac.

Crop :- Jute.

Ref :- As. 58(1).

Site :- Jute Seed Multiplication Farm, Barapetta.

Type :- ‘MV’.

Object: — To study the response of different varieties of Jute to application of N.

1. BASAL CONDITIONS:
   (i) (a) Jute—Mustard. (b) Mustard. (c) Nil. (ii) (a) Sandy loam. (b) N.A. (iii) 18, 19.4.1958. (iv)(a) to (b) N.A. (v) About 50 md./ac. of cowdung applied one month before sowing. (vi) As per treatments. (vii) Unirrigated. (viii) One weeding and one thinning. (v) 104.36°. (x) 2, 3 and 12.9.1958.

2. TREATMENTS:

   Main-plot treatments:

   Sub-plot treatments:
   4 levels of N as A/S: N0 = 0, N1 = 20, N2 = 40 and N3 = 60 lb./ac.

3. DESIGN:

   (i) Split-plot. (ii) (a) 4 main-plots/block; 4 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 28°×24°. (b) 24°×20°. (v) 2'×2'. (vi) Yes.

4. GENERAL:

   (i) Fair. (ii) Light attack of hairy caterpillar—controlled by dusting and hand picking. (iii) Fibre yield. (iv) (a) 1956–1960. (b) and (c) Yes. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

   (i) 860.7 lb./ac. (ii) (a) 286.2 lb./ac. (b) 282.2 lb./ac. (iii) Only V effect is significant. (iv) Av. yield of fibre 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>N0</td>
<td>884.8</td>
<td>703.3</td>
<td>839.4</td>
<td>726.0</td>
<td>788.4</td>
</tr>
<tr>
<td>N1</td>
<td>862.1</td>
<td>771.4</td>
<td>1202.4</td>
<td>748.7</td>
<td>896.1</td>
</tr>
<tr>
<td>N2</td>
<td>748.7</td>
<td>998.3</td>
<td>1111.7</td>
<td>703.3</td>
<td>890.5</td>
</tr>
<tr>
<td>N3</td>
<td>703.3</td>
<td>703.3</td>
<td>1225.1</td>
<td>839.4</td>
<td>867.8</td>
</tr>
<tr>
<td>Mean</td>
<td>799.7</td>
<td>794.1</td>
<td>1094.6</td>
<td>754.4</td>
<td>860.7</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. V marginal means = 101.2 lb./ac.
2. N marginal means = 99.8 lb./ac.
3. N means at the same level of V = 199.5 lb./ac.
4. V means at the same level of N = 200.3 lb./ac.

Crop :- Groundnut (Kharif).

Ref :- As. 57(46).

Site :- Agri. College, Jorhat.

Type :- ‘M’.

Object: — To find out the effect of lime and P2O5 on Groundnut.
1. BASAL CONDITIONS

(i) (a) N.A. (b) Vegetables (pea, cabbage etc.). (c) Cowdung at 100 mds/ac. (ii) (a) Sandy loam (b) N.A. (iii) 4.6.1957. (iv) (a) 4 ploughings followed by laddering. (b) Dibbling. (c) N.A. (d) 16" x 12". (c) One. (v) Cowdung at 50 mds/ac. (vi) T.M.V.—3. (vii) Unirrigated. (viii) Three weedings. (ix) N.A. (x) 6.11.1957.

2. TREATMENTS:

All combinations of (1) and (2)

(1) 2 levels of lime: \( L_0 = 0 \) and \( L_1 = 1000 \) lb/ac. of flaked lime.

(2) 2 levels of \( P_2O_5 \) as Super: \( P_0 = 0 \), \( P_1 = 25 \) lb/ac.

3. DESIGN:

(i) Fact. in R.B.D. (ii) (a) 4. (b) 8' x 18'. (iii) 3. (iv) (a) and (b) 8' x 4.5'. (v) No. (vi) Yes.

4. GENERAL:

(i) Normal. (ii) Nil. (iii) Pod yield. (iv) (a) 1957—1958. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vi) Nil.

5. RESULTS:

(i) 124 lb/ac. (ii) 67 lb/ac. (iii) None of the effects is significant. (iv) Av. yield of pod in lb/ac.

<table>
<thead>
<tr>
<th></th>
<th>( P_0 )</th>
<th>( P_1 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( L_0 )</td>
<td>131</td>
<td>152</td>
<td>137</td>
</tr>
<tr>
<td>( L_1 )</td>
<td>109</td>
<td>116</td>
<td>112</td>
</tr>
<tr>
<td>Mean</td>
<td>115</td>
<td>134</td>
<td>124</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 27 lb/ac.
S.E. of body of table = 39 lb/ac.

Crop: Groundnut ('Kharij').
Site: Agri. College, Jorhat.

Object: To find out the effect of lime and \( P_2O_5 \) on Groundnut.

1. BASAL CONDITIONS:

(i) and (ii) Same as in expt. no. 57,46) on page 111. (iii) 10.5.1958. (iv) to (ix) Same as in expt. no. 57,46) on page 111. (x) 14.10.1958.

2. TREATMENTS to 4. GENERAL:

Same as in expt. no. 57,46) on page 111.

5. RESULTS:

(i) 556 lb/ac. (ii) 119 lb/ac. (iii) \( P \times L \) interaction alone is highly significant. (iv) Av. yield of pod in lb/ac.

<table>
<thead>
<tr>
<th></th>
<th>( P_0 )</th>
<th>( P_1 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( L_0 )</td>
<td>569</td>
<td>516</td>
<td>543</td>
</tr>
<tr>
<td>( L_1 )</td>
<td>415</td>
<td>722</td>
<td>569</td>
</tr>
<tr>
<td>Mean</td>
<td>492</td>
<td>619</td>
<td>556</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 48 lb/ac.
S.E. of body of table = 68 lb/ac.
Crop: Groundnut (Kharif).

Site: Govt. Agri. Farm, Jorhat.

Object: To study the effect of fertilizers on Groundnut.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Cauliflower. (c) Cowdung at 150 mds/ac, A/S at 50 lb./ac. of N and Super at 50 lb./ac. of P₂O₅. (ii) (a) Old alluvial acid soil. (b) N.A. (iii) 3.6.1959. (iv) (a) Five ploughings followed by laddering. (b) Line sowing. (c) N.A. (d) 24" x 6". (e) N.A. (v) Cowdung at 61 mds/ac. broadcast. (vi) Local. (vii) Unirrigated. (viii) Weeding and hoeing. (ix) 5.39". (x) 23.11.1959 to 28.11.1959.

2. TREATMENTS:
   \[ T₀ = \text{Control.} \]
   \[ T₁ = 20 \text{ lb./ac. of N as Ca(N)} \]
   \[ T₂ = 20 \text{ lb./ac. of N as Ca(N) + 40 lb./ac. of P₂O₅ as Super.} \]
   \[ T₃ = 20 \text{ lb./ac. of N as Ca(N) + 40 lb./ac. of P₂O₅ as Super + 40 lb./ac. of K2O as Mur. Pot.} \]

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) 44' x 12'. (iii) 4. (iv) (a) and (b) 11' x 12'. (v) No. (vi) Yes.

4. GENERAL:
   (i) Fair. (ii) Nil. (iii) Pod yield. (iv) (a) 1959—contd. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Agri. Chemist.

5. RESULTS:
   (i) 2006 lb./ac. (ii) 267 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of pod in lb./ac.

   Treatment  |  T₀  |  T₁  |  T₂  |  T₃  |
   Av. yield   |  1629 |  2124 |  2145 |  2124 |
   S.E./mean = 134 lb./ac.

Crop: Mustard (Rabi).

Site: Govt. Agri. Farm, Jorhat.

Object: To study the effect of different forms of P₂O₅ on the yield of Mustard.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Abu Paddy. (c) 100 mds/ac. of cowdung and 40 lb./ac. of P₂O₅. (ii) (a) Old alluvial acid soil. (b) N.A. (iii) 23.11.1956. (iv) (a) Five ploughings followed by laddering. (b) Broadcasting. (c) 3} srs./ac. (d) and (e) N.A. (v) 100 mds./ac. of cowdung. (vi) Local Sarson. (vii) Unirrigated. (viii) Nil. (ix) 11". (x) 13.2.1957.

2. TREATMENTS:
   3 sources of P₂O₅: \[ S₀ = \text{No P₂O₅, S₁ = Kota phosphate and S₂ = Super.} \] P₂O₅ applied at 40 lb./ac.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) 76' x 24'. (iii) 4. (iv) (a) and (b) 24' x 19'. (v) No. (vi) Yes.

4. GENERAL:
   (i) Fair. (ii) Nil. (iii) Seed yield. (iv) (a) 1956—1957. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Nil. (vii) Expt. was conducted by Agri. Chemist.

5. RESULTS:
   (i) 834 lb./ac. (ii) 267 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of seed in lb./ac.

   Treatment  |  S₀  |  S₁  |  S₂  |
   Av. yield   |  640 |  936 |  927 |
   S.E./mean = 57 lb./ac.
Object:—To study the effect of P₂O₅ applied in different forms on the yield of Mustard.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Ahu Paddy. (c) 100 md./ac. of cowdung and 40 lb./ac. of P₂O₅. (ii) (a) Old alluvial acid soil. (b) N.A. (iii) 25.11.1957. (iv) (a) 5 ploughings followed by laddering 'b' Broadcasting. (v) 3° srs.ac. (d) and (e) N.A. (v) 100 md./ac. of cowdung. (vi) Local Sarson. (vii) Unirrigated. (viii) 1 weeding. (ix) 2.3°. (x) 11.2.1958 to 14.2.1958.

2. TREATMENTS:
   Same as in expt. no. 56(41) on page 113.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) 32'×81'. (iii) 4. (iv) (a) and (b) 32'×27'. (v) No. (vi) Yes.

4. GENERAL:
   (i) Not good. (ii) Nil. (iii) Yield of seed. (iv) (a) 1956—1957. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 76 lb./ac. (ii) 30 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S₀</th>
<th>S₁</th>
<th>S₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>53</td>
<td>84</td>
<td>92</td>
</tr>
</tbody>
</table>

   S.E./mean = 15.0 lb./ac.

---

Crop :- Mustard (Rabi).
Site :- Govt. Agri. Farm, Jorhat.
Ref :- As. 57(39).
Type :- 'M'.

---

Crop :- Mustard (Rabi).
Site :- Res. Farm, Kokilamukh.
Ref :- As. 57(43).
Type :- 'M'.

Object:—To determine the effect of different nitrogenous fertilizers on the yield of Mustard.

1. BASAL CONDITIONS:
   (i) 'a' to (c) N.A. (ii) (a) Sandy loam. (b) Refer below.* (iii) 12.12.1957. (iv) (a) N.A. (b) Broadcasting. (c) 3 srs./ac. (d) and (e) N.A. (v) Nil. (vi) M—27 (Sarson). (vii) Unirrigated. (viii) N.A. (ix) N.A. (x) 12.3.1958.

2. TREATMENTS:
   T₀ = Control.
   T₁ = A.S at 200 lb./ac.
   T₂ = Urea at 90 lb./ac.
   T₃ = A/S/N at 154 lb./ac.
   T₄ = C/N at 250 lb./ac.

3. DESIGN:
   (i) R.B.D. (ii) (a) 5. (b) 18'×60'. (iii) 8. (iv) (a) and (b) 18'×12'. (v) No. (vi) Yes.

---

*Soil analysis, Kokilamukh.

(i) Chemical analysis (%):

<table>
<thead>
<tr>
<th>Depth</th>
<th>N</th>
<th>Av. P₂O₅</th>
<th>Av. K₂O</th>
<th>pH (water extract)</th>
<th>pH (K₂O extract)</th>
<th>Acidity</th>
</tr>
</thead>
<tbody>
<tr>
<td>0—9&quot;</td>
<td>0.174</td>
<td>0.043</td>
<td>0.013</td>
<td>5.0</td>
<td>4.7</td>
<td>39.2</td>
</tr>
<tr>
<td>9&quot;—18&quot;</td>
<td>0.101</td>
<td>0.039</td>
<td>0.018</td>
<td>5.9</td>
<td>4.8</td>
<td>28.0</td>
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</tbody>
</table>

(ii) Mechanical analysis (%):

<table>
<thead>
<tr>
<th>Depth</th>
<th>Coarse sand</th>
<th>Fine sand</th>
<th>Silt</th>
<th>Clay</th>
<th>Moisture</th>
<th>Loss on ignit.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0—9&quot;</td>
<td>0.5</td>
<td>49.5</td>
<td>24.0</td>
<td>22.0</td>
<td>2.6</td>
<td>4.8</td>
</tr>
<tr>
<td>9&quot;—18&quot;</td>
<td>1.0</td>
<td>48.9</td>
<td>28.0</td>
<td>20.0</td>
<td>1.4</td>
<td>3.0</td>
</tr>
</tbody>
</table>
4. GENERAL:
   (i) N.A.  (ii) N.A.  (iii) Yield of seed.  (iv) (a) 1957—1958.  (b) No. (c) Nil.  (v) (a) and (b) Nil.  (vi) and (vii) Nil.

5. RESULTS:
   (i) 182 lb./ac.  (ii) 38 lb./ac.  (iii) Treatment differences are highly significant.  (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T₀</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>T₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>35</td>
<td>293</td>
<td>48</td>
<td>294</td>
<td>238</td>
</tr>
</tbody>
</table>

S.E./mean = 13.44 lb./ac.

---

**Crop :- Mustard (Rabi).**

**Site :- Res. Farm, Kokilamukh.**

**Ref :- As. 58(32).**

**Type :- 'M'.**

Object :- To determine the effect of different nitrogenous fertilizers on the yield of Mustard.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Sandy loam.  (b) Refer in exp. no. 57(43) on page 114.  (iii) 27.11.1958.  (iv) (a) N.A.  (b) Broadcasting.  (c) 3 srs./ac.  (d) and (e) N.A.  (v) Nil.  (vi) M=27 (Sarson).  (vii) Unirrigated.  (viii) N.A.  (ix) N.A.  (x) 9.3.1959.

2. TREATMENTS:
   T₀ = Control.
   T₁ = A/S at 200 lb./ac.
   T₂ = Urea at 90 lb./ac.
   T₃ = A/S/N at 154 lb./ac.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 4.  (b) N.A.  (iii) 6.  (iv) (a) and (b) 18'×12'.  (v) No.  (vi) Yes.

4. GENERAL:
   (i) N.A.  (ii) N.A.  (iii) Yield of seed.  (iv) (a) 1957—1958.  (b) No. (c) Nil.  (v) (a) and (b) Nil.  (vi) and (vii) Nil.

5. RESULTS:
   (i) 131 lb./ac.  (ii) 69 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T₀</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>73</td>
<td>189</td>
<td>153</td>
<td>107</td>
</tr>
</tbody>
</table>

S.E./mean = 28.17 lb./ac.

---

**Crop :- Mustard (Rabi).**

**Site :- Res. Farm, Kokilamukh.**

**Ref :- As. 57(44).**

**Type :- 'M'.**

Object :- To find out the effect of N, P and K on the yield of Mustard.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Sandy loam.  (b) Refer exp. no. 57(43) on page 114.  (iii) 10.12.1957.  (iv) (a) N.A.  (b) Line sowing.  (c) 3 srs/ac.  (d) Between lines—1'.  (e) N.A.  (v) Nil.  (vi) M—27 (Sarson).  (vii) Unirrigated.  (viii) N.A.  (ix) N.A.  (x) 8.3.1958.
2. TREATMENTS:
   All combinations of (1), (2) and (3)
   (1) 2 levels of N as A/S: N₀=0 and N₁=40 lb./ac.
   (2) 2 levels of P₀ as Triple Super: P₀=0 and P₁=40 lb./ac.
   (3) 2 levels of K₀ as Mur. Pot.: K₀=0 and K₁=40 lb./ac.

3. DESIGN:
   (i) 2² Fact. (ii) (a) 8. (b) 96' x 18'. (iii) 8. (iv) (a) and (b) 18' x12'. (v) No. (vi) Yes.

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

5. RESULTS:
   (i) 264.0 lb./ac. (ii) 49.0 lb./ac. (iii) Effect of N, P and interactions NP and NPK are highly significant. K effect and interaction NK are significant. (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th>P₀</th>
<th>P₁</th>
<th>Mean</th>
<th>K₀</th>
<th>K₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₀</td>
<td>80</td>
<td>210</td>
<td>145</td>
<td>176</td>
</tr>
<tr>
<td>N₁</td>
<td>330</td>
<td>436</td>
<td>383</td>
<td>384</td>
</tr>
</tbody>
</table>

Mean

- 205 323 264 280 248

S.E. of any marginal mean = 8.66 lb./ac.
S.E. of body of any table = 12.25 lb./ac.

Crop - Mustard (Rabi).
Site - Res. Farm, Kokilamukh.
Object - To find out the effect of N, P and K on the yield of Mustard.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Sandy loam. (b) Refer exp. no. 57(43) on page 114. (iii) 25.11.1958. (iv) 'a' N.A. (b) Line sowing. (c) 3 yrs/ac. 'd' Between lines—1'. (e) N.A. (v) Nil. (vi) M—27 (Sarson), (vii) Unirrigated. (viii) N.A. (ix) N.A. (x) 27.2.1959.

2. TREATMENTS and 3. DESIGN:
   Same as in exp. no. 57(44) on page 115.

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

5. RESULTS:
   (i) 452 lb./ac. (ii) 76 lb./ac. (iii) Effect of N and interaction NPK are highly significant. P effect and interaction NK are significant. (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th>P₀</th>
<th>P₁</th>
<th>Mean</th>
<th>K₀</th>
<th>K₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₀</td>
<td>382</td>
<td>407</td>
<td>395</td>
<td>391</td>
</tr>
<tr>
<td>N₁</td>
<td>478</td>
<td>542</td>
<td>510</td>
<td>549</td>
</tr>
</tbody>
</table>

Mean

- 430 475 452 470 435

K₀
K₁

- 433 507
427 443

Ref. - As. 58(33).
Type. - 'M'.
Crop :- Mustard.  
Site :- Res. Farm, Kokilamukh.  
Ref :- As. 56(29).  
Type :- 'M'.

Object :- To find out the optimum dose of phosphatic fertilizer as Triple Super for Mustard.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Mustard. (c) A/S at 200 lb./ac.  (ii) (a) Sandy loam. (b) Refer expt. no. 57(43) on page 114. (iii) 6.11.1956.  (iv) (a) Country method of ploughing, ladder ing and harrowing. (b) Line sowing. (c) 3 r/s/ac. (d) 1' between lines. (e) N.A. (v) Nil. (vi) M-27 (sarson early). (vii) Unirrigated. (viii) Weeding and earthing were done 15 to 20 days after sowing.  (ix) 17.18".  (x) 12.2.1957.

2. TREATMENTS:
   7 doses of Triple Super:  P_0 = 0, P_1 = 10, P_2 = 20, P_3 = 30, P_4 = 40, P_5 = 50 and P_6 = 60 lb./ac. Fertilizers were applied 5 days before sowing and mixed with soil by hoeing.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 7.  (b) N.A.  (iii) 6.  (iv) (a) N.A.  (b) 42'×12'.  (v) 2' between plots.  (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil.  (iii) Yield of seed, height and tiller count.  (iv) (a) 1956—1958.  (b) Yes.  (c) Nil.  (v) (a) and (b) Nil.  (vi) and (vii) Nil.

5. RESULTS:
   (i) 417.9 lb./ac. (ii) 59.03 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of seed in lb./ac.

   Treatment  | P_0  | P_1  | P_2  | P_3  | P_4  | P_5  | P_6  | Av. yield
   ------------|------|------|------|------|------|------|------|--------
   413.2       | 432.1| 424.9| 399.7| 416.8| 397.9| 440.2|

S.E./mean = 24.10 lb./ac.

---

Crop :- Mustard.  
Site :- Res. Farm, Kokilamukh.  
Ref :- As. 57(19).  
Type :- 'M'.

Object :- To find out the optimum dose of phosphatic fertilizer as Triple Super for Mustard.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Mustard. (c) A/S at 203 lb./ac.  (ii) (a) Sandy loam. (b) Refer expt. no. 57(43) on page 114. (iii) 20.11.1957.  (iv) (a) Country method of ploughing, ladder ing and harrowing. (b) Line sowing. (c) 3 r/s.ac. (d) 1' between lines. (e) N.A.  (v) Nil. (vi) M-27 (sarson early). (vii) Unirrigated. (viii) Weeding and earthing were done 15 to 20 days after sowing.  (ix) 11.55".  (x) 15.2.1958.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 56(29) above.

4. GENERAL:
   (i) Satisfactory, plots with treatment P_5 had a better growth.  (ii) No. (iii) Seed yield, height and tiller count.  (iv) (a) 1956—1958.  (b) Yes.  (c) Nil.  (v) (a) and (b) Nil.  (vi) and (vii) Nil.

5. RESULTS:
   (i) 303.3 lb./ac. (ii) 66.69 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of seed in lb./ac.
Crop :- Mustard.  
Site :- Res. Farm, Kokilamukh.

Object :- To find out the optimum dose of phosphatic fertilizer as Triple Super for Mustard.

1. BASAL CONDITIONS:
   (i) a: Nil.  (b) Mustard.  (c) A/S at 200 lb./ac.  (ii) (a) Sandy loam.  (b) Refer expt. no. 57(43) on page 114.
   (iii) 19.11.1958.  (iv) (a) Country method of ploughing, laddering and harrowing.  (b) Line sowing.  (c) 3 yrs./ac.  (d) 1' between lines.  (e) Nil.  (v) Nil.  (vi) M-27 (marson—early).  (vii) Weeding and eeching were done 15 to 20 days after sowing.  (ix) (a) 15.57'.  (x) 28.2.1959.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 56(29) on page 117.

4. GENERAL:
   (i) Growth in plots with treatment P₆ was better than other plots.  Growth in control plot was poor.  (ii) Severe attack of saw-fly.  (iii) Treatment differences are highly significant.  (iv) Av. yield of seed in lb./ac.

5. RESULTS:
   (i) 205.3 lb./ac.  (ii) 58.8 lb./ac.  (iii) Treatment differences are highly significant.  (iv) Av. yield of seed in lb./ac.

---

Crop :- Mustard (Rabi).  
Site :- Res. Farm, Kokilamukh.

Object :- To determine the effect of C/N and A/S on the yield of Mustard.

1. BASAL CONDITIONS:
   (i) a: to (c) N.A.  (ii) (a) Sandy loam.  (b) Refer expt. no. 57(43) on page 114.  (iii) N.A.  (iv) (a) N.A.  (b) Broadcasting.  (c) 4 yrs./ac.  (d) and (e) N.A.  (v) Nil.  (vi) M—27(mustard).  (vii) Unirrigated.  (viii) 15.57'.  (ix) 28.2.1959.

2. TREATMENTS:
   T₀= Control.  
   T₁=C:N at 125 lb./ac.  
   T₂=A/S at 100 lb./ac.  
   T₃=C:N at 250 lb./ac.  
   T₄=A/S at 200 lb./ac.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 5.  (b) 60'x18'.  (iii) 4.  (iv) (a) and (b) 18'x12'.  (v) No.  (vi) Yes.

4. GENERAL:
   (i) and (ii) N.A.  (iii) Yield of seed.  (iv) (a) 1955—1956.  (b) No.  (c) Nil.  (v) a and (b) Nil.  (vi) and (vii) Nil.
5. RESULTS:

(i) 385.0 lb./ac. (ii) 68.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T0</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>199</td>
<td>280</td>
<td>448</td>
<td>347</td>
<td>652</td>
</tr>
</tbody>
</table>

S.E./mean = 34.0 lb./ac.

---

**Crop :- Mustard (Rabi).**

**Site :- Res. Farm, Kokilamukh.**

Object :-To find out the optimum time of application of A/S to Mustard crop.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Pulse. (c) Cowdung at 40 mds/ac. + oilcake at 15 mds/ac. (ii) (a) Sandy loam. (b) Refer expt. no. 57(43) on page 114. (iii) 17.10.1955. (iv) (a) Ploughing followed by laddering. (b) Line sowing. (c) 3 srs.ac. (d) 1' between lines. (e) N.A. (v) Nil. (vi) M—27 (Sarson, early). (vii) Unirrigated. (viii) 1 weeding and 2 earthings. (ix) 17.8". (x) 18.1.1956.

2. TREATMENTS:

4 times of application of N: T0 =No manure, T1 =Full dose 5 days before sowing, T2 =Half 5 days before sowing and half 20 days after sowing and T3 =Full dose 20 days after sowing. N applied at 40 lb./ac. as A/S.

3. DESIGN:

(i) R.B.D. (ii) (a) 4'. (b) 44'×56'. (iii) 6. (iv) (a) 44'×14'. (b) 42'×12'. (v) 2' between plots. (vi) Yes.

4. GENERAL:

(i) Poor growth in T0 and T3 plots; satisfactory in T1 and T2 plots. (ii) Affected by mustard saw-fly before flowering. Gammexane dusted. (iii) Height, no. of tillers and yield of seed. (iv) (a) 1955—1957. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 489 lb./ac. (ii) 60.72 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T0</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>209</td>
<td>644</td>
<td>585</td>
<td>518</td>
</tr>
</tbody>
</table>

S.E./mean = 24.79 lb./ac.

---

**Crop :- Mustard (Rabi).**

**Site :- Res. Farm, Kokilamukh.**

Object :-To find out the optimum time of application of A/S to Mustard.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Mustard. (c) Cowdung at 40 md./ac.+oil cake at 15 md./ac. (ii) (a) Sandy loam. (b) Refer expt. no. 57(43) on page 114. (iii) Nil. (iv) (a) Ploughing followed by laddering. (b) Line sowing. (c) 3 srs/ac. (d) 1' between lines. (e) N.A. (v) Nil. (vi) M—27 (Sarson, early). (vii) Unirrigated. (viii) 1 weeding and 2 earthings. (ix) 17.58". (x) N.A.

2. TREATMENTS and 3. DESIGN:

Same as in expt. no. 55(27) above.

4. GENERAL:

(i) Poor growth in T0 and T3 plots, satisfactory in T1 and T2 plots. (ii) Affected by mustard aphids. Dusting of Gammexane. (iii) Height of plants, no. of tillers and yield of seed. (iv) (a) 1955—1957. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.
5. RESULTS:

(i) 163 lb./ac.  
(ii) 45.36 lb./ac.  
(iii) Treatment differences are significant.  
(iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T₀</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>81</td>
<td>259</td>
<td>189</td>
<td>124</td>
</tr>
</tbody>
</table>

S.E./mean = 18.52 lb./ac.

---

**Crop:** Mustard *(Rabi)*.  
**Site:** Res. Farm, Kokilamukh.  
**Ref:** As. 57(34).  
**Type:** 'M'.

Object:—To find out the optimum time of application of A/S to Mustard.

1. **BASAL CONDITIONS:**

(i) (a) Nil.  
(b) Mustard.  
(c) Cowdung at 40 mds/ac. + oilcake at 15 mds/ac.  
(ii) (a) Sandy loam.  
(b) Refer expt. no. 57(43) on page 114.  
(iii) N.A.  
(iv) [a] Ploughing followed by laddering.  
(b) Lin.: sowing  
(c) 3 srs./ac.  
(d) 1 between lines.  
(e) N.A.  
(v) M—27 (Sanson, early).  
(vi) Unirrigated  
(vii) Weeding and earthing once.  
(viii) 11.55°.  
(ix) N.A.

2. **TREATMENTS and 3. DESIGN:**

Same as in expt. no. 55(27) on page 119.

4. **GENERAL:**

(i) Poor growth in T₀ and T₃ plots, satisfactory in other plots.  
(ii) Affected badly by mustard saw-fly.  
Gamma:xane applied.  
(iii) Height, no. of tillers and yield of seed.  
(iv) (a) 1955—1957.  
(b) Yes.  
(c) Nil.  
(v) (a) and (b) Nil.  
(vi) and (vii) Nil.

5. **RESULTS:**

(i) 194 lb./ac.  
(ii) 40.34 lb./ac.  
(iii) Treatment differences are significant.  
(iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T₀</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>112</td>
<td>324</td>
<td>223</td>
<td>194</td>
</tr>
</tbody>
</table>

S.E./mean = 16.47 lb./ac.

---

**Crop:** Mustard *(Rabi).*  
**Centre:** Darrang *(c.f.)*.  
**Ref:** As. 59(SFT).  
**Type:** 'M'.

Object:—Type A.—To study the response of Mustard to levels of N, P and K applied individually and in combinations.

1. **BASAL CONDITIONS:**

(i) (a) to (c) N.A.  
(ii) Alluvial.  
(iii) Nil.  
(iv) N.A.  
(v) (a) N.A.  
(b) Broadcast.  
(c) N.A.  
(d) and (e) —.  
(vii) to (x) N.A.

2. **TREATMENTS:**

0 =Control (no manure).  
k = 20 lb./ac. of K₂O as Mur. Pot.  

n = 20 lb./ac. of N as A/S.  
nk = 20 lb./ac. of N as A/S+20 lb./ac. of K₂O as Mur. Pot.  

p = 20 lb./ac. of P₂O₅ as Super.  

pk = 20 lb./ac. of P₂O₅ as Super+20 lb./ac. of K₂O as Mur. Pot.  

np = 20 lb./ac. of N as A/S+20 lb./ac. of P₂O₅ as Super+20 lb./ac. of K₂O as Mur Pot.  

3. **DESIGN:**

(i) and (ii) The district has been divided into four agriculturally homogeneous zones and one field assistant has been posted in each zone. The field assistant conducts the trials in one Revenue circle or thana in
the zone and the circle/thana is changed once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year: 8 on a kharif cereal, 8 on a rabi cereal, 8 on a cash crop, 4 on an oilseed crop and 3 on a leguminous crop. Half the number of trials conducted are of type A and the other half of type B on crops other than the legumes. The three trials on legumes are of type C. Residual effects of phosphate application are studied on type C trials in two out of the four zones in each district every year. The above experiments are laid out in randomly located fields in randomly selected villages in each of the 4 zones at the rate of one experiment per village. (iii) (a) 40 ac. (b) 1/80 ac. (iv) Yes.

4. GENERAL:
(i) Fair to normal. (ii) N.A. (iii) Seed yield. (iv) (a) 1959—contd. (b) No. (c) N.A. (v) As per design. (vi) and (vii) Nil.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>n</th>
<th>p</th>
<th>np</th>
<th>k</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>123.4</td>
<td>255.1</td>
<td>213.9</td>
<td>320.9</td>
<td>205.7</td>
<td>164.6</td>
<td>296.2</td>
<td>485.5</td>
</tr>
</tbody>
</table>

G.M. = 258.2 lb./ac.; S.E. = 48.89 lb./ac. and no. of trials = 4.

Crop: Mustard (Rabi). Centre: Goalpara (c.f.).
Object:—Type A—To study the response of Mustard to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS to 4. GENERAL:
Same as in expt. no. 59(SFT) Type A on page 120 conducted at Darrang.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>n</th>
<th>p</th>
<th>np</th>
<th>k</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>222.2</td>
<td>230.4</td>
<td>296.2</td>
<td>395.0</td>
<td>164.6</td>
<td>205.7</td>
<td>320.9</td>
<td>419.7</td>
</tr>
</tbody>
</table>

G.M. = 281.8 lb./ac., S.E. = 56.8 lb./ac. and no. of trials = 2.

Crop: Mustard (Rabi). Centre: Kamrup (c.f.).
Object:—Type A—To study the response of Mustard to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS to 4. GENERAL:
Same as in expt. no. 59(SFT) Type A on page 120 conducted at Darrang.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>n</th>
<th>p</th>
<th>np</th>
<th>k</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>329.1</td>
<td>567.8</td>
<td>551.3</td>
<td>666.5</td>
<td>570.0</td>
<td>510.9</td>
<td>757.0</td>
<td>633.6</td>
</tr>
</tbody>
</table>

G.M. = 572.9 lb./ac., S.E. = 81.2 lb./ac. and no. of trials = 2.

Crop: Mustard (Rabi). Centre: Lakhimpur (c.f.).
Object:—Type A—To study the response of Mustard and levels of N, P and K applied individually and in combinations.
1. BASAL CONDITIONS:
(i) (a) to (c) N.A.  (ii) Alluvial.  (iii) Nil.  (iv) N.A.  (v) N.A.  (b) Broadcast.  (c) N.A.  (d) and (e) —.  (vi) Oct.—Nov. 1959.  (vii) to (ix) N.A.  (x) March 1960.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 59 (SFT) Type A on page 120 conducted at Darrang.

5. RESULTS:
<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>n</th>
<th>p</th>
<th>np</th>
<th>k</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>452.6</td>
<td>423.8</td>
<td>464.9</td>
<td>444.3</td>
<td>473.1</td>
<td>444.3</td>
<td>526.6</td>
<td>761.1</td>
</tr>
</tbody>
</table>

G.M.=498.8 lb./ac.; S.E.=71.67 lb./ac. and no. of trials =4.

Crop :- Mustard (Rabi).
Centre :- Sibsagar (c.f.).
Object :- Type A—To study the response of Mustard to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A.  (ii) Hilly.  (iii) Nil.  (iv) N.A.  (v) N.A.  (b) Broadcast.  (c) N.A.  (d) and (e) —.  (vi) Nov. 1959.  (vii) to (ix) N.A.  (x) February to March 1960.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 59 (SFT) Type A on page 120 conducted at Darrang.

5. RESULTS:
<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>n</th>
<th>p</th>
<th>np</th>
<th>k</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>353.8</td>
<td>385.1</td>
<td>390.0</td>
<td>441.1</td>
<td>337.4</td>
<td>365.3</td>
<td>419.7</td>
<td>437.8</td>
</tr>
</tbody>
</table>

G.M.=391.3 lb./ac.; S.E.=39.54 lb./ac. and no. of trials =5.

Crop :- Mustard (Rabi).
Centre :- Darrang (c.f.).
Object :- Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A.  (ii) Alluvial.  (iii) Nil.  (iv) N.A.  (v) N.A.  (b) Broadcasting.  (c) N.A.  (d) and (e) —.  (vi) December 1959.  (vii) to (ix) N.A.  (x) February—March 1960.

2. TREATMENTS:

3. DESIGN:
(i) and (ii) The district has been divided into four agriculturally homogeneous zones and one field assistant has been posted in each zone. The field assistant conducts the trials in one Revenue circle or thana and the circle or thana is changed once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year 8 on a kharif cereal, 8 on a rabi cereal, 8 on cash crop, 4 on an oilseed crop and 3 on a leguminous crop. Half the number of trials conducted are of type A and the other half of type B on crops other than the legumes. The three trials on legumes are of type C. Residual effects of phosphate application are studied on type C trials in two out of the four zones in each district every year. The above experiments are laid out in randomly located fields in randomly selected villages in each of the 4 zones at the rate of one experiment per village. (iii) (a) Yes.  (b) ²/₃ ac.  (iv) Yes.
4. GENERAL:
(i) Below normal. (ii) N.A. (iii) Seed yield. (iv) (a) 1959—contd. (b) No. (c) N.A. (v) As per design. (vi) and (vii) N.A.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>n₁</th>
<th>n₂</th>
<th>n₁'</th>
<th>n₂'</th>
<th>n₃''</th>
<th>n₄''</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>90.5</td>
<td>107.0</td>
<td>123.4</td>
<td>98.7</td>
<td>131.7</td>
<td>123.4</td>
<td>123.4</td>
</tr>
</tbody>
</table>

G.M. = 114.0 lb./ac.; S.E. = 8.29 lb./ac. and no. of trials = 3.

Ref: As. 59(SFT).
Type: 'M'.
Object:—Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS to 3. DESIGN:
Same as in expt. no. 59 (SFT) Type B on page 122 conducted at Darrang.

4. GENERAL:
(i) Normal. (ii) N.A. (iii) Seed yield. (iv) (a) 1959—contd. (b) No. (c) N.A. (v) As per design. (vi) and (vii) N.A.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>n₁</th>
<th>n₂</th>
<th>n₁'</th>
<th>n₂'</th>
<th>n₃''</th>
<th>n₄''</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>238.6</td>
<td>386.7</td>
<td>526.6</td>
<td>567.8</td>
<td>732.3</td>
<td>543.1</td>
<td>641.8</td>
</tr>
</tbody>
</table>

G.M. = 519.6 lb./ac.; S.E. = 22.42 lb./ac. and no. of trials = 2.

Ref: As. 59(SFT).
Type: 'M'.
Object:—Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS to 3. DESIGN:
Same as in expt. no. 59(SFT) Type B on page 122 conducted at Darrang.

4. GENERAL:
(i) Normal. (ii) N.A. (iii) Seed yield. (iv) (a) 1959—contd. (b) No. (c) N.A. (v) As per design. (vi) and (vii) N.A.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>n₁</th>
<th>n₂</th>
<th>n₁'</th>
<th>n₂'</th>
<th>n₃''</th>
<th>n₄''</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>493.7</td>
<td>699.4</td>
<td>493.7</td>
<td>592.5</td>
<td>740.6</td>
<td>781.7</td>
<td></td>
</tr>
</tbody>
</table>

G.M. = 627.7 lb./ac.; S.E. = 166.58 lb./ac. and no. of trials = 2.

Ref: As. 59(SFT).
Type: 'M'.
Object:—Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) Hilly. (iii) N.A. (iv) N.A. (v) Ploughing, harrowing and planking. (b) Broadcasting. (c) N.A. (d) and (e)—. (vi) Nov. 1959. (vii) to (ix) N.A. (x) Feb.—March 1960.
2. TREATMENTS and 3. DESIGN

Same as in expt. no. 59 (SFT) Type: B on page 122 conducted at, Darrang.

4. GENERAL:

(i) Normal. (ii) N.A. (iii) Seed yield. (iv) (a) 1958—contd. (b) No. (c) N.A. (v) As per design. (vi) and (vii) N.A.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>0.1</th>
<th>0.2</th>
<th>0.3</th>
<th>0.4</th>
<th>0.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>600.7</td>
<td>699.4</td>
<td>757.0</td>
<td>765.3</td>
<td>748.8</td>
<td>699.4</td>
</tr>
</tbody>
</table>

G.M. = 725.3 lb/acre; S.E. = 56.4 lb/acre and no. of trials = 8

Crop :- Mustard (Rabi).
Site :- Res. Farm, Kokilamukh.
Ref :- As. 54(21).
Type :- 'C'.
Object :- To determine the effect of rotational cultivation on the yield of Mustard.

1. BASAL CONDITIONS:

(i) (a) and (b) As per treatments. (c) N.A. (ii) (a) Sandy loam. (b) Refer expt. no. 57(43) on page 114. (iii) 12.11.1954. (iv) (a) N.A. (b) Line sowing. (c) 4 srs./acre. (d) 1' between line. (e) N.A. (f) A.S at 200 lbs./acre broadcast. (vi) Mustard—M-27. (vii) Unirrigated. (viii) N.A. (ix) N.A. (x) 14.12.1955.

2. TREATMENTS:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Kh</td>
<td>R</td>
<td>Kh</td>
<td>R</td>
<td>Kh</td>
<td>R</td>
<td>Kh</td>
</tr>
<tr>
<td>T1</td>
<td>A</td>
<td>M</td>
<td>A</td>
<td>M</td>
<td>A</td>
<td>M</td>
</tr>
<tr>
<td>T2</td>
<td>A</td>
<td>F</td>
<td>G</td>
<td>M</td>
<td>A</td>
<td>F</td>
</tr>
<tr>
<td>T3</td>
<td>G</td>
<td>M</td>
<td>A</td>
<td>F</td>
<td>G</td>
<td>M</td>
</tr>
<tr>
<td>T4</td>
<td>A</td>
<td>M</td>
<td>G</td>
<td>M</td>
<td>A</td>
<td>K</td>
</tr>
<tr>
<td>T5</td>
<td>G</td>
<td>M</td>
<td>A</td>
<td>K</td>
<td>A</td>
<td>M</td>
</tr>
<tr>
<td>T6</td>
<td>A</td>
<td>K</td>
<td>A</td>
<td>M</td>
<td>G</td>
<td>M</td>
</tr>
</tbody>
</table>


3. DESIGN:

(i) R.B.D. (ii) (a) 6. (b) 42'x72'. (iii) 6. (iv) (a) 42'x12'. (b) 40'x10'. (v) and (vi) Yes.

4. GENERAL:

(i) and (ii) N.A. (iii) Yield of seed. (iv) (a) 1953—1958. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 62.01 lb/acre. (ii) 17.01 lb/acre. (iii) Treatment differences are not significant. (iv) Av. yield of seed in lb/acre.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>56</td>
<td>58</td>
<td>67</td>
<td>66</td>
<td></td>
</tr>
</tbody>
</table>

S.E./mean = 6.9 lb/acre.

Crop :- Mustard (Rabi).
Site :- Res. Farm, Kokilamukh.
Ref :- As. 55(34).
Type :- 'C'.
Object :- To determine the effect of rotational cultivation on the yield of Mustard.
1. BASAL CONDITIONS:
   (i) (a) and (b) As per treatments. (c) N.A. (ii) (a) Sandy loam. (b) Refer expt. no. 57(43) on page 114.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 54(21) on page 124.

5. RESULTS:
   (i) 131.0 lb./ac. (ii) 66.0 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of seed in lb./ac.

\[
\begin{array}{cccc}
\text{Treatment} & T_1 & T_3 & T_5 & T_4 \\
\text{Av. yield} & 166 & 138 & 128 & 92 \\
\text{S.E./mean} & & & & 26.9 lb./ac.
\end{array}
\]

**Crop**: Mustard (Rabi).  
**Site**: Res. Farm, Kokilamukh.  
**Ref**: As. 56(43).  
**Type**: ‘C’.  

Object: —To determine the effect of rotational cultivation on the yield of Mustard.

1. BASAL CONDITIONS:
   (i) (a) and (b) As per treatments. (c) N.A. (ii) (a) Sandy loam. (b) Refer expt. no. 57(43) on page 114.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 54(21) on page 124.

5. RESULTS:
   (i) 238 lb./ac. (ii) 45 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of seed in lb./ac.

\[
\begin{array}{cccc}
\text{Treatment} & T_1 & T_3 & T_5 & T_4 \\
\text{Av. yield} & 275 & 167 & 268 & 241 \\
\text{S.E./mean} & & & & 18.4 lb./ac.
\end{array}
\]

**Crop**: Mustard (Rabi).  
**Site**: Res. Farm, Kokilamukh.  
**Ref**: As. 57(42).  
**Type**: ‘C’.  

Object: —To determine the effect of rotational cultivation on the yield of Mustard.
Object:—To determine the effect of rotational cultivation on the yield of Mustard.

1. BASAL CONDITIONS:
   (i) (a) and (c) As per treatments. (c) N.A. (ii) (a) Sandy loam. (b) Refer expt. no. 57(43) on page 114. (iii) 28.10.1958. (iv) (a) N.A. (b) Line sowing. (c) 6 srs./ac. (d) Between lines—1'. (e) N.A. (v) A/S broadcast at 200 lb./ac. (vi) Mustard—M-27. (vii) Unirrigated. (viii) N.A. (ix) N.A. (x) 31.1.1959.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 54(21) on page 124.

5 RESULTS:
   (i) 95 lb./ac. (ii) 40 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of seed in lb./ac.

   \[
   \begin{array}{cccc}
   \text{Treatment} & T_1 & T_2 & T_3 & T_4 \\
   \text{Av. yield} & 142 & 82 & 77 & 81 \\
   \text{S.E./mean} & & & & 16.3 \text{lb./ac.}
   \end{array}
   \]

Object:—To determine the optimum seed rate for Mustard.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Sandy loam. (b) Refer expt. no. 57(43) on page 114. (iii) 30.10.1954. (iv) (a) Ploughing followed by laddering. (b) Broadcasting. (c) As per treatments. (d) and (e) —. (v) A/S at 200 lb./ac. applied on 7.11.1954. (vi) M—27 (Sarson). (vii) Unirrigated. (viii) Nil. (ix) N.A. (x) 27.1.1955.

2. TREATMENTS:
   4 seed rates: R_1=6, R_2=8, R_3=10 and R_4=12 lb./ac.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4'. (b) 42'x48'. (iii) 6. (iv) (a) 42'x12'. (b) 40'x10'. (v) and (vi) Yes.

4. GENERAL:
   (i) N.A. (ii) Nil. (iii) Yield of seed. (iv) (a) 1954—1955. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 20.42 lb./ac. (ii) 3.93 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of seed in lb./ac.

   \[
   \begin{array}{cccc}
   \text{Treatment} & R_1 & R_2 & R_3 & R_4 \\
   \text{Av. yield} & 13.61 & 17.02 & 23.82 & 27.22 \\
   \text{S.E./mean} & & & & 1.60 \text{lb./ac.}
   \end{array}
   \]
1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Sady loam.  (b) Refer expt. no. 57(43) on page 114.  (iii) N.A.  (iv) (a) Ploughing followed by laddering.  (b) Broadcasting.  (c) As per treatments.  (d) and (e)—.  (v) A/S at 200 lb./ac. applied on 19.11.1955.  (vi) M—27 (Sarson).  (vii) Unirrigated.  (viii) Nil.  (ix) and (x) N.A.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 54(18) on page 126.

5. RESULTS:
   (i) 1229 lb./ac.  (ii) 67 lb./ac.  (iii) Treatment differences are highly significant.  (iv) Av. yield of seed in lb./ac.

   Treatment | R₁ | R₂ | R₃ | R₄ | Av. yield | S.E./mean = 27.0 lb./ac.
   ---|---|---|---|---|----|----
   R₁ | 1141 | 1153 | 1234 | 1386 |
   Mean  | 1279 |

Crop = Mustard (Rabi).
Site => Res. Farm, Kokilamukh.
Ref => As. 55(30).
Type => 'C'.

Objective: To find the optimum sowing season with different seed rates for Mustard.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Sandy loam.  (b) Refer expt. no. 57(43) on page 114.  (iii) As per treatments.  (iv) (a) Ploughing followed by laddering.  (b) Broadcasting.  (c) As per treatments (d) and (e)—.  (v) Nil.  (vi) M—27.  (vii) Unirrigated.  (viii) and (ix) N.A. (x) 30.12.1955, 19.1.1956, 18.2.1956 and 12.3.1956.

2. TREATMENTS:
   Main-plot treatments:

   Sub-plot treatments:
   4 seed rates: R₁ = 6, R₂ = 8, R₃ = 10 and R₄ = 12 lb./ac.

3. DESIGN:
   (i) Split-plot.  (ii) (a) 6 main-plots/replication; 4 sub-plots/main-plot.  (b) 48'x48'.  (iii) 4.  (iv) (a) 8'x12'.  (b) 6'x10'.  (v) 2' between plots.  (vi) Yes.

4. GENERAL:
   (i) and (ii) N.A.  (iii) Yield of seed.  (iv) (a) 1953—1955.  (b) Ycs.  (c) Nil.  (v) (a) and (b) N.A.  (vi) and (vii) Nil.

5. RESULTS:
   (i) 9183 lb./ac.  (ii) (a) 957 lb./ac.  (b) 1198 lb./ac.  (iii) Main effects of D, R and interaction D×R are highly significant.  (iv) Av. yield of seed in lb./ac.

   |   | D₁ | D₂ | D₃ | D₄ | D₅ | D₆ | Mean |
   ---|---|---|---|---|---|---|----|
   R₁ | 2541 | 12796 | 14520 | 16517 | 471 | 9 | 205 | 8550 |
   R₂ | 2723 | 18241 | 15791 | 15972 | 5581 | 363 | 9778 |
   R₃ | 1271 | 19602 | 14702 | 14883 | 4591 | 363 | 9302 |
   R₄ | 1997 | 18695 | 14702 | 14066 | 4855 | 296 | 9102 |
   Mean | 2133 | 17333 | 14928 | 15359 | 5037 | 307 | 9183 |
Crop :- Mustard.  
Site :- Res. Farm, Kokilamukh.  
Ref :- As. 55(19).  
Type :- 'C'.

Object :- To compare the efficiency of line sowing at different spacings with broadcasting for Mustard.

1. BASAL CONDITIONS:
   (i) 'a' Nil.  
   (ii) 'b' Mustard.  
   (iii) 'c' A/S at 200 lb/ac.  
   (iv) 'a' Sandy loam.  
   (v) Refer expt. no. 57,43: on page 114.  
   (vi) 5.11.1955.  
   (vii) 'a' Country method of ploughing, laddering, harrowing.  
   (viii) 'a' As per treatments.  
   (ix) 3 yrs/ac.  
   (x) As per treatments.  
   (xi) A/S applied at 200 lb/ac. 5 days before sowing.  
   (xii) M—27 (Sarson, early).  
   (xiii) Unirrigated.  
   (xiv) Weeding and earthing were done 15 to 20 days after sowing.  
   (xv) 16.82°.  
   (xvi) 8.2.1956.

2. TREATMENTS:
   4 spacings between lines : S₀=Broadcasting,  
   S₁=6' (24 lines/plot),  
   S₂=9' (16 lines/plot) and  
   S₃=12'(12 lines/plot).

3. DESIGN:
   (i) R.B.D.  
   (ii) 'a' 4.  
   (iii) 'b' N.A.  
   (iv) 'a' N.A.  
   (v) 'a' 42'x12'.  
   (vi) 'a' 2' between plots.  
   (vii) Yes.

4. GENERAL:
   (i) Satisfactory.  
   (ii) Nil.  
   (iii) Height, no. of tillers/plant and seed yield.  
   (iv) (a) 1955—1957.  
   (v) Yes.  
   (vi) Nil.  
   (vii) Nil.

5. RESULTS:
   (i) 546.4 lb/ac.  
   (ii) 94.36 lb/ac.  
   (iii) Treatment differences are significant.  
   (iv) Av. yield of seed in lb/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S₀</th>
<th>S₁</th>
<th>S₂</th>
<th>S₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>471.3</td>
<td>484.1</td>
<td>692.8</td>
<td>537.5</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>47.18 lb/ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

Crop :- Mustard.  
Site :- Res. Farm, Kokilamukh.  
Ref :- As. 56(28).  
Type :- 'C'.

Object :- To compare the efficiency of line sowing at different spacings with broadcasting for Mustard.

1. BASAL CONDITIONS:
   (i) 'a' Nil.  
   (ii) 'b' Mustard.  
   (iii) 'c' A/S applied at 200 lb/ac.  
   (iv) 'a' Sandy loam.  
   (v) Refer expt. no 57,43: on page 114.  
   (vi) 13.11.1956.  
   (vii) Country method of ploughing, laddering, and harrowing.  
   (viii) As per treatments.  
   (ix) 3 yrs/ac.  
   (x) As per treatments.  
   (xi) A/S applied at 200 lb/ac. 5 days before sowing.  
   (xii) M—27 (Sarson, early).  
   (xiii) Unirrigated.  
   (xiv) Weeding and earthing were done 15 to 20 days after sowing.  
   (xv) 17.18°.  
   (xvi) 11.2.1957.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 55(19) above.

4. GENERAL:
   (i) Satisfactory.  
   (ii) Slight attack by saw-fly—dusting with Gammexane.  
   (iii) Yield of seed, height of plant, and no. of tillers/plant.  
   (iv) (a) 1955—1957.  
   (v) Yes.  
   (vi) Nil.  
   (vii) Nil.
5. RESULTS:

(i) 909.2 lb./ac. (ii) 80.84 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S_0</th>
<th>S_1</th>
<th>S_2</th>
<th>S_3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>822.4</td>
<td>953.4</td>
<td>908.8</td>
<td>952.1</td>
</tr>
</tbody>
</table>

S.E./mean = 40.42 lb./ac.

---

Crop : Mustard.
Site : Res. Farm, Kokilamukh.

Ref : As. 57(20).
Type : 'CV'.

Object :- To compare the efficiency of line sowing at different spacings with broadcasting for Mustard.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Mustard. (c) A/S at 200 lb./ac. (ii) (a) Sandy loam. (b) Refer expt. no. 57(43) on page 114. (iii) 16.11.1957. (iv) (a) Country method of ploughing, laddering and harrowing. (b) As per treatments. (c) 3 srs./ac. (d) As per treatments. (e) N.A. (v) A/S applied at 200 lb./ac. 5 days before sowing. (vi) M-27 (Sarson, early). (vii) Unirrigated. (viii) Weeding and earthing were done 15 to 20 days after sowing. (ix) 11.55'. (x) 17.2.1958.

2. TREATMENTS and 3. DESIGN :

Same as in expt. no. 55(19) on page 128.

4. GENERAL :

(i) Satisfactory. (ii) Slightly attacked by aphids—dusting with Gammexane. (iii) Yield of mustard seed, height of plant and no. of tillers/plant. (iv) (a) 1955—1957. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :

(i) 667.1 lb./ac. (ii) 52.45 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S_0</th>
<th>S_1</th>
<th>S_2</th>
<th>S_3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>655.0</td>
<td>703.6</td>
<td>657.7</td>
<td>652.3</td>
</tr>
</tbody>
</table>

S.E./mean = 26.22 lb./ac.

---

Crop : Mustard.
Site : Res. Farm, Kokilamukh.

Ref : As. 56(31).
Type : 'CV'.

Object :- To find out the optimum seed rate for different varieties of Mustard.

1. BASAL CONDITIONS :

(i) (a) Nil. (b) Arhar, Mung and Matikalai. (c) Oilcake at 13 to 15 mds/ac. and cowdung at 30 to 40 mds/ac. (ii) (a) Sandy loam. (b) Refer expt. no. 57(43) on page 114. (iii) 3.11.1956. (iv) (a) Country method of ploughing, laddering and harrowing. (b) Line sowing. (c) As per treatments. (d) 1' between lines. (e) N.A. (v) A/S at 200 lb./ac. 5 days before sowing. (vi) As per treatments. (vii) Unirrigated. (viii) 1 weeding and 2 earthing with khurpi and hoe. (ix) 17.58'. (x) 15.2.1957 to 21.2.1957.

2. TREATMENTS :

Main-plot treatments:

3 varieties : V_1=A—27 (Sarson), V_2=M—2 (Rai), and V_3=M—60 (Toria).

Sub-plot treatments:

5 seed rates : R_1=2, R_2=2.5, R_3=3, R_4=3.5 and R_5=4 srs/ac.
3. DESIGN:
(i) Split-plot. (ii) A 3 main-plots/block; 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) A 20' × 14' (b) 18' × 12'. (v) 2' between plots. (vi) Yes.

4. GENERAL:
(i) Satisfactory, but Rai plants had better growth. (ii) Sarson and Toria were affected by white rust disease. Controlled by spraying copper fungicide at 2 chs. in 2 gallons of water. (iii) Yield of seed, height and no. of tillers/plant. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 959.3 lb./ac. (ii) (a) 161.4 lb./ac. (b) 120.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>V1</th>
<th>R2</th>
<th>R3</th>
<th>R4</th>
<th>R5</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>1020.9</td>
<td>957.9</td>
<td>1002.0</td>
<td>973.7</td>
<td>1055.6</td>
<td>1002.0</td>
</tr>
<tr>
<td>V2</td>
<td>1039.8</td>
<td>1069.8</td>
<td>926.4</td>
<td>920.1</td>
<td>765.7</td>
<td>944.4</td>
</tr>
<tr>
<td>V3</td>
<td>901.2</td>
<td>920.1</td>
<td>891.8</td>
<td>989.4</td>
<td>954.8</td>
<td>931.4</td>
</tr>
<tr>
<td>Mean</td>
<td>987.3</td>
<td>982.6</td>
<td>940.1</td>
<td>961.1</td>
<td>925.4</td>
<td>959.3</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. V marginal means = 51.04 lb./ac.
2. R marginal means = 49.23 lb./ac.
3. R means at the same level of V = 85.28 lb./ac.
4. V means at the same level of R = 91.77 lb./ac.

Crop :- Mustard.  
Site :- Res. Farm, Kokilamukh.  
Ref :- As. 57(18). 
Type :- 'CV'.

Object :- To find out the optimum seed rate for different varieties of Mustard.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Arhar, Mung and Matikalai. (c) Oilcake manure at 13 to 15 mds./ac and cowdung at 30 to 40 mds./ac.  
(ii) (a) Sandy loam. (b) Refer expt. no. (57)43 on page 114. (iii) 15.11.1957.  
(iv) (a) Country method of ploughing, laddering and harrowing, etc. (b) Line sowing. (c) As per treatments.  
(d) Between lines—1'. (e) N.A. (v) A/S at 200 lb./ac. applied 5 days before sowing and mixed with soil by hoeing.  
(vi) As per treatments. (vii) Unirrigated. (viii) Weeding and 2 earthings with khurpi and hoe. (ix) 11.55'.  
(x) 17.2.1958 to 25.2.1958.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 56(31) on page 129.

4. GENERAL:
(i) Rai plants had better growth. (ii) During the flowering period the expt. was affected by saw-fly. Controlled by dusting with Gammexane and hand picking. (iii) Seed yield, height and tiller count. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 564 8 lb./ac. (ii) (a) $9.08 lb./ac. (b) 82.44 lb./ac. (iii) Main effect of V is highly significant. Main effect of R is significant. Interaction is not significant. (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>R1</th>
<th>R2</th>
<th>R3</th>
<th>R4</th>
<th>R5</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>488.4</td>
<td>438.7</td>
<td>617.6</td>
<td>570.3</td>
<td>573.5</td>
<td>546.7</td>
</tr>
<tr>
<td>V2</td>
<td>683.8</td>
<td>633.4</td>
<td>661.7</td>
<td>538.8</td>
<td>690.1</td>
<td>641.6</td>
</tr>
<tr>
<td>V3</td>
<td>444.3</td>
<td>491.6</td>
<td>570.3</td>
<td>491.6</td>
<td>532.5</td>
<td>506.1</td>
</tr>
<tr>
<td>Mean</td>
<td>538.8</td>
<td>536.2</td>
<td>616.6</td>
<td>533.6</td>
<td>598.7</td>
<td>564.8</td>
</tr>
</tbody>
</table>
1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Mustard. (c) A/S applied at 200 lb./ac. (ii) (a) Sandy loam. (b) Refer expt. no. 57(43) on page 114. (iii) 5.11.1958. (iv) (a) N.A. (b) Line sowing. (c) As per treatments. (d) Between lines—1'. (e) N.A. (v) A/S at 200 lb./ac. broadcast. (vi) As per treatments. (vii) Unirrigated. (viii) and (ix) N.A. (x) 15.2.1959.

2. TREATMENTS:
   Same as in expt. no. 56(31) on page 129.

3. DESIGN:
   (i) Split-plot. (ii) (a) 3 main-plots/replication and 5 sub-plots/main-plot. (b) 54’ x 60’. (iii) 4. (iv) (a) and (b) 18’ x 12’. (v) No. (vi) Yes.

4. GENERAL:
   (i) and (ii) N.A. (iii) Yield of seed. (iv) (a) 1956—1958. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 417 lb./ac. (ii) (a) 127 lb./ac. (b) 74 lb./ac. (iii) V effect is highly significant, R effect is significant. Interaction V x R is highly significant. (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>R1</th>
<th>R2</th>
<th>R3</th>
<th>R4</th>
<th>R5</th>
<th>Mean</th>
</tr>
</thead>
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<tr>
<td>V1</td>
<td>495</td>
<td>506</td>
<td>595</td>
<td>495</td>
<td>454</td>
<td>509</td>
</tr>
<tr>
<td>V2</td>
<td>366</td>
<td>290</td>
<td>239</td>
<td>227</td>
<td>187</td>
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<tr>
<td>V3</td>
<td>416</td>
<td>441</td>
<td>558</td>
<td>552</td>
<td>435</td>
<td>480</td>
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<tr>
<td>Mean</td>
<td>426</td>
<td>412</td>
<td>464</td>
<td>424</td>
<td>358</td>
<td>417</td>
</tr>
</tbody>
</table>

   S.E. of difference of two
   1. V marginal means = 40.2 lb./ac.
   2. R marginal means = 30.2 lb./ac.
   3. R means at the same level of V = 52.3 lb./ac.
   4. V means at the same level of R = 61.7 lb./ac.

Object:—To find out the optimum sowing time for different varieties of Mustard.

---

Crop :- Mustard (Rabi).

Site :- Res. Farm, Kokilamukh.

Ref :- As. 58(31).

Type :- 'CV'.

---

Crop :- Mustard.

Site :- Res. Farm, Kokilamukh.

Ref :- As. 55(20).

Type :- 'CV'.

Object:—To find out the optimum sowing time for different varieties of Mustard.

---
2. TREATMENTS:

Main-plot treatments:

Sub-plot treatments:
3 varieties: V1 = M-27 (Sarson), V2 = M-2 (Rai) and V3 = M-60 (Toria).

3. DESIGN:

(i) Split-plot. (ii) 5 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) N.A. (b) 18' X 12'. (b) 2' between plots. (vi) Yes.

4. GENERAL:

(i) Growth of Rai variety was better. There was no lodging. (ii) Attacked by saw-fly. Controlled by dusting with Gammexane. (iii) Seed yield, height and tiller count. (iv) (a) 1955—1958. (b) Yes. (c) Nil. (v) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 504.2 lb./ac. (ii) (a) 105.0 lb./ac. (b) 76.0 lb./ac. (iii) Main effects of D, V and interaction D X V are highly significant. (iv) Av. yield of seed 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>47.3</td>
<td>614.4</td>
<td>608.2</td>
<td>630.2</td>
<td>340.3</td>
<td>448.1</td>
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<tr>
<td>V2</td>
<td>492.4</td>
<td>718.4</td>
<td>787.8</td>
<td>650.7</td>
<td>390.7</td>
<td>608.0</td>
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<tr>
<td>V3</td>
<td>241.0</td>
<td>564.8</td>
<td>518.4</td>
<td>623.9</td>
<td>334.0</td>
<td>456.4</td>
</tr>
<tr>
<td>Mean</td>
<td>260.2</td>
<td>632.6</td>
<td>638.1</td>
<td>634.9</td>
<td>355.0</td>
<td>504.2</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. D marginal means = 42.85 lb./ac.
2. V marginal means = 24.03 lb./ac.
3. V means at the same level of D = 53.73 lb./ac.
4. D means at the same level of V = 61.33 lb./ac.

Crop :- Mustard.
Site :- Res. Farm, Kokilamukh.
Object :- To find out the optimum sowing period for different varieties of Mustard.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Mustard. (c) A’S at 200 lb./ac. (ii) (a) Sandy loam. (b) Refer expt. no. 57(43) on page 114. (iii) As per treatments. (iv) a) Country method of ploughing, ladderling and harrowing. (b) Line sowing. (c) 3 srs ac. (d) 1’ between lines. (e) N.A. (f) A/S applied at 200 lb./ac. 5 days before sowing. (v) As per treatments. (vi) Unirrigated. (vii) Weeding and earthing 15 days after sowing. (ix) 17.18°. (x) D1 = 10.1.1957, D2 = 24.1.1957, D3 = 4.2.1957, D4 = 14.2.1957 and D5 = 5.3.1957.

2. TREATMENTS and 3. DESIGN:

Same as in expt. no. 55(20) on page 131.

4. GENERAL:

(i) Growth of Rai variety was better. (ii) Attack of white rust—controlled by spraying copper fungicide. (iii) Seed yield, height and tiller count. (iv) (a) 1955—1956. (b) Yes. (c) Nil. (v) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 459.61 lb./ac. (ii) a) 142.0 lb./ac. (b) 168.2 lb./ac. (iii) Main effect of D is highly significant. Main effect of V is significant. (iv) Av. yield of seed in lb./ac.
Object:—To find out the optimum sowing period for different varieties of Mustard.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Mustard. (c) A/S applied at 200 lb./ac. (ii) Sandy lean. (b) Refer expt. no. 57(43) on page 114. (iii) As per treatments. (iv) (a) Country method of ploughing, laddering and harrowing. (b) Line sowing. (c) 3 yrs/ac. (d) 1' between lines. (e) N.A. (v) A/S at 200 lb./ac. applied 5 days before each sowing. (vi) As per treatments. (vii) Unirrigated. (viii) Weeding and earthing 15 days after each sowing. (ix) 11.55°. (x) D1—16.1.1958, D2—28.1.1958, D3—10.2.1958, D4—19.2.1958 and D5—4.3.1958.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 55(20). n page 131.

   GENERAL:
   (i) Growth of Rai plots was better. There was no lodging. (ii) Nil. (iii) Seed yield, height and tiller count. (iv) (a) 1955—1958. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 314.3 lb./ac. (ii) (a) 162.3 lb./ac. (b) 91.69 lb./ac. (iii) Main effects of D, V and interaction D x V are all highly significant. (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th>D_1</th>
<th>D_2</th>
<th>D_3</th>
<th>D_4</th>
<th>D_5</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V_1</td>
<td>145.0</td>
<td>762.6</td>
<td>642.8</td>
<td>352.9</td>
<td>264.7</td>
</tr>
<tr>
<td>V_2</td>
<td>290.3</td>
<td>838.2</td>
<td>664.9</td>
<td>570.3</td>
<td>409.6</td>
</tr>
<tr>
<td>V_3</td>
<td>59.9</td>
<td>601.8</td>
<td>661.7</td>
<td>438.0</td>
<td>189.1</td>
</tr>
<tr>
<td>Mean</td>
<td>166.0</td>
<td>734.2</td>
<td>656.5</td>
<td>453.8</td>
<td>287.8</td>
</tr>
</tbody>
</table>

   S.E. of difference of two
   1. D marginal means = 58.0 lb./ac.
   2. V marginal means = 53.2 lb./ac.
   3. V means at the same level of D = 118.9 lb./ac.
   4. D means at the same level of V = 113.1 lb./ac.

---

Crop: Mustard.

Site: Res. Farm, Kokilamukh.

Ref:—As. 57(17).

Type:—‘CV’.
Crop :- Mustard (Rabi).
Site :- Res. Farm, Kokilamukh.

Object :- To find out the optimum sowing period for different varieties of Mustard.

1. BASAL CONDITIONS :
   (i) (a) to (c) N.A. (ii) (a) Sandy loam. (b) Refer expt. no. 57(43) on page 114. (iii) As per treatments.
   (iv) (a) Ploughing followed by laddering. (b) Broadcasting. (c) 6 lb./ac. (d) and (e) N.A. at 200 lb./ac. (vi) As per treatments. (vii) Unirrigated. (viii) Nil. (ix) N.A. (x) 30.1.1959, 12, 23, 2.1959

2. TREATMENTS :
   Main-plot treatments :
   Sub-plot treatments :
   3 varieties: V1 = M-27 (Sarson), V2 = M-2 (Rai) and V3 = M-60 (Poria).

3. DESIGN :
   (i) Split-plot. (ii) (a) 4 main-plots/replication; 3 sub-plots/main-plot. (b) 54'X60'. (iii) 4. (iv) (a) 12'X18'. (b) 10'X16'. (v) 1' allround. (vi) Yes.

4. GENERAL :
   (i) and (ii) N.A. (iii) Yield of seed. (iv) (a) 1955-1958. (b) Yes. (c) Nil. (v) (a) and (b) Nil. (vi) and (vii) Nil.

5. RESULTS :
   (i) 483 lb./ac. (ii) (a) 194 lb./ac. (b) 94 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of seed in lb./ac.

   |   | D1 | D2 | D3 | D4 | Mean |
---|---|---|---|---|-----|
V1 | 459 | 621 | 502 | 442 | 506 |
V2 | 417 | 501 | 544 | 383 | 464 |
V3 | 596 | 451 | 485 | 383 | 479 |
Mean | 491 | 527 | 510 | 403 | 483 |

S.E. of difference of two
1. D marginal means = 79.2 lb./ac.
2. V marginal means = 33.2 lb./ac.
3. V means at the same level of D = 47.0 lb./ac.
4. D means at the same level of V = 96.0 lb./ac.

Crop :- Mustard (Rabi).
Site :- Res. Farm, Kokilamukh.

Object :- To find out suitable pesticide to control saw-fly in Mustard.

1. BASAL CONDITIONS :
   (i) (a) No. (b) Mustard. (c) N.A. (ii) (a) Sandy loam. (b) Refer expt. no. 57(43) on page 114. (iii) 2.12.1958. (iv) (a) Ploughing and harrowing. (b) Broadcasting. (c) to (e) N.A. (vi) Nil. (vii) Local. (viii) Unirrigated. (ix) N.A. (x) 3, 4 and 6.3.1959.

2. TREATMENTS :
   6 treatments: D0 = Control, D1 = Gammexane dust at 12 lb./ac., D2 = Dieldrex dust at 12 lb./ac., D3 = Endrex at 1 lb. in 300 lb./ac. of water, D4 = Guesarol at 1 lb. in 300 lb./ac. of water and D5 = Hexidol at 1 lb. in 300 lb./ac. of water.

3. DESIGN :
   (i) R.B.D. (ii) 6. (b) 72'X13'. (iii) 5. (iv) (a) 13'X12'. (b) 12'X11'. (v) 1'-X1'. (vi) Yes.
4. GENERAL:
(i) Normal. (ii) Attack of saw-fly. Control measures as per treatments. (iii) 3 sq. ft area was selected at random from each plot and percentage of affected plants observed. (iv) (a) 1958—contd. (b) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 1.73%. (ii) 2.33%. (iii) Treatment differences are highly significant. (iv) Av. percentage of affected plants.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D₀</th>
<th>D₁</th>
<th>D₂</th>
<th>D₃</th>
<th>D₄</th>
<th>D₅</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. percentage</td>
<td>9.31</td>
<td>6.28</td>
<td>6.78</td>
<td>3.95</td>
<td>3.64</td>
<td>4.41</td>
</tr>
<tr>
<td>S.E./mean = 1.04%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Mustard (Rabi).
Site :- Res. Farm, Kokilamukh.
Object :- To find out suitable pesticide to control saw-fly in Mustard.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Mustard. (c) N.A. (ii) (a) Sandy loam. (b) Ref: expt. no. 57(43) on page 114. (iii) 6.12.1959. (iv) (a) Ploughing, harrowing. (b) Broadcasting. (c) to (e) N.A. (v) Nil. (vi) Local. (vii) Unirrigated. (viii) Nil. (ix) N.A. (x) 3, 4.3.1960.

2. TREATMENTS:
7 treatments: D₀=Control, D₁=Gammexane dusting at 12 lb./ac., D₂=Endrex at 30 c.c. in 30 gallons of water per acre, D₃=Guesarol at 1 lb./ac. in 30 gallons of water, D₄=Hexidol W.D.P. at 30 gallons of water, D₅=Paramar 50 at 30 c.c. in 30 gallons of water and D₆=N.A.

3. DESIGN:
(i) R.B.D. (ii) (a) 147'×16'. (iii) 5. (iv) (a) 21'×16'. (b) 20'×15'. (v) 6'×6'. (vi) Yes.

4. GENERAL:
(i) Poor. (ii) Attack of saw-fly. Control measures as per treatments. (iii) 3 sq. ft area was selected at random from each plot and percentage of affected plants observed. (iv) (a) 1958—contd. (b) Nil. (c) N.A. (d) 12' between plants and 2' between double rows. (e) One rhizome shoot/hole. (f) Cowdung at 250 mds/ac. applied. (g) G—557 local. (h) Unirrigated. (i) Weeding and earthing twice. (ix) 69.09%. (x) 5, 6.2.1957.

5. RESULTS:
(i) 6.37%. (ii) 0.66%. (iii) Treatment differences are highly significant. (iv) Av. percentage of affected plants.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D₀</th>
<th>D₁</th>
<th>D₂</th>
<th>D₃</th>
<th>D₄</th>
<th>D₅</th>
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<tbody>
<tr>
<td>Av. percentage</td>
<td>5.57</td>
<td>6.54</td>
<td>4.12</td>
<td>5.57</td>
<td>6.42</td>
<td>4.20</td>
</tr>
<tr>
<td>S.E./mean = 0.29%</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Crop :- Ginger (Rabi).
Site :- Ginger Res. Stn., Naya Bunglow.
Object :-To study the effect of different levels of N, P and K on Ginger crop.

1. BASAL CONDITIONS:
(i) (a) to (c) Nil. (ii) (a) Red loam. (b) N.A. (iii) 26.4.1^56. (iv) (a) Ploughing, pulverising and weeding. (b) Planting in double rows. (c) N.A. (d) 12' between plants and 2' between double rows. (e) One rhizome shoot/hole. (f) Cowdung at 250 mds/ac. applied. (g) Local. (h) Unirrigated. (i) Weeding and earthing twice. (ix) 69.09%. (x) 5, 6.2.1957.

Ref :- As. 59(49).
Type :- 'D'.

Crop :- Ginger (Rabi).
Site :- Ginger Res. Stn., Naya Bunglow.
Object :-To study the effect of different levels of N, P and K on Ginger crop.

1. BASAL CONDITIONS:
(i) (a) to (c) Nil. (ii) (a) Red loam. (b) N.A. (iii) 26.4.1^56. (iv) (a) Ploughing, pulverising and weeding. (b) Planting in double rows. (c) N.A. (d) 12' between plants and 2' between double rows. (e) One rhizome shoot/hole. (f) Cowdung at 250 mds/ac. applied. (g) Local. (h) Unirrigated. (i) Weeding and earthing twice. (ix) 69.09%. (x) 5, 6.2.1957.

Ref :- 56(37).
Type :- 'M'.
2. TREATMENTS:
All combinations of (1), (2) and (3)
(1) 3 levels of \( N \): \( N_0 = 0 \), \( N_1 = 20 \) and \( N_2 = 40 \) lb./ac.
(2) 3 levels of \( P_2 \): \( P_0 = 0 \), \( P_1 = 20 \) and \( P_2 = 40 \) lb./ac.
(3) 3 levels of \( K_2 \): \( K_0 = 0 \), \( K_1 = 20 \) and \( K_2 = 40 \) lb./ac.

3. DESIGN:
(i) \( 3^3 \) confd. (ii) 9. (b) N.A. (iii) 4. (iv) (a) 9'\( \times 11' \); (b) 7'\( \times 10' \). (v) One row all round , (vi) Yes.

4. GENERAL:
(i) Good. (ii) No. (iii) Yield of rhizomes. (iv) (a) 1956—N.A. (b) No. (c) Nil. (d) sea and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 6465 lb./ac. (ii) 2054 lb./ac. (iii) Only \( P \) and \( K \) effects are significant. (iv) Av. yield of rhizome in lb./ac.

<table>
<thead>
<tr>
<th>( P_0 )</th>
<th>( P_1 )</th>
<th>( P_2 )</th>
<th>( K_0 )</th>
<th>( K_1 )</th>
<th>( K_2 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>5393</td>
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<td>6361</td>
<td>7192</td>
<td>5670</td>
<td>6638</td>
<td>7087</td>
</tr>
<tr>
<td>( K_0 )</td>
<td>4875</td>
<td>5601</td>
<td>6534</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>( K_1 )</td>
<td>5704</td>
<td>6949</td>
<td>7260</td>
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</tr>
<tr>
<td>( K_2 )</td>
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<td>6534</td>
<td>7779</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

S.E. of \( N \), \( P \) or \( K \) marginal mean = 342 lb./ac.
S.E. of body of any table = 593 lb./ac.

**Crop:** Ginger *(Rabi).*  
**Site:** Ginger Res. Stn., Naya Bunglow.  
**Ref:** As. 57(33).  
**Type:** ‘M’.

Object: To study the effect of different levels of \( N \), \( P \) and \( K \) on Ginger crop.

1. BASAL CONDITIONS:
(i) (a) to (c) No. (ii) (a) Red loam. (b) N.A. (iii) 2.5.1957. (iv) (a) Ploughing, pulverising and weeding. (b) Planting in double rows. (c) N.A. (d) 12" between plants and 2' between double rows. (e) One rhizome shoot/hole. (v) Cowdung at 250 mds/acre applied. (vi) G-55/7 local. (vii) Unirrig. (viii) Weeding and earthing twice. (ix) 74.64°. (x) 11 to 14.12.1957.

2. TREATMENTS and 3. DESIGN:
Same as in exp. no. 56(37) on page 135.

4. GENERAL:
(i) Not good. (ii) Attacked by rhizome rot. Sprayed Perenox and Bordeaux’s mixture. (iii) Yield of rhizomes. (iv) (a) 1956—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 1613 lb./ac. (ii) 632 lb./ac. (iii) N or e of the effects is significant. (iv) Av. yield of rhizome in lb./ac.
Crop: Ginger.  
Site: Ginger Res. Stn., Naya Bunglow.  
Object: — To study the effect of different levels of N, P, and K on Ginger crop.

1. **BASAL CONDITIONS:**
   (i) (a) to (c) No. (ii) (a) Red loam. (b) N.A. (iii) 30.4.1958. (iv) (a) Ploughing, pulverising and weeding. (b) Planting in double rows. (c) N.A. (d) 12" between plants and 2' between double rows. (e) One rhizome shoot/hole. (v) Cowdung at 250 mds/ac. applied. (vi) G—55/1 Nadir (late). (vii) Unirrigated. (viii) Weeding and earthing twice. (ix) 74.74". (x) 30 and 31.12.1958.

2. **TREATMENTS and DESIGN:**
   Same as in extpt. no. 56(37) on page 135.

4. **GENERAL:**
   (i) Medium. (ii) No. (iii) Yield of rhizomes. (iv) (a) 1956—N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. **RESULTS:**
   (i) 4091 lb./ac. (ii) 1245 lb./ac. (iii) Interaction N × P is significant. No other effect is significant. (iv) Av. yield of rhizome in lb./ac.

- **Table:**

<table>
<thead>
<tr>
<th></th>
<th>$P_0$</th>
<th>$P_1$</th>
<th>$P_2$</th>
<th>$K_0$</th>
<th>$K_1$</th>
<th>$K_2$</th>
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<tr>
<td>$N_0$</td>
<td>3526</td>
<td>4667</td>
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<td>3967</td>
<td>4693</td>
<td>3993</td>
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<tr>
<td>$N_1$</td>
<td>4149</td>
<td>4900</td>
<td>4149</td>
<td>4382</td>
<td>4563</td>
<td>4252</td>
<td>4399</td>
</tr>
<tr>
<td>$N_2$</td>
<td>4641</td>
<td>3630</td>
<td>3371</td>
<td>3993</td>
<td>4122</td>
<td>3526</td>
<td>3881</td>
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<tr>
<td>Mean</td>
<td>4105</td>
<td>4399</td>
<td>3769</td>
<td>3898</td>
<td>4218</td>
<td>4157</td>
<td>4091</td>
</tr>
</tbody>
</table>

S.E. of $N, P$ or $K$ marginal mean = 207 lb./ac.  
S.E. of body of any table = 359 lb./ac.
CROP :- Ginger (Rabi).

SITE :- Ginger Res. Stn., Naya Bunglow.

REF :- As. 56(36).

TYPE :- 'M'.

Object :- To find out the effect of different forms of N on Ginger crop.

1. BASAL CONDITIONS:
   (i) (a) to (c) Nil.  (ii) (a) Red loam.  (b) N.A.  (iii) 24.4.1956.  (iv) (a) Ploughing, pulverising and weeding.  (b) Planting in double rows.  (c) N.A.  (d) 12' between plants and 2' between double rows.  (e) One rhizome shoot/hole.  (v) Cowdung at 250 mds./ac.  (vi) G — 55/7 (local).  (vii) Unirrigated.  (viii) Weeding and earthing twice.  (ix) 69.09°.  (x) 29.1.1957.

2. TREATMENTS:
   All combinations of (1) and (2) + a control
   (1) 2 levels of N : N1 =20 and N2 =40 lb./ac.
   (2) 3 sources of N : S1 =A/S, S2 =Mustard oilcake and S3 =A/S+mustard oilcake.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 7.  (b) 7'×14'.  (iii) 4.  (iv) (a) 11'×14'.  (b) 10'×12'.  (v) One line on all sides.  (vi) Yes.

4. GENERAL:
   (i) Good.  (ii) No.  (iii) Yield of rhizomes.  (iv) (a) 1956—N.A.  (b) Yes.  (c) Nil.  (v) (a) and (b) N.A.  (vi) and (vii) Nil.

5. RESULTS:
   (i) 4409 lb./ac.  (ii) 948.8 lb./ac.  (iii) None of the effects is significant.  (iv) Av. yield of rhizome in lb./ac.

Control=3812 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>Mean</th>
</tr>
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<tr>
<td>N1</td>
<td>3993</td>
<td>4901</td>
<td>4356</td>
<td>4417</td>
</tr>
<tr>
<td>N2</td>
<td>4356</td>
<td>4719</td>
<td>4719</td>
<td>4598</td>
</tr>
</tbody>
</table>

S.E. of marginal mean of N = 2'3.9 lb./ac.
S.E. of marginal mean of S = 335.4 lb./ac.
S.E. of body of table = 474.4 lb./ac.

CROP :- Ginger (Rabi).

SITE :- Ginger Res. Stn., Naya Bunglow.

REF :- As. 57(32).

TYPE :- 'M'.

Object :- To see the effect of different forms of N on Ginger crop.

1. BASAL CONDITIONS:
   (i) (a) No.  (b) Ginger.  (c) Nil.  (ii) (a) Red loam.  (b) N.A.  (iii) 4.5.1957.  (iv) (a) Ploughing, pulverising and weeding.  (b) Planting in double rows.  (c) N.A.  (d) 12' between plants and 2' between double rows.  (e) One rhizome shoot/hole.  (v) Cowdung at 250 mds./ac.  (vi) G — 55/7 (local).  (vii) Unirrigated.  (viii) Weeding and earthing twice.  (ix) 74.64°.  (x) 10.12.1957.

2. TREATMENTS and 3. DESIGN:
   Same as in exp. no. 56/36, above.

4. GENERAL:
   (i) Not good.  (ii) Affected by rhizome rot ; Perenox and Bordeaux’s mixture sprayed.  (iii) Yield of rhizome.  (iv) (a) 1956—N.A.  (b) Yes.  (c) Nil.  (v) (a) and (b) N.A.  (vi) and (vii) Nil.

5. RESULTS:
   (i) 1180 lb./ac.  (ii) 540.9 lb./ac.  (iii) None of the effects is significant.  (iv) Av. yield of rhizomes in lb./ac.
Crop: Ginger.  
Site: Ginger Res. Stn., Naya Bunglow.

Object: To see the effect of different forms of N on Ginger crop.

BASAL CONDITIONS:
(i) (a) Nil. (b) Ginger. (c) As per treatments. (ii) (a) Red loam. (b) N.A. (iii) 28.4.1958. (iv) (a) Ploughing, pulverising and weeding. (b) Plantation in double rows. (c) N.A. (d) 12' between plants and 2' between double rows. (e) One rhizome shoot/hole. (v) Cowdung at 250 mds/ac. (vi) G—55/7 (local). (vii) Unirrigated. (viii) Weeding and earthing twice. (ix) 74.74° (x) 26.12.1958.

2. TREATMENTS and 3. DESIGN:  
Same as in expt. no. 56(36) on page 138.

4. GENERAL:  
(i) Not good. (ii) Whole experiment was attacked by rhizome rot. Perenox and Bordeaux’s mixture were sprayed. (iii) Yield of rhizomes. (iv) (a) 1956—N.A. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:  
(i) 597 lb./ac. (ii) 609.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of rhizome in lb./ac.

Crop: Ginger (Rabi).  
Site: Ginger Res. Stn., Naya Bunglow.

Object: To determine the best time and method of planting for Ginger crop.

1. BASAL CONDITIONS:
(i) (a) to (c) Nil. (ii) (a) Red loam. (b) N.A. (iii) As per treatments. (iv) (a) Ploughing, pulverising and weeding. (b) As per treatments. (c) N.A. (d) As per treatments. (e) One rhizome shoot/hole.
2. TREATMENTS:

Main-plot treatments:
2 methods of planting: 
\[ M_1 = \text{Planting in double rows with 12" spacing between plants and 2' between rows.} \]
\[ M_2 = \text{Planting in single rows with 12" spacing between plants and 1' between rows.} \]

Sub-plot treatments:
4 dates of planting: 
\[ D_1 = 1.4.1956, \quad D_2 = 11.4.1956, \quad D_3 = 21.4.1956 \text{ and } D_4 = 1.5.1956. \]

3. DESIGN:

(i) Split-plot. (ii) (a) 2 main-plots/replication; 4 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) (a) 11' x 17'. (b) 10' x 15'. (v) One line around. (vi) Yes.

4. GENERAL:

(i) Good. (ii) Nil. (iii) Yield of rhizomes. (iv) (a) 1956 — N.A. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

(i) 3145 lb./ac. (ii) (a) 2412 lb./ac. (b) 830 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of rhizome 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>M1</td>
<td>1'42</td>
<td>3290</td>
<td>2904</td>
<td>4257</td>
<td>3048</td>
</tr>
<tr>
<td>M2</td>
<td></td>
<td>2904</td>
<td>3290</td>
<td>3290</td>
<td>3485</td>
</tr>
<tr>
<td>Mean</td>
<td>2323</td>
<td>3290</td>
<td>3097</td>
<td>3871</td>
<td>3145</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. M marginal means = 988 lb./ac.
2. D marginal means = 479 lb./ac.
3. M means at the same level of D = 1149 lb./ac.
4. D means at the same level of M = 678 lb./ac.

Crop :- Ginger (Rabi).
Site :- Ginger Res. Stn., Naya Bunglow.
Object :- To determine the best time and method of planting for Ginger crop.

Ref :- As. 57(30).
Type :- 'C'.

1. BASAL CONDITIONS:

(i) (a) to (c) Nil. (ii) (a) Red loam. (b) N.A. (iii) As per treatments. (iv) 'a' Ploughing, p. I' v. s. ing and weeding. (b) As per treatments. (c) N.A. (d) As per treatments. (e) One rhizome sh. h. t. hole of 250 ml./ac. of cowdung before planting. (v) G — 55.7 (local). (vi) Unirrigated. (vii) Weeding and earthing twice. (ix) 74.64'. (x) 20.1.1958.

2. TREATMENTS:

Main-plot treatments:
Same as in expt. no. 56(34) on page 139.

Sub-plot treatments:
4 dates of planting: 
\[ D_1 = 1.4.1957, \quad D_2 = 11.4.1957, \quad D_3 = 21.4.1957 \text{ and } D_4 = 1.5.1957. \]

3. DESIGN and 4. GENERAL:

Same as in expt. no. 56(34) on page 139.

5. RESULTS:

(i) 9353 lb./ac. (ii) (a) 2386 lb./ac. (b) 1258 lb./ac. (iii) Effect of D is highly significant. No other effect is significant. (iv) Av. yield of rhizome in lb./ac.
Crop: Ginger.  
Site: Ginger Res. Stn., Naya Bunglow.  
Object: To determine the best time and method of planting for Ginger crop.

1. **BASAL CONDITIONS:**
   (i) (a) to (c) Nil. (ii) (a) Red loamy soil. (b) N.A. (iii) As per treatments. (iv) (a) Ploughing, pulverising and weeding. (b) As per treatments. (c) N.A. (d) As per treatments. (e) One rhizome shoot/hole. (f) Cowdung applied at 250 mds/ac. after planting. (g) G—557 (local). (h) Unirrigated. (i) Weeding and earthing—2 times. (j) 74.74". (k) 3.2.1959.

2. **TREATMENTS** to 4. GENERAL:
   Same as in expt. no. 56(34) on page 139.

5. **RESULTS:**
   (i) 3781 lb/ac. (ii) (a) 1089 lb/ac. (b) 1011 lb/ac. (iii) Effect of D is highly significant. No other effect is significant. (iv) Av. yield of rhizome in lb/ac.

<table>
<thead>
<tr>
<th></th>
<th>D₁</th>
<th>D₂</th>
<th>D₃</th>
<th>D₄</th>
<th>Mean</th>
</tr>
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<tbody>
<tr>
<td>M₁</td>
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<td>5034</td>
<td>3436</td>
<td>2033</td>
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<td>M₂</td>
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<td>4501</td>
<td>2807</td>
<td>2033</td>
<td>3787</td>
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<tr>
<td>Mean</td>
<td>5203</td>
<td>4767</td>
<td>3122</td>
<td>2033</td>
<td>3781</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. M marginal means = 444 lb/ac.
2. D marginal means = 584 lb/ac.
3. M means at the same level of D = 842 lb/ac.
4. D means at the same level of M = 826 lb/ac.

---

Crop: Ginger (Rabi).  
Site: Ginger Res. Stn., Naya Bunglow.  
Object: To determine the best time of harvesting for Ginger crop.

1. **BASAL CONDITIONS:**
   (i) (a) to (c) Nil. (ii) (a) Red loam. (b) N.A. (iii) 10.4.1956. (iv) (a) Ploughing, pulverising and 2 weedings. (b) Planting in double rows. (c) N.A. (d) 12" between plants and 2' between double rows. (e) One rhizome shoot/hole. (f) Cowdung applied at 250 mds/ac. at the time of planting the rhizomes. (g) G—557 (local). (h) Unirrigated. (i) Earthing and weeding twice. (j) 69.07". (k) As per treatments.
2. TREATMENTS:
   4 dates of harvesting: \( D_1 = 20.11.1956 \), \( D_2 = 6.12.1956 \), \( D_3 = 21.12.1956 \) and \( D_4 = 6.1.1957 \).

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 7'×22'. (b) 5'×20'. (v) 1' along the rest of the plot. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) A few plants were attacked by rhizome rot. Bordeaux's mixture and Perenox were sprayed. (iii) Yield of rhizomes. (iv) (a) 1956—N.A. (b) No. (c) Nil. (v) (a) and (b, N.A. (vi) and (vii, Nil.

5. RESULTS:
   (i) 6244 lb./ac. (ii) 1162 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of rhizome in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>( D_1 )</th>
<th>( D_2 )</th>
<th>( D_3 )</th>
<th>( D_4 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>5663</td>
<td>5953</td>
<td>7550</td>
<td>5808</td>
</tr>
<tr>
<td>S.E./mean</td>
<td></td>
<td></td>
<td></td>
<td>474.3</td>
</tr>
</tbody>
</table>

Crop : Ginger.  
Site :- Ginger Res. Stn., Naya Bunglow.  
Object :- To determine the best time of harvesting Ginger crop.

1. BASAL CONDITIONS:
   (i) (a) to (c) Nil. (ii) (a) Red loam. (b) N.A. (iii) 24.4.1958. (iv) (a) Ploughing, pulverising and weeding. (b) Planting in double rows. (c) N.A. (d) 12" between plants and 2' between double rows. e) One rhizome shoot/hole. (e) Cowdung applied at 250 msd/ac. at the time of planting. (vi) G—55/7 (local). (vii) Un-irrigated. (viii) 2 weedings and earthing. (ix) 74.74. (x) As per treatments.

2. TREATMENTS:

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) (a) 12'×11'. (b) 10'×10'. (v) 2' between plots. (vi) Yes.

4. GENERAL:
   (i) Medium. (ii) Nil. (iii) Yield of rhizomes. (iv) (a) 1956—N.A. (b) and (c) No. (v) a) and (b, N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 3211 lb./ac. (ii) 1316 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of rhizome in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>( D_1 )</th>
<th>( D_2 )</th>
<th>( D_3 )</th>
<th>( D_4 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3122</td>
<td>3049</td>
<td>2904</td>
<td>3848</td>
</tr>
<tr>
<td>S.E./mean</td>
<td></td>
<td></td>
<td></td>
<td>537.2</td>
</tr>
</tbody>
</table>

Crop : Ginger (Rabi).  
Site :- Ginger Res. Stn., Naya Bunglow.  
Object :- To determine the best time of harvesting the Ginger crop.

1. BASAL CONDITIONS:
   (i) (a) to (c) Nil. (ii) (a) Red loam. (b) N.A. (iii) 1.5.1957. (iv) (a) Ploughing, pulverising and weeding. (b) Planting in double rows. (c) N.A. (d) 12' between plants and 2' between double rows. (e) One rhizome shoot/hole. (f) Cowdung applied at 250 msd/ac. at the time of planting. (g) G—55/7 (local). (h) Un-irrigated. (viii) Earthing and weeding—twice. (ix) 74.64. (x) As per treatments.
2. TREATMENTS:

3. DESIGN:
   Same as in expl. no. 56(35) on page 141.

4. GENERAL:
   (i) The crop condition was good up to middle of July 1957. (ii) Whole experiment was affected by rhizome rot. Bordeaux's mixture and Perenox were sprayed. (iii) Yield of rhizomes. (iv) (a) 1956—N.A. (b) and (c) No. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 3013 lb./ac. (ii) 528 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of rhizome in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D₁</th>
<th>D₂</th>
<th>D₃</th>
<th>D₄</th>
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</thead>
<tbody>
<tr>
<td>Av. yield</td>
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<td>3412</td>
<td>2178</td>
<td>3049</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>215.5</td>
<td>lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

Crop :- Ginger.  
Site :- Ginger Res. Sta., Naya Bungalow.  
Ref :- As. 59(60).  
Type :- 'C'.  
Object :- To determine the best time of harvesting for Ginger crop.

1. BASAL CONDITIONS:
   (i) (a) No. (b) Ginger. (c) Nil. (ii) (a) Red loam. (b) N.A. (iii) 2.5.1959. (iv) (a) Ploughing and pulverising. (b) Planting in double rows. (c) N.A. (d) 12' between plants and 2' between double rows. (e) One rhizome shoot/hole. (f) Cowdung applied at 250 mds/ac. at the time of planting. (g) G—55/1 Nata (late). (h) Unirrigated. (i) 2 weedings and earthing. (j) 98.23°. (k) As per treatments.

2. TREATMENTS:

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) 12'×44'. (iii) 4. (iv) (a) 12'×11'. (b) 10'×10'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Medium. (ii) The crop was attacked by rhizome rot. Bordeaux's mixture sprayed. (iii) Yield of rhizomes. (iv) (a) 1956—1959. (b) No. (c) Nil. (d) (a) and (b) N.A. (v) and (vi) Nil.

5. RESULTS:
   (i) 57.2 lb./ac. (ii) 1838 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of rhizome in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D₁</th>
<th>D₂</th>
<th>D₃</th>
<th>D₄</th>
</tr>
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<tbody>
<tr>
<td>Av. yield</td>
<td>6316</td>
<td>425</td>
<td>5881</td>
<td>4465</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>919.1</td>
<td>lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2. TREATMENTS:
   1. Plants open to sun.
   2. Plants under shade of G.M. crop planted between rows.

3. DESIGN:
   (i) R.B.D. (ii) [a] 2. (b) 17'x24'. (iii) 3 (iv) [a] 17'x12'. (b) 15'x10'. (v) and (vi) Yes.

4. GENERAL:
   (i) Medium. (ii) The crop was attacked by rhizome rot. Bordeaux's mixture sprayed. (iii) Yield of rhizomes.
   (iv) (a) 1959 - 1960. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 7771 lb./ac. (ii) 2178 lb./ac. (iii) Treatment difference is not significant. (iv) Av. yield of rhizome in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>9194</td>
<td>6389</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>1257 lb./ac.</td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Ginger. Site :- Ginger Res. Stn., Naya Bunglow. Ref :- As. 59(58). Type :- 'CV'.

Object :- To find out the best system of spacing for different varieties of Ginger.

1. BASAL CONDITIONS:
   (i) [a] No. (b) Fallow. (c) N.d. (ii) [a] Red loam. (b) N.A. (iii) 5.5.1959. (iv) (a) Ploughing and pulvrising. (b) In double rows. (c) N.A. (d) As per treatments. (e) 1 rhizome shoot, hole. (f) Cowdung at 250 mds/ac. applied before planting. (g) As per treatments. (h) Unirrigated. (vii) 2 weedicings and 1 earthing. (ix) 98.23°. (x) 30.12.1959.

2. TREATMENTS:
   Main-plot treatments:
   - 2 varieties: $V_1 = G-55/1$ Nadia (late) and $V_2 = G-55/7$ local (late).
   Sub-plot treatments:
   - 3 spacings between plants: $S_1 = 6'$, $S_2 = 9'$ and $S_3 = 12'$.
   - 2' spacing left between double rows.

3. DESIGN:
   (i) Split-plot. (ii) [a] 2 main-plots/block, 3 sub-plots/main-plot. (b) 14'x72'. (iii) 3. (iv) (a) 14'x12'. (b) 12'x10'. (v) and (vi) Yes.

4. GENERAL:
   (i) Good. (ii) $V_2$ plots were attacked by rhizome rot. Bordeaux's mixture sprayed. (iii) Yield of rhizomes.
   (iv) (a) No. (b) and (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 7458 lb./ac. (ii) (a) and (b) N.A. (iii) N.A. (iv) Av. yield of rhizome 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>14257</td>
<td>10770</td>
<td>14157</td>
<td>13061</td>
</tr>
<tr>
<td>$V_2$</td>
<td>2298</td>
<td>1695</td>
<td>1572</td>
<td>1835</td>
</tr>
<tr>
<td>Mean</td>
<td>8277</td>
<td>6333</td>
<td>7864</td>
<td>7458</td>
</tr>
<tr>
<td>S.E.'s</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N.A.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Object: To find out a suitable pre-sowing treatment of seed for Cardamom crop.

1. BASAL CONDITIONS:
   (i) Newly reclaimed. (ii) (a) Red laterite. (b) N.A. (iii) By seedlings. (iv) Munzerabad (round type). (v) 25.10.1959. Seed sown in well prepared beds in lines at 3" x 3" spacing. (vi) Nil. (vii) Cowdung at 100 mds/ac. applied a fortnight before sowing. (viii) Mulching with thatch grass, weeding twice and regular watering. (ix) Nil. (x) Unirrigated. (xi) 85.89%. (xii) Nil.

2. TREATMENTS:
   4 pre-sowing seed treatments: 
   $T_1$ = Rinsed with water, $T_2$ = Mixed with ash, $T_3$ = Mixed with ash and shaking the seed with sand in bottle and $T_4$ = Rinsed with water and shaking the seed with sand in bottle.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 3. (iv) 100 seedlings. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) General application of copper fungicide at 6 oz. per 10 gallons of water. (iii) Germination record. (iv) (a) No. (b) Nil. (v) and (vi) Nil.

5. RESULTS:
   (i) 25.67 % (ii) 5.47 % (iii) Treatment differences are not significant. (iv) Mean germination percentage.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$T_1$</th>
<th>$T_2$</th>
<th>$T_3$</th>
<th>$T_4$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Percentage</td>
<td>22.33</td>
<td>25.67</td>
<td>27.33</td>
<td>27.33</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>3.16%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

Object: To find out a suitable pre-sowing treatment of seed for Cardamom crop.

1. BASAL CONDITIONS:
   (i) Newly reclaimed. (ii) (a) Red laterite. (b) N.A. (iii) By seedlings. (iv) Munzerabad (oblong). (v) 25.10.1959. Seeds sown in well prepared beds in lines at 3" x 3" spacing. (vi) Nil. (vii) Cowdung at 100 mds/ac. applied a fortnight before sowing. (viii) Mulching with thatch grass, weeding twice and regular watering. (ix) Nil. (x) Unirrigated. (xi) 85.89%. (xii) Nil.

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 59(15) above.

5. RESULTS:
   (i) 26.33% (ii) 6.89%. (iii) Treatment differences are not significant. (iv) Mean germination percentage.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$T_1$</th>
<th>$T_2$</th>
<th>$T_3$</th>
<th>$T_4$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Percentage</td>
<td>27.67</td>
<td>18.67</td>
<td>21.67</td>
<td>34.33</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>3.98%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Object: To find out a suitable pre-sowing treatment of seed for Cardamom crop.
1. BASAL CONDITIONS
(i) Newly reclaimed. (ii) (a) Red laterite. (b) N.A. (iii) By seedlings. (iv) Munzerabad (oblong type).
(v) 24.10.1959. Seeds sown in well prepared beds in lines at 3' x 3' spacing. (vi) Nil. (vii) Cowdung at 100 md./ac. applied a fortnight before sowing. (viii) Mulching with thatch grass, weeding twice and regular watering. (ix) Nil. (x) Unirrigated. (xi) 85.89°. (xii) Nil.

2. TREATMENTS to 4. GENERAL:
Same as in exp. no. 59(15) on page 145.

5. RESULTS:
(i) 36.08%. (ii) 7.58%. (iii) Treatment differences are not significant. (iv) Mean germination percentage.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Percentage</td>
<td>30.67</td>
<td>29.33</td>
<td>40.33</td>
<td>44.00</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>4.38%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Cardamom.  
Site :- Composite Res. Stn., Nongpoh.  
Ref :- As. 59(18).  
Type :- 'C'.

Object :- To find out a suitable pre-sowing treatment of seed for cardamom crop.

1. BASAL CONDITIONS:
(i) Newly reclaimed. (ii) (a) Red laterite. (b) N.A. (iii) By seedlings. (iv) Munzerabad (oblong type).
(v) Seeds sown in well prepared beds in lines at 3' x 3' spacing. (vi) Nil. (vii) Cowdung at 100 md./ac. applied a fortnight before sowing. (viii) Mulching with thatch grass, weeding twice and regular watering. (ix) Nil. (x) Unirrigated. (xi) 85.89°. (xii) Nil.

2. TREATMENTS to 4. GENERAL:
Same as in exp. no. 59(15) on page 145.

5. RESULTS:
(i) 46.17%. (ii) 6.12%. (iii) Treatment differences are highly significant. (iv) Mean germination percentage.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Percentage</td>
<td>39.67</td>
<td>40.00</td>
<td>48.67</td>
<td>56.33</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>3.53%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Coconut.  
Site :- Regional Coconut Res. Stn., Kahikuchi.  
Ref :- As. 58(26).  
Type :- 'M'.

Object :- To find out the suitable manure for raising quality seedlings for Coconut.

1. BASAL CONDITIONS:
(i) (a) to (c) Nil. (ii) (a) Alluvial loam. (b) Refer below.* (iii) N.A. (iv) Local tall. (v) 12.5.1958.

*Table sowing the analysis of soil sample on % air-dry basis.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface</td>
<td>11.2</td>
<td>20.5</td>
<td>24.0</td>
<td>1.8</td>
<td>38</td>
<td>4.8</td>
<td>0.13</td>
<td>0.005</td>
<td>0.02</td>
<td>5.0</td>
<td>4.8</td>
</tr>
<tr>
<td>1' below</td>
<td>10.0</td>
<td>15.6</td>
<td>44.0</td>
<td>2.0</td>
<td>26</td>
<td>4.6</td>
<td>0.10</td>
<td>0.001</td>
<td>0.02</td>
<td>5.0</td>
<td>4.4</td>
</tr>
<tr>
<td>2'</td>
<td>0.3</td>
<td>5.4</td>
<td>34.0</td>
<td>2.6</td>
<td>44</td>
<td>3.0</td>
<td>0.08</td>
<td>0.001</td>
<td>0.01</td>
<td>5.0</td>
<td>4.4</td>
</tr>
<tr>
<td>3'</td>
<td>8.6</td>
<td>15.7</td>
<td>29.0</td>
<td>3.6</td>
<td>41</td>
<td>6.6</td>
<td>0.06</td>
<td>0.009</td>
<td>0.01</td>
<td>5.0</td>
<td>4.6</td>
</tr>
</tbody>
</table>
Planted at 1½'×1½' spacing. (vi) 6 months. (vii) Nil. (viii) Weeding and hoeing. (ix) Nil. (x) Irrigated. (xi) 71.59". (xii) Nil.

2. TREATMENTS:
6 manures: M₃ = Control, M₁ = Cowdung, M₂ = Compost, M₄ = Oilcake, M₅ = B.M. and M₆ = Ash.
Quantity applied N.A. Manure applied in June by encircling every plant.

3. DESIGN:
(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) 10. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Fair. (ii) Nil. (iii) Height, girth and no. of functioning leaves. (iv) (a) 1958—contd. (b) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS:

I. Height.
(i) 82.01 mm. (ii) 8.12 mm. (iii) Treatment differences are significant. (iv) Av. height per tree in mm.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. height</td>
<td>87.0</td>
<td>78.2</td>
<td>90.0</td>
<td>78.4</td>
<td>84.4</td>
<td>74.2</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>—3.63 mm.</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

II. Girth
(i) 8.5 mm. (ii) 1.1 mm. (iii) Treatment differences are not significant. (iv) Av. girth per tree in mm.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. girth</td>
<td>8.2</td>
<td>8.0</td>
<td>9.2</td>
<td>8.6</td>
<td>8.8</td>
<td>8.2</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>—0.47 mm.</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

III. No. of functioning leaves
(i) 3.7 leaves. (ii) 0.4 leaves. (iii) Treatment differences are significant. (iv) Av. no. of functioning leaves/tree.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. no. of leaves</td>
<td>3.6</td>
<td>4.0</td>
<td>4.2</td>
<td>3.6</td>
<td>3.4</td>
<td>3.4</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>0.18 leaves</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

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Crop :- Coconut.

Site :- Regional Coconut Res. Stn., Kahikuchi.

Object :- To find out suitable manure for raising quality seedlings of Coconut.

1. BASAL CONDITIONS:
(i) Cultivable waste; newly reclaimed. (ii) (a) Alluvial loam. (b) Refer expt. no. 58(26) on page 146. (iii) By seed nuts. (iv) Local tall. (v) 16.6.1959 planted at 1½'×1½' spacing. (vi) 6 months. (vii) Nil. (viii) Weeding and hoeing. (ix) Nil. (x) Irrigated. (xi) 61.7". (xii) —

2. TREATMENTS:

Same as in expt. no. 58(26) on page 146.

3. DESIGN:

(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) 10. (v) Nil. (vi) Yes.

4. GENERAL:

(i) Fair. (ii) Nil. (iii) Height, girth and no. of functioning leaves. (iv) (a) 1958 — contd. (b) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS:

I. Height
(i) 78.19 mm. (ii) 18.19 mm. (iii) Treatment differences are not significant. (iv) Av. height of plants in mm.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. height</td>
<td>77.08</td>
<td>81.24</td>
<td>81.72</td>
<td>70.76</td>
<td>68.92</td>
<td>89.40</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>8.13 mm.</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

II. Girth
(i) 7.73 mm. (ii) 1.03 mm. (iii) Treatment differences are significant. (iv) Av. girth of plants in mm.
Crop :- Coconut.  
Ref :- As. 59(26).  
Site :- Regional Coconut Res. Stn., Kahikuehi.  
Type :- 'C'.

Object :- To find out best time of planting nuts for raising quality seedlings of Coconut.

1. BASAL CONDITIONS :  
(i) Cultivable waste ; newly reclaimed. (ii) (a) Alluvial loam. (b) Refer expt. no. 58(26) on page 146. (iii) By seed nuts. (iv) Local tall. (v) Between lines—11 ft ; within lines—14 ft. (vi) Nil. (vii) Nil. (viii) Hoeing and weeding. (ix) Nil. (x) Irrigated. (xi) 61.7. (xii) Nil.

2. TREATMENTS :  
3 dates of planting seed nuts : D1=Early February, D2=Mid April and D3=Late June.

3. DESIGN :  
(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 3. (iv) 50 nuts/plot. (v) Nil. (vi) Yes.

4. GENERAL :  
(i) Fair. (ii) Nil. (iii) Percentage of germination, height, girth no. of functioning leaves and total production of leaves. (iv) (a) 1959 (b) N.A. (v) and (vi) Nil.

5. RESULTS :  

I. % germination  
(i) 48.44%. (ii) 8.80 % (iii) Treatment differences are not significant. (iv) Av. percentage of germination.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. Percentage</td>
<td>55.33</td>
<td>46.66</td>
<td>43.33</td>
<td>5.08%</td>
</tr>
</tbody>
</table>

II. Height  
(i) 58.04 m.m. (ii) 10.85 m.m. (iii) Treatment differences are not significant. (iv) Av. height/plant in mm.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. height</td>
<td>72.50</td>
<td>58.81</td>
<td>42.82</td>
<td>6.26 mm</td>
</tr>
</tbody>
</table>

III. Girth  
(i) 5.52 mm. (ii) 0.62 mm. (iii) Treatment differences are highly significant. (iv) Av. girth/plant in mm.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. girth</td>
<td>6.77</td>
<td>5.25</td>
<td>4.53</td>
<td>0.36 mm</td>
</tr>
</tbody>
</table>

IV. No. of functioning leaves  
(i) 1.89 leaves. (ii) 0.50 leaves. (iii) Treatment differences are not significant. (iv) Av. no. of functioning leaves/plant.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. no. of leaves</td>
<td>2.17</td>
<td>1.86</td>
<td>1.63</td>
<td>0.29 leaves</td>
</tr>
</tbody>
</table>

V. Total no. of leaves  
(i) 3.27 leaves. (ii) 0.49 leaves. (iii) Treatment differences are not significant. (iv) Av. no. of leaves plant.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. no. of leaves</td>
<td>3.88</td>
<td>3.17</td>
<td>2.77</td>
<td>0.28 leaves</td>
</tr>
</tbody>
</table>
Crop :- Coconut.  
Site :- Regional Coconut Res. Stn., Kahikuchi.  
Ref :- As. 58(25).  
Type :- 'C'.

Object :- To evolve the best method of planting nuts for getting quality seedlings of Coconut.

1. BASAL CONDITIONS :
   (i) Cultivable waste ; newly reclaimed. (ii) (a) Alluvial loam. (b) Refer expt. no. 58(26) on page 146. (iii) By seed nuts. (iv) Local tall. (v) 12.5.1958 planted at 1' × 1' spacing. (vi) —. (vii) Nil. (viii) Thirty hoeings 18 weedings. (ix) Nil. (x) Irrigated. (xi) 61.7°. (xii) —.

2. TREATMENTS :
   3 methods of planting nuts in the nursery : M1=Horizontally, M2=Vertically and M3=Obliquely.

3. DESIGN :
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 3. (iv) 50 seed nuts/plot. (v) Nil. (vi) Yes.

4. GENERAL :
   (i) Fair. (ii) Nil. (iii) Height and girth measurement, no. of functioning leaves and percentage germination. (iv) (a) 1958—contd. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :

   I. Height
   (i) 47.94 mm. (ii) 3.39 mm. (iii) Treatment differences are significant. (iv) Av. height/plant in mm.
   Treatment  M1  M2  M3
   Av. height  51.35  41.58  50.89
   S.E./mean = 1.96 mm.

   II. Girth
   (i) 6.69 mm. (ii) 0.46 mm. (iii) Treatment differences are not significant. (iv) Av. girth/plant in mm.
   Treatment  M1  M2  M3
   Av. girth  6.25  6.97  6.86
   S.E./mean = 0.27 mm.

   III. No. of functioning leaves
   (i) 2.75 leaves. (ii) 0.15 leaves. (iii) Treatment differences are significant. (iv) Av. no. of functioning leaves/plant.
   Treatment  M1  M2  M3
   Av. no. of leaves  2.85  2.60  2.81
   S.E./mean = 0.09 leaves.

   IV. % germination
   (i) 89.8%. (ii) 5.74%. (iii) Treatment differences are not significant. (iv) Av. % of germination.
   Treatment  M1  M2  M3
   Av. Percentage  84.6  91.3  93.3
   S.E./mean = 3.31%.

Crop :- Coconut.  
Site :- Regional Coconut Res. Stn., Kahikuchi.  
Ref :- As. 59(24).  
Type :- 'C'.

Object : To evolve the best method of planting nuts for getting quality seedlings of Coconut.

1. BASAL CONDITIONS :
   (i) Cultivable waste ; newly reclaimed. (ii) (a) Alluvial loam. (b) Refer expt. no. 58(26) on page 146. (iii) By seed nuts. (iv) Local tall. (v) 15.4.1959 planted at 1' × 1' spacing. (vi) —. (vii) Nil. (viii) Twenty eight hoeings av. twenty six weedings. (ix) Nil. (x) Irrigated. (xi) 61.7°. (xii) Nil.

2. TREATMENTS to 4. GENERAL :
   Same as in expt. 58(25) above.

5. RESULTS :

   I. Height
   (i) 51.28 mm. (ii) 2.88 mm. (iii) Treatment differences are highly significant. (iv) Av. height/plant in mm.
   Treatment  M1  M2  M3
   Av. height  62.71  33.69  57.45
   S.E./mean = 1.66 mm.

   II. Girth
   (i) 4.64 mm. (ii) 0.62 mm. (iii) Treatment differences are highly significant. (iv) Av. girth/plant in mm.
   Treatment  M1  M2  M3
   Av. girth  5.79  3.05  3.1
   S.E./mean = 0.36 mm.
III. No. of functioning leaves.

(i) 2.59 leaves. (ii) 0.34 leaves. (iii) Treatment differences are significant. (iv) Av. no. of functioning leaves/plant.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. no. of leaves</td>
<td>2.96</td>
<td>1.95</td>
<td>2.85</td>
<td>0.20 leaves</td>
</tr>
</tbody>
</table>

IV. % germination.

(i) 43.33%. (ii) 8.15%. (iii) Treatment differences are significant. (iv) Av. % of germination.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
<th>Av. Percentage</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. no. of leaves</td>
<td>52.00</td>
<td>28.66</td>
<td>49.33</td>
<td>4.73%</td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Cashewnut.

Site :- Composite Res. Stn., Khanikar.

Object :- To find out the optimum dose of N for the development of Cashew seedlings.

1. BASAL CONDITIONS :

(i) Uncultivated grazing land. (ii) (a) Clay loam. (b) N-0.17%, P-0.004%, K₂O and pH=5.1. (iii) By seed. (iv) South Indian origin. (v) Seeds sown on 10.6.1959, transplanting on 27.7.1959 and spacing 20' x 20'. (vi) 47 days. (vii) Nil. (viii) One weeding. (ix) Nil. (x) Unirrigated. (xi) 74.8'.

2. TREATMENTS :

5 manures: M₀=Control, M₁=Cowdung, M₂=Cowdung+4 oz./seedling of A/S, M₃=Cowdung+6 oz./seedling of A/S and M₄=Cowdung+8 oz./seedling of A/S.

Cowdung wherever given, was applied at 10 lb./seedling.

3. DESIGN :

(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) 6. (v) Single row. (vi) Yes.

4. GENERAL :

(i) Good. (ii) Nil. (iii) Plant height. (iv) (a) 1959—N.A. (b) N.A. (v) N.A. (vi) and (vii) N.I.

5. RESULTS :

(i) 49 inches. (ii) 5.9 inches. (iii) Treatment differences are not significant. (iv) Av. height of plants in inches.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M₀</th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
<th>M₄</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. height</td>
<td>41</td>
<td>50</td>
<td>48</td>
<td>53</td>
<td>53</td>
<td>2.9 inches</td>
</tr>
</tbody>
</table>

Crop :- Pineapple.

Site :- Pineapple Res. Stn., Kahikuchi.

Object :- To find out the response of Pineapple to organic manures.

1. BASAL CONDITIONS :

(i) Forest. (ii) (a) Loamy type. (b) Top soil: N—0.179; Avl. P—0.012; Avl. K—0.014. Sub-soil: N—0.125; Avl. P—0.015; Avl. K—0.006. pH=5 (KNO₃ extract). (iii) Vegetative. (iv) Queen. (v) 15.9.1958; digging holes at 45' x 45' spacing. (vi) 5 months. (vii) 250 ml./ac. of F.Y.M. before planting. (viii) Twelve hoeings and 6 weeding. (ix) Nil. (x) Unirrigated. (xi) 62.6'.

2. TREATMENTS :

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

(1) 2 levels of N: N₀=0 and N₁=300 lb./ac. of mustard oilcake.

(2) 2 levels of P: P₀=0 and P₁=120 lb./ac. of B.M.

(3) 2 levels of K₂O: K₀=0 and K₁=300 lb./ac. of wood ash.
3. DESIGN:
(i) 2a Fact. in L. Sq. (ii) (a) 8. (b) N.A. (iii) 8. (iv) 49 (including 24 plants of guard row). (v) 1 row. (vi) Yes.

4. GENERAL:
(i) Fair. (ii) Nil. (iii) Plant height taken one year after planting. (iv) (a) 1958—1962. (b) N.A. (v) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 60.32 cm. (ii) 7.51 cm. (iii) N × P effect alone is highly significant. (iv) Av. height of plants in cm.

<table>
<thead>
<tr>
<th></th>
<th>N0</th>
<th>N1</th>
<th>P0</th>
<th>P1</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>K0</td>
<td>62.29</td>
<td>61.81</td>
<td>63.02</td>
<td>61.08</td>
<td>62.05</td>
</tr>
<tr>
<td>K1</td>
<td>57.60</td>
<td>59.60</td>
<td>58.04</td>
<td>59.16</td>
<td>58.60</td>
</tr>
<tr>
<td>Mean</td>
<td>59.94</td>
<td>60.70</td>
<td>60.53</td>
<td>60.12</td>
<td>60.32</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 1.33 cm.
S.E. of body of any table = 1.88 cm.

Crop: Pineapple.

Site: Pineapple Res. Sta., Kahikuchi.

Ref: As. 59(55).

Type: ‘M’.

Object:—To find out the performance of Pineapple in application of fertilizer.

1. BASAL CONDITIONS:
(i) Forest. (ii) (a) Loamy type. (b) Top soil: N = 0.179; Avl. P = 0.012; Avl. K = 0.014. Sub-soil: N = 0.125; Avl. P = 0.015; Avl. K = 0.015. pH = 5 (KNO₃ extract). (iii) Vegetative. (iv) Giantkew. (v) 2.10.1958; digging holes at 45° x 45° spacing. (vi) 4 months. (vii) 250 md. of F.Y.M. (viii) Twelve hoeings and six weedings. (ix) Nil. (x) Unirrigated. (xi) 62.6°. (xii) Nil.

2. TREATMENTS:
All combinations of (1), (2) and (3)
(1) 2 levels of N as A/S: N₀ = 0 and N₁ = 100 lb./ac.
(2) 2 levels of P₂O₅ as Super: P₀ = 0 and P₁ = 300 lb./ac.
(3) 2 levels of K₂O as Pot. Sul.: K₀ = 0 and K₁ = 200 lb./ac.

3. DESIGN and 4. GENERAL:
Same as in expt. no. 59(56) on page 150.

5. RESULTS:
(i) 89.13 cm. (ii) 52.47 cm. (iii) N × P × K effect alone is significant. (iv) Av. height of plants in cm.

<table>
<thead>
<tr>
<th></th>
<th>N₀</th>
<th>N₁</th>
<th>Mean</th>
<th>P₀</th>
<th>P₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>K₀</td>
<td>86.27</td>
<td>88.37</td>
<td>87.32</td>
<td>88.77</td>
<td>85.87</td>
</tr>
<tr>
<td>K₁</td>
<td>89.74</td>
<td>92.14</td>
<td>90.94</td>
<td>92.59</td>
<td>89.29</td>
</tr>
<tr>
<td>Mean</td>
<td>88.01</td>
<td>90.25</td>
<td>89.13</td>
<td>90.68</td>
<td>87.58</td>
</tr>
<tr>
<td>P₀</td>
<td>91.22</td>
<td>90.14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P₁</td>
<td>54.79</td>
<td>90.37</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop :- Black Pepper.

Site :- Composite Res. Stn., Khanikar.

Object :- To find out the best time of planting cuttings for root formation.

1. BASAL CONDITIONS:
   (i) Uncultivated grazing land. (ii) (a) Clay loam. (b) N—0.17% ; P—0.004% P₂O₅ ; K—0.046% K₂O and pH—5.1. (iii) Cuttings. (iv) Local. (v) As per treatments at 9' x 6' spacing. (vi) — (vii) 5 md. cow-dung/100 sq. ft, 2 md. sand for the expt. area. (viii) Plants are grown under thatch cover; weeding as and when necessary. (ix) Nil. (x) Irrigated. (xi) 74.8°. (xii) Nil.

2. TREATMENTS:

3. DESIGN:
   (i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 3. (iv) 30. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) N.A. (ii) Nil. (iii) % of rooting and height of plant after two months. (iv) (a) and (b) No. (v) and (vi) Nil.

5. RESULTS:
   I. % of germination
   (i) 21.36%. (ii) 4.51%. (iii) Treatment differences are highly significant. (iv) Av. % of germination.
   Treatment  
   D₁  D₂  D₃  D₄  D₅  D₆ to D₁₂
   Av. Percentage 94.40 65.43 45.53 27.77 23.20 Nil.
   S.E./mean = 2.60 %.

II. Height
   (i) 1.2 inches. (ii) 0.9 inches. (iii) Treatment differences are significant. (iv) Av. height, plant in inches.
   Treatment  
   D₁  D₂  D₃  D₄  D₅  D₆ to D₁₂
   /v. height 7.3 2.5 2.3 1.2 0.5 Nil.
   S.E./mean = 0.52 inches.