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NATIONAL INDEX

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FIELD

EXPERIMENTS

VOL. 14 PART 2

WEST BENGAL

1954-59

PUBLISHED BY
INDIAN COUNCIL OF AGRICULTURAL RESEARCH
NEW DELHI
FOREWORD

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

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

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

A. D. PANDIT

Vice-President,

Indian Council of Agricultural Research.

NEW DELHI,

March 26, 1965.
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 origin to the guidance and help of Dr. D.J. Finney, F.R.S., Professor of Statistics, Aberdeen University, Scotland, in formulating the project during his stay at the Institute of Agricultural Research Statistics as an F.A.O. expert in 1952-53.

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

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

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

V.G. Panse

New Delhi,

March 25, 1965.

Statistical Adviser,

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

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

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

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

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

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

Abbreviations adopted for States are as follows :-

2. As.—Assam 10. Mh.—Maharashtra
3. Bh.—Bihar 11. Ms.—Mysore
4. Gj.—Gujarat 12. Or.—Orissa
5. H.P.—Himachal Pradesh 13. Pb.—Punjab
7. K.—Kerala 15. U.P.—Uttar Pradesh

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—Irrigation; M—Manurial; R—Rotational; V—Varietal and X—Mixed cropping, e.g. CM is to be read as Cultural-cum-manurial.

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

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

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

Other abbreviations used in the text of experiments:

Nitro. Phos.—Nitro. Phosphate  
Ammo. 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) (a) Crop rotation if any. (b) Previous crop. (c) Manuring of previous crop. (State amount and kind). (ii) (a) Soil type. (b) Soil analysis. (iii) Date of sowing/planting. (iv) Cultural practices. (a) Preparatory cultivation. (b) Method of sowing/planting. (c) Seed-rate. (d) Spacing. (e) No. of seedlings per hole. (v) Basal manuring with time and method of application. (vi) Variety. (vii) Irrigated or Unirrigated. (viii) Post-sowing/planting cultural operations. (ix) 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. Confd.—Confounded. Fact.—Factorial. (other designs and modifications of the above to be indicated in full). (ii) (a) No. of plots per block. (b) Block dimensions. (iii) No. of replications. (iv) Plot size. (a) Gross (b) Net. (v) Border or guard rows kept. (vi) Whether treatments are randomised (separately in each block).

B. For experiments on perennial crops:

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

C. For experiments on cultivators' fields:

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

GENERAL

A. For experiments on annual crops:

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

B. For experiments on perennial crops:

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

C. For experiments on cultivators' fields:

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

<table>
<thead>
<tr>
<th>Unit</th>
<th>Conversion Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 foot</td>
<td>304.8 mm</td>
</tr>
<tr>
<td>1 acre</td>
<td>0.404606 hectare</td>
</tr>
<tr>
<td>1 gram</td>
<td>0.035274 ounce = 0.085735 tola = 0.017147 chatak</td>
</tr>
<tr>
<td>1 kg.</td>
<td>2.20462 pounds = 1.01609 seers.</td>
</tr>
<tr>
<td>1 metric tone</td>
<td>0.9842 ton = 26.7923 maunds.</td>
</tr>
<tr>
<td>1 maund</td>
<td>0.373242 quintal = 37.3242 kg.</td>
</tr>
<tr>
<td>1 lb./ac.</td>
<td>1.12085 kg./hectare.</td>
</tr>
<tr>
<td>1 md./ac.</td>
<td>92.23002 kg./hectare = 0.9223 quintal/hectare.</td>
</tr>
<tr>
<td>1 ton/ac.</td>
<td>2.51071 metric tones/hectare.</td>
</tr>
<tr>
<td>1 gallon (Imp.)</td>
<td>4.54596 litres.</td>
</tr>
<tr>
<td>Sl. No.</td>
<td>Name of Crop</td>
</tr>
<tr>
<td>---------</td>
<td>--------------</td>
</tr>
<tr>
<td>1.</td>
<td>Paddy</td>
</tr>
<tr>
<td>2.</td>
<td>Wheat</td>
</tr>
<tr>
<td>3.</td>
<td>Barley</td>
</tr>
<tr>
<td>4.</td>
<td>Potato</td>
</tr>
<tr>
<td>5.</td>
<td>Brinjal</td>
</tr>
<tr>
<td>6.</td>
<td>Cauliflower</td>
</tr>
<tr>
<td>7.</td>
<td>Bhindi</td>
</tr>
<tr>
<td>8.</td>
<td>Tomato</td>
</tr>
<tr>
<td>9.</td>
<td>Onion</td>
</tr>
<tr>
<td>12.</td>
<td>Arhar</td>
</tr>
<tr>
<td>Sl. No.</td>
<td>Name of Crop</td>
</tr>
<tr>
<td>--------</td>
<td>--------------</td>
</tr>
<tr>
<td>14</td>
<td>Gram</td>
</tr>
<tr>
<td>15</td>
<td>Sugarcane</td>
</tr>
<tr>
<td>17</td>
<td>Groundnut</td>
</tr>
<tr>
<td>18</td>
<td>Tul</td>
</tr>
<tr>
<td>19</td>
<td>Linseed</td>
</tr>
<tr>
<td>20</td>
<td>Toria</td>
</tr>
<tr>
<td>21</td>
<td>Mustard</td>
</tr>
<tr>
<td>22</td>
<td>Banana</td>
</tr>
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WEST BENGAL

1. General:

The State of West Bengal is situated between 21° 31' and 27° 14' North Latitudes, 86° 35' and 89° 53' East Longitudes. Along the north of the State stand the Himalyan ranges. The Bay of Bengal washes its southern boundary. In the east lie Bhutan, Assam and East Pakistan in the north Sikkim, in the west Nepal and Bihar and in the south-west Orissa State. The total area of the State, as per 'Agricultural Situation in India' is 21,874 thousand acres. The land utilization statistics of the State are given in Table 1.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Area in '000 acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net area by professional survey</td>
<td>21874</td>
</tr>
<tr>
<td>Forests</td>
<td>2737</td>
</tr>
<tr>
<td>Net area available for cultivation</td>
<td>3196</td>
</tr>
<tr>
<td>Other uncultivated land</td>
<td>1554</td>
</tr>
<tr>
<td>Current fallow</td>
<td>936</td>
</tr>
<tr>
<td>Net area sown</td>
<td>13451</td>
</tr>
<tr>
<td>Gross area sown</td>
<td>15792</td>
</tr>
<tr>
<td>Area sown more than once</td>
<td>2341</td>
</tr>
</tbody>
</table>

(Source :- Department of Agriculture, Govt. of West Bengal).

2. Topography:

West Bengal can be divided into two natural geographical divisions. They are (1) the great plain of the Ganges and (2) Himalayan West Bengal. The upper limit of the first tract is the northern limit of West Dinajpur. The elevation of this tract increases as one goes farther west. The Bhagirathi acts as the great drain as well as boundary of this tract. To the east of this tract all rivers flow north to south with a south-easterly slant except Jalangi and Churni in Nadia which turn westward into the Bhagirathi. The second natural division, Himalayan West Bengal, is dominated by the mighty Himalayan range in the north wherefrom all rivers take their rise and flow southward with an easterly slant.

3. Soils:

The greater part of the plains of West Bengal is covered by alluvium. Laterite is noticed on the west and north from Orissa through Midnapur, Burdwan and Birbhum to the flanks of the Rajmahal hills where, in places, it is as much as 200 feet thick. Thick gneiss of the well foliated type, frequently passing into mica schist, constitutes the greater portion of the Darjeeling Himalayas.

According to the soil types, the State can be divided into two main divisions described as below:

Himalayan West Bengal Division:

The Himalayan region is made up of the Darjeeling, Jalpaiguri and Cooch Behar districts. The soil is quite heavy and dark coloured, containing high percentage of organic matter and nitrogen. The soils of Darjeeling district appear to be highly weathered. The texture of the soils varies from clay to clay loam. The contents of lime, manganese, potash and phosphate are low perhaps due to heavy leaching. The content of alumina is much higher than ferric oxide. The humid and cold climate is evidently responsible for the accumulation of organic matter. The soils of Western Duars besides being highly deficient
in lime, show lack of phosphate and are mechanically less weathered than the rest of the soils. The soils of Jalpaiguri are of sandy nature, the proportion of sand being considerably greater in proportion to clay. The soils have lost the major amount of lime and have become highly deficient in potash and phosphate but are quite high in nitrogen content.

**West Bengal Plain Division:**

Portions of Murshidabad, Bankura and entire Burdwan have the appearance of undulating plateau. It is composed mainly of the old alluvium and the area between the Damodar and the Bhagirathi is interspersed with some basaltic and granitic hills with laterite capping. The western part of this region is said to be occupied by lateritic soils. Probably the red soils are transported soils from the hills of Chhota Nagpur plateau. The soils of the Chhota Nagpur region divide themselves into two groups. To the first group belong the soils of Midnapur, Bankura, Burdwan and Birbhum. The soils of this group are almost similar in their chemical composition and physical properties. The second group of soils from Malda, Murshidabad, Howrah and Hoogly are mostly alluvial. Nadia soils contain calcium carbonate and are alkaline.

Besides the tracts mentioned above rest of Bengal is composed of low levels. The soils of southernmost coastal part of the province are impregnated with saline deposits. This region has mostly alluvial soils which vary in texture from sandy to heavy clay. A peculiar feature of the alluvial region is the occurrence of *bheels*. They are either old river beds or are formed by the gradual raising of river banks. The soils are dark bluish and heavy textured. They however, do not always contain a high percentage of nitrogen.

4. **Climate & Rainfall:**

An important feature of the climatic conditions of the State is the periodic winds that blow across it. The seasonal winds are known as the monsoon. Two-thirds of the rainfall takes place from middle of March to end of October. The climate is, briefly speaking, tropical, of high humidity and moderately high temperature, with alternate dry and wet seasons. During the other months, temperature is lower and humidity moderate. In the cold season the average temperature is 64°F and during the hot season 83°F. The high rainfall in Darjeeling and Jalpaiguri is due to the proximity of the mountains. Cyclonic storms usually prevail over longer periods and affect larger areas. During very hot days the air often remains full of moisture. Thunder storms are not rare happenings in the State. During hot seasons they occur every year and bring much coveted showers after long sultry days.

The season-wise normal rainfall for regions of the State is shown in Table 2.

<table>
<thead>
<tr>
<th>Divisions</th>
<th>June to September</th>
<th>October to December</th>
<th>January to February</th>
<th>March to May</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Himalayan W.B.</td>
<td>2436</td>
<td>177</td>
<td>30</td>
<td>483</td>
<td>3126</td>
</tr>
<tr>
<td>Gangetic W.B.</td>
<td>1085</td>
<td>134</td>
<td>39</td>
<td>178</td>
<td>1436</td>
</tr>
</tbody>
</table>

(Source: "Monthly and annual normals of rainfall and of rainy days" published by the Director General of Observatory, New Delhi).

5. **Irrigation:**

About 3534 thousand acres of land is under irrigation which accounts for about 22.4% of the net cropped area. The distribution of the irrigated area according to source of irrigation is given in the Table 3 below:
TABLE 3
Area irrigated and different sources of irrigation 1962-63.

<table>
<thead>
<tr>
<th>Source of irrigation</th>
<th>Area in '000 acres</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Govt. canals</td>
<td>1269</td>
<td>35.91</td>
</tr>
<tr>
<td>Private canals</td>
<td>958</td>
<td>27.11</td>
</tr>
<tr>
<td>Tanks</td>
<td>812</td>
<td>22.98</td>
</tr>
<tr>
<td>Wells</td>
<td>40</td>
<td>1.13</td>
</tr>
<tr>
<td>Others</td>
<td>455</td>
<td>12.87</td>
</tr>
<tr>
<td>Total</td>
<td>3534</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(Source: Department of Agriculture, Govt. of West Bengal.)

6. Agricultural production and normal cropping pattern:

Paddy is by far the most important crop of the State. It covers a little over 71% of the total cropped area. Pulse crops account for about 1.9% of the total cropped area, while oil seed crops account for a little over 2%. The area, total production and mean acre yields of different crops in the State are given in Table 4 below.

TABLE 4
Area, total production and mean acre yields of some important crops in West Bengal (1963-64)

<table>
<thead>
<tr>
<th>Name of the crop</th>
<th>Area in '000 acres</th>
<th>Total production in '000 tons</th>
<th>Mean yield in lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rice</td>
<td>11,197</td>
<td>5250</td>
<td>1050</td>
</tr>
<tr>
<td>Wheat</td>
<td>136</td>
<td>32</td>
<td>527</td>
</tr>
<tr>
<td>Maize</td>
<td>135</td>
<td>35</td>
<td>581</td>
</tr>
<tr>
<td>Barley</td>
<td>98</td>
<td>23</td>
<td>526</td>
</tr>
<tr>
<td>Ragi</td>
<td>27</td>
<td>3</td>
<td>249</td>
</tr>
<tr>
<td>Jowar</td>
<td>7</td>
<td>2</td>
<td>640</td>
</tr>
<tr>
<td>Small millets</td>
<td>24</td>
<td>6</td>
<td>560</td>
</tr>
<tr>
<td>Gram</td>
<td>390</td>
<td>89</td>
<td>511</td>
</tr>
<tr>
<td>Tur</td>
<td>113</td>
<td>38</td>
<td>753</td>
</tr>
<tr>
<td>Other pulses</td>
<td>1386</td>
<td>258</td>
<td>417</td>
</tr>
<tr>
<td>Potato</td>
<td>162</td>
<td>527</td>
<td>3.25@</td>
</tr>
<tr>
<td>Tobacco</td>
<td>37</td>
<td>11</td>
<td>666</td>
</tr>
<tr>
<td>Ginger</td>
<td>3</td>
<td>2</td>
<td>1493</td>
</tr>
<tr>
<td>Chillies</td>
<td>19</td>
<td>8</td>
<td>943</td>
</tr>
<tr>
<td>Sugarcane</td>
<td>81</td>
<td>1513</td>
<td>18.88@</td>
</tr>
<tr>
<td>Jute</td>
<td>1102</td>
<td>3270@</td>
<td>1187</td>
</tr>
<tr>
<td>Mesta</td>
<td>296</td>
<td>710@</td>
<td>9.9</td>
</tr>
<tr>
<td>Mustard</td>
<td>215</td>
<td>28</td>
<td>292</td>
</tr>
<tr>
<td>Til</td>
<td>14</td>
<td>2</td>
<td>320</td>
</tr>
<tr>
<td>Linseed</td>
<td>105</td>
<td>10</td>
<td>213</td>
</tr>
<tr>
<td>Other oil seeds</td>
<td>7</td>
<td>2</td>
<td>640</td>
</tr>
</tbody>
</table>

@Tons/ac.
*Baies of 400 lbs. each.

(Source: Directorate of Economics and Statistics, Ministry of Food and Agriculture).

7. Agricultural Research and Experimental Stations:

Agricultural Research Stations at Chinsurah, Burdwan, Berhampore, Bhanjang, Cooch Behar and Malda are some of the important stations in the State. Paddy is the main crop on which maximum number of experiments are reported for the period of 1954-59. They
account for about 54.9% of the total number of experiments. Next in importance is potato, which accounts for about 14.5% of the total number of experiments reported. The present volume contains 339 experiments reported from the State for the period 1954-59. The distribution of these experiments, crop-wise and type-wise, is given in table 5 below. Besides these experiments, a total number of 145 experiments belonging to Coordinated Model Agronomic Experiments Project conducted by the Indian Council of Agricultural Research on cultivator’s fields are also included in the compendium.

TABLE 5
Crop-wise and type-wise distribution of Experiments

<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>IM</th>
<th>D</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paddy</td>
<td>157</td>
<td>2</td>
<td>10</td>
<td>4</td>
<td>11</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>186</td>
</tr>
<tr>
<td>Wheat</td>
<td>19</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>24</td>
</tr>
<tr>
<td>Barley</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Potato</td>
<td>27</td>
<td>6</td>
<td>7</td>
<td>1</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td>49</td>
</tr>
<tr>
<td>Brinjal</td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Cauliflower</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
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</tr>
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<td>1</td>
</tr>
<tr>
<td>Onion</td>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Cabbage</td>
<td></td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
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<td>3</td>
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</tr>
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</tr>
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</tr>
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<td>Sugarcane</td>
<td>7</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Jute</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Groundnut</td>
<td></td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
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<td>6</td>
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</tr>
<tr>
<td>Til</td>
<td></td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Linseed</td>
<td></td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Toria</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Mustard</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Mixed cropping</td>
<td>1</td>
<td>1</td>
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<td>1</td>
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<td>1</td>
<td>1</td>
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</tr>
<tr>
<td>Banana</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>23</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>227</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>339</td>
</tr>
</tbody>
</table>

About 67% of the experiments are purely manurial type and nearly 22% of the experiments are of cultural, cultural-cum-varietal and manurial types.

Randomised blocks design is the most commonly adopted design which accounts for about 67.6% of the total number of experiments. About 21.6% of the experiments are laid out in split-plot or strip-plot designs. About 9% are laid out in confounded designs. Plot sizes in all the experiments vary from 23 sq. ft. to 1800 sq. ft. Number of replications adopted in an experiment is as high as 12 and in confounded experiments the minimum number of replications is even 4. Number of plots taken in a block in the case of R.B.D. ranges between 2 and 27, while number of sub-plots per main-plot varies from 2 to 15.
PARTICULARS OF RESEARCH STATIONS, WEST BENGAL

1. State Agricultural Farm, Bankura.

A. General information:

(i) In Bankura tehsil of Bankura district. Latitude—23.25°N, Longitude—87.10°E and Altitude—84 metres. Gently undulating ground. (ii) Lateritic tract. (iii) Established in 1922. (iv) Paddy, cotton, groundnut, jute, maize, soyabean, dhaincha are grown during kharif season and wheat during rabi season. (v) The following experiments are conducted: (a) Varietal trial and performance trial on cotton, groundnut, soyabean, maize and wheat to determine suitable varieties, observe the performances of these crops in this tract. (b) Trial to evolve disease resistant paddy varieties and to find out the effect of G.M. with phosphate on paddy in different situations.

B. Normal rainfall in cm:

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>27</td>
<td>33</td>
<td>31</td>
<td>20</td>
<td>8</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>10</td>
<td>143</td>
</tr>
</tbody>
</table>

(Average rainfall data is based on the period 1950—1959).

C. Irrigation and drainage facilities:

(i) (a) and (b) Irrigation facilities are available from the tanks by operating irrigation pump. (ii) Proper drainage system exists.

D. Soil type and soil analysis:

(i) Laterite, 1½' deep and gravel in structure. (ii) Chemical analysis:

<table>
<thead>
<tr>
<th></th>
<th>Early aman land</th>
<th>Low lying aman land</th>
<th>High land</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic matter</td>
<td>—</td>
<td>—</td>
<td>2.62</td>
</tr>
<tr>
<td>Moisture (air dry)</td>
<td>2.460</td>
<td>2.380</td>
<td>1.60</td>
</tr>
<tr>
<td>Al₂O₃ and Fe₂O₃</td>
<td>—</td>
<td>—</td>
<td>9.96</td>
</tr>
<tr>
<td>CaO</td>
<td>0.340</td>
<td>0.240</td>
<td>0.17</td>
</tr>
<tr>
<td>MgO</td>
<td>0.410</td>
<td>0.580</td>
<td>0.43</td>
</tr>
<tr>
<td>Fe₂O₄</td>
<td>0.025</td>
<td>0.034</td>
<td>0.034</td>
</tr>
<tr>
<td>K₂O</td>
<td>0.520</td>
<td>0.590</td>
<td>0.860</td>
</tr>
<tr>
<td>pH</td>
<td>6.0</td>
<td>6.2</td>
<td>5.8</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>0.040</td>
<td>0.055</td>
<td>0.028</td>
</tr>
</tbody>
</table>

(iii) Mechanical analysis—N.A.

E. No. of experiments:

Paddy—11, Total=11.

2. State Agricultural Farm, Berhampore.

A. General information:

(i) In Murshidabad district, Latitude—24.08°N, Longitude—88.16°E and Altitude—62' above mean sea level. Composed of high and low land surrounded by Bhist on all sides with
excellent facilities for irrigation all the year. (ii) Sandy loam (alluvial) (iii) Established in 1921. (iv) Oil seed and pulses (rabi) followed by paddy and other kharif oilseeds and pulses. Sugarcane—fallow—oilseeds—pulses and potato. (v) Manural, agronomical and breeding aspects of oilseeds, pulses, paddy, sugarcane, potato and wheat crops.

B. Normal rainfall in cm.:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainfall</td>
<td>20</td>
<td>25</td>
<td>31</td>
<td>22</td>
<td>15</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>7</td>
<td>10</td>
<td>135</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Average rainfall data is based on the period—N.A.)

C. Irrigation and drainage facilities:

(i) (a) and (b) Irrigation facilities are available since the establishment of the farm. (ii) Proper drainage system exists.

D. Soil type and soil analysis:

(i) Sandy loam and brownish in colour. (ii) Chemical analysis: pH 6.2 to 8.4, Total nitrogen 0.02 to 0.04%, Total P₂O₅ 0.04 to 0.23%, Total K₂O 0.40 to 1.33%, Total calcium 0.22 to 2.17% and Organic matter 0.32 to 0.53%. (iii) Mechanical analysis—N.A.

E. No. of experiments:

Paddy—12, Potato—4, Arhar—5, Sugarcane—1, Groundnut—6, Til—4, Linseed—2, Mixed cropping—3, Total—37.

3. State Agricultural Farm, Bhanjang.

A. General information:

(1) In Ghum, Bhanjang tehill of Darjeeling district. Altitude—7,200' Elevation is ranging from 6,900' to 7,200' from sea level. Situated on the western side of a hillock. Naturally, terrace cultivation is followed. (ii) Hilly tract. (iii) Established to 1957. (iv) Potato (summer only) (v) Research is being done on potato crop.

B. Normal rainfall in cm.:

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainfall</td>
<td>53</td>
<td>99</td>
<td>63</td>
<td>16</td>
<td>4</td>
<td>—</td>
<td>—</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>31</td>
<td>36</td>
<td>312</td>
</tr>
</tbody>
</table>

(Average rainfall data is for the year 1958).

C. Irrigation and drainage facilities:

(i) (a) and (b) Irrigation facilities are available since 1957. (ii) Proper drainage system exists.

D. Soil type and soil analysis:

(i) Loamy, brown in colour, depth ranging from 3' to 8'. (ii) Chemical analysis and (ii) Mechanical analysis—N.A.

E. No. of experiments:

Potato—16, Total—16.

4. State Agricultural Farm Burdwan.

A. General information:

B. Normal rainfall in cm.:

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>27</td>
<td>22</td>
<td>47</td>
<td>52</td>
<td>56</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>4</td>
<td>18</td>
<td>226</td>
</tr>
</tbody>
</table>

(Average rainfall data is for the year 1959-1960.)

C. Irrigation and drainage facilities:

(i) (a) and (b) A part of the field is under assured irrigation by Baluka jheel across the farm, tank and deep tube well since 1954. (iii) Drainage is no problem excepting during inundation of flood water.

D. Soil type and soil analysis:

(i) Grey in colour and granular in structure. (ii) Chemical analysis: pH 5.2 to 6.3, Soluble salt 0.25 to 0.70 milli mhos/cm., available nitrogen 171 to 269 lb./ac., available $P_2O_5$ 11 to 23 lb./ac. (iii) Mechanical analysis—N.A.

E. No. of experiments:

Paddy—36, Wheat—5, Potato—7, Sugarcane—6, Total=54.

5. State Agricultural Farm, Chinsurah.

A. General information:

(i) In Chinsurah tehsil of Hooghly district. Latitude—22°52’ N, Longitude—88°24’ E, Altitude—28. The farm is situated in the Ganga riverine zone of West Bengal and the whole farm area is low lying, mainly suitable for paddy cultivation. (ii) Gangetic old alluvial flat low land. (iii) Established in 1908. (iv) Mainly single cropped, partially double and triple cropping are also practised. (v) To evolve new high yielding strains, optimum doses of fertilizers, cultural operation methods, requirement of water, protective measures on pests and diseases, specially on paddy.

B. Normal rainfall in cm.:

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>29</td>
<td>30</td>
<td>21</td>
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<td>3</td>
<td>4</td>
<td>6</td>
<td>15</td>
<td>148</td>
<td></td>
</tr>
</tbody>
</table>

(Average rainfall data is based on the period 1942 to 1952.)

C. Irrigation and drainage facilities:

(i) (a) and (b) Inadequate irrigation facilities are available since 1935. (ii) Proper drainage system exists.

D. Soil type and soil analysis:

(i) Clayey, 12" deep, blackish brown in colour and fine in structure. (ii) Chemical analysis: pH 6.8, N 0.08%, $P_2O_5$ 0.09%, $K_2O$ 0.86%, C.A. 0.84%, $A_2O_3$ 13.68%, Carbon 0.76%, sesqui oxide 21-44%. (iii) Mechanical analysis: Air dry Moisture 7.43%, clay 55.75%, silt 30.09%, fine sand 6.53% and coarse sand 0.79%.

E. No. of experiments:

Paddy—75, Banana—22, Total—97.

6. State Agricultural Farm, Cooch Behar.

A. General information:

(i) In Cooch Behar tehsil of Cooch Behar district. Latitude—26° 20’ N, Longitude—89° 28’ E and Altitude—136’. The land of the farm is uneven (ii) N.A (iii) Established in 1937. (iv) Kharij: Aus paddy, aman paddy, jute, maize, fodder, GM. (v) Experiments on manurial, varietal and agronomic aspects are conducted in this farm both in rabi and kharif seasons.
B. Normal rainfall in cm.:

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<td>11</td>
<td>61</td>
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</tbody>
</table>

(Average rainfall data is based on the period 1956 to 1959.)

C. Irrigation and drainage facilities:

(i) (a) and (b) Irrigation facilities are not available. (ii) No proper drainage system exists.

D. Soil type and soil analysis:

(i) Sandy loam, 4' to 6' deep, light grey to grey in colour, lose in structure. (ii) Chemical analysis and (iii) Mechanical analysis:

<table>
<thead>
<tr>
<th>Depth</th>
<th>0 to 6&quot;</th>
<th>6&quot; to 20&quot;</th>
<th>20&quot; to 31&quot;</th>
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<tr>
<td></td>
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<tr>
<td>Airdry moisture</td>
<td>3.32</td>
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<tr>
<td>CaO</td>
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<td>1.56</td>
<td>1.16</td>
</tr>
<tr>
<td>MgO</td>
<td>0.10</td>
<td>0.08</td>
<td>0.12</td>
<td>0.09</td>
</tr>
<tr>
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<td>0.46</td>
<td>0.71</td>
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<td>0.13</td>
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<tr>
<td>Fine sand</td>
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<td>77.47</td>
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<td>59.79</td>
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<td>0.50</td>
</tr>
<tr>
<td>pH</td>
<td>6.1</td>
<td>7.1</td>
<td>7.3</td>
<td>7.3</td>
</tr>
<tr>
<td>Total Base 0.5N</td>
<td>4.2</td>
<td>19.4</td>
<td>59.9</td>
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<td>acetic acid m.e.%</td>
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<td>Ca m.e.%</td>
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<td>Nitrogen</td>
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<td>0.014</td>
<td>0.021</td>
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</table>

E. No. of experiments


6. State Seed Multiplication Farm, Fulia

A. General information:


B. Normal rainfall in cm.:

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<td>2</td>
<td>6</td>
<td>3</td>
<td>164</td>
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</table>

(Average rainfall data is based on the period 1956 to 1959).
C. Irrigation and drainage facilities:
   (i) (a) and (b) Irrigation is done by the deep tube wells since 1953 (ii) No proper drainage system exists.

D. Soil type and soil analysis:
   (i) 6" to 14" deep, light brown to dark brown in colour, single grain to crumb structure.
   (ii) Chemical analysis:

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<tr>
<th></th>
<th>High land</th>
<th>Low land</th>
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<tbody>
<tr>
<td>P₂O₅</td>
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<tr>
<td>K₂O</td>
<td>1.72</td>
<td>1.46</td>
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<tr>
<td>pH</td>
<td>6.8</td>
<td>7.2</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>0.032</td>
<td>1.30</td>
</tr>
</tbody>
</table>

   (iii) Mechanical analysis—N.A.

E. No. of experiments:
   Wheat—1, Potato—3, Jute—1, Total=5.

8. State Agriculture Farm, Gosaba.

A. General information:
   (i) In Gosaba tehsil of 24 Parganas district. Latitude—22°11'N, Longitude—88°48'E and Altitude—14'M.S.L. (ii) Clay to clay loam. (iii) N.A. (N) Paddy etc. (v) N.A.

B. Normal rainfall in cm.:

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<td>2</td>
<td>3</td>
<td>154</td>
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</table>

   (Average rainfall data is for the year 1956—1957).

C. Irrigation and drainage facilities:
   (i) (a) and (b) Irrigation and drainage facilities are not available. (ii) No proper drainage system exists.

D. Soil type and soil analysis:
   (i) Clay loam, 9" deep, grey in colour. (ii) Fe₂O₃ 4.98 to 6.42%, MgO 2.04 to 2.30%, Al₂O₃ 8.44 to 11.08%, Mn₂O₄ 0.06 to 0.11%, CaO 0.50 to 0.97%, P₂O₅ 0.108 to 0.113%, Cl 0.18 to 0.52%, pH 7.30 to 8.13 (iii) Mechanical analysis—N.A.

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

9. State Agricultural Farm, Haringhat.

A. General information to C. Irrigation and drainage facilities:
   Information—N.A.

D. Soil type and soil analysis:
   (i) Loam. (ii) Chemical analysis: Nitrogen 0.12%, Total P₂O₅ 0.009%, Available P₂O₅ 0.0054%, pH 7.0 (iii) Mechanical analysis—N.A.

E. No. of experiments:
   Paddy—1, Total=1.
10. State Agricultural Farm, (Govt. Farm) Hathwara, (Purulia).

A. General information:


B. Normal rainfall in cm.:

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<td>Value</td>
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<td>—</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>6</td>
<td>153</td>
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</tbody>
</table>

(Period—N. A.)

C. Irrigation and drainage facilities:

(i) (a) and (b) Irrigation is done by well water. There are six wells in all. (ii) Proper drainage system exists.

D. Soil type and soil analysis:

(i) Sandy loam, 6' to 1' deep, reddish in colour, gravelly in structure. (ii) Chemical analysis: pH 5.2, Soluble salt 0.028%, available nitrogen 193 lb./ac., available P$_2$O$_5$ 31 lb. 'ac. (iii) Mechanical analysis: Sandy loam, chips and pieces in all the samples.

E. No. of experiments:

Paddy—8, Wheat—1, Potato—1, Total=10.

11. State Agricultural Farm, Kalimpong.

A. General information:


B. Normal rainfall in cm.:

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<tbody>
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<td>Value</td>
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<td>50</td>
<td>33</td>
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<td>8</td>
<td>10</td>
<td>234</td>
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</table>

(Average rainfall data is based on the period 1949—1958).

C. Irrigation and drainage facilities:

(i) (a) and (b) Town Sewage in about 10 acres of land. (ii) No proper drainage system exists.

D. Soil type and soil analysis:

(i) Sandy, clay loam, 1' to 4' deep, red and dark brown in colour. (ii) Chemical analysis: pH 6.0, nitrogen 0.14%, P$_2$O$_5$ 0.007%, potash 0.007%. (iii) Mechanical analysis—N.A.

E. No. of experiments:

Paddy—1, Wheat—1, Cauliflower—3, Tomato—2, Onion—1, Cabbage—1, Pea—1, Total=11.

12. State Agricultural Farm, Kalyani.

A. General information to D. soil type and soil analysis:

Information—N.A.

E. No. of experiments:

Wheat—4, Potato—4, Mustard—2, Total=10.
13. Horticultural Research Station, Krishnagar.

A. General information.

(i) In Krishnagar Sadar tehsil of Nadia district. Latitude—23° 24', Longitude—89° 31' and Altitude 40' above M.S.L. Flat and plain land. (ii) Non alluvium tract. (iii) Established in 1934. (iv) Mainly fruits and vegetables. (v) N.A.

B. Normal rainfall in cm.:

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<td></td>
<td>23</td>
<td>31</td>
<td>27</td>
<td>24</td>
<td>12</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>8</td>
<td>13</td>
<td>146</td>
<td></td>
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</table>

(Average rainfall data is based on 20 years).

C. Irrigation and drainage facilities:

(i) (a) and (b) Irrigation is done by 2' and 1½ tube well since 1934 and 1958 respectively. (ii) Only surface drainage is practised.

D. Soil type and soil analysis:

(i) Loam to silty loam, light to dark grey in colour and granular in structure. (ii) Chemical analysis: pH 6.1 to 6.8, available nitrogen 193.2 to 277.2 lb./ac., available $P_2O_5$ 16.0 to 131.0 lb./ac. (iii) Mechanical analysis—N.A.

14. State Agricultural Farm, Krishnagar.

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

Information—N.A.

15. Jute Seed Multiplication Farm, Krishnagar.

A. General information:

(i) In Krishnagar tehsil of Nadia district. (ii) N.A. (iii) Established in 1952. (iv) Jute, mustard, gram, wheat, aus paddy. (v) N.A.

B. Normal rainfall in cm.:

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<td>—</td>
<td>179</td>
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</table>

(Average rainfall data is for the year 1965—1966).

C. Irrigation and drainage facilities:

(i) (a) and (b) Irrigation facilities are available since 1954. (ii) No proper drainage system exists.

D. Soil type and soil analysis:

(i) Clay loam, grey in colour. (ii) Chemical analysis and (iii) Mechanical analysis—N.A.

E. No. of experiments:

Potato—6, Jute—1, Total=7.

16. State Seed Multiplication Farm, Majhian.

A. General information:

(i) In West Dinajpur district. Latitude—25° 23' N, Longitude—88°31' E. (ii) Sandy loam. (iii) to (iv) N.A. (v) Research is being done on aman paddy and rabi crops.
B. Normal rainfall in cm.

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<td>Rainfall (cm)</td>
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<td>4</td>
<td>13</td>
<td>3</td>
<td>148</td>
</tr>
</tbody>
</table>

(Average rainfall data is for the year 1956—1957).

C. Irrigation and drainage facilities:

(i) (a) and (b) Irrigation facilities are not available. (ii) No proper drainage system exists.

D. Soil type and soil analysis:

(i) Sandy loam, 6° deep, loam, and clay loam. (ii) Chemical analysis: Fe₂O₃ 2.21%, K₂O 0.15%, CaO 0.15%, P₂O₅ 0.61%, pH 5.8, C 5.8%, N 0.08%. (iii) Mechanical analysis: Coarse sand 6.2%, fine sand 43.65%, silt 32.05%, and clay 16.75%.

E. No. of experiments:

Paddy—3, Total—3.

17. State Agricultural Farm, Malda.

A. General information:

(i) In Meheshpur tehsil of Malda district. Soil becomes hard during rabi season. Quality of soil is good, levelling of land is also satisfactory but not up to the desired standard. (ii) Clay loam (stiff). (iii) Established in 1926. (iv) |Kharif—Paddy, jute, jowar, cotton etc., rabi: mustard, wheat, lentil, til etc. (v) N.A.

B. Normal rainfall in cm.:

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<tbody>
<tr>
<td>Rainfall (cm)</td>
<td>36</td>
<td>42</td>
<td>23</td>
<td>13</td>
<td>3</td>
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<td>13</td>
<td>41</td>
<td>407</td>
<td>417</td>
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</table>

(Average rainfall is for the year 1965—1966).

C. Irrigation and drainage facilities:

(i) (a) and (b) Irrigation is done by deep tube well and tank since 1952. (ii) No proper drainage system exists.

D. Soil type and soil analysis:

(i) Clay loam and sandy loam. (ii) Chemical analysis and (iii) Mechanical analysis—N.A.

E. No. of experiments:

Paddy—1, Wheat—4, Barley—1, Potato—6, Toria—2, Total—14.

18. State Agricultural Farm, Maynaguri.

A. General information:

(i) In Madhya Khagrachari tehsil of Jalpaiguri. Latitude—22°5' N, Longitude—87°19' E and Altitude—272' G.T.S. In general plots are gradually slopping towards both east and south. (ii) Tista riverine tract. (iii) Established in 1926. (iv) Kharif—Aman paddy, jute, sugarcane, maize, jowar and vegetable, rabi: wheat—mustard—tobacco—maize and vegetable. (v) To carry out field experiments suggested by different experts.

B. Normal rainfall in cm.:

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<tbody>
<tr>
<td>Rainfall (cm)</td>
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<td>11</td>
<td>41</td>
<td>407</td>
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(Average rainfall data is based on the period 1954—58).
C. Irrigation and drainage facilities :

(i) (a) and (b) Irrigation done by perennial river flowing just by the side of the farm. (ii) Provided with a sluice gate at the deeper point of the farm for exit of excess of accumulated rain water.

D. Soil type and soil analysis :

(i) Clay, grey black soil. (ii) Chemical analysis: Average pH value of medium plots is 5-6. In general the high land plots are low in organic content like potash and lime. Other information are not available. (iii) Mechanical analysis. The high land plots are in general of sandy loam type and low land plots are of clay loam type. Other information is not available.

E. No. of experiments :

Paddy—5, Total=5.

19. State Agricultural Farm, Midnapore.

A. General information :

(i) In Faringdanga tehsil of Midnapore district. Latitude—22°25' N, Longitude—87°19', and Altitude—149' above M.S.L. High land. (ii) Red laterite zone. (iii) Established in 1937. (iv) Paddy (aus and aman), groundnut, sugarcane, jowar, maize, mustard, potato and wheat etc. (v) Mainly manurial and varietal trials are conducted at this farm.

B. Normal rainfall in cm. :

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<td>4</td>
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<td>152</td>
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</table>

(Period—N.A.)

C. Irrigation and drainage facilities :

(i) (a) and (b) Irrigation facilities are partly available since 1959. (ii) Drainage system is sound and good.

D. Soil type and soil analysis :

(i) Sandy loam, 1" to 1½" deep, red in colour and crumb in structure. (ii) Chemical analysis: pH 6.1, loss on ignition 2.75%, Fe₂O₃ 1.55%, Al₂O₃ 3.99%, CaO 0.22%, MgO 0.20%, P₂O₅ 0.03%, K₂O 0.27% and N 0.05%. (iii) Mechanical analysis—N.A.

E. No. of experiments :

Paddy—6, Potato—1, Total=7.

20. State Seed Multiplication Farm, Nalhati.

A. General information :

(i) In Nalhati, Gopalpur tehsil of Birbhum district. The lay out of the farm is not yet done. The plots are irregular in shape. The lands are undulating and thereby terrace cultivation is practised. (ii) Laterite tract. (iii) Established in 1955. (iv) Paddy, sugarcane, wheat, pulses and orchard. (v) Complex manurial trial, radio phosphate on paddy and varietal trials on sugarcane, manurial and varietal trial on wheat are conducted.

B. Normal rainfall in cm. :

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<td>10</td>
<td>138</td>
<td></td>
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</tbody>
</table>

(Average rainfall data is for the year 1966).

C. Irrigation and drainage facilities :

(i) (a) and (b) Irrigation is done by canal, tanks and jheel since 1963. (ii) Proper drainage system exists.
D. Soil type and soil analysis:

(i) Loamy, clayey and clay loam, 2' deep, brown, black and ash in colour. (ii) Chemical analysis.

<table>
<thead>
<tr>
<th>Particulars</th>
<th>PH</th>
<th>Soluble Salt</th>
<th>Organic Carbon</th>
<th>Available Phosphate</th>
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<tr>
<td></td>
<td></td>
<td>milli moles/cm.</td>
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<td>lb/ac.</td>
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<tr>
<td>Block A High</td>
<td>5.2 (A)</td>
<td>0.25 (N)</td>
<td>0.48 (L)</td>
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</tr>
<tr>
<td>Medium</td>
<td>5.6 (A)</td>
<td>0.22 (N)</td>
<td>0.54 (M)</td>
<td>19.6 (L)</td>
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<tr>
<td>Low</td>
<td>6.1 (A)</td>
<td>0.15 (N)</td>
<td>0.30 (L)</td>
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<tr>
<td>Block B High</td>
<td>6.4 (N)</td>
<td>0.35 (N)</td>
<td>0.48 (L)</td>
<td>30.4 (M)</td>
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<tr>
<td>Medium</td>
<td>7.4 (N)</td>
<td>0.30 (N)</td>
<td>0.51 (M)</td>
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<tr>
<td>Low</td>
<td>6.8 (N)</td>
<td>0.35 (N)</td>
<td>0.39 (L)</td>
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</tr>
<tr>
<td>Block C High</td>
<td>6.1 (N)</td>
<td>0.26 (N)</td>
<td>0.51 (M)</td>
<td>38.4 (M)</td>
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<tr>
<td>Medium</td>
<td>5.7 (A)</td>
<td>0.10 (N)</td>
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<tr>
<td>Low</td>
<td>5.9 (A)</td>
<td>0.15 (N)</td>
<td>0.39 (L)</td>
<td>23.0 (M)</td>
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<td>Block D High</td>
<td>5.9 (A)</td>
<td>0.25 (N)</td>
<td>0.36 (L)</td>
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<td>0.30 (L)</td>
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</tr>
<tr>
<td>Low</td>
<td>5.6 (A)</td>
<td>0.35 (N)</td>
<td>0.57 (M)</td>
<td>13.6 (L)</td>
</tr>
<tr>
<td>Block E High</td>
<td>6.7 (N)</td>
<td>0.25 (N)</td>
<td>0.36 (L)</td>
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<tr>
<td>Medium</td>
<td>6.0 (N)</td>
<td>0.27 (N)</td>
<td>0.33 (L)</td>
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<tr>
<td>Low</td>
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<td>0.16 (N)</td>
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<tr>
<td>Block F High</td>
<td>6.6 (N)</td>
<td>0.40 (N)</td>
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<tr>
<td>Medium</td>
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<td>0.63 (M)</td>
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<tr>
<td>Low</td>
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<td>0.19 (N)</td>
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<tr>
<td>Block G High</td>
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<td>0.23 (N)</td>
<td>0.39 (L)</td>
<td>22.0 (M)</td>
</tr>
<tr>
<td>Medium</td>
<td>5.5 (A)</td>
<td>0.35 (N)</td>
<td>0.50 (L)</td>
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</tr>
<tr>
<td>Low</td>
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<td>0.19 (N)</td>
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<td>33.0 (M)</td>
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<tr>
<td>Block H Low</td>
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<td>0.20 (N)</td>
<td>0.42 (L)</td>
<td>18.0 (L)</td>
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<tr>
<td>Orchard Block A</td>
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<td>Low block</td>
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<td>0.10 (N)</td>
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<td>18.0 (L)</td>
</tr>
</tbody>
</table>

A—acid, N—normal, L—low and M—medium.

(iii) Mechanical analysis—N.A.

E. No. of experiments:

Paddy—2, Khesari—1, Total=3.

21. State Agricultural Farm, Rangbull.

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

Information—N.A.

E. No. of experiments:

Potato—1, Total=1.

22. State Agricultural Farm, Sriniketan.

A. General information:

(i) In Sural Mauza tehsil of Birbhum district. Latitude—23°39’N, Longitude—87°42’E and Altitude—191’ above M.S.L. The area in which the experiments are being conducted was a danger land. The experiments started after proper levelling with a slight slope to the western side for proper drainage. (ii) Old alluvial tract. (iii) Established in 1924. (iv) N.A. (v) To conduct experiments under the guidance of Government of West Bengal on paddy and manure.
B. Normal rainfall in cm.:

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<td>3</td>
<td></td>
<td></td>
<td></td>
<td>10</td>
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</tbody>
</table>

(Average rainfall data is for the year 1958–1959).

C. Irrigation and drainage facilities:

(i) (a) and (b) Irrigation is done by tank water since 1930. (ii) Proper drainage system exists.

D. Soil type and soil analysis:

(i) Lateritic sandy loam, 6' deep (ii) Chemical analysis: Fe₂O₃ 4.08%, CaO 0.21%, K₂O 0.52%, Al₂O₃ 5.45%, P₂O₅ 0.05%, C 0.54%, N 0.06% Ex. Ca. m.e. 4.24%, pH 5.60 (iii) Mechanical analysis—N.A.

E. No. of experiments:

Paddy—2, Total=2

---

23. State Agricultural Farm, Suri.

A. General information:

(i) In Suri tehsil of Birbhum district, 2 miles from Suri Railway Station. Latitude 23°55'N, Longitude—87°32' and Altitude 219 M.S.L. (ii) Lateritic tract. (iii) Established in 1922. (iv) Paddy and rabi crops (v) N.A.

B. Normal rainfall in cm.:

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<td>2</td>
<td>2</td>
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<td>131</td>
</tr>
</tbody>
</table>

(Average rainfall data is for the year 1956–1957).

C. Irrigation and drainage facilities:

(i) (a) and (b) Irrigation facilities are not available. (ii) No proper drainage system exists.

D. Soil type and soil analysis:

(i) Lateritic sandy loam, 6' deep (ii) Chemical analysis: Fe₂O₃ 4.08%, CaO 0.21%, K₂O 0.52%, Al₂O₃ 5.45%, P₂O₅ 0.05%, C 0.54%, N 0.06% Ex. Ca. m.e. 4.24%, pH 5.60 (iii) Mechanical analysis—N.A.

E. No. of experiments:

Paddy—12, Total=12.

24. State Agricultural Farm, Tollyganj.

A. General information:

(i) In 24 Parganas district. Latitude 22°33'N, Longitude—88.23'E. (ii) Gangetic high land. (iii) Established in 1950. (iv) N.A. (v) Experiments are conducted on wheat, cotton, and paddy.

B. Normal rainfall in cm.:

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<td>2</td>
<td>2</td>
<td></td>
<td>11</td>
<td>137</td>
</tr>
</tbody>
</table>

(Average rainfall data is for the year 1958–1959).
C. *Irrigation and drainage facilities*:

(i) (a) and (b) Irrigation facilities are not available. (ii) No proper drainage system exists.

D. *Soil type and soil analysis*:

(i) Gangatic alluvial, 0 to 9" deep, light grey and weak crumb structure. (ii) Chemical analysis: CaO 0.67%, P\(_2\)O\(_5\) 0.21%, K\(_2\)O 0.35%. Ex. basis 0.5, A.c. m.e. 13.75%, Ex. Ca 12.25%, C 0.93% and N 0.07% (iii) Mechanical analysis—N.A.

E. *No. of experiments*:

Gram—1, Total=1.

25. **State Agricultural Research Institute (College Farm), Tollyganj.**

A. *General information*:


B. *Normal rainfall in cm.*:

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<td>2</td>
<td>2</td>
<td>3</td>
<td>11</td>
<td>137</td>
</tr>
</tbody>
</table>

(Average rainfall data is for the year 1958–1959).

C. *Irrigation and drainage facilities*:

(i) (a) and (b) Irrigation facilities are not available. (ii) Proper drainage system exists.

D. *Soil type and soil analysis*:

(i) Gangatic alluvial, 9" deep. Light grey, weak crumb structure. (ii) Chemical analysis: CaO 0.67%, P\(_2\)O\(_5\) 0.21%, K\(_2\)O 0.35%. Ex. bases O.5. A.C. m.e 13.75%, Ex. Ca 12.75%, C 0.93%, N 0.07%, pH 6.77 to 6.82 (iii) Mechanical analysis—N.A.

E. *No. of experiments*:

Wheat—1, Mixed cropping—3, Total=7.
Object: — To study the effect of different seed rates of dha!ncha on the following crop of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Dha!ncha. (b) As per treatments. (c) 10 lb./ac. of N as A/S and 40 lb./ac. of P₂O₅ as Super. (ii) (a) Laterite. (b) Refer soil analysis, Bankura. (iii) 18.6.1954/22.8.1955. (iv) (a) 3 ploughings and 2 ladderings. (b) Transplanting. (c) N.A. (d) 9" × 9". (e) 2 to 3. (y) Nil. (v) Ajan—254 (medium). (vii) Unirrigated. (viii) 1 weeding and 1 hoeing. (ix) 25.9°. (x) 9.12.1954.

2. TREATMENTS:
   9 seed rates of dha!ncha : R₀ = 0, R₁ = 5, R₂ = 10, R₃ = 15, R₄ = 20, R₅ = 25, R₆ = 30, R₇ = 35 and R₈ = 40 srs/ac. Dha!ncha was sown on 18.6.1954, germinated on 22.6.1954, harvested and ploughed in on 7.8.1954.

3. DESIGN:
   (i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 31' × 20'. (b) 30' × 19'. (v) N.A. (vi) Yes.

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

5. RESULTS:
   (i) 1981 lb./ac. (ii) 171.4 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.
   
   Treatment: R₀, R₁, R₂, R₃, R₄, R₅, R₆, R₇, R₈


   S.E./mean = 85.7 lb./ac.

Crop :- Paddy (Aman). Ref :- W.B. 54(58).
Site :- State Agri. Farm, Bankura. Type :- 'M'.

Object: — To study the effect of different seed rates of dha!ncha on the following crop of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Dha!ncha. (b) As per treatments. (c) 10 lb./ac. of N as A/S and 40 lb./ac. of P₂O₅ as Super. (ii) (a) Laterite. (b) Refer soil analysis, Bankura. (iii) 26.6.1955/22.8.1955. (iv) (a) 3 ploughings and 2 ladderings. (b) Transplanting. (c) N.A. (d) 5" × 9". (e) 2 to 3. (v) Nil. (vi) Ajan—246 (medium). (vii) Unirrigated. (viii) 1 weeding and 1 hoeing. (ix) 15.8°. (x) 12.12.1955.

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 54(58) above. Dha!ncha was sown on 26.6.1955, harvested and ploughed in on 13.8.1955.

5. RESULTS:
   (i) 1384 lb./ac. (ii) 317.8 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.
   
   Treatment: R₀, R₁, R₂, R₃, R₄, R₅, R₆, R₇, R₈

   Av. yield: 863, 1126, 1398, 1507, 1539, 1694, 1712, 1149, 1467

   S.E./mean = 158.9 lb./ac.
Crop : Paddy (*Aman*).

Site : State Agri. Farm, Bankura.

Ref. : W.B. 54(21).

Type : 'M'.

Object :—To study the effect of different seed rates of dhaincha on the following crop of Paddy.

1. **BASAL CONDITIONS**:

   (i) (a) Paddy—Dhaincha. (b) As per treatments. (c) 10 lb./ac. of N as A/S and 40 lb./ac. of P₂O₅ as Super.

   (ii) (a) Laterite. (b) Refer soil analysis, Bankura. (iii) 30.6.1956/23.8.1956. (iv) (a) 3 ploughings and 2 ladderings. (b) Transplanted. (c) 10 srs/ac. (d) 9'×9'. (e) 2 to 3. (v) Nil. (vi) Ajan—246 (medium). (vii) Unirrigated. (viii) 1 weeding and 1 hoeing. (ix) 42.50°. (x) 14.12.1956.

2. **TREATMENTS**:

   Same as in exp. no. 54(33) on page 1.

3. **RESULTS**:

   (i) 2332 lb./ac. (ii) 2324.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>R₀</th>
<th>R₁</th>
<th>R₂</th>
<th>R₃</th>
<th>R₄</th>
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<th>R₆</th>
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<td>Av. yield</td>
<td>2161</td>
<td>2288</td>
<td>2129</td>
<td>2356</td>
<td>2388</td>
<td>2225</td>
<td>2366</td>
<td>2697</td>
<td>2379</td>
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<tr>
<td>S.E./mean</td>
<td>116.2 lb./ac.</td>
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</tbody>
</table>

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**Crop : Paddy (*Aman*).**

Site : State Agri. Farm, Bankura.

Ref. : W.B. 54(21).

Type : 'M'.

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

1. **BASAL CONDITIONS**:


2. **TREATMENTS**:

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

   (1) 2 levels of N : N₁ = 40 and N₂ = 60 lb./ac.

   (2) 2 methods of application of N : M₁ = Top dressing and M₂ = Layering.

   N applied after 4 weeks of transplanting.

3. **DESIGN**:

   (i) R.B.D. (ii) 5. (b) N.A. (iii) 4. (iv) (a) 27.75'×18'. (b) 27'×17.25'. (v) N.A. (vi) Yes.

4. **GENERAL**:

   (i) Normal. (ii) Negligible. (iii) Grain and straw yield. (iv) (a) 1912—1956. (b) Yes. (c) N.A. (v) (a) Bankura on shole land. (b) No. (vi) Due to inadequate rainfall in July and August, the work of transplanting was hampered and due to lack of rain in November (milky stage), the crop got a set back. (vii) N.A.

5. **RESULTS**:

   (i) 2113 lb./ac. (ii) 150.6 lb./ac. (iii) Control vs. fertilizers and M effects are highly significant. (iv) Av. yield of grain in lb./ac.

   Control = 1327 lb./ac.

<table>
<thead>
<tr>
<th>N₁</th>
<th>N₂</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>M₁</td>
<td>2099</td>
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<tr>
<td>M₂</td>
<td>2397</td>
<td>2602</td>
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<tr>
<td>Mean</td>
<td>2248</td>
<td>2370</td>
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</tbody>
</table>
Object:—To study the effect of different methods of application of A/S on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Lateritic soil (kamal land). (b) Refer soil analysis, Bankura. (iii) 25.6.1955/8.9.1955. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) 15 srs./ac. (d) 9" x 9". (e) 3. (v) Nil. (vi) Bankura—25 (medium). (vii) 2 weedings. (ix) 36.18". (x) 8.12.1955.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 54(21) on page 2.

4. GENERAL:
   (i) and (ii) N.A. (iii) Grain and straw yield. (iv) (a) 1952—1955. (b) Yes. (c) Nil. (v) (a) Bankura on shole land. (b) No. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1781 lb./ac. (ii) 196.4 lb./ac. (iii) Control vs. fertilizers and M effects are significant. (iv) Av. yield of grain in lb./ac.

\[
\begin{array}{ccc}
   & N_1 & N_2 \\
M_1 & 1936 & 1923 \\
M_2 & 1514 & 1964 \\
Mean & 1724 & 1944 \\
\end{array}
\]

S.E. of any marginal mean = 69.4 lb./ac.
S.E. of body of table or control mean = 98.2 lb./ac.

Crop:—Paddy (Aman).
Site:—State Agri. Farm, Bankura.
Ref:—W.B. 56(57).
Type:—‘M’.

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

1. BASAL CONDITIONS:
   (i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Lateritic soil (kamal land). (b) Refer soil analysis, Bankura. (iii) 22.6.1956/1.8.1956. (iv) (a) 3 ploughings and 2 ladderings. (b) Transplanting. (c) 10 srs./ac. (d) 9" x 9". (e) 2 to 3. (v) Nil. (vi) Bankura—25 (medium). (vii) Unirrigated. (viii) 1 weeding and 1 hoeing at the time of manuring. (ix) 41.5". (x) 5.12.1956.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 54(21) on page 2.

4. GENERAL:
   (i) and (ii) N.A. (iii) Grain and straw yield. (iv) (a) 1952—1956. (b) Yes. (c) Nil. (v) (a) Bankura on shole land. (b) No. (vi) and (vii) Nil.
5. RESULTS:

(i) 1900 lb./ac. (ii) 202.6 lb./ac. (iii) Only 'control vs. others' effect is highly significant. (iv) Av. yield of grain in lb./ac.

Control = 1490 lb./ac.

<table>
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<th></th>
<th>N₁</th>
<th>N₂</th>
<th>Mean</th>
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<td>1839</td>
<td>1912</td>
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<tr>
<td>M₂</td>
<td>2118</td>
<td>2071</td>
<td>2094</td>
</tr>
<tr>
<td>Mean</td>
<td>2051</td>
<td>1955</td>
<td>2003</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 71.6 lb./ac.
S.E. of body of table or control mean = 101.3 lb./ac.

---

Crop := Paddy (Aman).
Site := State Agri. Farm, Bankura.
Ref := W.B. 54(22).
Type := 'M'.

Object := To study the effect of different methods of application of A₁S on the yield of Paddy.

1. BASAL CONDITIONS:

(i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Lateritic soil (shole land). (b) Refer soil analysis, Bankura. (iii) 16.6.1954/30.8.1954. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) 15 srs./ac. (d) 9'x9'.

2. TREATMENTS and 3. DESIGN:

Same as in expt. no. 54(21) on page 2.

GENERAL:

(i) Normal. No lodging. (ii) Negligible. (iii) Grain and straw yield. (iv) (a) 1952—1955. (b) Yes. (c) No. (v) (a) Bankura on Kamali land. (b) No. (vi) Due to inadequate rainfall in July and August, the work of transplanting was hampered and due to lack of rains in the month of November (milky stage), the crop rot set back. (vii) Nil.

5. RESULTS:

(i) 2035 lb./ac. (ii) 121.6 lb./ac. (iii) Main effects of M, N and 'control vs. fertilizers' are highly significant. Interaction N × M is significant. (iv) Av. yield of grain in lb./ac.

Control = 1649 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N₁</th>
<th>N₂</th>
<th>Mean</th>
</tr>
</thead>
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<tr>
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<td>1886</td>
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<tr>
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</tr>
<tr>
<td>Mean</td>
<td>2008</td>
<td>2254</td>
<td>2131</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 43.0 lb./ac.
S.E. of body of table or control mean = 60.8 lb./ac.
Crop :- Paddy (Aman),
Site :- State Agri. Farm, Bankura.

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

1. BASAL CONDITIONS:
(i) (a) Paddy—Fallow. (b) Fallow. (c) Nil.  
(ii) (a) Lateritic soil (shole land). (b) Refer soil analysis, Bankura.  
(iii) 25.6.1956/16.8.1956. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) 15 srs./ac.  
(d) $9'' \times 9''$. (e) 3. (v) Nil. (vi) Bhasamanik (chinsurah type 3, medium). (vii) Unirrigated. (viii) 2 weedings  
(ix) 36.18''. (x) 5.12.1955.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 54(21) on page 2.

4. GENERAL:
(i) Normal. (ii) Nil.  
(iii) Grain and straw yield. (iv) (a) 1952—1955. (b) Yes. (c) No.  
(v) (a) Bankura on Kamali land. (b) No. (vi) and (vii) Nil.

5. RESULTS:
(i) 2045 lb./ac. (ii) 224.5 lb./ac. (iii) ‘Control vs. others’ effect is highly significant and main effect of $N$ is significant. (iv) $Av.$ yield of grain in lb./ac.

\[
\begin{array}{c|c|c|c}
& N_1 & N_2 & \text{Mean} \\
M_1 & 1883 & 2157 & 2020 \\
M_2 & 2064 & 2433 & 2248 \\
\text{Mean} & 1974 & 2295 & 2134 \\
\end{array}
\]

$S.E.$ of any marginal mean $= 79.4 \text{ lb./ac.}$  
$S.E.$ of body of table or control mean $= 112.2 \text{ lb./ac.}$

Crop :- Paddy (Aman),
Site :- State Agri. Farm, Bankura.

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

1. BASAL CONDITIONS:
(i) (a) Paddy—Fallow. (b) Fallow. (c) Nil.  
(ii) (a) Laterite (shole land). (b) Refer soil analysis, Bankura.  
(iii) 22.6.1956/2.8.1956. (iv) (a) 3 ploughings and 2 ladderings. (b) Transplanting. (c) N.A.  
(d) $9'' \times 9''$. (e) 2 to 3. (v) Nil. (vi) Bhasamanik (late). (vii) Unirrigated. (viii) 1 weedings and 1 hoeing  
at the time of manuring. (ix) 42.50''. (x) 13.12.1956.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 54(21) on page 2.

4. GENERAL:
(i) and (ii) N.A.  
(iii) Grain and straw yield. (iv) (a) 1952—1956. (b) Yes. (c) No.  
(v) (a) Bankura on Kamoli land. (b) No. (vi) and (vii) Nil.

5. RESULTS:
(i) 2045 lb./ac. (ii) 164.1 lb./ac. (iii) ‘Control vs. others’ effect is highly significant. $M$ effect and interaction $M \times N$ are significant. (iv) $Av.$ yield of grain in lb./ac.
Crop: Paddy (Aman).

Site: State Agri. Farm, Bankura.

Object: To study the effect of different levels and method of application of A/S on the yield of Paddy.

1. BASAL CONDITIONS
   (i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Laterite (shole land). (b) Refer soil analysis Bankura.
   (iii) 6.7.1957/19.8.1957. (iv) (a) 3 ploughings and 2 laddering. (b) Transplanting. (c) N.A. (d) 9'×9'.
   (e) 2 to 3. (v) Nil. (vi) Bhussanik (Late). (vii) Unirrigated. (viii) 1 weeding and 1 hoeing at the time
   of manuring. (ix) 34.08. (x) 9.12.1957.

2. TREATMENTS:—
   All combinations of (1) and (2) +control.
   (1) 3 levels of N: N₁=20, N₂=40 and N₃=60 lb./ac.
   (2) 2 methods of application of N: M₁=Top dressing and M₂=By layering.
   N as A/s applied after one month of transplanting.

3. DESIGN:
   (i) R.B.D. (ii) 7. (b) N.A. (iii) 4. (iv) (a) 27'×18'. (b) 27'×17'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) and (ii) N.A. (iii) Yield of grain and straw. (iv) 1957—1958. (b) Yes. (c) No. (v) to (vii) Nil.

5. RESULTS:
   (i) 3060 lb./ac. (ii) 261.3 lb./ac. (iii) N and “control vs. others’ effects are highly significant. (iv) Av.
   yield of grain in lb./ac.

<table>
<thead>
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<th>Control = 2019 lb./ac.</th>
</tr>
</thead>
</table>

<table>
<thead>
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<th>N₃</th>
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<tr>
<td>Mean</td>
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<td>2416</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 57.3 lb./ac.
S.E. of body of table or control mean = 82.0 lb./ac.

---

Ref: W.B. 57(9).
Type: ‘M’.
Crop: Paddy (Aman).  
Site: State Agri. Farm, Bankura.  
Ref: W.B. 58(5).  
Type: 'M'.

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

1. BASAL CONDITIONS:
(i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Laterite (shole land). (b) Refer soil analysis, Bankura. (iii) 29.6.1958/28.8.1958. (iv) (a) 3 ploughings and laddering. (b) Transplanting. (c) N.A. (d) 9" x 9". (e) 2 to 3. (v) Nil. (vi) Bhassumak (late). (vii) Unirrigated. (viii) 1 weeding and 1 hoeing at the time of manuring. (ix) 34.46°. (x) 20.12.1953.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 57(9) on page 6. N as A/S was applied on 29.9.1958.

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

5. RESULTS:
(i) 2083 lb./ac. (ii) 165.2 lb./ac. (iii) ‘Control vs. others’ effect is highly significant. N effect is significant (iv) Av. yield of grain in lb./ac.

<table>
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<th>Control = 1547 lb./ac.</th>
</tr>
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<td>M1</td>
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<td>2048</td>
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</table>

.S.E. of N marginal mean = 58.4 lb./ac.
S.E. of M marginal mean = 47.7 lb./ac.
S.E. of body of table or control mean = 82.6 lb./ac.

Crop: Paddy (Aman).  
Site: State Agri. Farm, Berhampur.  
Ref: W.B. 54(56).  
Type: 'M'.

Object: To study the effect of continuous application of different combinations of N, P and F.Y.M. on the yield of grain and straw.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Lentil. (c) Nil. (ii) (a) Fine sandy loam. (b) Refer soil analysis, Berhampur. (iii) 7 to 18.6.1954. (iv) (a) 4 ploughings laddering and hand hoeing. (b) Broadcast. (c) 1 md./ac. (d) and (e) N.A. (v) Nil. (vi) Dharijal. (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) 34.53°. (x) 29.9 1954 to 3.10 1954.

2. TREATMENTS:
Main-plot treatments: All combination of (1) and (2)
(1) 5 levels of N as A/S: N0 = 0, N1 = 30, N2 = 60, N3 = 90 and N4 = 120 lb./ac.
(2) 3 levels of P2O5 as B.M.: P0 = 0, P1 = 20 and P2 = 40 lb./ac.
Sub-plot treatments: 2 levels of F.Y.M.: F0 = 0 and F1 = 100 mds/ac.
B.M. and F.Y.M. applied at the time of general preparation of land and A/S broadcasted after sowing.

3. DESIGN:
(i) Split-plot. (ii) (a) 15 main-plots/replication; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 37° x 16°. (b) 35° x 14°. (v) 1' x 1'. (vi) Yes.
4. GENERAL:
(i) Good. Plots with higher doses of N lodged. (ii) Nil. (iii) Tillering and height of plants, straw and grain yield of paddy. (iv) (a) 1949—contd. (b) Yes. (c) No. (v) (a) Chinsurah and Suri. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 1087 lb./ac. (ii) (a) 410.7 lb./ac. (b) 235.6 lb./ac. (iii) Main effects of N and F are highly significant. Interaction F x P is significant. (iv) Av. yield of grain in lb./ac.

### Crop :- Paddy (Aus).
### Site :- State Agri. Farm, Berhampur.

Object :- To study the effect of continuous application of N, P and F.Y.M. on the yield of Paddy.

### 1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Ganga riverine clay loam. (b) Refer soil analysis, Berhampur. (iii) 1st week of June, 1955. (iv) (a) 3 to 4 ploughings and laddering (b) Broadcast. (c) to (e) N.A. (vi) Dharial (medium). (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) 1 to 15.10.1955.

### 2. TREATMENTS and 3. DESIGN:
Same as in expht. no. 54(56) on page 7.

### 4. GENERAL:
(i) Fair. (ii) Nil. (iii) Yield of grain. (iv) (a) 1949—contd. (b) Yes. (c) N.A. (v) (a) Chinsurah and Suri. (b) N.A. (vi) N.A. (vii) Nil.

### 5. RESULTS:
(i) 1778 lb./ac. (ii) (a) 359.1 lb./ac. (b) 332.3 lb./ac. (iii) Main effects of N and F are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
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<td>2122</td>
<td>2134</td>
<td>2313</td>
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</table>
S.E. of difference of two

1. N marginal means = 103.7 lb./ac. 5. N means at the same level of F = 141.2 lb./ac.
2. P marginal means = 80.3 lb./ac. 6. F means at the same level of P = 105.1 lb./ac.
3. F marginal means = 60.7 lb./ac. 7. F means at the same level of F = 109.4 lb./ac.
4. F means at the same level of N = 135.7 lb./ac. S.E. of body of N x P table = 127.0 lb./ac.

Crop :- Paddy (Aus).

Site :- State Agri. Farm, Berhampore.

Object :- To study the effect of continuous application of N, P and F.Y.M. on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Ganga riverine clay loam. (b) Refer soil analysis, Berhampore. (iii) Last week of June 1957. (iv) (a) 3 to 4 ploughings and laddering. (b) Broadcast. (c) 1 md/ac. (d) and (e) N.A. (vi) Nil. (vii) Dular (medium). (viii) Unirrigated. (ix) N.A. (x) Middle of October 1957.

2. TREATMENTS and 3. DESIGN :
Same as in expt. no. 54(56) on page 7.

4. GENERAL :
(i) Good. (ii) N.A. (iii) Yield of grain and straw. (iv) (a) 1949—contd. (b) Yes. (c) N.A. (v) (a) Chinsurah and Suri. (b) N.A. (vi) Nil. (vii) Experiment conducted during the year 1956 failed.

5. RESULTS :
(i) 1420 lb./ac. (ii) (a) 238.1 lb./ac. (b) 174.0 lb./ac. (iii) Main effects of N and F are highly significant. (iv) Av. yield of grain in lb./ac:

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<th>$N_2$</th>
<th>$N_4$</th>
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<td>1668</td>
<td>1737</td>
<td>1876</td>
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</table>

S.E. of difference of two

1. N marginal means = 68.7 lb./ac. 5. N means at the same level of F = 85.1 lb./ac.
2. P marginal means = 53.2 lb./ac. 6. F means at the same level of P = 55.0 lb./ac.
3. F marginal means = 31.9 lb./ac. 7. P means at the same level of F = 65.9 lb./ac.
4. F means at the same level of N = 71.0 lb./ac. S.E. of body of N x P table = 84.2 lb./ac.

Crop :- Paddy (Aus).

Site :- State Agri. Farm, Berhampore.

Ref :- W.B. 57(64).

Type :- 'M'.

Object :- To study the effect of continuous application of N, P and F.Y.M. on the yield of Paddy.
1. BASAL CONDITIONS:
(i) (a) to (c) N.A.  (ii) (a) Ganga riverine clay loam.  (b) Refer soil analysis, Berhampore.  (iii) 1st week of July, 1958.  (iv) (a) Ploughing.  (b) Broadcast.  (c) 1 md./ac.  (d) and (e) N.A.  (v) Nil.  (vi) Dular (medium).  (vii) Unirrigated.  (viii) Weeding and thinning.  (ix) N.A.  (x) Middle of October, 1958.

2. TREATMENTS and DESIGN:
Same as in exp. no. 54(56) on page 7.

3. GENERAL:
(i) Good.  (ii) N.A.  (iii) Yield of grain and straw.  (iv) (a) 1949—contd.  (b) Yes.  (c) N.A.  (v) (a) Chinsurah and Suri.  (b) N.A.  (vi) and (vii) N.A.

4. RESULTS:
(i) 694 lb./ac.  (ii) (a) 261.9 lb./ac.  (b) 167.6 lb./ac.  (iii) N effect is significant and F effect is highly significant.  (iv) Av. yield of grain in lb./ac.

<table>
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<th>N2</th>
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</table>

S.E. of difference of two
1. N marginal means = 75.6 lb./ac.  5. N means at the same level of F = 89.8 lb./ac.
2. P marginal means = 58.6 lb./ac.  6. F means at the same level of P = 53.0 lb./ac.
3. F marginal means = 30.6 lb./ac.  7. P means at the same level of F = 69.5 lb./ac.
4. F means at the same level of N = 68.4 lb./ac.  S.E. of body of N x P table = 92.6 lb./ac.

Crop :- Paddy (Aus).
Site :- State Agric. Farm, Berhampore.

Object :- To study the effect of continuous application of N, P and F.Y.M. on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) Fallow—Paddy.  (b) Fallow.  (c) Nil.  (ii) (a) Ganga riverine clay loam.  (b) Refer soil analysis, Berhampore.  (iii) 1st week of July, 1959.  (iv) (a) Ploughing.  (b) Broadcast.  (c) 1 md./ac.  (d) and (e) N.A.  (v) Nil.  (vi) Dular (medium).  (vii) Unirrigated.  (viii) 3 weedings.  (ix) N.A.  (x) Middle of October, 1959.

2. TREATMENTS and DESIGN:
Same as in exp. no. 54(56) on page 7.

4. GENERAL:
(i) Normal.  (ii) N.A.  (iii) Yield of grain and straw.  (iv) (a) 1949—contd.  (b) Yes.  (c) N.A.  (v) (a) Chinsurah and Suri.  (b) N.A.  (vi) N.A.  (vii) Nil.

5. RESULTS:
(i) 807 lb./ac.  (ii) (a) 293.8 lb./ac.  (b) 250.5 lb./ac.  (iii) N effect is significant and F effect is highly significant.  (iv) Av. yield of grain in lb./ac.
Object:—To study the effect of continuous application of N, P and lime on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Fallow, (b) Lentil, (c) Nil. (ii) (a) Fine sandy loam. (b) Refer soil analysis, Berhampore. (iii) 7 to 18.6.1954. (iv) (a) 4 ploughings and ladderings. (b) Broadcast. (c) 1 md/ac. (d) and (e) N.A. (v) Nil. (vi) Dharial (vii) Unirrigated. (viii) 2 to 3 weedings and 2 to 3 hoeings. (ix) 34.53°. (x) 29.9.1954 to 3.10.1954.

2. TREATMENTS:
   Main-plot treatments: 3 levels of P2O5 as B.M.: P0=0, P1=20 and P2=40 lb./ac.
   Sub-plot treatments: All combinations of (1) and (2).
      (1) 4 levels of N as A/S: N0=0, N1=30, N2=60 and N3=90 lb./ac.
      (2) 3 levels of lime: L0=0, L1=4 and L2=8 cwt./ac.

3. DESIGN:
   (i) Split-plot. (ii) (a) 3 main-plots/replication; 12 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 23.5'×20.5' and 23.5'×20.0' (in 2 replications each). (b) 21.5'×18.5' and 21.5'×18.0' (in 2 replications each). (v) 1'×1'. (vi) Yes.

4. GENERAL:
   (i) Good. Plots with higher doses of N lodged. (ii) Nil. (iii) Tilling and height of plants. Grain and straw yield. (iv)-(a) 1949—contd. (b) Yes. (c) No. (v) (a) and (b). (vi) and (vii) Nil.

5. RESULTS:
   (i) 1022 lb./ac. (ii) (a) 451.4 lb./ac. (b) 308.7 lb./ac. (iii) Only N effect is highly significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two
1. N marginal means = 84.8 lb./ac. 5. N means at the same level of F = 111.5 lb./ac.
2. P marginal means = 65.7 lb./ac. 6. F means at the same level of P = 79.2 lb./ac.
3. F marginal means = 45.7 lb./ac. 7. P means at the same level of F = 86.4 lb./ac.
4. F means at the same level of N = 102.3 lb./ac. S.E. of body of N×P table = 103.9 lb./ac.
S.E. of difference of two
1. P marginal means = 92.1 lb./ac.  5. P means at the same level of N = 142.8 lb./ac.
2. N marginal means = 72.8 lb./ac.  6. L means at the same level of P = 109.1 lb./ac.
3. L marginal means = 63.0 lb./ac.  7. P means at the same level of L = 128.0 lb./ac.
4. N means at the same level of P = 126.0 lb./ac.  S.E. of body of N×L table = 89.1 lb./ac.

Crop :- Paddy (Aus).

Site :- State Agri. Farm, Berhampore.

Type :- 'M'.

Object:—To study the effect of continuous application of N, P and Lime on the yield of Paddy.

1. BASAL CONDITIONS:

   (i) (a) No. (b) Paddy. (c) As per treatments. (ii) (a) Ganga riverine clay loam. (b) Refer soil
   analysis, Berhampore. (iii) Last week of May to 1st week of June, 1955. (iv) (a) 3 to 4 ploughings and
   laddering. (b) Broadcasting. (c) to (e) N.A. (v) N.A. (vi) Dharia (medium). (vii) Unirrigated. (viii) 1 to 2
   weedings. (ix) and (x) N.A.

2. TREATMENTS:

   Treatments in one direction:
   All combinations of (1) and (2)
   (1) 4 levels of N as A/S: N₀ = 0, N₁ = 30, N₂ = 60 and N₃ = 90 lb./ac.
   (2) 3 levels of lime: L₀ = 0, L₄ = 4 and L₅ = 8 cwt./ac.

   Treatments in orthogonal direction:
   3 levels of P₂O₅ as B.M.: P₀ = 0, P₁ = 20 and P₂ = 40 lb./ac.
   A/S and B.M. applied 4 weeks after transplanting. Lime applied once in 4 years.

3. DESIGN:

   (i) Strip-plot. (ii) (a) 12 strips in one direction and 3 in orthogonal direction. (b) N.A. (iii) 4. (iv) (a)
   23.5'×20.5' and 23.5'×20.0' (in 2 replications each). (b) 21.5'×18.5' and 21.5'×18.0' (in 2 replications
   each). (v) 1'×1'. (vi) Yes.

4. GENERAL:

   (i) Good. (ii) Nil. (iii) Yield of grain. (iv) (a) 1949—contd. (b) Yes. (c) N.A. (v) (a) Chinsurah and
   Suri. (b) N.A. (vi) N.A. (vii) Experiment conducted during 1956 failed and the layout design is modified
   in 1955.

5. RESULTS:

   (i) 1222 lb./ac. (ii) 368.4 lb./ac. for NL. 467.3 lb./ac. for P 301.2 lb./ac. for P×NL. (iii) Main effect of N
   is highly significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two
1. N marginal means = 72.7 lb./ac.  5. N means at the same level of P = 124.0 lb./ac.
2. L marginal means = 63.0 lb./ac.  6. P means at the same level of L = 129.1 lb./ac.
3. P marginal means = 59.4 lb./ac.  7. L means at the same level of P = 107.3 lb./ac.
4. P means at the same level of N = 143.0 lb./ac.  S.E. of body of N×L table = 89.0 lb./ac.
crop: Paddy (Aus).

Site: State Agri. Farm, Barhampore.

Ref: W.B. 57(65).

Type: 'M'.

Object: To study the effect of continuous application of A/S, B.M. and lime applied individually and in combinations on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Ganga riverine clay loam. (b) Refer soil analysis, Barhampore. (iii) Ist week of August 1957. (iv) (a) 3 to 4 ploughings and laddering. (b) Broadcast. (c) 1 md/ac. (d) and (e) N.A. (v) Nil. (vi) Dular (medium). (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) Last week of October 1957.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 55(96) on page 12.

4. GENERAL:
   (i) Normal. (ii) N.A. (iii) Yield of grain and straw. (iv) (a) 1949—contd. (b) Yes. (c) N.A. (v) (a) Suri and Chinsurah. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1246 lb./ac. (ii) 167.8 lb./ac. for NL. 304.0 lb./ac. for P. 211.6 lb./ac. for P x NL. (iii) N effect is highly significant and interaction N x P is significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two
1. N marginal means = 39.6 lb./ac. 5. N means at the same level of P = 80.9 lb./ac.
2. L marginal means = 34.3 lb./ac. 6. P means at the same level of L = 87.1 lb./ac.
3. P marginal means = 62.1 lb./ac. 7. L means at the same level of P = 70.0 lb./ac.
4. P means at the same level of N = 97.2 lb./ac. S.E. of body of N x L table = 48.4 lb./ac.

Crop: Paddy (Aus).

Site: State Agri. Farm, Barhampore.

Ref: W.B. 58(57).

Type: 'M'.

Object: To study the effect of continuous application of N, P and lime on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Ganga riverine clay loam. (b) Refer soil analysis, Barhampore. (iii) Last week of July to 1st week of August 1958. (iv) (a) Ploughing and laddering. (b) Broadcast. (c) 1 md/ac. (d) and (e) N.A. (v) Nil. (vi) Dular. (vii) Unirrigated. (viii) Weeding and thinning. (ix) N.A. (x) Last week of October 1958.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 55(96) on page 12.

4. GENERAL:
   (i) Poor. (ii) N.A. (iii) Yield of grain and straw. (iv) (a) 1949—contd. (b) Yes. (c) N.A. (v) Suri and Chinsurah. (b) N.A. (vi) and (vii) N.A.
5. RESULTS:

(i) 371 lb./ac. (ii) 161.2 lb./ac. for NL, 286.1 lb./ac. for P and 563.3 lb./ac. for NL x P. (iii) Only N effect is highly significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two
1. N marginal means = 38.0 lb./ac. 5. N means at the same level of P = 191.5 lb./ac.
2. L marginal means = 32.9 lb./ac. 6. P means at the same level of L = 172.8 lb./ac.
3. P marginal means = 58.4 lb./ac. 7. L means at the same level of P = 165.9 lb./ac.
4. P means at the same level of N = 207.6 lb./ac. S.E. of body of N x L table = 46.5 lb./ac.

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**Crop**: Paddy (*Aus*).

**Site**: State Agri. Farm, Berhampore.

**Ref**: W.B. 59(60).

**Type**: 'M'.

Object:—To study the effect of continuous application of N, P and lime on the yield of Paddy.

1. **BASAL CONDITIONS**:
   (i) (a) No.  (b) Paddy.  (c) As per treatments.  (ii) (a) Ganga riverine clay loam.  (b) Refer soil analysis, Berhampore.  (iii) Middle week of July 1959.  (iv) (a) Ploughing and laddering.  (b) Broadcast.  (c) to (e) N.A.  (v) Nil.  (vi) *Dudar* (medium).  (vii) Unirrigated.  (viii) 2 to 3 weedings.  (ix) N.A.  (x) Last week of October 1959.

2. **TREATMENTS** to 4. **GENERAL**:

Same as in exp. no. 55,960) on page 12.

5. **RESULTS**:

(i) 739 lb./ac. (ii) 273.0 lb./ac. for NL, 294.9 lb./ac. for P and 259.0 lb./ac. for (NL) x P. (iii) P effect is significant, N effect is highly significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

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Ref: W.B. 59(60). Type: 'M'.

Object:—To study the effect of continuous application of N, P and lime on the yield of Paddy.

1. **BASAL CONDITIONS**:
   (i) (a) No.  (b) Paddy.  (c) As per treatments.  (ii) (a) Ganga riverine clay loam.  (b) Refer soil analysis, Berhampore.  (iii) Middle week of July 1959.  (iv) (a) Ploughing and laddering.  (b) Broadcast.  (c) to (e) N.A.  (v) Nil.  (vi) *Dudar* (medium).  (vii) Unirrigated.  (viii) 2 to 3 weedings.  (ix) N.A.  (x) Last week of October 1959.

2. **TREATMENTS** to 4. **GENERAL**:

Same as in exp. no. 55,960 on page 12.

5. **RESULTS**:

(i) 739 lb./ac. (ii) 273.0 lb./ac. for NL, 294.9 lb./ac. for P and 259.0 lb./ac. for (NL) x P. (iii) P effect is significant, N effect is highly significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.
Object:—To study the effect of Super and molybdenum on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Burdwan. (iii) 27.7.1954. (iv) (a) 3 to 4 ploughings and laddering. (b) Transplanting. (c) 12 to 15 srs./ac. (d) 9’ x 9’. (e) 2 to 3. (v) Nil. (vi) Paman—23 Chinsurah 7, medium. (vii) Unirrigated. (viii) Weeding and spading each once. (ix) 37.9’7. (x) 17.12.1954.

2. TREATMENTS:
   All combinations of (1) and (2)
   (1) 3 methods of applications of 60 lb./ac. of P2O5 as Super: M0=Control (no P2O5), M1=Super ploughed in and M2=½ ploughed in and broadcast 4 weeks after transplanting.
   (2) 2 levels of sod. molybdate: S0=0 and S1=4 ozs/ac. sprayed as water solution 4 weeks after transplanting.

3. DESIGN:
   (i) Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 62’ x 14’. (b) 60’ x 12’. (v) 1’ x 1’. (vi) Yes.

4. GENERAL:
   (i) Good. No lodging. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954—contd. (b) Yes. (c) N.A. (v) to (vii) Nil.

5. RESULTS:
   (i) 3112 lb./ac. (ii) 295.2 lb./ac. (iii) Only M effect is highly significant. (iv) Av. yield of grain in lb./ac.

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S.E. of M marginal mean = 104.4 lb./ac.
S.E. of S marginal mean = 85.2 lb./ac.
S.E. of body of table = 147.6 lb./ac.
1. BASAL CONDITIONS:
(i) (a) to (c) Nil. (ii) (a) Loam and clay loam. (b) Refer soil analysis, Burdwan. (iii) 2nd week of July, 1955. (iv) (a) 3 to 4 ploughings and spading. (b) Transplanting. (c) N.A. (d) 9"×9". (e) 2 to 3. (v) 30 to 100 mds./ac. of cowdung. (vi) Patnai (medium). (vii) Unirrigated. (viii) 2 to 3 weedings and 2 harrowings. (ix) 32.37°. (x) 2nd to 3rd week of December, 1955.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 54(35) on page 15.

3. RESULTS:
(i) 3221 lb./ac. (ii) 57.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

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S.E. of M marginal mean = 190.5 lb./ac.
S.E. of S marginal mean = 155.6 lb./ac.
S.E. of body of table = 269.5 lb./ac.

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‘Crop :- Paddy (Aman).
Site :- State Agri. Farm, Burdwan.
Object :- To study the effect of Super and molybdenum on the yield of Paddy.

Ref :- W.B. 56(57).
Type :- ‘M’.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Burdwan. (iii) Middle of July, 1956. (iv) (a) 2 to 3 ploughings. (b) Transplanting. (c) and (d) N.A. (e) 2 to 3. (v) N.A. (vi) Patnai (medium). (vii) Unirrigated. (viii) 1 to 2 weedings. (ix) and (x) N.A.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 54,35) on page 15.

4. GENERAL:
(iii) Yield of grain. (iv) (a) 1954-1959. (b) Yes. (c) N.A. (v) to (vii) Nil.

5. RESULTS:
(i) 2069 lb./ac. (ii) 230.9 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

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S.E. of M marginal mean = 81.6 lb./ac.
S.E. of S marginal mean = 66.7 lb./ac.
S.E. of body of table = 115.5 lb./ac.
CROP: Paddy (Aman).
Site: State Agri. Farm, Burdwan.

Ref: W.B. 57(14).
Type: 'M'.

Object: —To study the effect of Super and molybdenum on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Burdwan.
   (iii) N.A./5.8.1957. (iv) (a) 3 to 4 ploughings and laddering. (b) Transplanting. (c) 12 to 15 srs./ac. (d) 9'x9'. (e) 2 to 3. (v) Nil. (vi) Raghusail (medium). (vii) Irrigated. (viii) Weeding and spading once. (ix) 40.67°. (x) 11.12.1957.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 54(35) on page 15.

3. RESULTS:
   (i) 3336 lb./ac. (ii) 476.1 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
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S.E. of M marginal mean = 168.3 lb./ac.
S.E. of S marginal mean = 137.4 lb./ac.
S.E. of body of the table = 238.1 lb./ac.

Crop: Paddy (Aman).
Site: State Agri. Farm, Burdwan.

Ref: W.B. 58(63).
Type: 'M'.

Object: —To study the effect of Super and molybdenum on the yield Paddy.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Burdwan. (iii) 16.8.1958. (iv) (a) Ploughing (b) Transplanting. (c) and (d) N.A. (e) 2 to 3. (v) N.A. (vi) Raghusail (medium) (vii) N.A. (viii) 2 to 3 weedings. (ix) N.A. (x) 11.12.1958.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 54(35) on page 15.

4. GENERAL:
   (i) and (ii) N.A. (iii) Yield of grain. (iv) (a) 1954—1959. (b) Yes. (c) N.A. (v) to (vii) Nil.

5. RESULTS:
   (i) 1762 lb./ac. (ii) 206.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

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S.E. of M marginal mean = 73.0 lb./ac.
S.E. of S marginal mean = 59.6 lb./ac.
S.E. of body of the table = 103.2 lb./ac.
Crop :- Paddy (Aman).

Site :- State Agri. Farm, Burdwan.

Object :- To study the effect of Super and Sodium molybdate on the yield of Paddy.

1. BASAL CONDITIONS :
(i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Burdwan. (iii) 24.8.1959. (iv) (a) 6 ploughings and 4 ladderings. (b) Line transplanting. (c) 15 srs./ac. (d) 9' x 9'. (e) 2. (v) Nil. (vi) Raphassil. (vii) Unirrigated. (viii) 1 weedings. (ix) 49 2'. (x) 14.12.1959.

2. TREATMENTS and 3. DESIGN :

4. GENERAL :
(i) Fair. No lodging. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1954—1959. (b) Yes. (c) N.A. (v) to (vii) Nil.

5. RESULTS :
(i) 1403 lb./ac. (ii) 202.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

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S.E. of M marginal mean = 71.6 lb./ac.
S.E. of S marginal mean = 58.4 lb./ac.
S.E. of body of table = 101.2 lb./ac.

Crop :- Paddy (Aman).

Site :- State Agri. Farm, Burdwan.

Object :- To study the effect of basic slag, Super and organic matter on the yield of Paddy.

1. BASAL CONDITIONS :
(i) (a) to (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Burdwan. (iii) 14 to 16.8.1958. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) Raphassil (medium). (vii) Unirrigated. (viii) Weeding and thinning. (ix) N.A. (x) 12 to 15.12.1958.

2. TREATMENTS :
All combinations of (1) and (2)
(1) 3 sources of 40 lb./ac. of P₂O₅ : S₀ = No P₂O₅, S₁ = Basic slag and S₂ = Super.
(2) 4 types of G.M. : G₀ = No G.M., G₁ = 5 tons/ac. of paddy straw, G₂ = 5 tons/ac. of cowdung + 5 tons/ac. of wheat straw and G₃ = 10 tons/ac. of water hyacinth.

3. DESIGN :
(i) Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 6. (iv) 'a) 28' x 20', (b) 26' x 18'. (v) '1' x 1'. (vi) Yes.

4. GENERAL :
(i) Good. (ii) N.A. (iii) Yield of grain. (iv) (a) 1958—1960. (b) Yes. (c) N.A. (v) (a) and (b) No. (vi) N.A. (vii) Nil.

5. RESULTS :
(i) 2714 lb./ac. (ii) 260.4 lb./ac. (iii) Main effect of G alone is highly significant. (iv) Av. yield of grain in lb./ac.
Object: To study the effect of basic slag, Super and organic matter on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Burdwan. (iii) 6 and 7.8.1959. (iv) (a) 6 ploughings and 4 ladderings. (b) Line transplantation. (c) 15 srs./ac. (d) 9"x9". (e) 2. (v) Nil. (vi) Raghusail. (vii) Unirrigated. (viii) I weeding. (ix) 49.2”. (x) 12.12.1959.

2. TREATMENTS:
   All combinations of (1) and (2):
   (1) 3 levels of \( P_2O_5 \): \( S_0 = \text{No } P_2O_5, S_1 = 40 \text{ lb./ac. of } P_2O_5 \) as Super, and \( S_2 = 40 \text{ lb./ac. of } P_2O_5 \) as basic slag.
   (2) 4 levels of G.M.: \( G_0 = \text{No G.M.}, G_1 = 5 \text{ tons/ac. of paddy straw}, G_2 = 5 \text{ tons/ac. of cowdung and } G_3 = 5 \text{ tons/ac. of water hyacinth.} \)

3. DESIGN:
   (i) Fact. in R.B.D. (ii) 12. (b) N.A. (iii) 6. (iv) (a) 28‘x20’. (b) 26’x18’. (v) 1’x1’. (vi) Yes.

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

5. RESULTS:
   (i) 2508 lb./ac. (ii) 351.9 lb./ac. (iii) Main effect of G alone is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
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<tr>
<th>( G_0 )</th>
<th>( G_1 )</th>
<th>( G_2 )</th>
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S.E. of S marginal mean = 71.8 lb./ac.
S.E. of G marginal mean = 82.9 lb./ac.
S.E. of body of table = 143.7 lb./ac.
Object:— To study the effect of bulky organic manure and A/S on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Wheat. (c) 200 lb./ac. of A/S+200 lb./ac. of Super. (ii) (a) Clay loam. (b) Refer soil analysis, Burdwan. (iii) N.A./17.6.1954. (iv) (a) 3 ploughings and laddering by country method. (b) Transplanting. (c) 10 srs./ac. (d) 9'×9". (e) 2 to 3. (v) Nil. (vi) Dular (early). (vii) 2 weedings by Japanese weeder. (ix) 35.41'. (x) 10.9.1954.

2. TREATMENTS:
   All combinations of (1) and (2)+a control (no manure)
   (i) 2 levels of P₂O₅ as Super : P₀=0 and P₁=20 lb./ac.
   (2) 5 sources of 40 lb./ac. of N : S₁=A/S, S₂=T.C., S₃=Village compost, S₄=Water hyacinth compost and S₅=Sewage sludge.
   Manures applied at the time of puddling.

3. DESIGN:
   (i) R.B.D. (ii) (a) 11. (b) N.A. (iii) 5. (iv) (a) 48'×18'. (b) 46'×16'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) N.A. (iii) Grain and straw yield. (iv) (a) 1951—1954. (b) Yes. (c) N.A. (v) to (vii) Nil.

5. RESULTS:
   (i) 2431 lb./ac. (ii) 281.3 lb./ac. (iii) ‘Control vs. others' effect alone is highly significant. (iv) Av. yield of grain in lb./ac.

   Control = 1666 lb./ac.

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<td>S.E. of P marginal mean</td>
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<td>S.E. of body of table</td>
<td>= 125.8 lb./ac.</td>
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Object:— To study the effect of B.M., Super and basic slag on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Sugarcane. (b) Sugarcane. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Burdwan. (iii) 3.8.1957. (iv) (a) 4 to 5 ploughings and laddering. (b) Transplanting. (c) 12 to 15 srs./ac. (d) 9'×5". (e) 2 to 3. (v) Nil. (vi) Raghusail. (vii) Irrigated. (viii) 2 weedings. (ix) 13.90". (x) 9.12.1957.

2. TREATMENTS:
   Main-plot treatments:
   3 sources of P₂O₅ : S₁=B.M., S₂=Super and S₃=Basic slag.

   Sub-plot treatments:
   4 levels of P₂O₅ : P₀=0, P₁=20, P₂=40 and P₃=60 lb./ac.
3. DESIGN:
   (i) Split-plot. (ii) (a) 3 main-plots/block ; 4 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 20'×28'. (b) 18'×26'. (v) 1'×1'. (vi) Yes.

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

5. RESULTS:
   (i) 2792 lb./ac. (ii) (a) 403.1 lb./ac. (b) 370.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
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</table>

S.E. of difference of two
1. S marginal means = 134.4 lb./ac.
2. P marginal means = 123.3 lb./ac.
3. P means at the same level of S = 213.6 lb./ac.
4. S means at the same level of P = 220.2 lb./ac.

Crop :- Paddy (Aman).
Site :- State Agri. Farm, Burdwan.
Ref :- W.B. 57(24).
Type :- 'M'.

Object :- To find out the effect of different doses and sources of N on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Wheat. (b) Wheat. (c) As per treatments. (ii)(a) Sandy loam. (b) Refer soil analysis, Burdwan. (iii) N.A./7.6.1957. (iv) (a) 4 to 5 ploughings and laddering. (b) Sown in lines. (c) 25 to 30 srs./ac. (d) N.A. (e) 2 to 3. (v) Nil. (vi) N.A. (vii) Irrigated. (viii) 2 weedings and 1 hoeing. (ix) N.A. (x) 16.9.1957.

2. TREATMENTS:
   All combinations of (i) and (2)+a control (no manure)
   (1) 2 levels of N : N₁=40 and N₂=60 lb./ac.
   (2) 2 sources of N : S₁=A/S and S₂=A/C.

3. DESIGN:
   (i) R.B.D: (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 34'×26'. (b) 32'×24'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) Slight attack of stem-borer. (iii) Grain and straw yield. (iv) (a) 1957—contd. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2966 lb./ac. (ii) 397.2 lb./ac. (iii) 'Control vs. others' effect alone is highly significant. (iv) Av. yield of grain in lb./ac.
Object: To find out the effect of different doses and sources of N on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Wheat—Paddy.  (b) Wheat.  (c) As per treatments.  (ii) (a) Sandy loam.  (b) Refer soil analysis, Burdwan.  (iii) 16.6.1959.  (iv) (a) 6 ploughings and 4 laddering.  (b) Broadcasting.  (c) 30 srs./ac.  (d) and (e) N.A.  (v) Nil.  (vi) N.A.  (vii) Irrigated.  (viii) 1 weeding.  (ix) 47.6°.  (x) 27 and 29.9.1959.

2. TREATMENTS and Design:
   Same as in exp. no. 57(24) on page 21.

4. GENERAL:
   (i) Fair.  (ii) Nil.  (iii) Yield of grain and straw.  (iv) (a) 1957—contd.  (b) Yes.  (c) N.A.  (v) to (vii) N.A.

5. RESULTS:
   (i) 2345 lb./ac.  (ii) 222.4 lb./ac.  (iii) N effect alone is highly significant.  (iv) Av. yield of grain in lb./ac.

Control = 1702 lb./ac.

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<tr>
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S.E. of any marginal mean = 70.3 lb./ac.
S.E. of body of table = 99.5 lb./ac.
2. TREATMENTS:
All combinations of (1) and (2):
(1) 3 levels of N as A/S: N₀=0, N₁=20 and N₂=40 lb./ac.
(2) 3 levels of lime : L₀=0, L₁=4 and L₂=8 cwt./ac.
Lime was applied at the time of general preparation of land and A/S broadcasted on 24.8.1954.

3. DESIGN:
(i) Fact. in R.B.D.  (ii) (a) 9.  (b) N.A.  (iii) 6.  (iv) (a) 62' ×14'.  (b) 60' ×12'.  (v) 1' ×1'. (vi) Yes.

4. GENERAL:
(i) Good.  (ii) No.  (iii) Grain and straw yield.  (iv) (a) 1952–1955.  (b) Yes.  (c) N.A.  (v) (a) Chinsurah.  
(b) Nil.  (vi) and (vii) Nil.

5. RESULTS:
(i) 2778 lb./ac.  (ii) 240.2 lb./ac.  (iii) N effect and interaction N × L are highly significant.  (iv) Av. yield of 
grain in lb./ac.

<table>
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S.E. of any marginal mean = 56.6 lb./ac.
S.E. of body of table = 98.1 lb./ac.

Crop :- Paddy (Aman).
Site :- State Agri. Farm, Burdwan.

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

1. BASAL CONDITIONS:
(i) (a) Paddy—Fallow.  (b) Fallow.  (c) Nil.  (ii) (a) Loam and clay loam.  (b) Refer soil analysis, Burdwan.
(iii) Last week of Julv, 1955.  (iv) (a) 3 to 4 ploughings.  (b) Transplanting.  (c) N.A.  (d) 9" ×9".  (e) 2 
to 3.  (v) 100 mds/ac. of cowdung.  (vi) N.A.  (vii) Unirrigated.  (viii) 2 to 3 weedings.  (ix) 30.37°.  
(x) 15 to 28 12.1955.

2. TREATMENTS and 3. DESIGN:
Same as in exp. no. 54(34) on page 22.

4. GENERAL:
(i) Normal.  (ii) Nil.  (iii) Yield of grain.  (iv) (a) 1952–1955.  (b) Yes.  (c) N.A.  (v) (a) Chinsurah and 
Cooch Bihar.  (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 3163 lb./ac.  (ii) 428.1 lb./ac.  (iii) None of the effects is significant.  (iv) Av. yield of grain in lb./ac.

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<td>L₂</td>
<td>3134</td>
<td>3116</td>
<td>3295</td>
<td>3182</td>
</tr>
<tr>
<td>Mean</td>
<td>3110</td>
<td>3120</td>
<td>3259</td>
<td>3163</td>
</tr>
</tbody>
</table>

Ref :- W.B. 55(78).  
Type :- 'M'.
S.E. of any marginal mean = 100.9 lb./ac.
S.E. of the body of table = 174.8 lb./ac.

Crop :- Paddy (Aman).
Site :- State Agri. Farm, Bardwan.

Object :- To study the effect of different levels and methods of application of A/S on the yield of Paddy.

1. BASAL CONDITIONS :
(i) (a) Paddy-Fallow. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Burdwan. (iii) N.A./29.7.1954. (iv) (a) 3 to 4 ploughings and laddering. (b) Transplanting. (c) 12 to 15 yrs./ac. (d) 9' x 9'. (e) 2 to 3. (f) Nil. (vi) Panul 23 (Chinsurah 7, medium). (vii) Irrigated. (viii) Weeding and spading each once. (ix) 37.97'. (x) 12.12.1954.

2. TREATMENTS :
All combinations of (1) and (2)
(1) 4 levels of N as A/S: \( N_0 = 0, N_1 = 15, N_2 = 30 \) and \( N_3 = 45 \) lb./ac.
(2) 2 methods of application: \( M_1 \) = Spread on surface and \( M_2 \) = Thrust in.

3. DESIGN :
(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 5. (iv) (a) 45' x 18'. (b) 46' x 16'. (v) 1' x 1'. (vi) Yes.

4. GENERAL :
(i) Good. No lodging. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1952-1954. (b) Yes. (c) N.A. (v) (a) Chinsurah. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :
(i) 2889 lb./ac. (ii) 142.0 lb./ac. (iii) Only N effect is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>( N_0 )</th>
<th>( N_1 )</th>
<th>( N_2 )</th>
<th>( N_3 )</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( M_1 )</td>
<td>2539</td>
<td>2831</td>
<td>3080</td>
<td>3066</td>
</tr>
<tr>
<td>( M_2 )</td>
<td>2713</td>
<td>2964</td>
<td>2888</td>
<td>3046</td>
</tr>
<tr>
<td>Mean</td>
<td>2626</td>
<td>2898</td>
<td>2984</td>
<td>3016</td>
</tr>
</tbody>
</table>

S.E. of N marginal mean = 44.9 lb./ac.
S.E. of M marginal mean = 31.8 lb./ac.
S.E. of body of table = 63.5 lb./ac.

Crop :- Paddy (Aman).
Site :- State Agri. Farm, Bardwan.

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

1. BASAL CONDITIONS :
(i) (a) Paddy—Fallow. (b) and (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Burdwan. (iii) N.A. (iv) (a) 3 to 4 ploughings and laddering. (b) Transplanting. (c) N.A. (d) 9' x 9'. (e) 2 to 3. (f) N.A. (vi) Raphia 3 (medium). (vii) Unirrigated. (viii) 2 weedings. (ix) and (x) N.A.

2. TREATMENTS :
All combinations of (1), (2) and (3)
(1) 2 levels of N as A/S: \( N_0 = 0 \) and \( N_1 = 20 \) lb./ac.
(2) 2 levels of \( P_2O_5 \) as Super : \( P_0 = 0 \) and \( P_1 = 20 \) lb./ac.
(3) 2 levels of \( K_2O \) as Pot. Sul. : \( K_0 = 0 \) and \( K_1 = 20 \) lb./ac.
3. DESIGN:
   (i) Fact. in R.B.D.  (ii) (a) 8. (b) N.A.  (iii) 4.  (iv) (a) 38'×30'. (b) 36'×28'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
   (i) Fair. (ii) N.A.  (iii) Grain and straw yield.  (iv) (a) 1955—1959.  (b) Yes. (c) N.A.  (v) (a) Chinsurah, Midnapore, Cooch Behar and Purulia.  (b) N.A.  (vi) and (vii) Nil.

5. RESULTS:
   (i) 2404 lb./ac.  (ii) 123.6 lb./ac.  (iii) Main effects of N and P are highly significant. Interactions N×P and N×K are significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$P_0$</th>
<th>$P_1$</th>
<th>Mean</th>
<th>$K_0$</th>
<th>$K_1$</th>
</tr>
</thead>
<tbody>
<tr>
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<td>2128</td>
<td>2402</td>
<td>2265</td>
<td>2238</td>
<td>2292</td>
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<tr>
<td>$N_1$</td>
<td>2506</td>
<td>2576</td>
<td>2541</td>
<td>2613</td>
<td>2418</td>
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<tr>
<td>Mean</td>
<td>2317</td>
<td>2489</td>
<td>2403</td>
<td>2426</td>
<td>2380</td>
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</tr>
<tr>
<td>$K_1$</td>
<td>2293</td>
<td>2467</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 30.9 lb./ac.
S.E. of body of any table = 43.7 lb./ac.

---

Crop : Paddy (Aman).
Site : State Agri. Farm, Burdwan.
Object :—To study the effect of N, P and K on the yield of Paddy.

1. BASAL CONDITIONS :
   (i) (a) Paddy—Paddy. (b) Paddy. (c) N.A.  (ii) (a) Sandy loam. (b) Refer soil analysis, Burdwan. (iii) N.A.  (iv) (a) 3 to 4 ploughings and ledgering. (b) Transplanting. (c) N.A.  (d) 5'×9'.  (e) 2 to 3.  (v) N.A.  (vi) Raghunath (medium).  (vii) Unirrigated.  (viii) 2 weedings.  (ix) and (x) N.A.

2. TREATMENTS to 4. GENERAL :
   Same as in exp. no. 55(55) on page 24.

5. RESULTS:
   (i) 2132 lb./ac.  (ii) 142.6 lb./ac.  (iii) Only 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>Mean</th>
<th>$K_0$</th>
<th>$K_1$</th>
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<tbody>
<tr>
<td>$N_0$</td>
<td>1874</td>
<td>2054</td>
<td>1964</td>
<td>1958</td>
<td>1970</td>
</tr>
<tr>
<td>$N_1$</td>
<td>2265</td>
<td>2338</td>
<td>2301</td>
<td>2278</td>
<td>2324</td>
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<td>2196</td>
<td>2132</td>
<td>2118</td>
<td>2147</td>
</tr>
<tr>
<td>$K_0$</td>
<td>2072</td>
<td>2164</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$K_1$</td>
<td>2066</td>
<td>2228</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 35.6 lb./ac.
S.E. of body of any table = 50.4 lb./ac.
Crop :- Paddy (Aman).
Site :- State Agri. Farm, Burdwan.

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

1. BASAL CONDITIONS:
   (i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Burdwan. (iii) N.A./29.7.1957. (iv) (a) 3 to 4 ploughings and ladderings. (b) Transplanting. (c) 12 to 15 srs./ac. (d) 9’x9’. (e) 2 to 3. (v) Nil. (vi) *Raghusal* (medium). (vii) Unirrigated. (viii) Weeding 2 times and spading once. (ix) 13.90’. (x) 12.12.1957.

2. TREATMENTS and 3. DESIGN:

4. GENERAL:
   (i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1955—1959. (b) Yes. (c) N.A. (v) (a) Chinsurah, Midnapore, Cooch Behar and Purulia. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2338 lb./ac. (ii) 258.9 lb./ac. (iii) Only K effect is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>P0</th>
<th>P1</th>
<th>Mean</th>
<th>K0</th>
<th>K1</th>
</tr>
</thead>
<tbody>
<tr>
<td>N0</td>
<td>2137</td>
<td>2428</td>
<td>2282</td>
<td>2159</td>
<td>2406</td>
</tr>
<tr>
<td>N1</td>
<td>2376</td>
<td>2412</td>
<td>2394</td>
<td>2320</td>
<td>2468</td>
</tr>
<tr>
<td>Mean</td>
<td>2236</td>
<td>2430</td>
<td>2338</td>
<td>240</td>
<td>2437</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 64.7 lb./ac.
S.E. of body of any table = 91.5 lb./ac.
**Crop:** Paddy (*Aman*).  
**Site:** State Agri. Farm, Burdwan.  
**Ref:** W.B. 59(23).  
**Type:** ‘M’.  

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

1. **BASAL CONDITIONS:**
   (i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Burdwan.  
   (iii) N.A./21 and 22.8.1959. (iv) (a) 3 to 4 ploughings and ladderings. (b) Transplanting. (c) 12 to 15 yrs./ac. (d) 9°x9°. (e) 2 to 3. (v) Nil. (vi) *Raghusail* (medium). (vii) Unirrigated. (viii) 2 weedings and 1 spading. (ix) 30.8F.  

2. **TREATMENTS and DESIGN:**
   Same as in expt. no. 55(55) on page 24.

3. **GENERAL:**
   (i) Poor. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1955—1959. (b) Yes. (c) N.A. (v) (a) Chinsurah, Midnapore, Cooch Behar and Purulia. (b) N.A. (vi) Due to overflooding the effect of fertilizer is not marked this year. (vii) Nil.

5. **RESULTS:**
   (i) 1106 lb./ac. (ii) 179.1 lb./ac. (iii) P effect is highly significant while N effect is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>P₀</th>
<th>P₁</th>
<th>Mean</th>
<th>K₀</th>
<th>K₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₀</td>
<td>1518</td>
<td>1834</td>
<td>1676</td>
<td>1587</td>
<td>1765</td>
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<tr>
<td>N₁</td>
<td>1849</td>
<td>1889</td>
<td>1869</td>
<td>1791</td>
<td>1947</td>
</tr>
<tr>
<td>Mean</td>
<td>1683</td>
<td>1861</td>
<td>1772</td>
<td>1689</td>
<td>1856</td>
</tr>
<tr>
<td>K₀</td>
<td>1589</td>
<td>1789</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K₁</td>
<td>1777</td>
<td>1935</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 72.2 lb./ac.  
S.E. of body of any table = 102.1 lb./ac.
Crop: Paddy (Aman).
Site: State Agri. Farm, Burdwan.

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

1. BASAL CONDITIONS:
   (i) (a) Wheat—Paddy. (b) Wheat. (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Burdwan. (iii) Middle of August, 1958. (iv) (a) 3 ploughings and spading twice. (b) Transplanting. (c) and (d) N.A. (e) 2 to 3. (v) N.A. (vi) Dhariaul (medium). (vii) Unirrigated. (viii) Weeding. (ix) N.A. (x) Last week of December, 1958.

2. TREATMENTS:
   5 sources of 40 lb./ac of N: S₀=Control (no manure), S₁=A/S, S₂=Urea, S₃=A/C and S₄=C/N.

3. DESIGN:
   (i) R.B.D. (ii) 5. (b) N.A. (iii) 5. (iv) (a) 34'×26'. (b) 32'×24'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) N.A. (iii) Yield of grain. (iv) (a) 1957—1960. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) N.A. (vii) Nil.

5. RESULTS:
   (i) 2256 lb./ac. (ii) 275.3 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S₀</th>
<th>S₁</th>
<th>S₂</th>
<th>S₃</th>
<th>S₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1907</td>
<td>2444</td>
<td>1972</td>
<td>2491</td>
<td>2468</td>
</tr>
</tbody>
</table>
| S.E./mean   |    |    |    |    | 123.1 lb./ac.

Crop: Paddy (Aman).
Site: State Agri. Farm, Burdwan.

Object: To study the effect of trace elements mixture on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Burdwan. (iii) N.A./1.8.1954. (iv) (a) 3 ploughings and laddering. (b) Transplanting. (c) 12 to 15 srs./ac. (d) 9'×9'. (e) 2 to 3. (v) Nil. (vi) Patmai—23 (Chinsurah 7, medium). (vii) Unirrigated. (viii) Weeding and spading once. (ix) 37.57'. (x) 15.12.1954.

2. TREATMENTS:
   4 manural treatments: M₀=Control, M₁=Trace elements mixture (consisting of zink, boron, copper, manganese and molybdenum in traces), M₂=30 lb./ac. of N as A/S+trace elements and M₃=30 lb./ac. of N as A/S+Super. Water solution of trace elements sprayed 4 weeks after transplantation. Super (quantity—N.A.) ploughed in at the time of general preparation of land and A/S broadcast 4 weeks after transplantation.

3. DESIGN:
   (i) R.B.D. (ii) 4. (b) N.A. (iii) 5. (iv) (a) 48'×18'. (b) 46'×16'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—1954. (b) Yes. (c) N.A. (v) (a) and (b) No. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2605 lb./ac. (ii) 127.8 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.
Object:—To study the effect of G.M. on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Burdwan. (iii) N.A./17.7.1954. (iv) (a) 3 to 4 ploughings and laddering. (b) Transplanting. (c) 12 to 15 srs./ac. (d) 9"x9". (e) 2 to 3. (v) Nil. (vi) Fumai—25 (Chinsurah 7, medium). (vii) Unirrigated. (viii) Weeding and spading once each. (ix) 37.29". (x) 1.12.1954.

2. TREATMENTS:
5 seed rates of G.M. crops: R₀=No G.M., R₁=12, R₂=16, R₃=20 srs./ac. of dhaincha and R₄=15 srs./ac. of sannhemp.
G.M. ploughed in at the time of flowering stage.

3. DESIGN:
(i) R.B.D. (ii) 5. (iii) 4. (iv) (a) 27'x31'. (b) 25'x29'. (v) 1'x1'. (vi) Yes.

4. GENERAL:
(i) Good. (ii) Negligible. (iii) Grain and straw yield. (iv) (a) 1951—1954. (b) Yes. (c) No. (v) (a) and (b) No. (vi) and (vii) Nil.

5. RESULTS:
(i) 2451 lb./ac. (ii) 84.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>R₀</th>
<th>R₁</th>
<th>R₂</th>
<th>R₃</th>
<th>R₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1955</td>
<td>2512</td>
<td>2661</td>
<td>2167</td>
<td>2920</td>
</tr>
</tbody>
</table>

S.E./mean = 42.0 lb./ac.

29

Crop :— Paddy (Aman).
Site :— State Agri. Farm, Burdwan.

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

1. BASAL CONDITIONS:
(i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Clay loam. (b) Refer soil analysis, Burdwan. (iii) N.A./29.7.1955. (iv) (a) 4 to 5 ploughings and harrowing. (b) Transplanting. (c) and (d) N.A. (e) 2 to 3. (v) 80 to 100 mds./ac. of cowdung. (vi) N.A. (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) 30.12.1955.

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

3. DESIGN:
(i) R.B.D. (ii) 12. (b) N.A. (iii) 4. (iv) (a) 48'x18'. (b) 46'x16'. (v) 1'x1'. (vi) Yes.
4. GENERAL:

(i) Normal. (ii) N.A. (iii) Yield of grain. (iv) (a) 1955—contd. (b) Yes. (c) N.A. (v) to (vii) Nil.

5. RESULTS:

(i) 3563 lb./ac. (ii) 392.0 lb./ac. (iii) Only ‘control vs. rest’ effect is highly significant. (iv) Av. yield of grain in lb./ac.

Control = 3226 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
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<td>3327</td>
<td>3515</td>
<td>3583</td>
<td>3477</td>
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</tr>
<tr>
<td>N3</td>
<td>3633</td>
<td>3766</td>
<td>3933</td>
<td>3777</td>
</tr>
</tbody>
</table>

Mean     3574  3705  3747  3675

S.E. of any marginal or control mean = 113.2 lb./ac.
S.E. of body of table = 196.0 lb./ac.

Crop: Paddy (Aman).
Site: State Agri. Farm, Burdwan.
Ref: W.B. 56(39).
Type: 'M'.

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

1. BASAL CONDITIONS:

(i) (a) to (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Burdwan. (iii) Last week of July, 1956. (iv) (a) Ploughings (3 to 4). (b) Transplanting. (c) and (d) N.A. (e) 2 to 3. (v) 100 mds./ac. of cowdung. (vi) Patnai (medium). (vii) Unirrigated. (viii) Weeding (2 to 3) and thinning. (ix) N.A. (x) 1st week of January, 1957.

2. TREATMENTS and 3. DESIGN:

Same as in exp. no. 55(79) on page 29.

4. GENERAL:

(i) Good. (ii) Nil. (iii) Yield of grain. (iv) (a) 1955—contd. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) N.A. (vii) Nil.

5. RESULTS:

(i) 2399 lb./ac. (ii) 287.3 lb./ac. (iii) ‘Control vs. rest’ and main effect of N are highly significant. (iv) Av. yield of grain in lb./ac.

Control = 2048 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1</td>
<td>2356</td>
<td>2220</td>
<td>2210</td>
<td>2262</td>
</tr>
<tr>
<td>N2</td>
<td>2619</td>
<td>2436</td>
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</tr>
<tr>
<td>N3</td>
<td>2935</td>
<td>2685</td>
<td>2752</td>
<td>2791</td>
</tr>
</tbody>
</table>

Mean     2637  2447  2463  2516

S.E. of any marginal or control mean = 82.9 lb./ac.
S.E. of body of table = 143.6 lb./ac.
Crop : Paddy (Aman).

Site : State Agri. Farm, Burdwan.

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

1. BASAL CONDITIONS:
   (i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Burdwan. (iii) 30.7.1957. (iv) (a) 3 to 4 ploughings and ladderings. (b) Transplanting. (c) 12 to 15 srs./ac. (d) 9'×9'. (e) 2 to 3. (v) Nil. (vi) Roghousad (medium). (vii) Irrigated. (viii) 1 weeding and 1 spading. (ix) 13.90'. (x) 9.12.1957.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 55(79) on page 29.

4. GENERAL:
   (i) Very good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1955—contd. (b) Yes. (c) No. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 345 lb./ac. (ii) 436.1 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

   \[
   \text{Control} = 3586 \text{ lb./ac.} \\
   \begin{array}{ccc|c}
   & S_1 & S_2 & S_3 & \text{Mean} \\
   N_1 & 3432 & 3318 & 3288 & 3346 \\
   N_2 & 3485 & 3394 & 3577 & 3485 \\
   N_3 & 3371 & 3425 & 3364 & 3387 \\
   \hline
   \text{Mean} & 3429 & 3379 & 3410 & 3406 \\
   \end{array}
   \]
   S.E. of any marginal or control mean = 87.2 lb./ac.
   S.E. of body of table = 195.0 lb./ac.
Crop: Paddy (Aman).

Site: State Agri. Farm, Burdwan.

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

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Burdwan. (iii) 17.8.1959 and 18.8.1959. (iv) (a) 6 ploughings and 4 ladderings. (b) Line transplantation. (c) 15 yrs./ac. (d) 9'x9'. (e) 2. (v) Nil. (vi) Raghuraj. (vii) Unirrigated. (viii) 1 weeding. (ix) 49.2". (x) 13.12.1959.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 55(79) on page 29.

4. GENERAL:
   (i) Fair. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1955—contd. (b) Yes. (c) Nil. (v) (a) Chinsurah. (b) No. (vi) Nil. (vii) A/N was not applied as it was not available in time.

5. RESULTS:
   (i) 1988 lb./ac. (ii) 232.6 lb./ac. (iii) 'Control vs. Others' effect is highly significant. N and S effects are significant. (iv) Av. yield of grain in lb./ac.

   Control = 1774 lb./ac.

<table>
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<th>S1</th>
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<tr>
<td>Mean</td>
<td>2154</td>
<td>1904</td>
<td>2123</td>
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</table>

   S.E. of any marginal or control mean = 46.5 lb./ac.
   S.E. of body of table = 104.0 lb./ac.
1. BASAL CONDITIONS:
(i) (a) Paddy - Fallow. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Burdwan. (iii) 9.10.1954. (iv) (a) 3 to 4 ploughings and laddering. (b) Transplanting. (c) 12 to 15 hrs./acre. (d) 9" x 9". (e) 2 to 3 seedlings. (v) Nil. (vi) Nagra (Chinsurah 5, medium). (vii) Unirrigated. (viii) 1 weeding and 1 hoeing. (ix) 37.57°. (x) N.A.

2. TREATMENTS:
All combinations of (1) and (2)
(1) 5 levels of N as A/S : N₀=0, N₁=15, N₂=30, N₃=45, and N₄=60 lb./acre.
(2) 5 levels of P₂O₅ as Super : P₀=0, P₁=20, P₂=40, P₃=60 and P₄=80 lb./acre.
Super applied at the time of general preparation of land and A/S 4 weeks after transplantation.

3. DESIGN:
(i) Fact. in R.B.D. (ii) (a) 25. (b) N.A. (iii) 5. (iv) (a) 38" x 22". (b) 36" x 20". (v) 1' around. (vi) Yes. (vii) N.A.

4. GENERAL:
(i) Very good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953-1955. (b) Yes. (c) N.A. (v) (a) Chinsurah, Harinaghat, Majnaguri, Cooch-Behar and 7 cultivators’ fields. (b) N.A. (vi) and (vii) Nil.

5. RESULTS
(i) 1992 lb./acre. (ii) 351.5 lb./acre. (iii) N effect alone is highly significant. (iv) Av. yield of grain in lb./acre.

<table>
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<td>1991</td>
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S.E. of any marginal mean = 70.1 lb./acre.
S.E. of body of table = 157.2 lb./acre.

Crop :- Paddy (Aman).
Site :- State Agri. Farm, Burdwan.
Object :- To find out the optimum requirement of N and P under different soil climatic conditions alone and in combination.

1. BASAL CONDITIONS:
(i) (a) Paddy - Fallow. (b) Fallow. (c) Nil. (ii) (a) Clay loam. (b) Refer soil analysis, Burdwan. (iii) 31.7.1955 to 2.8.1955. (iv) (a) 3 to 4 ploughings and laddering. (b) Transplanting. (c) 12 to 15 hrs./acre. (d) 9" x 9". (e) 2 to 3 seedlings. (v) Nil. (vi) Nagra. (vii) Unirrigated. (viii) 1 weeding and 1 hoeing. (ix) 50.77°. (x) 11 to 14.12.1955.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 54(32) on page 32.
Super applied at the time of general preparation of land on 30.7.1955 and A/S broadcast on 5.9.1955.

4. GENERAL:
(i) Very good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953-1955. (b) Yes. (c) N.A. (v) (a) Cooch-Behar, Chinsurah, Majnaguri, Mirzapur and on 7 cultivators’ fields. (b) N.A. (vi) and (vii) Nil.
5. RESULTS:
(i) 2444 lb./ac.  (ii) 280.1 lb./ac.  (iii) P effect is highly significant and N effect is significant.  (iv) Av. yield of grain in lb./ac.

<table>
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<tr>
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<th>P₂</th>
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Mean = 1999  2284  2492  2686  2759  2444

S.E. of any marginal mean = 56.0 lb./ac.
S.E. of body of table = 125.2 lb./ac.

Crop: Paddy (Aman).
Site: State Agri. Farm, Burdwan.

Ref: W.B.54(45).
Type: ‘M’.

Object: To see the effect of Super and molybdenum along with G.M.

1. BASAL CONDITIONS:
(i) (a) Paddy—Fallow. (b) Fallow. (c) Nil.  (ii) (a) Sandy loam. (b) Refer soil analysis, Burdwan.  (iii) 28.7.1954.  (iv) (a) 3 to 4 ploughings and laddering. (b) Transplanting. (c) 12 to 15 srs./ac. sown in the nursery bed. (d) 9’ × 9’. (e) 2 to 3. (v) Nil.  (vi) Patnai—23 (medium).  (vii) Irrigated. (viii) 2 weedings and 1 spading. (ix) 19.53”.  (x) 13.12.1954.

2. TREATMENTS:
All combinations of (1) and (2)
(1) 2 levels of P₂O₅ as Super: P₀=0 and P₁=30 lb./ac.
(2) 2 levels of sodium molydate: S₀=0 and S₁=4 oz./ac.

Super broadcast during general preparation of land. Water solution of sodium molydate sprayed 4 weeks after transplanting. Dhanicha seeds were sown at 16 srs./ac. to all plots.

3. DESIGN:
(i) Fact. in R.B.D.  (ii) 4.  (b) N.A.  (iii) 4.  (iv) (a) 62° × 14’. (b) 60° × 12’. (v) 1’ around. (vi) Yes.

4. GENERAL:
(i) Good.  (ii) Nil.  (iii) Grain and straw yield.  (iv) (a) 1954—1959.  (b) Yes.  (c) N.A.  (v) to (vii) Nil.

5. RESULTS:
(i) 4645 lb./ac.  (ii) 586.9 lb./ac.  (iii) None of the effects is significant.  (iv) Av. yield of grain in lb./ac.

<table>
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<tr>
<td>P₁</td>
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<td>4884</td>
<td>4837</td>
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</table>

Mean = 4597  4694  4645

S.E. of any marginal mean = 207.5 lb./ac.
S.E. of body of table = 293.5 lb./ac.
Crop :- Paddy (Aman).
Site :- State Agri. Farm, Burdwan.

Object :- To study the effect of Super and Molybdenum along with G.M. on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Burdwan. (iii) 1st week of August, 1955. (iv) (a) Land was prepared by 2 ploughings, 1 laddering and puddling. (b) Transplanting. (c) N.A. (d) 9" x 9". (e) 2. (v) Nil. (vi) Patnai—23 (late). (vii) Irrigated. (viii) Weeding 2 times and spacing once. (ix) N.A. (x) Last week of December, 1955.

2. TREATMENTS:
All combinations of (1) and (2)
(1) 2 levels of P₂O₅ as Super : P₀ = 0 and P₁ = 30 lb./ac.
(2) 2 levels of Sodium Molybdate : S₀ = 0 and S₁ = 4 ozs./ac.
Fertilizers were applied at the time of general preparation of land. Super was broadcast and Sodium molybdate sprayed in the form of water solution. Dhaincha was sown at 16 srs./ac. to all plots.

3. DESIGN:
(i) Fact. in R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) 62' x 14'. (b) 60' x 12'. (v) 1' around. (vi) Yes.

4. GENERAL:
(i) Gcod. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954—1959. (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 3348 lb./ac. (ii) 180.9 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
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</tr>
<tr>
<td>Mean</td>
<td>3311</td>
<td>3384</td>
<td>3348</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 64.0 lb./ac.
S.E. of body of table = 90.5 lb./ac.

Crop :- Paddy (Aman).
Site :- State Agri. Farm, Burdwan.

Object :- To study the effect of Super and Molybdenum along with G.M. on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Burdwan. (iii) 1st week of August, 1956. (iv) (a) Land was prepared by 2 ploughings, 1 laddering and puddling. (b) Transplanting. (c) N.A. (d) 9" x 9". (e) 2. (v) Nil. (vi) Patnai—23 (late). (vii) Irrigated. (viii) Weeding 2 times and spacing once. (ix) N.A. (x) Last week of December, 1956.

2. TREATMENTS to 4. GENERAL:
Same as in exp. no. 55(54) above.

5. RESULTS:
(i) 3128 lb./ac. (ii) 377.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.
### Crop: Paddy (Aman).

**Site:** State Agri. Farm, Burdwan.

Object: To study the effect of applying Super and Molybdenum along with Dhaincha on the yield of Paddy.

#### 1. BASAL CONDITIONS:

- **(i) (a)** Paddy—Fallow. (b) Fallow. (c) Nil. 
- **(ii) (a)** Sandy loam. (b) Refer soil analysis, Burdwan.
- **(iv) (a)** 3 to 4 ploughings and laddering. (b) Transplanting. (c) N.A. (d) 9' x 9'. (e) 2 to 3. 
- **(v) Nil.** 
- **(vi) Raghusail (medium).** 
- **(vii) Irrigated.** 
- **(viii) Weeding twice and spading once.** (ix) 40.67'.
- **(x) 10.12.1957.**

#### 2. TREATMENTS to 4. GENERAL:

Same as in expt. no. 55(54) on page 35. *Dhaincha (seed at 16 srs./ac. in all plots) turned in.*

#### 3. RESULTS:

- **(i) 3191 lb./ac.** 
- **(ii) 177.0 lb./ac.** 
- **(iii) None of the effects is significant.** 
- **(iv) Av. yield of grain in lb./ac.**

<table>
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<td>3068</td>
<td>3314</td>
<td>3191</td>
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</table>

S.E. of any marginal mean = 62.6 lb./ac.  
S.E. of body of table = 88.5 lb./ac.

---

### Crop: Paddy (Aman).

**Site:** State Agri. Farm, Burdwan.

Object: To study the effect of Super and Molybdenum along with G.M. on the yield of Paddy.

#### 1. BASAL CONDITIONS:

- **(i) (a)** Paddy—Fallow. (b) Fallow. (c) Nil. 
- **(ii) (a)** Sandy loam. (b) Refer soil analysis, Burdwan. 
- **(iv) (a)** Land was prepared by 2 ploughings, 1 laddering and puddling. (b) Transplanting. (c) N.A. (d) 9' x 9'. (e) 2. 
- **(v) Nil.** 
- **(vi) Patnai—23 (late).** 
- **(vii) Irrigated.** 
- **(viii) 2 weedings and 1 spading.** (ix) N.A. 
- **(x) 10.12.1958.**

#### 2. TREATMENTS to 4. GENERAL:

Same as in expt. no. 55(54) on page 35.
5. RESULTS:
(i) 2980 lb./ac. (ii) 355.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

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<tr>
<td>P₁</td>
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<td>3231</td>
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</table>

Mean = 2980

S.E. of any marginal mean = 125.5 lb./ac.
S.E. of body of table = 177.5 lb./ac.

Crop: Paddy (Aman).

Site: State Agri. Farm, Burdwan.

Object:—To study the effect of Super and Molybdenum along with Dhaincha as G.M. on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Burdwan. (iii) 22.8.1959. (iv) (a) 6 ploughings and 4 ladderings. (b) Line transplantation. (c) 15 srs./ac. (d) 9" x 9". (e) 2. (v) Nil. (vi) Roghi sul (medium). (vii) Unirrigated. (viii) 1 weeding. (ix) 49.2". (x) 14.12.1959.

2. TREATMENTS and DESIGN:
Same as in exp. no. 55(54) on page 35.
Date of sowing of dhaincha seed at 15 srs./ac. is 14.6.1959.

4. GENERAL:
(i) Fair. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1954—1959. (b) Yes. (c) No. (v) to (vii) Nil.

5. RESULTS:
(i) 1983 lb./ac. (ii) 295.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

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Mean = 1983

S.E. of any marginal mean = 104.4 lb./ac.
S.E. of body of table = 147.6 lb./ac.

Crop: Paddy (Aman).

Site: State Agri. Farm, Chinsurah.

Object:—To study the effect of N, P and K applied individually and in combinations on Paddy yield.
1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy. (b) and (c) N.A. (ii) (a) Gangetic. (b) Refer soil analysis, Chinsurah. (iii) N.A. (iv) (a) 2 ploughings. (b) Transplanting in lines. (c) 50 lb./ac. (d) 9’x9’. (e) 2. (v) N.A. (vi) *Panai* (Gosaba—23) (medium). (vii) Unirrigated. (viii) 1 weeding. (ix) and (x) N.A.

2. TREATMENTS:
All combinations of (1), (2) and (3)
(1) 2 levels of N : N₀=0 and N₁=20 lb./ac.
(2) 2 levels of P₂O₅ : P₀=0 and P₁=20 lb./ac.
(3) 2 levels of K₂O : K₀=0 and K₁=20 lb./ac.

3. DESIGN:
(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 28’x38’. (b) 26’x36’. (v) 1’ alround. (vi) Yes.

4. GENERAL:
(i) Fair. (ii) N.A. (iii) Grain and straw yield. (iv) (a) 1954—contd. (b) Yes. (c) N.A. (v) (a) Cooch Behar, Burdwan, Midnapore and Hatwara. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 2229 lb./ac. (ii) 110.1 lb./ac. (iii) Main effects of N and P are highly significant. Interactions N×P and N×K are significant. (iv) Av. yield of grain in lb./ac.

<table>
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</table>

S.E. of any marginal mean = 27.5 lb./ac.  
S.E. of body of any table = 38.9 lb./ac.

---

Crop :- Paddy (*Aman*).  
Ref :- W.B. 56(26).  
Type :- 'M'.

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

1. BASAL CONDITIONS:
(i) (a) Paddy—Paddy. (b) Paddy. (c) N.A. (ii) (a) Gangetic. (b) Refer soil analysis, Chinsurah. (iii) N.A. (iv) (a) 2 ploughings. (b) Transplanting in lines. (c) 50 lb./ac. (d) 9’x9’. (e) 2. (v) and (vi) N.A. (vii) Unirrigated. (viii) 1 weeding. (ix) and (x) N.A.

2. TREATMENTS to 4 GENERAL:
Same as in expt. no. 55(59) on page 37.

5. RESULTS:
(i) 2573 lb./ac. (ii) 308.9 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.
Crop: Paddy (Aman).
Site: State Agri. Farm, Chinsurah.

Object: To study the effect of N, P and K applied individually and in combinations on Paddy yield.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Gangetic. (b) Refer soil analysis, Chinsurah. (iii) N.A. (iv) (a) 2 ploughings. (b) Transplanting in lines. (c) 50 lb./ac. (d) 9"x9". (e) 2. (v) N.A. (vi) Patnai (Gosaba—23) (medium). (vii) Unirrigated. (viii) 1 weeding. (ix) and (x) N.A.

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no 55(59) on page 37.

5. RESULTS:
   (i) 5587 lb./ac. (ii) 325.9 lb./ac. (iii) Only N effect is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>P₀</th>
<th>P₁</th>
<th>Mean</th>
<th>K₀</th>
<th>K₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₀</td>
<td>2471</td>
<td>2500</td>
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<td>2418</td>
<td>2614</td>
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<td>N₁</td>
<td>2650</td>
<td>2610</td>
<td>2630</td>
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<td>K₀</td>
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<tr>
<td>K₁</td>
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<td>2678</td>
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</tr>
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S.E. of any marginal mean = 77.2 lb./ac.
S.E. of body of any table = 109.2 lb./ac.

Crop: Paddy (Aman).
Site: State Agri. Farm, Chinsurah.

Ref: W.B. 57(21).
Type: ‘M’.

Object: To study the effect of N, P and K applied individually and in combinations on Paddy yield.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Gangetic. (b) Refer soil analysis, Chinsurah. (iii) 14.8.1958. (iv) (a) 2 ploughings and 1 puddling. (b) Transplanted in lines. (c) 50 lb./ac. (d) 9"x9". (e) 2. (v) Nil. (vi) Patnai (Gosaba—23) (medium). (vii) Unirrigated. (viii) 1 weeding. (ix) and (x) N.A.

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no 55(59) on page 37.

5. RESULTS:
   (i) 5587 lb./ac. (ii) 325.9 lb./ac. (iii) Only N effect is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>P₀</th>
<th>P₁</th>
<th>Mean</th>
<th>K₀</th>
<th>K₁</th>
</tr>
</thead>
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<td>5764</td>
<td>5723</td>
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<td>K₁</td>
<td>5508</td>
<td>5592</td>
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</tbody>
</table>

S.E. of any marginal mean = 81.5 lb./ac.
S.E. of body of any table = 115.2 lb./ac.
2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 55(59) on page 37.

5. RESULTS:
(i) 1599 lb./ac. (ii) 235.9 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>P_0</th>
<th>P_1</th>
<th>Mean</th>
<th>K_0</th>
<th>K_1</th>
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<td>N_1</td>
<td>1563</td>
<td>1717</td>
<td>1640</td>
<td>1536</td>
<td>1745</td>
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<td>Mean</td>
<td>1529</td>
<td>1669</td>
<td>1599</td>
<td>1534</td>
<td>1664</td>
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</table>

S.E. of any marginal mean = 59.0 lb./ac.
S.E. of body of any table  = 83.4 lb./ac.

Crop: Paddy (Aman).
Site: State Agri. Farm, Chinsurah.
Object: To study the effect of N, P and K applied individually and in combinations on Paddy yield.

1. BASAL CONDITIONS:
   (a) to (c) Nil. (ii) (a) Gangetic alluvium soil; neutral clay. (b) Refer soil analysis, Chinsurah. (iii) 3.7.1959. (iv) (a) 2 ploughings and 1 puddling. (b) Transplanted in rows. (c) N.A. (d) 9"x9". (e) 2. (f) Nil. (v) Patnai—23 (medium). (vi) Unirrigated. (viii) 1 weeding. (ix) 55.51'. (x) 1.12.1959.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 55(59) on page 37.

4. GENERAL:
(i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1954—1959. (b) Yes. (c) N.A. (v) (a) Midnapore, Cooch Behar, Burdwan and Hatwara. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 2437 lb./ac. (ii) 115.5 lb./ac. (iii) Only N effect is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>P_0</th>
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<th>Mean</th>
<th>K_0</th>
<th>K_1</th>
</tr>
</thead>
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<tr>
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<td>2374</td>
<td>2347</td>
<td>2307</td>
<td>2388</td>
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<td>2560</td>
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<tr>
<td>Mean</td>
<td>2407</td>
<td>2467</td>
<td>2437</td>
<td>2421</td>
<td>2453</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 28.9 lb./ac.
S.E. of body of any table  = 40.8 lb./ac.
Crop :- Paddy (Aman).
Site :- State Agri. Farm, Chinsurah.

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

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) Gangetic alluvium. (b) Refer soil analysis, Chinsurah. (iii) Last week of July.
   (iv) (a) 2 to 3 ploughings and laddering. (b) Transplanting. (c) N.A. (d) 9" x 9". (e) 2 to 3. (v) Nil.
   (vi) Bhasamanik (medium). (vii) Unirrigated. (viii) 2 weedings and interculture. (ix) 35.05". (x) Last week of December.

2. TREATMENTS:
   6 ages of dhaircha crop when ploughed in : R1 = 3, R2 = 4, R3 = 5, R4 = 6, R5 = 7 and R6 = 8 weeks.

3. DESIGN:
   (i) R.B.D. (ii) 6. (b) N.A. (iii) 4. (iv) (a) 34' x 19', (b) 32' x 17'. (v) 1' x 1'. (vi) Yes.

4. GENERAL:
   (i) Fair. (ii) Nil. (iii) Yield of grain. (iv) (a) 1955—contd. (b) Yes. (c) Nil. (v) (a) No. (b) N.A. (vi)
      N.A. (vii) Nil.

5. RESULTS:
   (i) 2187 lb./ac. (ii) 356.0 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>
<th>R5</th>
<th>R6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2058</td>
<td>2297</td>
<td>2291</td>
<td>2408</td>
<td>2200</td>
<td>1869</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>178.0 lb./ac.</td>
<td></td>
<td></td>
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</tbody>
</table>

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Crop :- Paddy (Aman).
Site :- State Agri. Farm, Chinsurah.

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

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) Nil. (ii) Gangetic alluvium. (b) Refer soil analysis, Chinsurah.
   (iii) Last week of July. (iv) (a) 3 to 4 ploughings and spading. (b) Transplanting. (c) N.A. (d) 9" x 9".
   (e) 2. (v) Nil. (vi) Bhasamanik (medium). (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) 34.83". (x) Middle
      of December.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 55(76) above.

4. GENERAL:
   (i) Good. (ii) Nil. (iii) Yield of grain. (iv) (a) 1955—contd. (b) Yes. (c) N.A. (v) (a) No. (b) Nil.
      (vi) N.A. (vii) Nil.

5. RESULTS:
   (i) 2594 lb./ac. (ii) 228.7 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>
<th>R5</th>
<th>R6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2560</td>
<td>2573</td>
<td>2605</td>
<td>2511</td>
<td>2615</td>
<td>2760</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>114.3 lb./ac.</td>
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</tbody>
</table>
Crop :- Paddy (Aman).
Site :- State Agri. Farm, Chinsurah.

Object:—To study the effect of G.M. on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) Nil. (ii) (a) Ganga low land (alluvium). (b) Refer soil analysis, Chinsurah. (iii) 1st week of August. (iv) (a) 2 to 3 ploughings and harrowing. (b) Transplanting. (c) N.A. (d) 9"x9". (e) 2 to 3. (v) Nil. (vi) Bhasamanik (medium). (vii) Unirrigated. (viii) 2 to 3 weedicides and interculturc. (ix) 20.77°. (x) 15th December 1957 to 1st week of January, 1958.

2. TREATMENTS and 3. DESIGN:
   Same as in exp. no. 55(76) on page 41.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Yield of grain. (iv) (a) 1955—contd. (b) Yes. (c) N.A. (v) (a) No. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2160 lb./ac. (ii) 263.2 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>R₃</th>
<th>R₄</th>
<th>R₅</th>
<th>R₆</th>
<th>R₇</th>
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</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2266</td>
<td>2185</td>
<td>2275</td>
<td>1894</td>
<td>2074</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>131.6 lb./ac.</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

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Crop :- Paddy (Aman).
Site :- State Agri. Farm, Chinsurah.

Object:—To study the effect of G.M. as Dhaincha at different stages of age on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Gangetic alluvium soil. (b) Refer soil analysis, Chinsurah. (iii) 31.7.1958. (iv) (a) 2 ploughings and 1 puddling. (b) Transplanted in lines. (c) 50 lb./ac. (d) 9"x9". (e) 2. (v) Nil. (vi) Bhasamanik (medium). (vii) Unirrigated. (viii) 1 weeding. (ix) N.A. (x) 5.12.1958.

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 55(76) on page 41.

5. RESULTS:
   (i) 2086 lb./ac. (ii) 249.8 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>R₃</th>
<th>R₄</th>
<th>R₅</th>
<th>R₆</th>
<th>R₇</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1588</td>
<td>1519</td>
<td>1680</td>
<td>2023</td>
<td>2052</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>12x9 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Crop :- Paddy (Aman).
Site :- State Agri. Farm, Chinsurah.

Object:—To study the residual effect of G.M. (dhaincha) on Paddy.
1. **BASAL CONDITIONS**:  
(i) (a) to (c) Nil. (ii) (a) Gangetic alluvium soil, neutral clay. (b) Refer soil analysis, Chinsurah. (iii) 5.7.1959. (iv) (a) 2 ploughings and 1 puddling. (b) Transplanted in rows. (c) N.A. (d) 9"x9". (e) 2. (v) Nil. (vi) Bhosamank (medium). (vii) Unirrigated. (viii) 1 weeding. (ix) 55.51°. (x) 6.1.1959.

2. **TREATMENTS and 3. DESIGN:**  
Same as in expt. no. 55(76) on page 41. Residual effect of treatments applied during the previous year studied.

4. **GENERAL**:  
(i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1955—1958 (1959—residual effect is studied). (b) Yes. (c) N.A. (v) to (vii) Nil.

5. **RESULTS**:  
(i) 2158 lb./ac. (ii) 149.5 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>R_1</th>
<th>R_2</th>
<th>R_3</th>
<th>R_4</th>
<th>R_5</th>
<th>S.E./mean</th>
</tr>
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<tbody>
<tr>
<td>Av. yield</td>
<td>2036</td>
<td>2011</td>
<td>2353</td>
<td>2207</td>
<td>2029</td>
<td>2312</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>74.7 lb./ac.</td>
<td></td>
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</table>

**Crop**: Paddy (Aman).  
**Site**: State Agri. Farm, Chinsurah.  
**Ref.**: W.B. 54(14).  
**Type**: 'M'.

Object: To find out the optimum requirement of N and P on the yield of Paddy under different soil and climatic conditions.

1. **BASAL CONDITIONS**:  
(i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Clay. (b) Refer soil analysis, Chinsurah. (iii) 11/12.8.1954. (iv) (a) The field was ploughed 3 to 4 times before transplantation. (b) Transplanting. (c) 5 to 7 yrs./ac. (d) 9"x9". (e) 2 to 3. (f) Nil. (vi) Patnai—23 (C.H. 7, medium). (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) 14/15.12.1954.

2. **TREATMENTS**:  
All combinations of (1) and (2)  
(1) 5 levels of N as A/S: N_0 = 0, N_1 = 15, N_2 = 30, N_3 = 45 and N_4 = 60 lb./ac.  
(2) 5 levels of P_2O_5 as Super: P_0 = 0, P_1 = 20, P_2 = 40, P_3 = 60 and P_4 = 80 lb./ac.

3. **DESIGN**:  
(i) Fact. in R.B.D. (ii) (a) 25. (b) N.A. (iii) 5. (iv) (a) 38'x22'. (b) 36'x20'. (v) 1'x1'. (vi) Yes.

4. **GENERAL**:  
(i) Good. (ii) N.A. (iii) Grain and straw yield. (iv) (a) 1953—1955. (b) No. (c) Nil. (v) to (vii) Nil.

5. **RESULTS**:  
(i) 2594 lb./ac. (ii) 381.8 lb./ac. (iii) Only N effect is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N_0</th>
<th>N_1</th>
<th>N_2</th>
<th>N_3</th>
<th>N_4</th>
<th>Mean</th>
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<td>2649</td>
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<tr>
<td>P_2</td>
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<td>2549</td>
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<td>2594</td>
</tr>
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</table>
Object:—To find out the optimum requirement of N and P on the yield of paddy under different soil and climatic conditions.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Ganga low land clay. (b) Refer soil analysis, Chinsurah. (iii) 3rd week of July, 1955. (iv) (a) Ploughings (3 to 4) and spading. (b) Transplanting. (c) N.A. (d) 9"×9". (e) 2. (v) 80 mds./ac. of F.Y.M. (vi) Patnai (Gesabon—23). (vii) Unirrigated. (viii) 2 to 3 weedings and harrowing. (ix) 35.05°. (x) Last week of December, 1955.

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

4. GENERAL:
   (i) Normal. (ii) No. (iii) Yield of grain. (iv) (a) 1953—contd. (b) Yes. (c) N.A. (v) (a) Mainagari, Cooch Behar, Haringhata, Midnapur, Burdwan and Maida. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1833 lb./ac. (ii) 346.7 lb./ac. (iii) Main effect of N is highly significant and that of P is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
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<td>1739</td>
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<td>1911</td>
<td>1808</td>
<td>1804</td>
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<tr>
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<td>1581</td>
<td>1858</td>
<td>2058</td>
<td>1969</td>
<td>1959</td>
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<td>P₃</td>
<td>1677</td>
<td>1934</td>
<td>2390</td>
<td>2080</td>
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</tr>
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<td>P₄</td>
<td>1630</td>
<td>1842</td>
<td>1877</td>
<td>1963</td>
<td>1857</td>
</tr>
<tr>
<td>Mean</td>
<td>1588</td>
<td>1815</td>
<td>2007</td>
<td>1912</td>
<td>1841</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 69.3 lb./ac.
S.E. of body of table = 155.0 lb./ac.

Object:—To find out the responses to continuous application of lime and N alone and in combinations on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Clay. (b) Refer soil analysis, Chinsurah. (iii) 19.7.1953. (iv) (a) The field was ploughed 3 to 4 times before transplantation. (b) Transplanting. (c) 5 to 7 sess./ac. (d) 9"×9". (e) 2 to 3. (v) Nil. (vi) Bhatamanik (Chinsurah 3, medium). (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) 22/23.12.1954.
2. TREATMENTS:
All combinations of (1) and (2)
(1) 3 levels of N as A/S: N₀ = 0, N₁ = 20 and N₂ = 40 lb./ac.
(2) 3 levels of lime: L₀ = 0, L₁ = 20 and L₂ = 40 lb./ac.
A/S applied by broadcast after 4 weeks of transplantation. Lime applied once after every 4 years.

3. DESIGN:
(i) Fact. in R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 34' × 19'. (b) 32' × 17'. (v) 1' × 1'. (vi) Yes.

4. GENERAL:
(i) Good. (ii) N.A. (iii) Grain and straw yield. (iv) (a) 1945—coörd. (b) Yes. (c) N.A. (v) (a) and (b) No. (vi) and (vii) Nil.

5. RESULTS:
(i) 2671 lb./ac. (ii) 133.4 lb./ac. (iii) Only N effect is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>L₀</th>
<th>L₁</th>
<th>L₂</th>
<th>Mean</th>
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<tr>
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<td>2546</td>
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<td>2517</td>
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<tr>
<td>N₁</td>
<td>2387</td>
<td>2727</td>
<td>2748</td>
<td>2687</td>
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<tr>
<td>N₂</td>
<td>2782</td>
<td>2784</td>
<td>2862</td>
<td>2809</td>
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<tr>
<td>Mean</td>
<td>2609</td>
<td>2686</td>
<td>2719</td>
<td>2671</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 38.8 lb./ac.
S.E. of body of table = 67.2 lb./ac.

Crop: Paddy (Aman).
Site: State Agri. Farm, Chinsurah.
Object: To study the effect of A/S alone and in combination with lime on the yield of Paddy.

1. BASAL CONDITIONS:
(a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Clay. (b) Refer soil analysis, Chinsurah. (iii) 24.7.1955, (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) 5 to 7 srs./ac. (d) 9' × 9'. (e) 2. (v) Nil. (vi) Bhasamanik (medium). (vi) Unirrigated. (vii) 2 to 3 weedings. (ix) 35.05'. (x) 27.12.1955.

2. TREATMENTS to 4. GENERAL:
Same as in exp. no. 54(12) on page 44.

5. RESULTS:
(i) 2353 lb./ac. (ii) 327.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>Mean</th>
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<td>2357</td>
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<td>2379</td>
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<tr>
<td>Mean</td>
<td>2346</td>
<td>2230</td>
<td>2484</td>
<td>2353</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 94.5 lb./ac.
S.E. of body of table = 163.6 lb./ac.
Crop - Paddy (Aman).
Site - State Agri. Farm, Chinsurah.
Object: To study the effect of A/S alone and in combination with lime on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Paddy. (c) As per treatments. (ii) (a) Clay. (b) Refer soil analysis, Chinsurah. (iii) 1st week of August, 1956. (iv) (a) 3 to 4 ploughings and 2 puddlings. (b) Transplanting. (c) 5 to 7 srs/ac. (d) 9" x 9". (e) 2. (v) Nil. (vi) Bhasamani (medium). (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) Last week of December to 1st week of January, 1957.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 54(12) on page 44.

4. GENERAL:
   (i) Normal. (ii) N.A. (iii) Yield of grain. (iv) (a) 1945—contd. (b) Yes. (c) N.A. (v) N.A. (vi) N.A. (vii) Nil.

5. RESULTS:
   (i) 2102 lb/ac. (ii) 277.8 lb/ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb/ac.

\[
\begin{array}{c|ccc|c}
   & N_0 & N_1 & N_2 & Mean \\
\hline
   L_0 & 2038 & 2212 & 2157 & 2236 \\
   L_1 & 2096 & 2021 & 2070 & 2062 \\
   L_2 & 2254 & 1917 & 2155 & 2108 \\
   \hline
   \text{Mean} & 2129 & 2010 & 2126 & 2102 \\
\end{array}
\]

S.E. of any marginal mean = 80.2 lb/ac.
S.E. of body of table = 138.9 lb/ac.

Crop - Paddy (Aman).
Site - State Agri. Farm, Chinsurah.
Object: To study the effect of A/S alone and in combination with lime on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Paddy. (c) As per treatments. (ii) (a) Clay. (b) Refer soil analysis, Chinsurah. (iii) 23.7.1957. (iv) (a) 3 to 4 ploughings and 1 puddling. (b) Transplanting. (c) 5 to 7 srs/ac. (d) 9" x 9". (e) 2. (v) Nil. (vi) Bhasamani (medium). (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) 29.12.1957.

2. TREATMENTS and 4. GENERAL:
   Same as in expt. no. 54(12) on page 44.

5. RESULTS:
   (i) 2389 lb/ac. (ii) 260.0 lb/ac. (iii) Main effect of N alone is highly significant. (iv) Av. yield of grain in lb/ac.

\[
\begin{array}{c|ccc|c}
   & N_0 & N_1 & N_2 & Mean \\
\hline
   L_0 & 2154 & 2433 & 2506 & 2364 \\
   L_1 & 2028 & 2489 & 2374 & 2297 \\
   L_2 & 2261 & 2649 & 2620 & 2507 \\
   \hline
   \text{Mean} & 2148 & 2520 & 2500 & 2389 \\
\end{array}
\]
S.E. of any marginal mean = 75.1 lb./ac.
S.E. of body of table = 130.0 lb./ac.

Crop := Paddy (Aman).
Site := State Agri. Farm, Chinsurah.
Ref := W.B. 58(20).
Type := 'M'.

Object := To find out the response to continuous application of lime and N alone and in combinations on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Gangetic alluvium soil. (b) Refer soil analysis, Chinsurah. (iii) 27.7.1958. (iv) (a) 2 ploughings and 1 puddling. (b) Transplanted in rows. (c) 50 lb./ac. (d) 9"×9". (e) 2. (v) Nil. (vi) Bhosamahik (medium). (vii) Unirrigated. (viii) 1 weeding. (ix) N.A. (x) 21.12.1958.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 54(12) on page 44.

4. GENERAL:
   (i) Fair. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1945—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 1705 lb./ac. (ii) 216.7 lb./ac. (iii) Only N effect 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>
</tr>
</thead>
<tbody>
<tr>
<td>L₀</td>
<td>1568</td>
<td>1723</td>
<td>1953</td>
<td>1748</td>
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<tr>
<td>L₁</td>
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<td>1563</td>
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<td>1827</td>
<td>1705</td>
</tr>
<tr>
<td>Mean</td>
<td>1566</td>
<td>1617</td>
<td>1933</td>
<td>1705</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 62.5 lb./ac.
S.E. of body of table = 108.3 lb./ac.

Crop := Paddy (Aman).
Site := State Agri. Farm, Chinsurah.
Ref := W.B. 59(39).
Type := 'M'.

Object := To find out the response to continuous application of lime and N alone and in combination on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Gangetic alluvium soil, neutral clay. (b) Refer soil analysis, Chinsurah. (iii) 11.7.1959. (iv) (a) 2 weedicings and 1 puddling. (b) Transplanted in rows. (c) N.A. (d) 9"×9". (e) 2. (v) Nil. (vi) Bhosamahik (medium). (vii) Unirrigated. (viii) 1 weeding. (ix) N.A. (x) 55.51”. (x) 6.1.1960.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 54(12) on page 44.
   A/S applied on 11.8.1959 and lime applied in 1957.

5. RESULTS:
   (i) 2413 lb./ac. (ii) 179.2 lb./ac. (iii) Only N effect is highly significant. (iv) Av. yield of grain in lb./ac.
Crop :- Paddy (Aman).

Site :- State Agri. Farm, Chinsurah.

Object :- To study the residual effect of continuous application of B.M. on the yield of Paddy.

1. BASAL CONDITIONS :
   (i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Clay. (b) Refer soil analysis, Chinsurah. (iii) 11.7.1954.
   (iv) (a) The field was ploughed 3 to 4 times before transplantation. (b) Transplanting. (c) N.A. (d) 9' x 9'.
   (e) 2 to 3 (v) Nil. (vi) Bhasamanik (Chinsurah 3—medium). (vii) Unirrigated. (viii) 2 to 3 weedings.
   (ix) N.A. (x) 6 and 7 12.1954.

2. TREATMENTS :
   4 doses of P₂O₅ as B.M.: P₀ =0, P₁ =20, P₂ =40 and P₃ =60 lb./ac.
   No B M. was applied during this year.

3. DESIGN :
   (i) R.B.D. (ii) A. (iii) 10. (iv) (a) 64' x 15'. (b) 61' x 12'. (v) 1.5' x 1.5'. (vi) Yes.

4. GENERAL :
   (i) Good. (ii) N.A. (iii) Grain and straw yield. (iv) (a) 1944—contd. (b) Yes. (c) No. (v) to (vii) Nil.

5. RESULTS :
   (i) 3296 lb./ac. (ii) 177.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

   Treatment P₀ P₁ P₂ P₃
   Av. yield 3209 3317 3354 3305

   S.E./mean = 56.2 lb./ac.

Crop :- Paddy (Aman).

Site :- State Agri. Farm, Chinsurah.

Object :- To study the effect of continuous application of B.M. on the yield of Paddy.

1. BASAL CONDITIONS :
   (i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Clay. (b) Refer soil analysis, Chinsurah. (iii) 13.7.1955.
   (iv) (a) 2 ploughings and 1 harrowing. (b) Transplanting. (c) 5 to 7 srs./ac. (d) 9' x 9'. (e) 2. (v) Nil.

2. TREATMENTS :
   4 doses of P₂O₅ as B.M.: P₀ =0, P₁ =20, P₂ =40 and P₃ =60 lb./ac.
   P₂O₅ applied as B.M. at the time of general preparation of land.
3. DESIGN:
(i) R.B.D.  
(ii) (a) 4.  
(b) N.A.  
(iii) 10.  
(iv) (a) 6'×13'.  
(b) 61'×12'.  
(v) 1.5'×1.5'.  
(vi) Yes.

4. GENERAL:
(i) Good.  
(ii) N.A.  
(iii) Yield of grain.  
(iv) (a) 1954—contd.  
(b) Yes.  
(c) N.A.  
(v) (a) No.  
(b) N.A.  
(vi) No.  
(vii) Nil.

5. RESULTS:
(i) 2048 lb./ac.  
(ii) 293.5 lb./ac.  
(iii) Treatment differences are significant.  
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>P₀</th>
<th>P₁</th>
<th>P₂</th>
<th>P₃</th>
</tr>
</thead>
<tbody>
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<td>Av. yield</td>
<td>1925</td>
<td>1954</td>
<td>2032</td>
<td>2282</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>92.8 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Crop:** Paddy ('Aman').  
**Site:** State Agri. Farm, Chinsurah.  
**Ref.:** W.B. 56(29).  
**Type:** ‘M’.

Object: —To study the effect of continuous application of B.M. on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) Nil.  
(b) Paddy.  
(c) Nil.  
(ii) (a) Clay.  
(b) Refer soil analysis, Chinsurah.  
(iii) 1st week of July, 1956.  
(iv) (a) 3 to 4 ploughings.  
(b) Transplanting.  
(c) N.A.  
(d) 9’×9’.  
(e) 2.  
(v) Nil.  
(vi) Bhasamanik (medium).  
(vii) Unirrigated.  
(viii) 2 to 3 weedings.  
(ix) 44.63’.  
(x) Last week of December, to 1st week of January, 1957.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 55(70) on page 48.  
P₂₀ as B.M. applied on 20.7.1956.

4. GENERAL:
(i) Normal.  
(ii) Nil.  
(iii) Yield of grain.  
(iv) (a) 1944—contd.  
(b) Yes.  
(c) N.A.  
(v) (a) No.  
(b) N.A.  
(vi) and (vii) Nil.

5. RESULTS:
(i) 2448 lb./ac.  
(ii) 226.9 lb./ac.  
(iii) Treatment differences are significant.  
(iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>P₀</th>
<th>P₁</th>
<th>P₂</th>
<th>P₃</th>
</tr>
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<tbody>
<tr>
<td>Av. yield</td>
<td>2343</td>
<td>2379</td>
<td>2638</td>
<td>2433</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>71 78 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Crop:** Paddy ('Aman').  
**Site:** State Agri. Farm, Chinsurah.  
**Ref.:** W.B. 57(33).  
**Type:** ‘M’.

Object: —To study the effect of continuous application of B.M. on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) Nil.  
(b) Paddy.  
(c) Nil.  
(ii) (a) Clay.  
(b) Refer soil analysis, Chinsurah.  
(iii) Last week of July, 1957.  
(iv) (a) 3 to 4 ploughings.  
(b) Transplanting.  
(c) 5 to 6 srs./ac.  
(d) 9’×9’.  
(e) 2.  
(v) Nil.  
(vi) Bhasamanik (medium).  
(vii) Unirrigated.  
(viii) 2 to 3 weedings.  
(ix) 20.77’.  
(x) 1st week of January, 1958.

TREATMENTS and 3. DESIGN:
Same as in expt. no. 55(70) on page 48.
4. GENERAL:
   (i) Fair.  (ii) Nil.  (iii) Yield of grain.  (iv) (a) 1944—contd.  (b) Yes.  (c) N.A.  (v) (a) No.  (b) N.A.  
   (vi) and (vii) Nil.

5. RESULTS:
   (i) 3217 lb./ac.  (ii) 347.4 lb./ac.  (iii) Treatment differences are significant.  (iv) Av. yield of grain in lb./ac.
   Treatment | P₀ | P₁ | P₂ | P₃
   Av. yield  | 2989 | 3069 | 3344 | 3468
   S.E./mean = 109.9 lb./ac.

Type -> 'M'.
Object: To study the effect of continuous application of B.M. on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) Paddy.  (c) As per treatments.  (ii) (a) Gangetic alluvium soil.  (b) Refer soil analysis, Chinsurah.  
   (iii) 18.7.1958.  (iv) (a) 2 ploughings and 1 puddling.  (b) Transplanted in rows.  (c) 50 lb./ac.  
   (d) 9'x9'.  (e) 2.  (v) Nil.  (vi) Bhasamanik (medium).  (vii) Unirrigated.  (viii) 1 weeding.  (ix) N.A.  
   (x) 5.12.1958.

2. TREATMENTS and DESIGN:
   Same as in expt. no. 55(70) on page 48.
   Details of application are not available.

4. GENERAL:
   (i) Fair.  (ii) Nil.  (iii) Yield of grain and straw.  (iv) (a) 1944—contd.  (b) Yes.  (c) Nil.  (v) to (vii) Nil.

5. RESULTS:
   (i) 2356 lb./ac.  (ii) 276.8 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of grain in lb./ac.
   Treatment | P₀ | P₁ | P₂ | P₃
   Av. yield  | 2316 | 2344 | 2403 | 2362
   S.E./mean = 87.5 lb./ac.

Type -> 'M'.
Object: To study the effect of continuous application of B.M. on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) to (c) Nil.  (ii) (a) Gangetic alluvium soil, neutral clay.  (b) Refer soil analysis, Chinsurah.  
   (iii) 6.7.1959.  (iv) (a) 2 ploughings and 1 puddling.  (b) Transplanted in rows.  (c) N.A.  (d) 9'x9'.  (e) 2.  
   (v) Nil.  (vi) Bhasamanik (medium).  (vii) Unirrigated.  (viii) 1 weeding.  (ix) N.A.  
   (x) 4.1.1960.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. 55(70) on page 48.
   Fertilizer applied on 28.6.1957.
5. RESULTS:

(i) 2800 lb./ac. (ii) 173.3 lb./ac. (iii) Treatment differences are highly 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>
</tr>
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<td>2796</td>
<td>2875</td>
<td>2925</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>209.7</td>
<td>209.7</td>
<td>209.7</td>
<td>209.7</td>
</tr>
</tbody>
</table>

Crop: Paddy (Boro).
Site: State Agri. Farm, Chinsurah.
Object: To study the effect of organic and inorganic manures on the growth and yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Ganga low land clay. (b) Refer soil analysis, Chinsurah. (iii) 16.11.1959/1.1.1960. (iv) (a) 3 to 4 ploughings and 3 laddering. (b) Transplanted. (c) 25 lb./ac. (d) $9'\times9'$. (e) 1. (v) N.A. (vi) Chinsurah Boro—1. (vii) Irrigated. (viii) 3 to 4 weedings. (ix) 3.6'. (x) Last week of April, 1960.

2. TREATMENTS:
4 sources of 100 lb./ac. of N: $S_0$=Control (no manure), $S_1$=Mustard cake, $S_2$=A/S and $S_3$=Mustard cake+A/S.
Manures applied during final puddling of the field.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 4. (iv) (a) N.A. (b) $42'9''\times23'3''$. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Fair. (ii) N.A. (iii) Yield of grain and straw. (iv) (a) 1958—1960. (b) Yes. (c) No. (v) (a) No. (b) N.A. (vi) N.A. (vii) Nil.

5. RESULTS:
(i) 2901 lb./ac. (ii) 419.4 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>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2457</td>
<td>3132</td>
<td>2867</td>
<td>3146</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>209.7</td>
<td>209.7</td>
<td>209.7</td>
<td>209.7</td>
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Crop: Paddy (Boro).
Site: State Agri. Farm, Chinsurah.
Object: To study the effect of organic and inorganic manures on the growth and yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Ganga low land clay. (b) Refer soil analysis, Chinsurah. (iii) 16.11.1959/1.1.1960. (iv) (a) 3 to 4 ploughings and 3 laddering. (b) Transplanted. (c) 25 lb./ac. (d) $9'\times9'$. (e) 1. (v) N.A. (vi) Chinsurah Boro—1. (vii) Irrigated. (viii) 3 to 4 weedings. (ix) 3.6'. (x) Last week of April, 1960.

2. TREATMENTS :
Same as in exp. no. 58(61) above.
5. RESULTS:

(i) 2991 lb./ac.  (ii) 299.8 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S₀</th>
<th>S₁</th>
<th>S₂</th>
<th>S₃</th>
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<tbody>
<tr>
<td>Av. yield</td>
<td>2722</td>
<td>3122</td>
<td>2963</td>
<td>3156</td>
</tr>
</tbody>
</table>

S.E./mean = 149.9 lb./ac.

---

Crop :- Paddy (Aman).  
Site :- State Agri. Farm, Chinsurah.  
Object :- To find out the effect of G.M. and Super on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Ganga low land.  (b) Refer soil analysis, Chinsurah.  (iii) Middle of July, 1957.  (iv) (a) 4 to 5 ploughings.  (b) Transplanting.  (c) and (d) N.A.  (e) N.A.  (vi) Bhasamanik.  (vii) Unirrigated.  (viii) 2 to 3 weedings and thinning.  (ix) N.A.  (x) Last week of December, 1957.

2. TREATMENTS:

   Main-plot treatments:
   3 types of cropping: T₁=Dhaincha followed by Aman—Paddy, T₂=Dhaincha with Aman paddy and T₃=Aman paddy alone.

   Sub-plot treatments:
   2 levels of P₂O₅: P₀=0 and P₁=30 lb./ac.

3. DESIGN:
   (i) Split-plot.  (ii) (a) 3 main-plots/block; 2 sub-plots/main-plot.  (b) N.A.  (iii) 6.  (iv) (a) 64'×15'.  (b) 61'×12'.  (v) 1.5'×1.5'.  (vi) Yes.

4. GENERAL:
   (i) Good.  (ii) N.A.  (iii) Yield of grain.  (iv) (a) 1956—1958.  (b) and (c) N.A.  (v) (a) No.  (b) N.A.  (vi) N.A.  (vii) Nil.

5. RESULTS:

   (i) 2569 lb./ac.  (ii) (a) 598.1 lb./ac.  (b) 241.6 lb./ac.  (iii) Main effect of P is highly significant.  Main effect of T and interaction P×T are significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>P₀</td>
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<td>2204</td>
<td>2376</td>
</tr>
<tr>
<td>P₁</td>
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<td>2242</td>
</tr>
<tr>
<td>Mean</td>
<td>2995</td>
<td>2404</td>
<td>2309</td>
</tr>
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</table>

S.E. of difference of two:

1. T marginal means = 244.2 lb./ac.
2. P marginal means = 80.5 lb./ac.
3. P means at the same level of T = 139.6 lb./ac.
4. T means at the same level of P = 263.0 lb./ac.

---

Crop :- Paddy (Aman).  
Site :- State Agri. Farm, Chinsurah.  
Object :- To find out the effect of G.M. and Super on the yield of Paddy.
1. **BASAL CONDITIONS**:

   (i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Gangetic alluvium soil. (b) Refer soil analysis, Chinsurah. (iii) 3.8.1958. 

   (iv) (a) 2 ploughings and 1 puddling. (b) Transplanting in lines. (c) 50 lb./ac. 

   (d) 9' × 9'. (e) 2. 


2. **TREATMENTS and 3. DESIGN**:

   Same as in expt. no. 57(49) on page 52.

3. **GENERAL**:

   (i) Fair. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) to (d) No. (v) to (xi) Nil.

4. **RESULTS**:

   (i) 1210 lb./ac. 

   (ii) (a) 203.5 lb./ac. (b) 208.9 lb./ac. (iii) Only T effect is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
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<tr>
<td>P₁</td>
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<td>1195</td>
<td>1094</td>
<td>1260</td>
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<td>1458</td>
<td>1144</td>
<td>1028</td>
<td>1210</td>
</tr>
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</table>

S.E. of the difference of two 

1. T marginal means = .83.1 lb./ac. 

2. P marginal means = 69.6 lb./ac. 

3. P means at the same level of T = .85.3 lb./ac. 

4. T means at the same level of P = .119.1 lb./ac.

---

**Crop:** Paddy (Aman). 

**Site:** State Agri. Farm, Chinsurah. 

**Ref:** W.B. 55(58). 

**Type:** 'M'.

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

---

1. **BASAL CONDITIONS**:

   (i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Clay soil. (b) Refer soil analysis, Chinsurah. (iii) 14.8.1955. 

   (iv) (a) 3 to 4 ploughings and laddering. (b) Transplanting. (c) N.A. (d) 9' × 9'. (e) 2 to 3. 


   (ix) 45.04'. (x) 17, 19.1.1956.

2. **TREATMENTS**:

   All combinations of (1) and (2)+control (3 plots) 

   (1) 3 levels of N : N₁ = 15, N₂ = 30 and N₃ = 45 lb./ac. 

   (2) 3 sources of N : S₁ = A/S, S₂ = A/N and S₃ = Urea.

3. **DESIGN**:

   (i) R.B.O. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) 38' × 22'. (b) 36' × 20'. (v) 1' × 1'. (vi) Yes.

4. **GENERAL**:

   (i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1955—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. **RESULTS**:

   (i) 1500 lb./ac. (ii) 185.1 lb./ac. (iii) N effect and interaction N × S are significant. (iv) Av. yield of grain in lb./ac.
Control = 1343 lb./ac.

<table>
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<td>N3</td>
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</tr>
<tr>
<td>Mean</td>
<td>1596</td>
<td>1464</td>
<td>1600</td>
<td>1553</td>
</tr>
</tbody>
</table>

S.E. of any marginal or control mean = 53.4 lb./ac.
S.E. of body of table = 92.6 lb./ac.

**Crop :** Paddy *(Aman)*.

**Site :** State Agri. Farm, Chinsurah.

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

1. **BASAL CONDITIONS** :
   (i) (a) to (c) N.A. (ii) (a) Ganga low land, clay. (b) Refer soil analysis, Chinsurah. (iii) Last week of July, 1957. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) and (d) N.A. (e) 2 to 3. (v) N.A. (vi) Bhaskarmanik (medium). (vii) Unirrigated. (viii) 2 to 3 weedings and 2 thinnings. (ix) N.A. (x) 22 to 24.12.1957.

2. **TREATMENTS** to 4. **GENERAL** :
   Same as in expt. no. 55(58) on page 53.

5. **RESULTS** :
   (i) 2039 lb./ac. (ii) 260.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 2022 lb./ac.

<table>
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<th>S3</th>
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<td>2029</td>
<td>1979</td>
<td>2141</td>
<td>2050</td>
</tr>
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<td>N3</td>
<td>2144</td>
<td>1992</td>
<td>2054</td>
<td>2063</td>
</tr>
<tr>
<td>Mean</td>
<td>2053</td>
<td>1938</td>
<td>2124</td>
<td>2045</td>
</tr>
</tbody>
</table>

S.E. of any marginal or control mean = 75.3 lb./ac.
S.E. of the body of table = 130.4 lb./ac.

---

**Crop :** Paddy *(Aman)*.

**Site :** State Agri. Farm, Chinsurah.

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

1. **BASAL CONDITIONS** :
   (i) (a) to (c) N.A. (ii) (a) Ganga-tic. (b) Refer soil analysis, Chinsurah. (iii) 17.8.1958. (iv) (a) 2 ploughings and 1 puddling. (b) Transplanted in lines. (c) N.A. (d) 9'×9'. (e) 2. (v) N.A. (vi) Bhaskarmanik (medium). (vii) Unirrigated. (viii) 1 weeding. (ix) N.A. (x) 7.12.1958.

2. **TREATMENTS** and 3. **DESIGN** :
   Same as in expt. no. 55(58) on page 53.
4. **GENERAL:**

(i) Fair. (ii) N.A. (iii) Grain and straw yield. (iv) (a) 1955—1959. (b) Yes. (c) N.A. (v) (a) Burdwan. (b) N.A. (vi) and (vii) Nil.

5. **RESULTS:**

(i) 7367 lb./ac. (iii) 176.3 lb./ac. (iii) Main effect of N, 'control vs. others' and interaction N×S are highly significant and main effect of S is significant. (iv) Av. yield of grain in lb./ac.

\[
\text{Control} = 6484 \text{ lb./ac.}
\]

<table>
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<tr>
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<tr>
<td>(N_3)</td>
<td>8085</td>
<td>7113</td>
<td>7972</td>
<td>7723</td>
</tr>
</tbody>
</table>

\[
\text{S.E. of any marginal or control mean} = 50.9 \text{ lb./ac.}
\]
\[
\text{S.E. of body of table} = 88.1 \text{ lb./ac.}
\]

---

**Crop:** Paddy *(Aman)*.  
**Site:** State Agri. Farm, Chinsurah.  
**Ref:** W.B. 59(42).  
**Type:** 'M'.

Object:—To study the effect of N as A/S, A/N and Urea on the yield of Paddy.

1. **BASAL CONDITIONS:**

(i) (a) to (c) Nil. (ii) (a) Gangetic alluvium, neutral clay. (b) Refer soil analysis, Chinsurah. (iii) 18.7.1959. (iv) (a) 2 ploughings and 1 puddling. (b) Transplanted. (c) N.A. (d) 9"×9". (e) 2. (vi) Nil. (vi) Bhasamanik (medium). (vii) Unirrigated. (viii) 1 weeding. (ix) N.A. (x) 19.1.1960.

2. **TREATMENTS to 4. GENERAL:**

Same as in expt. no. 55(58) on page 53.

5. **RESULTS:**

(i) 1606 lb./ac. (ii) 186.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

\[
\text{Control} = 1482 \text{ lb./ac.}
\]

<table>
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<td>1704</td>
<td>1619</td>
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<tr>
<td>(N_3)</td>
<td>1674</td>
<td>1719</td>
<td>1507</td>
<td>1633</td>
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</tbody>
</table>

\[
\text{S.E. of any marginal or control mean} = 53.7 \text{ lb./ac.}
\]
\[
\text{S.E. of body of table} = 93.0 \text{ lb./ac.}
\]

---

**Crop:** Paddy *(Aman)*.  
**Site:** State Agri. Farm, Chinsurah.  
**Ref:** W.B. 59(46).  
**Type:** 'M'.

Object:—To study the effect of N, P and K on the yield of Paddy.
1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Gazetted alluvium, neutral clay. (b) Refer soil analysis, Chinsurah. (iii) 16.7.1959. (iv) (a) 10 ploughings. (b) Line sowing. (c) 15 srs./ac. (d) 9" x 9". (e) 3. (v) Nil. (vi) Bhutanamik (medium). (vii) Unirrigated. (viii) 1 weeding. (ix) 55.2'. (x) 17.12.1959.

2. TREATMENTS:
All combinations of (1, 2) and (3)
(1) 3 levels of N as A/S: N1 =30, N2 =90 and N3 =180 lb./ac.
(2) 2 levels of P2O5 as Super: P0 =0 and P1 =200 lb./ac.
(3) 2 levels of K2O as Mur. Pot.: K0 =0 and K1 =200 lb./ac.

3. DESIGN:
(i) Fact. in R.B.D. (ii) (a) 12. (b) N.A. (iii) 3. (iv) (a) 64' x 15'. (b) 61' x 12'. (v) 1.5' x 15'. (vi) Yes.

4. GENERAL:
(i) Plants with N2 and N3 lodged. Fair growth. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1959—contd. (b) Yes. (c) N.A. (v) (a) Cooch Behar. (b) No. (vi) and (vii) Nil.

5. RESULTS:
(i) 2100 lb./ac. (ii) 276.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>N1</th>
<th>N2</th>
<th>N3</th>
<th>Mean</th>
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<td>1918</td>
<td>1990</td>
<td>2025</td>
<td>1955</td>
</tr>
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<td>2308</td>
<td>1944</td>
<td>2049</td>
<td>2100</td>
<td>2168</td>
</tr>
<tr>
<td>2382</td>
<td>2024</td>
<td>2097</td>
<td>2234</td>
<td>1864</td>
<td>2002</td>
</tr>
</tbody>
</table>

S.E. of N marginal mean = 79.8 lb./ac.
S.E. of P or K marginal mean = 65.1 lb./ac.
S.E. of body of N x P or N x K table = 112.8 lb./ac.
S.E. of body of P x K table = 92.1 lb./ac.

Crop :- Paddy (Aman).
Site :- State Agri. Farm, Chinsurah.

Object :- To study the suitable method of application of A/S on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Clay. (b) Refer soil analysis, Chinsurah. (iii) 20 and 21.7.1954. (iv) (a) The field was ploughed 3 to 4 times before transplantation. (b) Transplantation. (c) 5 to 7 srs./ac. (d) 9" x 9". (e) 2 to 3. (v) Nil. (vi) Bhutanamik (Chinsurah 3, medium). (vii) Unirrigated. (viii) 2 to 3 weedicings. (ix) N.A. (x) 15 and 16.12.1954.

2. TREATMENTS:
All combinations of (1) and (2)
(1) 4 levels of N as A/S: N1 =15, N2 =30, N3 =45 and N4 =60 lb./ac.
(2) 2 methods of application of N: M1 =Broadcasted on surface and M2 =Thrust in.
A/S applied on 3.9.1954.

3. DESIGN:
(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 6. (iv) (a) 34' x 19'. (b) 32' x 17'. (v) 1' x 1'. (vi) Yes.
4. GENERAL:
(i) Good. (ii) N.A. (iii) Grain and straw yield. (iv) (a) 1952—1954. (b) Yes. (c) N.A. (v) (a) Burdwan. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 2652 lb./ac. (ii) 332.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
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<th>N₃</th>
<th>N₄</th>
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</table>

S.E. of N marginal mean = 96.0 lb./ac.
S.E. of M marginal mean = 67.9 lb./ac.
S.E. of body of table = 135.8 lb./ac.

---

Crop :- Paddy (Aman).

Site :- State Agri. Farm, Chinsurah.

Object :- To find the effect of N and F.Y.M. applied alone and in combinations on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Clay. (b) Refer soil analysis, Chinsurah. (iii) 17.7.1954.
(iv) (a) The field was ploughed 3 to 4 times before transplanting. (b) Transplanting. (c) 5 to 7 sr.s./ac.

2. TREATMENTS:
Main-plot treatments:
2 doses of F.Y.M. : F₀ = 0 and F₁ = 100 mds./ac.

Sub-plot treatments:
5 doses of N as A/S : N₀ = 0, N₁ = 30, N₂ = 60, N₃ = 90 and N₄ = 120 lb./ac.
F.Y.M. applied at the time of general preparation of land on 7.6.1954 and A/S broadcasted 4 weeks after transplantation.

3. DESIGN:
(i) Split-plot, (ii) (a) 2 main-plots/replication and 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 34' x 19', (b) 32' x 17', (c) 1' x 1'. (v) Yes.

4. GENERAL:
(i) Normal. (ii) N.A. (iii) Grain and straw yield. (iv) (a) 1945—contd. (b) Yes. (c) N.A. (v) (a) and (b) No. (vi) and (vii) Nil.

5. RESULTS:
(i) 2194 lb./ac. (ii) (a) 312.5 lb./ac. (b) 225.1 lb./ac. (iii) N effect and interaction N x F are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
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<td>2425</td>
<td>2198</td>
<td>2194</td>
<td>1915</td>
<td>2194</td>
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</tbody>
</table>
S.E. of the difference of two
1. F marginal means = 98.8 lb./ac.
2. N marginal means = 112.6 lb./ac.
3. N means at the same level of F = 159.2 lb./ac.
4. F means at the same level of N = 172.7 lb./ac.

Crop: Paddy (Aman).
Site: State Agri. Farm, Chinsurah.

Object: To study the effect of N and F.Y.M. alone and in combination on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) N.A.  (b) Paddy.  (c) As per treatments.  (ii) (a) Clay.  (b) Refer soil analysis, Chinsurah.  (iii) 1st week of August 1955.  (iv) (a) Ploughing 3 to 4 times and puddling 1 to 2.  (b) Transplanting.  (c) 5 to 7 yrs./ac.  (d) 9"x9".  (e) 2.  (v) N.A.  (vi) Bhasamanik (medium).  (vii) Unirrigated.  (viii) 2 to 3 weedings.  (ix) 22.07".  (x) Last week of December, 1955.

2. TREATMENTS to 4. GENERAL:
Same as in exp. no. 54(11) on page 57.

5. RESULTS:
(i) 1591 lb./ac.  (ii) (a) 473.1 lb./ac.  (b) 445.5 lb./ac.  (iii) Main effect of N alone is highly significant. (iv) Av. yield of grain in lb./ac.

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<td>1510</td>
<td>823</td>
<td>701</td>
<td>1427</td>
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</table>

Mean 1939 2113 1672 1126 1084 1591

S.E. of difference of two
1. F marginal means = 150.2 lb./ac.
2. N marginal means = 222.6 lb./ac.
3. N means at the same level of F = 315.0 lb./ac.
4. F means at the same level of N = 318.9 lb./ac.

Crop: Paddy (Aman).
Site: State Agri. Farm, Chinsurah.

Object: To study the effect of N and F.Y.M. alone and in combination on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A.  (ii) (a) Clay.  (b) Refer soil analysis, Chinsurah.  (iii) 23.7.1956.  (iv) (a) Ploughing 3 to 4 times and puddling 1 to 2.  (b) Transplanting.  (c) 5 to 7 yrs./ac.  (d) 9"x9".  (e) 2.  (v) N.A.  (vi) Bhasamanik (medium).  (vii) Unirrigated.  (viii) 3 to 4 weedings.  (ix) 44.63".  (x) 15.12.1956.

2. TREATMENTS and 3. DESIGN:
Same as in exp. no 54(11) on page 57.

4. GENERAL:
(i) Good.  (ii) N.A.  (iii) Yield of grain.  (iv) (a) 1945—contd.  (b) Yes.  (c) N.A.  (v) (a) No.  (b) N.A.  (v) and (vii) Nil.
5. RESULTS:

(i) 1602 lb./ac. (ii) (a) 488.3 lb./ac. (b) 184.1 lb./ac. (iii) Main effect of N is highly significant and interaction N x F is significant. Main effect of F is not significant. (iv) Av. yield of grain in lb./ac.

<table>
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S.E of difference of two

1. F marginal means = 154.4 lb. ac.
2. N marginal means = 92.0 lb./ac.
3. N means at the same level of F = 1.0 lb./ac.
4. F means at the same level of N = 194.0 lb./ac.

Crop : Paddy (Aman).
Site : State Agri. Farm, Chinsurah.

Ref : W.B. 57(34).
Type : 'M'.

Object : To study the effect of N and F.Y.M. alone and in combination on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Clay. (b) Refer soil analysis, Chinsurah. (iii) 29.7.1957. (iv) (a) Ploughing 2 to 3 and puddling 3 times. (b) Transplanting. (c) 5 to 7 yrs./ac. (d) 5' x 9". (e) 2. (i) Nil. (vi) Bhosamanik (medium). (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) 20.77". (x) 26.12.1957.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 54(11) en page 57.

4. GENERAL:
   (i) Good. (ii) Nil. (iii) Yield of grain. (iv) (a) 1545—contd. (b) Yes. (c) N.A. (v) (a) No. (b) N.A. (vi) N.A. (vii) Nil.

5. RESULTS:
   (i) 2031 lb./ac. (ii) (a) 352.0 lb./ac. (b) 392.0 lb./ac. (iii) Nc. of the effects is significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two

1. F marginal means = 111.3 lb./ac.
2. N marginal means = 196.0 lb./ac.
3. N means at the same level of F = 277.2 lb./ac.
4. F means at the same level of N = 272.8 lb./ac.
Crop :- Paddy (*Aman*).

Site :- State Agri. Farm, Chinsurah.

Object :- To study the effect of N and F.Y.M. alone and in combinations on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Gangetic alluvium soil. (b) Refer soil analysis, Chinsurah. (iii) 27.7.1958. (iv) (a) 2 ploughings and 1 puddling. (b) Transplanted in rows. (c) 50 lb./ac. (d) 9" x 9". (e) 2. (v) Nil. (vi, *Bhasamanik* (medium). (vii) Unirrigated. (viii) 1 weeding. (ix) N.A. (x) 21.12.1953.

2. TREATMENTS and 3. DESIGN:
   Same as in exp't no. 54(11) on page 57.

4. GENERAL:
   (i) Fair. (ii) Nil. (iii) Yield of paddy grain and straw. (iv) (a) 1954—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 1556 lb./ac. (ii) (a) 341.4 lb./ac. (b) 292.1 lb./ac. (iii) Interaction N x F alone is significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two
1. F marginal means = 107.9 lb./ac.
2. N marginal means = 146.0 lb./ac.
3. N means at the same level of F = 206.5 lb./ac.
4. F means at the same level of N = 214.0 lb./ac.

Crop :- Paddy (*Aman*).

Site :- State Agri. Farm, Chinsurah.

Object :- To study the effect of N and F.Y.M. alone and in combinations on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) to (c) Nil. (ii) (a) Gangetic alluvium soil, neutral clay. (b) Refer soil analysis, Chinsurah. (iii) 11.7.1959. (iv) (a) 2 ploughings and 1 puddling. (b) Transplanted in rows. (c) N.A. (d) 9" x 9". (e) 2. (v) Nil. (vi, *Bhasamanik* (medium). (vii) Unirrigated. (viii) 1 weeding. (ix) 55.51". (x) 5.1.1960.

2. TREATMENTS and 3. DESIGN:
   Same as in exp't no. 54(11) on page 57.

4. GENERAL:
   (i) Good. No lodging. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1945—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 1873 lb./ac. (ii) (a) 215.7 lb./ac. (b) 161.2 lb./ac. (iii) Main effects of F and N alone are highly significant. (iv) Av. yield of grain in lb./ac.
Crop : Paddy (Aman).
Site : State Agri. Farm, Chinsurah.
Object :—To compare the effects of A/S and Urea on Paddy when applied at different times.

1. BASAL CONDITIONS :
   (i) (a) to (c) Nil. (ii) (a) Gangetic alluvium soil, neutral clay. (b) Refer soil analysis, Chinsurah. (iii) 3rd week of July, 1955, (iv) (a) 2 ploughings and 1 puddling. (b) Transplanted in rows. (c) N.A.  (d) 9' x 9'. (e) 2. (f) Nil, (g) Bhutan Vector. (h) Unirrigated. (i) 1 weedipg. (k) 45.04'. (l) 2nd week of January, 1956.

2. TREATMENTS :
   Main-plot treatments :
   2 sources of 30 lb./ac. of N : S1 = Urea and S2 = A/S.

   Sub-plot treatments :
   5 times of application of N : T1 = Full dose at the puddling time, T2 = Full dose 4 weeks after transplantation, T3 = ½ dose at the puddling time and ½ dose 4 weeks after transplantation, T4 = ½ dose each at puddling time, 4 weeks after transplantation and before flowering and T5 = ½ dose 4 weeks after transplantation and ½ dose before flowering.

3. DESIGN :
   (i) Split-plot. (ii) (a) 2 main-plots/replication ; 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 38' x 22'. (b) 36' x 20'. (v) 1' x 1' (vi) Yes.

4. GENERAL :
   (i) Good. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1955—1959. (b) Yes. (c) No. (v) to (vii) Nil.

5. RESULTS :
   (i) 1587 lb./ac. (ii) (a) 280.7 lb./ac. (b) 168.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two
1. S marginal means = 88.8 lb./ac.
2. T marginal means = 84.4 lb./ac.
3. T means at the same level of S = 119.4 lb./ac.
4. S means at the same level of T = 138.8 lb./ac.

Ref :- W.B. 55(56).
Type :- 'M'.

Object :-To compare the effects of A/S and Urea on Paddy when applied at different times.

1. BASAL CONDITIONS :
   (i) (a) to (c) Nil. (ii) (a) Gangetic alluvium soil, neutral clay. (b) Refer soil analysis, Chinsurah. (iii) 3rd week of July, 1955, (iv) (a) 2 ploughings and 1 puddling. (b) Transplanted in rows. (c) N.A.  (d) 9' x 9'. (e) 2. (f) Nil, (g) Bhutan Vector. (h) Unirrigated. (i) 1 weedipg. (k) 45.04'. (l) 2nd week of January, 1956.

2. TREATMENTS :
   Main-plot treatments :
   2 sources of 30 lb./ac. of N : S1 = Urea and S2 = A/S.

   Sub-plot treatments :
   5 times of application of N : T1 = Full dose at the puddling time, T2 = Full dose 4 weeks after transplantation, T3 = ½ dose at the puddling time and ½ dose 4 weeks after transplantation, T4 = ½ dose each at puddling time, 4 weeks after transplantation and before flowering and T5 = ½ dose 4 weeks after transplantation and ½ dose before flowering.

3. DESIGN :
   (i) Split-plot. (ii) (a) 2 main-plots/replication ; 5 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 38' x 22'. (b) 36' x 20'. (v) 1' x 1' (vi) Yes.

4. GENERAL :
   (i) Good. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1955—1959. (b) Yes. (c) No. (v) to (vii) Nil.

5. RESULTS :
   (i) 1587 lb./ac. (ii) (a) 280.7 lb./ac. (b) 168.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.
Crop :- Paddy (Aman).

Site :- State Agri. Farm, Chinsurah.

Object :- To compare the effects of A/S and Urea on Paddy when applied at different times.

1. BASAL CONDITIONS:
   (i) (a) to (c) Nil. (ii) Gangetic alluvium soil, neutral clay. (b) Refer soil analysis, Chinsurah. (iii) 3rd week of July, 1956. (iv) (a) 2 ploughings and 1 puddling. (b) Transplanted in rows. (c) N.A. (d) 9" x 9". (e) 2. (v) Nil. (vi) Bhasamanik (medium). (vii) Unirrigated. (viii) 1 weeding. (ix) 61.68°. (x) 2nd week of January, 1957.

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 55(56) on page 61.

5. RESULTS:
   (i) 1516 lb./ac. (ii) (a) 172.0 lb./ac. (b) 123.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
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<th>T₃</th>
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S.E. of difference of two
1. S marginal means = 54.4 lb./ac.
2. T marginal means = 61.5 lb./ac.
3. T means at the same level of S = 87.0 lb./ac.
4. S means at the same level of T = 94.9 lb./ac.

---

Crop :- Paddy (Aman).

Site :- State Agri. Farm, Chinsurah.

Object :- To compare the effects of A/S and Urea on Paddy when applied at different times.

1. BASAL CONDITIONS:
   (i) (a) to (c) Nil. (ii) Gangetic alluvium soil, neutral clay. (b) Refer soil analysis, Chinsurah. (iii) 3rd week of July, 1957. (iv) (a) 2 ploughings and 1 puddling. (b) Transplanted in rows. (c) N.A. (d) 9" x 9". (e) 2. (v) Nil. (vi) Bhasamanik (medium). (vii) Unirrigated. (viii) 1 weeding. (ix) 61.68°. (x) 2nd week of January, 1958.

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 55(56) on page 61.

5. RESULTS:
   (i) 2267 lb./ac. (ii) (a) 401.9 lb./ac. (b) 198.1 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

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</table>
S.E. of difference of two

1. S marginal means = 127.1 lb./ac.
2. T marginal means = 99.0 lb./ac.
3. T means at the same level of S = 140.0 lb./ac.
4. S means at the same level of T = 178.5 lb./ac.

**Crop:** Paddy (Aman).  
**Site:** State Agri. Farm, Chinsurah.  
**Ref:** W.B. 58(13).  
**Type:** 'M'.

Object:—To compare the effects of A/S and Urea on Paddy when applied at different times.

1. **BASAL CONDITIONS:**
   (i) (a) to (c) Nil. (ii) (a) Gangetic alluvium soil, neutral clay. (b) Refer soil analysis, Chinsurah. (iii) 3rd week of July, 1958. (iv) (a) 2 ploughings and 1 puddling. (b) Transplanted in rows. (c) N.A. (d) 9"x9". (e) 2. (v) Nil. (vi) Bhasamanik (medium). (vii) Unirrigated. (viii) I weeding. (ix) N.A. (x) 2nd week of January, 1959.

2. **TREATMENTS to 4. GENERAL:**
   Same as in exp. no. 55(56) on page 61.

3. **RESULTS:**
   (i) 2083 lb./ac. (ii) (a) 392.9 lb./ac. (b) 159.3 lb./ac. (c) 214.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two

1. S marginal means = 124.2 lb./ac.
2. T marginal means = 79.6 lb./ac.
3. T means at the same level of S = 112.6 lb./ac.
4. S means at the same level of T = 159.9 lb./ac.

**Crop:** Paddy (Aman).  
**Site:** State Agri. Farm, Chinsurah.  
**Ref:** W.B. 59(35).  
**Type:** 'M'.

Object:—To compare the effects of A/S and Urea on Paddy when applied at different times.

1. **BASAL CONDITIONS:**
   (i) (a) to (c) Nil. (ii) (a) Gangetic alluvium soil, neutral clay. (b) Refer soil analysis, Chinsurah. (iii) 20.7.1959. (iv) (a) 2 ploughings and 1 puddling. (b) Transplanted in rows. (c) N.A. (d) 9"x9". (e) 2. (v) Nil. (vi) Bhasamanik (medium). (vii) Unirrigated. (viii) I weeding. (ix) N.A. (x) 13.1.1960.

2. **TREATMENTS to 4. GENERAL:**
   Same as in exp. no. 55(56) on page 61.

3. **RESULTS:**
   (i) 1422 lb./ac. (ii) (a) 203.9 lb./ac. (b) 214.5 lb./ac. (iii) Only S effect is significant. (iv) Av. yield of grain in lb./ac.
Crop :- Paddy (Aman).
Site :- State Agri. Farm, Chinsurah.

Object :- To study the effect of continuous application of AS, B.M. and F.Y.M. on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) No. (b) Paddy. (c) As per treatments. (ii) (a) Clay in texture. (b) Refer soil analysis, Chinsurah.
   (iii) 1st week of August, 1954. (iv) (a) Ploughing and ladderling. (b) Transplanted. (c) 15 srs./ac. (d) 9'×9'. (e) 2 to 3. (v) N.A. (vi) Thingasal (medium). (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) Middle of December to last week of December, 1954.

2. TREATMENTS:
   Main-plot treatments:
   All combinations of (1) and (2)
   (1) 5 levels of N as A/S : N0=0, N1=30, N2=60, N3=90 and N4=120 lb./ac.
   (2) 3 levels of P2O5 as B.M. : P0=0, P1=20 and P2=40 lb./ac.
   Sub-plot treatments:
   2 levels of F.Y.M. : F0=0 and F1=100 mds./ac.
   B.M. and F.Y.M. were applied at the time of general preparation of land and A/S 4 weeks after transplantation.

3. DESIGN:
   (i) Split-plot. (ii) (a) 15 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 19'×34', (b) 17'×32'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
   (i) Plants got lodged during flowering stage. Details—N.A. (ii) N.A. (iii) Yield of grain. (iv) (a) 1954—contd. (b) Yes (c) N.A. (v) (a) Suri and Berhampore. (b) N.A. (vi) Slightly effected due to storm and rain. (vii) N.A.

5. RESULTS:
   (i) 1840 lb./ac. (ii) (a) 376.1 lb./ac. (b) 292.1 lb./ac. (iii) Main effects of N and F are highly significant, (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two:
1. S marginal means = 64.5 lb./ac.
2. T marginal means = 107.2 lb./ac.
3. T means at the same level of S = 151.7 lb. ac.
4. S means at the same level of T = 150.2 lb./ac.

Ref. :- W.B. 54(65).
Type :- 'M'.
Object:—To study the effect of continuous application of A/S, B.M. and F.Y.M. on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Clay in texture. (b) Refer soil analysis, Chinsurah. (iii) August, 1955. (iv) (a) Ploughing. (b) Transplanting. (c) N.A. (d) 9"x9". (e) 2 to 3. (v) Nil. (vi) Bhasamanik (medium). (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) Last week of December, 1955.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 54(66) on page 64.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1948—contd; (b) Yes, (c) N.A. (v) (a) Suri and Berhampore. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1910 lb./ac. (ii) (a) 312.3 lb./ac. (b) 327.0 lb./ac. (iii) N effect and interaction N x F are highly significant. F effect is significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

<table>
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S.E. of difference of two
1. N marginal means = 83.0 lb./ac. 5. N means at the same level of F = 113.3 lb./ac.
2. P marginal means = 64.3 lb./ac. 6. F means at the same level of P = 84.4 lb./ac.
3. F marginal means = 48.7 lb./ac. 7. F means at the same level of F = 87.8 lb./ac.
4. F means at the same level of N = .109.0 lb./ac. S.E. of body of N x P table = 101.7 lb./ac.

Crop :— Paddy (Aman).
Site :— State Agri. Farm, Chinsurah.

Ref :— W.B. 55(N.A.).
Type :— 'M'.
2. TREATMENTS:
   Same as in expt. no. 54(66) on page 64.

3. DESIGN:
   (i) Split-plot. (ii) (a) 15 main-plots/replication and 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 32.5'x19'. (b) 30.5'x17'. (v) 1'x1'. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) N.A. (iii) Yield of grain and straw. (iv) (a) 1948—contd. (b) Yes. (c) N.A. (v) (a) Suri and Berhampore. (b) N.A. (vi) Crop suffered due to severe flood followed by terrific storm. (vii) Nil.

5. RESULTS:
   (i) 1849 lb./ac. (ii) (a) 322.6 lb./ac. (b) 274.0 lb./ac. (iii) Only main effect of N is highly significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two

1. N marginal means = 76.0 lb./ac.
2. P marginal means = 58.9 lb./ac.
3. F marginal means = 40.8 lb./ac.
4. F means at the same level of N = 91.3 lb./ac.
5. N means at the same level of F = 99.8 lb./ac.
6. F means at the same level of P = 70.7 lb./ac.
7. P means at the same level of F = 77.3 lb./ac.

Object:—To study the effect of continuous applications of A/S, B.M. and F.Y.M. on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Clay. (b) Refer soil analysis, Chinsurah. (iii) 1st week of August 1957. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) 5 to 7 srs./ac. (d) 9'x9'. (e) 2 to 3. (v) Nil. (vi) Bhosamank. (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) Middle of December, 1956.

2. TREATMENTS:
   Same as in expt. no. 54(66) on page 64.

3. DESIGN:
   (i) Split-plot. (ii) (a) 15 main-plots/replication and 4 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 32.5'x19'. (b) 30.5'x17'. (v) 1'x1'. (vi) Yes.

4. GENERAL:
   (i) Normal. (b) N.A. (iii) Yield of grain and straw. (iv) (a) 1948—contd. (b) Yes. (c) N.A. (v) (a) Suri and Berhampore. (b) N.A. (vi) N.A. (vii) Nil.

5. RESULTS:
   (i) 1822 lb./ac. (ii) (a) 456.0 lb./ac. (b) 330.2 lb./ac. (iii) Main effect of N is highly significant. Interaction N×P is significant. (iv) Av. yield of grain in lb./ac.
### Crop: Paddy (Aman)
### Site: State Agri. Farm, Chinsurah

Object: To study the effect of continuous application of A/S, B.M. and F.Y.M. on the yield of Paddy.

#### BASAL CONDITIONS:
1. (a) No. (b) Paddy. (c) Nil. (ii) (a) Clay. (b) Refer soil analysis, Chinsurah. (iii) Middle of August 1958.
2. (a) 3 to 4 ploughings. (b) Transplanting. (c) N.A. (d) 9"x9". (e) 2 to 3. (v) Nil. (vi) Bhassamanik (medium). (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) Last week of December 1956.

#### TREATMENTS and DESIGN:
Same as in expt. no. 54(66) on page 64.

#### GENERAL:
1. Good. (ii) N.A. (iii) Yield of grain and straw. (iv) (a) 1948—contd. (b) Yes. (c) N.A. (v) Suri and Berhampore. (b) N.A. (vi) N.A. (vii) Nil.

#### RESULTS:
1. 1567 lb./ac. (ii) (a) 378.0 lb./ac. (b) 233.5 lb./ac. (iii) N effect and interaction NxF are highly significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two
1. N marginal means = 107.5 lb./ac. 5. N means at the same level of F = 132.7 lb./ac.
2. P marginal means = 83.3 lb./ac. 6. F means at the same level of P = 85.3 lb./ac.
3. F marginal means = 49.2 lb./ac. 7. F means at the same level of F = 102.8 lb./ac.
4. F means at the same level of N = 110.1 lb./ac. S.E. of the body of N×P table = 131.6 lb./ac.
Crop :- Paddy (Aman).
Site :- State Agri. Farm, Chinsurah.
Object :- To study the effect of N, P and F.Y.M. applied alone and in combinations on the yield of Paddy.

1. BASAL CONDITIONS :
   (i) (a) to (c) N.A. (ii) (a) Gangetic alluvium, neutral clay. (b) Refer soil analysis, Chinsurah. (iii) 8.8.1959. (iv) (a) 2 ploughings and 1 puddling. (b) Transplanted in rows. (c) N.A. (d) 9'x9'. (e) 2. (v) Nil. (vi) Bhawanik (medium). (vii) Unirrigated. (viii) 1 weeding. (ix) N.A. (x) 10.12.1959 to 13.12.1959.

2. TREATMENTS :
   Same as in expt. no. 54(66) on page 64.

3. DESIGN :
   (i) Split-plot. (ii) (a) 15 main-plots/replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 32'x19'. (b) 30'x17'. (v) 1'x1'. (vi) Yes.

4. GENERAL :
   (i) Good. Plants in N, N₃ and N₄ plots were lodged due to rain and storm. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948—contd. (b) Yes. (c) Nil. (v) (a) Berhampore and Suri. (b) Nil. (vi) and (viii) N.J.

5. RESULTS :
   (i) 2078 lb./ac. (ii) (a) 578.8 lb./ac. (b) 679.6 lb./ac. (iii) N effect is highly significant. F effect and interaction N x F are significant while all other effects are not significant. (iv) Av. yield of grain in lb./ac.

<table>
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<th>N₂</th>
<th>N₃</th>
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S.E. of difference of two
1. N marginal means = 136.4 lb./ac. 5. N means at the same level of F = 210.4 lb./ac.
2. P marginal means = 105.7 lb./ac. 6. F means at the same level of F = 175.5 lb./ac.
3. F marginal means = 101.3 lb./ac. 7. P means at the same level of F = 162.9 lb./ac.
4. F means at the same level of N = 226.5 lb./ac. S.E. of body of N x F table = 167.1 lb./ac.
2. TREATMENTS:

Treatments in one direction:
All combinations of (1) and (2)
(1) 5 levels of N as A/S: N0 = 0, N1 = 30, N2 = 60, N3 = 90 and N4 = 120 lb./ac.
(2) 3 levels of lime: L0 = 0, L1 = 4 and L2 = 8 cwt./ac.

Treatments in orthogonal direction:
3 levels of P2O5 as B.M.: P0 = 0, P1 = 20 and P2 = 40 lb./ac.
A/S and B.M. broadcast 6 weeks after transplantation. Lime applied once in 4 years.

3. DESIGN:

(i) Strip-plot. (ii) (a) 15 strips in one direction; 3 strips in orthogonal direction. (b) N.A. (iii) 6. (iv)
(a) 34' × 19'. (b) 32' × 17'. (v) 1' × 1'. (vi) Yes.

4. GENERAL:

(i) Plants lodged during flowering stages due to rains. (ii) N.A. (iii) Yield of grain. (iv) (a) 1948—contd.
(b) Yes. (c) N.A. (v) (a) Suri and Berhampore. (b) N.A. (vi) Crop slightly affected due to rain and
storm. (vii) N.A.

5. RESULTS:

(i) 1817 lb./ac. (ii) 366.1 lb./ac. for NL 344:8 lb./ac. for P. 210.3 lb./ac. for NLP. (iii) Main effect of N
and interaction N × P are highly significant while main effect of P and interaction L × P are significant.
Other effects are not significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two
1. N marginal means = 70.5 lb./ac. 5. N means at the same level of P = 90.8 lb./ac.
2. L marginal means = 54.6 lb./ac. 6. P means at the same level of L = 67.9 lb./ac.
3. P marginal means = 51.4 lb./ac. 7. L means at the same level of P = 70.3 lb./ac.
4. P means at the same level of N = 80.1 lb./ac. S.E. of body of N × L table = 86.3 lb./ac.

Crop: Paddy (Aman).
Site: State Agri. Farm, Chinsurah.

Object: To study the effect of continuous application of N, P and lime applied individually and in
combinations on the yield of Paddy.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) As per treatments. (iii) (a) Clay in texture. (b) Refer soil analysis, Chin surah.
(ii) Middle of August, 1955. (iv) (a) 2 to 3 ploughings and laddering. (b) Transplanting. (c) N.A.
9' × 9'. (e) 2. (v) Nil. (vi) Bhasamanik (medium). (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) N.A.
(x) Last week of December, 1955.

2. TREATMENTS and 3. DESIGN:

Same as in exp. no. 54(67) on page 68.
4. GENERAL:
(i) Normal. (ii) N.A. (iii) Yield of grain. (iv) (a) 1948—contd. (b) Yes. (c) N.A. (v) (a) Suri and Berhampore. (b) N.A. (vi) and (vii) N.A.

5. RESULTS:
(i) 2084 lb./ac. (ii) 432.4 lb./ac. for NL, 285.1 lb./ac. for P, 341.8 lb./ac. for NLP (iii) Main effects of N and P alone are highly significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two
1. N marginal means = 83.2 lb./ac. 5. N means at the same level of L = 124.8 lb./ac.
2. L marginal means = 64.5 lb./ac. 6. P means at the same level of L = 83.6 lb./ac.
3. P marginal means = 42.5 lb./ac. 7. L means at the same level of P = 96.7 lb./ac.
4. P means at the same level of N = 110.4 lb./ac. S.E. of body of N×L table = 101.9 lb./ac.

Crop: Paddy (Aman).
Site: State Agri. Farm, Chinsurah.
Ref: W.B. 56(49).
Type: 'M'.

Object:—To study the effect of continuous application of N, P and lime on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) As per treatments. (ii) (a) Clay. (b) Refer soil analysis, Chinsurah. (iii) 1st to 2nd week of August, 1956. (iv) (a) Ploughing. (b) Transplanting. (c) 16 srs./ac. (d) 9'X9'. (e) 2 to 3. (v) Nil. (vi) Bhasamnik (medium). (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) 3rd week of December, 1956.

2. TREATMENTS:
Same as in extpt. no. 54(67) on page 68.

3. DESIGN:
(i) Strip-plot. (ii) (a) 15 strips in one direction; 3 strips in orthogonal direction. (b) N.A. (iii) 6. (iv) (a) 32.5'X17.5'. (b) 30.5'X15.5'. (v) 1'X1'. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1948—contd. (b) Yes. (c) N.A. (v) (a) Suri and Berhampore. (b) N.A. (vi) Crop suffered due to floods followed by storm. (vii) Nil.

5. RESULTS:
(i) 1638 lb./ac. (ii) (a) 28.8 lb./ac. for NL, (b) 246.9 lb./ac. for P, (c) 181.0 lb./ac. for NL×P. (iii) Main effect of N is highly significant and interaction N×P is significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.
Crop: - Paddy (*Aman*).
Site: - State Agri. Farm., Chinsurah.

Object: - To study the effect of continuous application of N, P and lime on the yield of Paddy.

1. **BASAL CONDITIONS:**
   (i) (a) Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Clay. (b) Refer soil analysis, Chinsurah. (iii) Last week of July to 1st week of August, 1957. (iv) (a) Ploughing. (b) Transplanting. (c) N.A. (d) 9"x9". (e) 2 to 3. (v) Nil. (vi) Bhasamanik (medium). (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) 1st week of December, 1957.

2. **TREATMENTS:**
   Same as in expt. 10. 54(67) on page 68.

3. **DESIGN:**
   (i) Strip-plot. (ii) (a) 15 strips in one direction; 3 strips in orthogonal direction. (b) N.A. (iii) 6. (iv) (a) 32.5'x17.5'. (b) 30.5'x15.5'. (v) 1'x1'. (vi) Yes.

4. **GENERAL:**
   (i) Good. (ii) N.A. (iii) Yield of grain and straw. (iv) (a) 1948—contd. (b) Yes. (c) N.A. (v) (a) Suri and Berhampore. (b) N.A. (vi and vii) N.A.

5. **RESULTS:**
   (i) 1874 lb./ac. (ii) 552.2 lb./ac. for NL, 525.0 lb./ac. for P, 363.1 lb./ac. for NLxP (iii) Main effect of N and interaction NxP are highly significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two
1. N marginal means = 44.0 lb./ac. 5. N means at the same level of P = 66.1 lb./ac.
2. L marginal means = 34.1 lb./ac. 6. P means at the same level of L = 53.0 lb./ac.
3. P marginal means = 36.8 lb./ac. 7. L means at the same level of P = 51.2 lb./ac.
4. P means at the same level of N = 65.3 lb./ac. S.E. of the body of NxL table = 33.9 lb./ac.

Ref: - W.B. 57(63).
Type: - 'M'.
S.E. of difference of two

1. N marginal means = 106.3 lb./ac. 5. N means at the same level of P = 145.1 lb./ac.
2. L marginal means = 82.3 lb./ac. 6. P means at the same level of L = 109.5 lb./ac.
3. P marginal means = 54.1 lb./ac. 7. L means at the same level of P = 112.4 lb./ac.
4. P means at the same level of N = 133.6 lb./ac. S.E. of the body of N×L table = 130.2 lb./ac.

Crop :: Paddy (Aman).
Site :: State Agri. Farm, Chinsurah.

Object :: To study the effect of continuous application of N, P and lime on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Clay. (b) Refer soil analysis, Chinsurah. (iii) Last week of August, 1958. (iv) (a) 2 to 3 ploughings. (b) Transplanting. (c) N.A. (d) 9'x9'. (e) 2. (v) Nil. (vi) Bhasamanik. (vii) Unirrigated. (viii) 3 weeding. (ix) N.A. (x) 1st week of January, 1958.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 54(67) on page 68.

4. GENERAL:
   (i) Good. (ii) N.A. (iii) Yield of grain and straw. (iv) (a) 1948—contd. (b) Yes. (c) N.A. (v) (a) Suri and Berhampore (on Aus paddy and from 1949—1950). (b) N.A. (vi) N.A. (vii) Nil.

5. RESULTS:
   (i) 1555 lb./ac.  (ii) 409.9 lb./ac. for NL, 600.9 lb./ac. for P, 286.8 lb./ac. for NL×P. (iii) Main effect of N and interaction N×P are highly significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two

1. N marginal means = 78.9 lb./ac. 5. N means at the same level of P = 111.0 lb./ac.
2. L marginal means = 61.1 lb./ac. 6. P means at the same level of L = 108.1 lb./ac.
3. P marginal means = 89.6 lb./ac. 7. L means at the same level of P = 86.0 lb./ac.
4. P means at the same level of N = 123.8 lb./ac. S.E. of body of N×L table = 96.6 lb./ac.

Crop :: Paddy (Aman).
Site :: State Agri. Farm, Chinsurah.

Object :: To study the effect of continuous application of N, P and lime applied individually and in combinations on the yield of Paddy.
1. BASAL CONDITIONS:
(i) (a) Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Gar legacy soil, neutral clay. (b) Refer soil analysis, Chinsurah. (iii) 1-8-1959. (iv) (a) 2 ploughings and 1 puddling. (b) Transplanted in rows. (c) N.A. (d) 9"x9". (e) 3. (v) Nil. (vi) Bhasamn (medium). (vii) Unirrigated. (viii) 1 weeding. (ix) (a) 15 to 20. 12. 1959.

2. TREATMENTS:
Main-plot treatments:
All combinations of (1) and (2).
(1) 5 levels of N as A/S: N0 = 0, N1 = 30, N2 = 60, N3 = 90 and N4 = 120 lb./ac.
(2) 3 levels of Lime: L0 = 0, L1 = 4 and L2 = 8 cwt./ac.

Sub-plot treatments:
3 levels of P2O5 as B.M.: P0 = 0, P1 = 20 and P2 = 40 lb./ac.
Lime applied once in 4 years on 23.5.1956, B.M. applied on 27.6.1959 and A/S applied on 1.9.1959.

3. DESIGN:
(i) Split-plot. (ii) (a) IS main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 32'x17'. (b) 30'x15'. (v) 1'x1'. (vi) Yes.

4. GENERAL:
(i) Good. Plants receiving 60 lb./ac. or more N were lodged due to rain and storm. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1948—contd. (b) Yes. (c) No. (v) (a) Suri and Berhampore. (b) No. (vi) and (vii) Nil.

5. RESULTS:
(i) 2190 lb./ac. (ii) (a) 579.6 lb./ac. (b) 539.6 lb./ac. (iii) Main effects of N is highly significant, L and P effects are significant. Interactions N x P and N x L x P are significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two
1. N marginal means = 111.5 lb./ac. 5. N means at the same level of P = 184.4 lb./ac.
2. L marginal means = 86.4 lb./ac. 6. P means at the same level of L = 139.3 lb./ac.
3. P marginal means = 80.4 lb./ac. 7. L means at the same level of P = 142.8 lb./ac.
4. P means at the same level of N = 179.9 lb./ac. 8. S.E. of bdy of N x L table = 136.6 lb./ac.

Crop:—Paddy (Aman).
Site:—State Agri. Farm, Cooch Behar.
Object:—To find out the optimum requirement of N and P for yield of Paddy under different soil climatic conditions for Paddy.

1. BASAL CONDITIONS:
(i) (a) Single cropping. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Cooch Behar. (iii) 6 and 7.8.1954. (iv) (a) 5 to 6 ploughings and harrowings. (b) Transplanted in rows. (c) N.A. (d) 9"x9". (e) 3 to 4. (v) Nil. (vi) Unirrigated. (vii) Nil. (ix) 125.71". (x) 30.12 1955 and 2.1.1955.
2. TREATMENTS:
All combinations of (1) and (2)
(I) 5 levels of N as A/S: N₀ = 0, N₁ = 20, N₂ = 40, N₃ = 60 and N₄ = 80 lb./ac.
(2) 5 levels of P₂O₅ as Super: P₀ = 0, P₁ = 15, P₂ = 30, P₃ = 45 and P₄ = 60 lb./ac.

3. DESIGN:
(i) Fact. in R.B.D. (ii) (a) 25. (b) N.A. (iii) 5. (iv) (a) 38°×22'. (b) 36°×20'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
(i) Good. (ii) N.A. (iii) Grain and straw yield. (iv) (a) 1953—1955. (b) Yes. (c) N.A. (v) (a) Chinsurah, Burdwan, Midnapore, M.nagar, Malda and Haringhata. (b) N.A. (vi) Nil. (vii) Experiment conducted during the year 1955 failed.

5. RESULTS:
(i) 1793 lb./ac. (ii) 25.8 lb./ac. (iii) Main effect of N is highly significant while P effect is highly significant.

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S.E. of any marginal mean = 25.2 lb./ac.
S.E. of body of table = 56.3 lb./ac.

Crop :- Paddy (Kharif).
Ref :- W.B. 57(8).
Site :- State Agri. Farm, Cooch Behar.
Type :- 'M'.

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

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Cooch Behar. (iii) N.A. (iv) (a) 4 to 6 ploughings and ladderings. (b) Line sowing. (c) N.A. (d) 9°×9°. (e) 2. (v) and (vi) N.A. (vii) Un-irrigated. (viii) to (x) N.A.

2. TREATMENTS:
All combinations of (1), (2) and (3)
(I) 2 levels of N as A/S : N₀ = 0 and N₁ = 20 lb./ac.
(2) 2 levels of P₂O₅ as Super : P₀ = 0 and P₁ = 20 lb./ac.
(3) 2 levels of K₂O as Pot. Sul. : K₀ = 0 and K₁ = 20 lb./ac.

3. DESIGN:
(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 27.5°×38'. (b) 25.5°×36'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
(i) Fair. (ii) N.A. (iii) Grain and straw yield. (iv) (a) 1957—contd. (b) Yes. (c) N.A. (v) (a) Burdwan, Midnapore, Chinsurah and Purulia. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 1070 lb./ac. (ii) 245.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.
Crop: Paddy (Kharif).
Site: State Agri. Farm, Cooch Behar.

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

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Cooch Behar.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 57(8) on page 74.

5. RESULTS:
   (i) 1798 lb./ac. (ii) 207.8 lb./ac. (iii) Only N effect is highly significant. (iv) Av. yield of grain in lb./ac.

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S.E. of any marginal mean = 61.3 lb./ac.
S.E. of body of table = 86.7 lb./ac.

Crop: Paddy (Aman).
Site: State Agri. Farm, Cooch Behar.

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

Ref: W.B. 58(11).
Type: ‘M’.

Ref: W.B. 59(21).
Type: ‘M’.
1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) Nil.  
   (ii) (a) Sandy loam. (b) Refer soil analysis, Cooch Behar. 
   (iii) 8 and 9.8.1959. (iv) (a) 4 to 6 ploughing and laddering. (b) Line transplanting. (c) 12 to 15 srs./ac. (d) 9"x9". 

2. TREATMENTS:
   All combinations of (1), (2) and (3)
   (1) 3 levels of N as A/S: N1 = 30, N2 = 90 and N3 = 180 lb./ac. 
   (2) 2 levels of P2O5 as Super: P0 = 0 and P1 = 200 lb./ac. 
   (3) 2 levels of K2O as Mur. Pot.: K0 = 0 and K1 = 200 lb./ac. 

3. DESIGN:
   (i) Fact. in R.B.D.  
   (ii) (a) 12. (b) N.A. (iii) 3. (iv) (a) 39'x28'. (b) 37'x26'. (v) 1'x1'. (vi) Yes.

4. GENERAL:
   (i) Fair. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) No. (b) and (c) N A. (v) to (vii) Nil.

5. RESULTS:
   (i) 234 lb./ac. (ii) 286.3 lb./ac. (iii) N effect and interaction P×K are highly significant. P effect is significant while all other effects are not significant. (iv) Av. yield of grain in lb./ac.

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S.E. of any marginal mean = 61.6 lb./ac. 
S.E. of body of any table = 87.1 lb./ac.

Crop: Paddy (Aman). 
Site: State Agr. Farm, Cooch Behar.

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

Ref: W.B. 59(22). 
Type: 'M'.
Crop :- Paddy (Aman).
Site :- State Agri. Farm, Cooch Behar.

Object :- To study the residual effect of lime and P applied to dhaincha on the following Paddy crop.

1. BASAL CONDITIONS:
(i) (a) Single cropping. (b) Dhaincha sown on 18.5.1956. and uprooted on 3.8.1956. (c) As per treatments.
(ii) (a) Sandy loam. (b) Refer soil analysis, Cooch Behar. (iii) 3.8.1956. (iv) (a) 6 ploughings and ladderings.
(b) Transplanting. (c) N.A. (d) 9"x9". (e) 3 to 4. (v) A/S top dressed at 1 md./ac. on 5.9.1956. and 4.10.1956. in 4 doses. (vi) Latisail. (vii) Unirrigated. (viii) 1 weeding on 29.5.1956. (ix) N.A. (x) 3.1.1957.

2. TREATMENTS:
All combinations of (1) and (2).
(1) 3 levels of lime : \( L_0 = 0, L_1 = \frac{1}{2} \) and \( L_2 = 1 \) ton/ac.
(2) 3 levels of Super : \( P_1 = 100, P_2 = 200 \) and \( P_3 = 300 \) lb./ac.
Lime broadcast on 14.4.1956 and Super broadcast on 27.4.1956 to the previous dhaincha crop.

3. DESIGN:
(i) Fact. in R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 29'x13'. (b) 27'x13'. (v) 1'x1'. (vi) Yes.

4. GENERAL:
(i) Good. (ii) N.A. (iii) Grain and straw yield. (iv) (a) 1955—1957. (b) Yes. (c) N.A. (v) to (vii) Nil.

5. RESULTS:
(i) 855 lb./ac. (ii) 137.4 lb./ac. (iii) Only P effect is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>P_1</th>
<th>P_2</th>
<th>P_3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>L_0</td>
<td>601</td>
<td>921</td>
<td>993</td>
</tr>
<tr>
<td>L_1</td>
<td>762</td>
<td>832</td>
<td>962</td>
</tr>
<tr>
<td>L_2</td>
<td>805</td>
<td>840</td>
<td>978</td>
</tr>
<tr>
<td>Mean</td>
<td>723</td>
<td>861</td>
<td>978</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 39.7 lb./ac.
S.E. of body of table = 68.7 lb./ac.

Ref :- W.B. 56(2).
Type :- 'M'.
Crop :- Paddy (Aman).
Site :- State Agri. Farm, Cooch Behar.

Ref :- W.B. 57(6).
Type :- 'M'.

Object :- To study the residual effect of lime and P applied to dhaincha on the following Paddy crop.

1. BASAL CONDITIONS :
   (i) (a) Single cropping. (b) Dhaincha sown on 24.5.1957 and turned in on 30.7.1957. (c) As per treatments.
   (ii) (a) Sandy loam. (b) Refer soil analysis, Cooch Behar. (iii) 1.9.1957. (iv) (a) 6 ploughings and laissering.
      (b) Transplanting. (c) N.A. (d) 9"x9". (e) 3 to 4. (v) Nil. (vi) Latisail. (vii) Unirrigated. (viii) Nil.

2. TREATMENTS and 3. DESIGN :
   Same as in expt. no. 56(2) on page 77.
   Data of application—N.A.

4. GENERAL :
   (i) Normal. (ii) N.A. (iii) Grain and straw yield. (iv) (a) 1955—1957. (b) Yes. (c) N.A. (v) (a) and (b) No. (vi) and (vii) Nil.

5. RESULTS :
   (i) 931 lb./ac. (ii) 300.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain 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>L₀</td>
<td>866</td>
<td>1225</td>
<td>881</td>
<td>991</td>
</tr>
<tr>
<td>L₁</td>
<td>984</td>
<td>1065</td>
<td>952</td>
<td>989</td>
</tr>
<tr>
<td>L₂</td>
<td>678</td>
<td>890</td>
<td>875</td>
<td>814</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 86.7 lb./ac.
S.E. of body of table = 150.1 lb./ac.

Crop :- Paddy (Aman).
Site :- State Agri. Farm, Haringhat.

Ref :- W.B. 55(75).
Type :- 'M'.

Object :- To find out the optimum requirement of A/S and Super on Paddy.

1. BASAL CONDITIONS :
   (i) (a) to (c) N.A. (ii) (a) Loam. (b) N.A. (iii) 3rd week of July, 1955. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) N.A. (d) 9"x9". (e) 3. (v) 80 to 100 mds./ac. of F.Y.M. (vi) Patnai. (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) Last week of December to 1st week of January, 1956.

2. TREATMENTS :
   All combinations of (1) and (2)
   (1) 5 levels of P₂O₅ as Super : P₀=0, P₁=20, P₂=40, P₃=60 and P₄=80 lb./ac.
   (2) 5 levels of N as A/S : N₀=0, N₁=15, N₂=30, N₃=45 and N₄=60 lb./ac.
   Super was ploughed in before transplanting and A/S was applied as top dressing 4 weeks after transplanting.

3. DESIGN :
   (i) Fact. in R.B.D. (ii) (a) 25. (b) N.A. (iii) 5. (iv) (a) 38'x22'. (b) 36'x20'. (v) 1'x1'. (vi) Yes.

4. GENERAL :
   (i) Good. (ii) No. (iii) Yield of grain. (iv) (a) 1953—contd. (b) Yes. (c) N.A. (v) (a) Mayanaguri, Cooch Behar, Chinsurah, Burdwan, Malda and Midnapore. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :
   (i) 213 lb./ac. (ii) 245.2 lb./ac. (iii) All the effects are highly significant. (iv) Av. yield of grain in lb./ac.
Object: To test the effect of T.C. on soil fertility and Paddy yield.

1. BASAL CONDITIONS:
(i) (a) Paddy after Paddy. (b) Paddy. (c) 36 mds. of F.Y.M.+42 lb. of Super and A/S each. (ii) (a) Sandy, acidic. (b) Refer soil analysis, Hathwara. (iii) 13.6.1955/31.8.1555. (iv) (a) 5 ploughings by desi plough, (b) Sowing in nursery bed by Local method and transplanting by Japanese method. (c) 20 yrs./ac. (d) 12" × 12". (e) 6. (v) Nil. (vi) B.K.—141 (improved, early). (vii) Unirrigated. (viii) Weeding once. (ix) 28.34". (x) 13.11.1955.

2. TREATMENTS:
6 manurial treatments: M₀ = Control (no manure), M₁ = Compost+40 lb./ac. of N as A/S, M₂ = Compost+80 lb./ac. of N as A/S, M₃ = Compost+40 lb./ac. of N as A/S+40 lb./ac. of P₂O₅ as Super, M₄ = M₁+40 lb./ac. of P₂O₅ as Super and M₅ = 40 lb./ac. of N as A/S+40 lb./ac. of P₂O₅ as Super.

3. DESIGN:
(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) 37°×19'. (b) 55.5°×17.5'. (v) 9°×9°. (vi) Yes.

4. GENERAL:
(i) Unsatisfactory growth. (ii) Nil. (iii) Weight of grain and straw, no. of tillers and height. (iv) (a) and (b) No. (c) Nil. (v) (a) and (b) No. (vi) Nil. (vii) Heavy drought.

5. RESULTS:
(i) 549 lb./ac. (ii) 63.6 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>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>407</td>
<td>452</td>
<td>473</td>
<td>486</td>
<td>461</td>
<td>1004</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>28.5 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
BASAL CONDITIONS:
(i) (a) Paddy after Paddy. (b) Paddy. (c) 40 mds. of F.Y.M.+15 lb. of Super and A/S each. (ii) (a) Sandy, acidic. (b) Refer soil analysis, Hathwara. (iii) 14.6.1955/25.8.1955. (iv) (a) Ploughing by desi plough 5 times, puddling and hoeing. (b) Sowing in nursery bed by Local method and transplanting by Japanese method. (c) 20 yrs./ac. (d) 12" x 12". (e) 6. (v) Nil. (vi) 498-2A (improved, late). (vii) Irrigated. (viii) Weeding. (ix) 28.34". (x) 2.11.1955.

TREATMENTS:
5 manural treatments: \( M_0 = \text{No G.M.}, M_1 = \text{G.M. with kalai}, M_2 = \text{G.M. with moong}, M_3 = \text{G.M. with sanai} \) and \( M_4 = \text{G.M. with dhaincha} \).

DESIGN:
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) \( 44' \times 25' \). (b) \( 42.5' \times 23.5' \). (v) \( 9' \times 9' \). (vi) Yes.

GENERAL:
(i) Growth satisfactory. (ii) Nil. (iii) Weight of straw and grain, no. of tillers, height at an interval of one month and also at harvest. (iv) and (b) No. (c) N.A. (v) (a) and (b) No. (vi) Crop suffered due to heavy drought. (vii) Nil.

RESULTS:
(i) 1148 lb./ac. (ii) 255.8 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>
<th>( M_4 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>562</td>
<td>1283</td>
<td>1079</td>
<td>1232</td>
<td>1183</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>132.9 lb/ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Paddy.
Site :- State Agri. Farm, Hathwara (Puralia).
Ref :- W.B. 55(63).
Type :- 'M'.

Object :- To study the effect of legume crop in improving soil fertility and Super on the yield of Paddy.

TREATMENTS:
4 manural treatments: \( M_0 = \text{No G.M.}, M_1 = \text{No G.M.} + \text{40 lb./ac. of P}_2\text{O}_5 \) as super., \( M_2 = \text{G.M. with sanai} \), \( M_3 = \text{G.M. with sanai} + \text{40 lb./ac. of P}_2\text{O}_5 \) as Super at the time of sowing.

DESIGN:
(i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) \( 57' \times 19' \). (b) \( 55' \times 17' \). (v) \( 9' \times 9' \). (vi) Yes.

GENERAL:
(i) Growth satisfactory. (ii) Nil. (iii) Weight of straw and grain, no. of tillers and height. (iv) (a) and (b) No. (c) N.A. (v) (a) and (b) No. (vi) Heavy drought, G.M. added was not satisfactory. (vii) Nil.

RESULTS:
(i) 786 lb./ac. (ii) 160.9 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>756</td>
<td>773</td>
<td>685</td>
<td>929</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>71.9 lb/ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop: Paddy.
Site: State Agri. Fàrm, Hathwara (Pûrûlia).
Object: To study the effect of liming on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy after Paddy. (b) Paddy. (c) 50 mds./ac. of F.Y.M.+55 lb./ac. of Super and A/S each.
   (iv) (a) Puddling and hoeing. (b) and (c) In nursery bed, local method at seed rate 20 srs./ac. and transplanting by Japanese method.
   (d) 12"×12". (e) 6. (v) No. (vi) Kane—II (Improved, medium).

2. TREATMENTS:
   6 manurial treatments: M0 = Control, M1 = 800 lb./ac. of lime, M2 = 1600 lb./ac. of lime, M3 = 2400 lb./ac. of lime, M4 = 40 lb./ac. of N as A/S+40 lb./ac. of P2O5 as Super+40 lb./ac. of K2O as Mur. Pot. and M5 = M3+M4.
   The liming was done one month before transplanting. It was applied on the level i.e. on soil surface and then ploughed.

3. DESIGN:
   (i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 5. (iv) (a) 57'×19'. (b) 55.5'×17.5'. (v) 9'×9'. (vi) Yes.

4. GENERAL:
   (i) Growth satisfactory for 1½ month but onwards suffered due to lack of irrigation. (ii) Nil. (iii) Weight of grain and tillers, height of the plants each at an interval of one month and also at harvest. (iv) (a) and (b) No. (c) N.A. (v) (a) and (b) No. (vi) Heavy drought and non-availability of suitable irrigational facilities. (vii) Nil.

5. RESULTS:
   (i) 808 lb./ac. (ii) 268.5 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

   Treatment | M0 | M1 | M2 | M3 | M4 | M5
   Av. yield  | 549 | 789 | 678 | 609 | 1213 | 1008
   S.E./mean  = 120.1 lb./ac.

---

Crop: Paddy.
Site: State Agri. Fàrm, Hathwara (Pûrûlia).
Object: To study the effect of N, P and K on Paddy crop.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Paddy. (b) Paddy. (c) 60 mds./ac. of F.Y.M.+33 lb./ac. of A/S. (ii) (a) Sandy, acidic.
   (b) Refer soil analysis, Hathwara. (iii) 5.6.1954/7.9.1954. (iv) (a) 5 ploughings by desi plough. (b) Transplanting. (c) 20 srs./ac. (d) 9"×9". (e) 4 to 5. (v) 40 mds./ac. of F.Y.M. to whole of the experimental area. (vi) B.K.—141 early (improved). (vii) Irrigated. (viii) Weeding. (ix) 18.16". (x) 28.11.1954.

2. TREATMENTS:
   5 manurial treatments: M0 = Control (no manure), M1 = 40 lb./ac. of N as A/S, M2 = 40 lb./ac. of N as A/S+40 lb./ac. of P2O5 as Super, M3 = 40 lb./ac. of N as A/S+40 lb./ac. of K2O as Mur. Pot. and M4 = 40 lb./ac. of N as A/S+40 lb./ac. of P2O5 as Super+40 lb./ac. of K2O as Mur. Pot.

3. DESIGN:
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) and (b) 34'×32'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) N.A. (ii) Nil. (iii) Weight of grain. (iv) (a) 1954—1955. (b) No. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.
5. RESULTS:

   (i) 1046 lb./ac.  (ii) 87.6 lb./ac.  (iii) Treatment differences are highly significant.  (iv) Av. yield of grain in lb./ac.

   Treatment | M₀ | M₁ | M₂ | M₃ | M₄
   Av. yield   | 710 | 1040 | 1132 | 1091 | 1256
   S.E./mean = 45.8 lb./ac.

   Crop :- Paddy.  
   Site :- State Agri. Farm, Hathwara (Purulia).

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

1. BASAL CONDITIONS:

   (i) (a) Paddy after Paddy.  (b) Paddy.  (c) 49 rods of F.Y.M.+47 lb. of Super and A/S each.  (ii) (a) Sandy, acidic.  
   (b) and (c) In nursery bed, local method at seed at 20 srs./ac. and transplanting by Japanese method.  
   (d) 12" X 12". (e) 5.  (vi) Nil.  (vi) Kanke-II (improved, medium).  (vii) Unirrigated.  (viii) 1 weedings.  (ix) 28.34°.  
   (x) 24.11.1955.

2. TREATMENTS:

   Same as in exp. no. 54(59) on page 81.

3. DESIGN:

   (i) R.B.D.  (ii) (a) 5.  (b) N.A.  (iii) 4.  (iv) (a) 57' X 19'. (b) 55.5' X 17.5'.  (v) 9' X 9'.

4. GENEREL:

   (i) Crop suffered due to drought.  (ii) Nil.  (iii) Weight of grain and straw, no. of tillers and height each at an interval of one month and also at harvest.  (iv) (a) 1954-1955.  (b) No.  (c) N.A.  (v) (a) and (b) N.A.  (vi) Heavy drought and non availability of suitable irrigational facilities caused the poor growth.  
   After a week of transplanting, it was observed that except the control plot all other treatments showed marked difference.  Leaving control plots, all others were erect and they were dark green.  (vii) N.A.

5. RESULTS:

   (i) 887 lb./ac.  (ii) 149.4 lb./ac.  (iii) Treatment differences are highly significant.  (iv) Av. yield of grain in lb./ac.

   Treatment | M₀ | M₁ | M₂ | M₃ | M₄
   Av. yield   | 631 | 951 | 974 | 871 | 1009
   S.E./mean = 74.7 lb./ac.

   Crop :- Paddy (Aman).  
   Site :- State Agri. Farm, Hathwara (Purulia).  
   Type :- 'M'.

   Object :- To study the effect of N, P and K alone and in combination on the yield of Paddy.

1. BASAL CONDITIONS:

   (i) (a) to (c) N.A.  (ii) (a) Sandy clay loam and clay loam with concretion.  (b) Refer soil analysis, Hathwara.  
   (iii) Last week of July, 1958.  (iv) (a) 3 to 4 ploughings and spading.  (b) Transplanting.  (c) 33.1 to 39.7 lb./ac.  
   (d) 9' between plants.  (e) 2 to 3.  (v) 100 mds./ac. of F.Y.M. (vi) Basikalamkuri (medium).  (vii) Unirrigated.  
   (viii) 2 to 3 weedings and 2 thinnings.  (ix) N.A.  (x) 1st week of December, 1958.
2. TREATMENTS:
All combinations of (1), (2) and (3)
(1) 2 levels of N as A/S: N₀ = 0 and N₁ = 20 lb./ac.
(2) 2 levels of P₂O₅ as Super: P₀ = 0 and P₁ = 20 lb./ac.
(3) 2 levels of K₂O as Mur. Pot.: K₀ = 0 and K₁ = 20 lb./ac.

3. DESIGN:
(i) Fact. in R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 29' × 30'. (b) 27' × 28'. (v) 1' × 1'. (vi) Yes.

4. GENERAL:
(i) Good. (ii) N.A. (iii) Yield of grain. (iv) (a) 1957—1959. (b) Yes. (c) N.A. (v) (a) No. (b) Nil.
(vi) N.A. (vii) Experiment conducted during the year 1957 failed.

5. RESULTS:
(i) 2420 lb./ac. (ii) 731.3 lb./ac. (iii) Only main effect of N is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>P₀</th>
<th>P₁</th>
<th>Mean</th>
<th>K₀</th>
<th>K₁</th>
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<tr>
<td>N₀</td>
<td>2196</td>
<td>2043</td>
<td>2119</td>
<td>2180</td>
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<tr>
<td>N₁</td>
<td>2526</td>
<td>2421</td>
<td>2722</td>
<td>2828</td>
</tr>
<tr>
<td>Mean</td>
<td>2361</td>
<td>2450</td>
<td>2420</td>
<td>2504</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 182.8 lb./ac.
S.E. of body of any table = 258.6 lb./ac.

Crop: - Paddy (Aman).
Site: - State Agri. Farm, Hathwara (Puruila).
Ref: - W.B. 59(2).
Type: - 'M'.

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

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Hathwara. (iii) 11.8.1959.
(iv) (a) 3 to 4 ploughings and ladderings. (b) Line transplanting. (c) 12 to 15 srs./ac. (d) 9" × 9". (e) 2 to 3.

2. TREATMENTS and 3. DESIGN:
Same as in exp. no. 58(45) on page 82.

4. GENERAL:
(i) Fair. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1957—contd. (b) Yes. (c) Nil. (v) Chinsurah, Burdwan and Midnapore. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 1202 lb./ac. (ii) 132.7 lb./ac. (iii) Only N effect is highly significant. (iv) Av. yield of grain in lb./ac.
Crop : Paddy (Aman).
Site: State Agri. Farm, Kalimpong.

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

1. BASAL CONDITIONS:
(i) (a) Maize-Paddy. (b) Maize. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Kalimpong. (iii) 15th July to 1st week of August, 1958. (iv) (a) 3 to 4 ploughings and ladderings. (b) Transplanting. (c) 33.1 lb./ac. (d) 1' apart. (e) 2 to 3. (v) 100 mds./ac. of F.Y.M. (vi) Local. (vii) Unirrigated. (viii) 2 weedings and thinning. (ix) N.A. (x) Last week of December, 1956.

2. TREATMENTS:
All combinations of (1) and (2)+(a control (no manure)
(1) 2 levels of N as A/S : \( N_1 = 20 \) and \( N_2 = 40 \) lb./ac.
(2) 2 levels of \( P_2 O_5 \) as Super : \( P_0 = 0 \) and \( P_1 = 20 \) lb./ac.

3. DESIGN:
(i) R.B.D. (ii) 5. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 8' X 7'. (v) N.A. (vi) Yes.

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

5. RESULTS:
(i) 2990 lb./ac. (ii) 217.8 lb./ac. (iii) Except P, all effects are highly significant. (iv) Av. yield of grain in lb./ac.

| Control | 3290 lb./ac. |

<table>
<thead>
<tr>
<th>N_1</th>
<th>N_2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( P_0 )</td>
<td>3220</td>
<td>2466</td>
</tr>
<tr>
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<td>3012</td>
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</table>

Mean: 3092 2739 2916

S.E. of any marginal mean = 77.0 lb./ac.
S.E. of body of table or control mean = 108.9 lb./ac.

---

S.E. of any marginal mean = 33.2 lb./ac.
S.E. of body of any table = 46.9 lb./ac.
Crop :- Paddy (Aman).
Site :- State Agri. Farm, Malda.

Object :- To study the effect of different doses and sources of N on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Wheat—Paddy. (b) Wheat. (c) N.A. (ii) (a) Loam and silt loam. (b) Refer soil analysis, Malda. (iii) 22.5.1958. (iv) (a) 4 to 5 ploughings. (b) Line sowing (broadcast). (c) N.A. (d) 9 seeds between lines. (e) N.A. (vi) Bhurat—medium. (vii) Unirrigated. (viii) 2 to 3 weedings and thinning. (ix) N.A. (x) 30.9.1958.

2. TREATMENTS:
   Main-plot treatments:
   3 sources of N: S1 = A/S, S2 = C/N and S3 = A/C.
   Sub-plot treatments:
   3 levels of N: N0 = 0, N1 = 1, and N2 = 60 lb./ac.
   Fertilizer applied after sowing and on 26.7.1958.

3. DESIGN:
   (i) Split-plot. (iii) 3 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 25' × 20'. (b) 25' × 18'. (v) 1' × 1'. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) Nil. (iii) Yield of grain. (iv) (a) N0. (b) and (c) Nil. (v) (a) N0. (b) Nil. (vi) N.A. (vii) Nil.

5. RESULTS:
   (i) 1768 lb./ac. (ii) (a) 24.24 lb./ac. (b) 311.7 lb./ac. (iii) All the effects are highly significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two
1. S marginal means
2. N marginal means
3. N means at the same level of S
4. S means at the same level of N
   = 80.8 lb./ac.
   = 103.9 lb./ac.
   = 180.0 lb./ac.
   = 168.8 lb./ac.

Crop :- Paddy (Aman).
Site :- State Agri. Farm, Maynaguri.

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

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Maynaguri. (iii) 1st to 2nd week of August, 1957. (iv) (a) 5 to 6 ploughings and 2 laddering. (b) Transplanting. (c) Nil. (d) N.A. (e) 2 to 3. (v) 80 to 100 mds./ac. of F.Y.M. (vi) Bhusatamik (late). (vii) Unirrigated. (viii) 2 weedings and 2 thinings. (ix) N.A. (x) Last week of December, 1957.

2. TREATMENTS:
   All combinations of (1) and (2) + a control (no manure)
   • (1) 2 levels of N: N1 = 20 and N2 = 40 lb./ac.
   • (2) 4 sources of N: S1 = A/S, S2 = A/S/N, S3 = Urea and S4 = Nitro-chalk.
3. DESIGN:
(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 39'×28'. (b) 37'×26'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
(i) Good. (ii) Nil. (iii) Yield of grain. (iv) (a) 1954–1958. (b) Yes. (c) N.A. (v) (a) No. (b) N.A. (vi) N.A. (vii) Experiment conducted during the years 1954 and 1955 failed.

5. RESULTS:
(i) 1411 lb./ac. (ii) 279.5 lb./ac. (iii) ‘Control vs. other’ effect is highly significant. (iv) Av. yield of grain in lb./ac.

\[
\text{Control} = 815 \text{ lb./ac.}
\]

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S.E. of S marginal mean = 98.8 lb./ac.
S.E. of N marginal mean = 69.9 lb./ac.
S.E. of body of table or control mean = 139.8 lb./ac.

Crop :- Paddy (Aman).
Site :- State Agri. Farm, Maynaguri.

Object :- To study the effect of different doses and sources of N on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Tista river rice. (b) Refer soil analysis, Maynaguri. (iii) Last week of July, 1958. (iv) (a) 4 to 5 ploughings. (b) Transplanting. (c) and (d) N.A. (e) 2 to 3. (v) N.A. (vi) Bhasamanik. (vii) Unirrigated. (viii) 2 weedings. (ix) N.A. (x) Last week of December, 1958.

2. TREATMENTS:
All combinations of (1) and (2)+control (no manure)
(1) 2 doses of N: \(N_1=20\) and \(N_2=40\) lb./ac.
(2) 4 sources of N: \(S_1=A/S, S_2=A/S/N, S_3=Urea\) and \(S_4=C/A/N\).

3. DESIGN:
(i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 39'×28'. (b) 37'×26'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
(i) Good. (ii) Nil. (iii) Yield of grain. (iv) (a) 1954–1958. (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) N.A. (vii) Nil.

5. RESULTS:
(i) 2212 lb./ac. (ii) 268.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

\[
\text{Control} = 1922 \text{ lb./ac.}
\]

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Crop: Paddy (Aman).

Object: To study the effect of N and P applied alone and in combinations on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) Single cropping. (b) Fallow. (c) Nil. (d) Sandy loam. (e) Refer soil analysis, Maynaguri. (f) All combinations of (1) and (2).
   (1) 5 levels of N as A/S: N0 = 0, N1 = 15, N2 = 30, N3 = 45 and N4 = 60 lb./ac.
   (2) 5 levels of P2O5 as Super: P0 = 0, P1 = 20, P2 = 40, P3 = 60 and P4 = 80 lb./ac.

2. TREATMENTS:
   All combinations of (1) and (2)
   (1) 5 levels of N as A/S: N0 = 0, N1 = 15, N2 = 30, N3 = 45 and N4 = 60 lb./ac.
   (2) 5 levels of P2O5 as Super: P0 = 0, P1 = 20, P2 = 40, P3 = 60 and P4 = 80 lb./ac.

3. DESIGN:
   (i) Fact. in R.B.D. (ii) 25. (b) N.A. (iii) 5. (iv) (a) 32' × 22'. (b) 30' × 20'. (v) 1' × 1'. (vi) Yes.

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

5. RESULTS:
   (i) 1703 lb./ac. (ii) 269.6 lb./ac. (iii) P effect is significant and N effect is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
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S.E. of any marginal mean = 53.9 lb./ac.
S.E. of body of table = 120.6 lb./ac.

Crop: Paddy (Aman).

Object: To study the effect of N and P applied alone and in combinations on the yield of Paddy.
1. BASAL CONDITIONS:
   (i) (a) Single cropping. (b) Dhaincha sown on 9.5.1954 and turned down on 22.6.1955.
   (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Maynaguri. (iii) 21 to 26.7.1955. (iv) (a) 3 to 4 ploughings and ladders.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 54(49) on page 87. Super applied on 23, 29.6.1955 and A/S applied on 2.9.1955.

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

5. RESULTS:
   (i) 1345 lb./ac. (ii) 329.6 lb./ac. (iii) Only P effect is significant. (iv) Av. yield of grain in lb./ac.

<table>
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<th>N₂</th>
<th>N₃</th>
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</table>

S.E. of any marginal mean = 65.9 lb./ac.
S.E. of body of table = 147.4 lb./ac.

Crop :- Paddy (Aman).
Site :- State Agri. Farm, Maynaguri.
Object :-To find out the optimum requirement of A/S and Super for Paddy.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (i) (a) Tista riverine. (b) Refer soil analysis, Maynaguri. (iii) 2nd week of July, 1955. (iv) (a) 1 to 4 ploughings. (b) Transplanting. (c) N.A. (d) 9’x9’. (e) 2 to 3. (v) (a) & (vii) N.A. (vii) Unirrigated. (viii) 2 to 3 weedings and interculture. (ix) N.A. (x) Last week of December to 1st week of January, 1956.

2. TREATMENTS:
   All combinations of (1) and (2)
   (1) 5 levels of N as A/S : N₀=0, N₁=15, N₂=30, N₃=45 and N₄=60 lb./ac.
   (2) 5 levels of P₂O₅ as Super : P₀=0, P₁=20, P₂=40, P₃=60 and P₄=80 lb./ac.
Super was ploughed in before transplanting and A/S was given as top dressing 4 weeks after transplanting.

3. DESIGN:
   (i) Fact. in R.B.D. (ii) (a) 25. (b) N.A. (iii) 5. (iv) (a) 38’x22’. (b) 36’x20’. (v) 1’x1’. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) Nil. (iii) Yield of grain. (iv) (a) 1953—contd. (b) Yes. (c) N.A. (v) (a) Cooch Behar, Burdwan, Chitapurah, Haringhata, Midnapur and Ma’dia. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1117 lb./ac. (ii) 273.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.
### Crop: Paddy (Aman).

**Site:** State Agri. Farm, Midnapore.

Object: To find out the optimum requirement of A/Sand Super for Paddy.

1. **Basal Conditions:**
   - (i) (a) to (c) N.A.
   - (ii) (a) Pore laterite.
   - (b) Refer soil analysis, Midnapore.
   - (iii) Last week of July to 1st week of August, 1955.
   - (iv) (a) 3 to 4 ploughings.
   - (b) Transplanting.
   - (c) N.A.
   - (d) 9"x9".
   - (e) 2 to 3.
   - (v) N.A.
   - (vi) *Bhasamanik* (medium).
   - (vii) Unirrigated.
   - (viii) 2 weedings.
   - (ix) Nil.
   - (x) Last week of December, 1955.

2. **Treatments and 3. Design:**
   - Same as in expt. no. 55(73) conducted at Maynaguri on page 88.

4. **General:**
   - (i) Normal.
   - (ii) Nil.
   - (iii) Yield of grain.
   - (iv) (a) 1953—1956.
   - (b) Yes.
   - (c) N.A.
   - (v) (a) Cooch Behar, Chinsurah, Haringhata, Malda, Maynaguri and Burdwan.
   - (b) N.A.
   - (vi) Nil.
   - (vii) Experiment was not conducted during the year 1954.

5. **Results:**
   - (i) 2223 lb./ac.
   - (ii) 221.5 lb./ac.
   - (iii) Only main effect of N is highly significant.
   - (iv) Av. yield of grain in lb./ac.

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S.E. of any marginal mean = 44.3 lb./ac.
S.E. of body of table = 99.1 lb./ac.

---

**Crop:** Paddy (Aman).

**Site:** State Agri. Farm, Midnapore.

Object: To study the effect of N, P and K applied alone and in combinations on the yield of Paddy.

---

**Crop:** Paddy (Aman).

**Site:** State Agri. Farm, Midnapore.

**Ref:** W.B. 57(46).

**Type: 'M'**
1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Sandy loam clay. (b) Refer soil analysis, Midnapore.  (iii) 1st week of August, 1957.  (iv) (a) 2 to 3 ploughings, 2 spadings, laddering and 2 harrowings. (b) Transplanting. (c) and (d) N.A. (e) 2 to 3.  (v) 100 mds/ac. of F.Y.M.  (vi) Baldar (late).  (vii) Unirrigated.  (viii) 2 to 3 weedings. (ix) N.A.  (x) Middle of December, 1957.

2. TREATMENTS:

   All combinations of (1 , (2) and (3)
   (1) 2 levels of N as A/S : N=0 and N1=20 lb./ac.
   (2) 2 levels of P2O5 as Super : P0=0 and P1=20 lb./ac.
   (3) 2 levels of K2O as Mur. Pot. : K0=0 and K1=20 lb./ac.

3. DESIGN:
   (i) Fact. in R.B.D.  (ii) (a) 8. (b) N.A.  (iii) 4. (iv) (a) 33'×27'. (b) 31'×25'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) Nil.  (iii) Yield of grain. (iv) (a) 1957—1960. (b) Yes.  (c) N.A.  (v) (a) Chinsurah, Burdwan, Cooch Behar and Hathwara. (b) N.A.  (vi) N.A.  (vii) Nil.

5. RESULTS:

   (i) 834 lb./ac.  (ii) 127.2 lb./ac.  (iii) Main effect of P is highly significant, while that of K is significant. (iv) Av. yield of grain in lb./ac.

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   S.E. of any marginal mean = 31.8 lb./ac.
   S.E. of body of any table = 45.0 lb./ac.

   Ref. :- W.B. 58(31).
   Type. :- 'M'.

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

1. BASAL CONDITIONS:
   (i) (a) to ('c) N.A.  (ii) (a) Laterite. (b) Refer soil analysis, Midnapore.  (iii) 1st week of August, 1958. (iv) (a) 3 to 4 ploughings. (d) Transplanting. (c) and (d) N.A. (e) 2 to 3.  (v) 100 mds/ac. of F.Y.M.  (vi) Baldar (medium). (vii) Unirrigated.  (viii) 2 to 3 weedings and 2 thinings. (ix) N.A.  (x) 1st to 2nd week of December, 1958.

2. TREATMENTS:

   Same as in expt. no. 57(46) on page 89.

5. RESULTS:

   (i) (a) 1342 lb./ac.  (ii) 307.5 lb./ac.  (iii) Only main effect of N is highly significant. (iv) Av. yield of grain in lb./ac.
Crop :- Paddy (Aman),
Site :- State Agri. Farm, Midnapore.

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

1. BASAL CONDITIONS :
   (i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Midnapore. (iii) 8.8.1959.
   (iv) (a) 4 to 6 ploughings and harrowings. (b) Line transplanting. (c) 12 to 15 srs./ac. (b) 9"x9".

2. TREATMENTS and 3. DESIGN :
   Same as in exp. no. 57(46) on page 89.

4. GENERAL :
   (i) Fair. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1956—contd. (b) Yes. (c) Nil. (v) (a) Chinsurah,
   Burdwan, Cooch Behar and Hathwara. (b) N A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1868 lb./ac. (ii) 265.7 lb./ac. (iii) Only N effect is significant. (iv) Av. yield of grain in lb./ac.

<table>
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S.E. of any marginal mean = 76.9 lb./ac.
S.E. of body of any table = 108.7 lb./ac.

Crop :- Paddy (Kharif),
Site :- State Agri. Farm, Midnapore.

Object :- To study the effect of basic slag, Super and organic matter on the yield of Paddy.
1. BASAL CONDITIONS:

(i) (a) to (c) N.A. (ii) Sandy loam clay. (b) Refer soil analysis, Midnapore. (iii) Middle of August, 1958. (iv) (a) 3 to 4 ploughings and 2 harrowings. (b) Transplanting. (c) and (d) N.A. (e) 2 to 3. (v) Nil. (vi) B. Fazilatnur (11.6.1958). (vii) Unirrigated. (viii) 2 to 3 weeding and 1 interculture. (ix) 27.76". (x) Last week of December, 1958.

2. TREATMENTS:

All combinations of (1) and (2)

(1) 3 - acres of 4 lb. of P.O, : S2 = No P.O., S1 = Basic slag and S3 = Super. (2) 4 types of basal dressing at 2 tons/acre: B1 = No G.M., B2 = Paddy straw, B3 = Town compost and B4 = Water hyacinths.

3. DESIGN:

(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 6. (iv) (a) 3'x2'. (b) 3'x20'. (v) 1'x 1'. (vi) Yes. (vii) N.A. (viii) 2 to 3 weeding and 1 interculture. (ix) 27.76". (x) Last week of December, 1958.

4. GENERAL:

(i) Good. (ii) N.A. (iii) Yield of grain. (iv) (a) 1958-1959. (b) Yes. (c) N.A. (v) (a) No. (b) Nil. (vi) N.A. (vii) Nil.

5. RESULTS:

(i) 691 lb. ac. (ii) 137.0 lb/acre. (iii) Main effect of B2 is highly significant and interaction S x B is significant. (iv) Av. yield of grain in lb/acre.

<table>
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Mean 681 785 637 630 691
S.E. of B marginal mean = 25.2 lb./acre.
S.E. of S marginal mean = 21.8 lb./acre.
S.E. of body of table = 43.7 lb./acre.

Crop : Paddy (Aman).  
Site : State Agri. Farm, Midnapore.  
Ref. : W.B. 59(6).  
Type : "M".

Object : To study the effect of basic slag, Super and organic matter on the yield of Paddy.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Paddy. (c) Nil. (ii) Sandy loam clay. (b) Refer soil analysis, Midnapore. (iii) 11.6.1959. (iv) (a) 3 to 6 ploughings and harrowings. (b) Line transplanting. (c) 12 to 15 srs./acre. (d) 9" x 9". (e) 3. (f) Nil. (g) B. Fazilatnur (11.6.1958). (vii) Unirrigated. (viii) 2 weeding. (ix) N.A. (x) 25 to 28.11.1959.

2. TREATMENTS and 3. DESIGN:

Same as in exp. no. 55.29, OA page 91.

4. GENERAL:

(i) Fair. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1958-1959. (b) Yes. (c) Nil. (v) (a) Burdwan. (b) Nil. (vi) 1.1. (vii) Nil.

5. RESULTS:

(i) 1535 lb./acre. (ii) 213.1 lb./acre. (iii) Only main effect of B is highly significant. (iv) Av. yield of grain in lb./acre.

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Mean 1344 1586 1528 1535
Crop: Paddy (Aman).
Site: State Agric. Farm, Sriniketan.

Object: To study the residual effect of applying N, P and F.Y.M. alone and in combinations on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Fallow, (b) Fallow, (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Sriniketan. (iii) 16.6.1954/22 to 23.7.1954. (iv) (a) 3 to 4 ploughings and harrowing. (b) Transplanting. (c) N.A. (d) 5' x 9'.
   (e) 2 to 3. (v) Nil. (vi) Badakalmiti—65 (early). (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) 33.04'.
   (x) 14 to 19.11.1954.

2. TREATMENTS:
   Main-plot treatments:
   All combinations of (1) and (2)
   (1) 3 levels of N as A/S: N0 =0, N1 =30 and N2 =60 lb./ac.
   (2) 3 levels of P2O5 as Super: P0 =0, P1 =20 and P2 =40 lb./ac.

   Sub-plot treatments:
   2 levels of FYM: F0 =0 and F1 =100 mds./ac.
   No manure applied during the year.

3. DESIGN:
   (i) Split-plot. (ii) (a) 9 main-plots/replication and 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 34' x 19'.
   (b) 32' x 17'. (v) 1' x 1'. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) N.A. (iii) Grain and straw yield. (iv) (a) 1948—1955. (b) Yes. (c) N.A. (v) (a) and
   (b) No. (vi) Nil. (vii) The drought conditions prevailed throughout the crop season and distribution of
   rain was uneven. Irrigation was done from time to time.

5. RESULTS:
   (i) 751 lb./ac. (ii) 375.1 lb./ac. (b) 160.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield
   of grain in lb./ac.

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S.E. of difference of two
1. N or P marginal means = 108.3 lb./ac.
2. F marginal means = 37.7 lb./ac.
3. F means at the same level of N or P = 65.3 lb./ac.
4. N or P means at the same level of F = 117.7 lb./ac.
S.E. of body of N x P table = 132.6 lb./ac.
Crop :- Paddy (Aman).

Site :- State Agri. Farm, Sriniketan.

Ref :- W.B. 55(24).

Type :- ‘M’.

1. BASAL CONDITIONS :
   (i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Laterite. (b) Refer soil analysis, Sriniketan. (iii) 26.6.1955/27.7.1955 to 1.8.1955. (iv) (a) 3 to 4 ploughings and harrowings. (b) Transplanting. (c) N.A. (d) 9" x 9". (e) 2 to 3. (v) Nil. (vi) Bakaltamkuri—65 (early). (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) 33.41". (x) 20 to 25.11.1955.

2. TREATMENTS to 4. GENERAL :
   Same as in expt. no. 54(33) on page 93

5. RESULTS :
   (i) 1206 lb./ac. (ii) (a) 289.6 lb./ac. (b) 161.6 lb./ac. (iii) F effect is highly significant and interaction N x P is significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two
   1. N or P marginal means = 83.6 lb./ac.
   2. F marginal means = 38.1 lb./ac.
   3. F means at the same level of N or P = 66.0 lb./ac.
   4. N or P means at the same level of F = 95.6 lb./ac.
   S.E. of body of N x P table = 102.4 lb./ac.

Objecトル:- To study the effect of continuous application of A/S, B.M. and F.Y.M. applied alone and in combinations on the yield of Paddy.

1. BASAL CONDITIONS :
   (i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Suri. (iii) August, 1954. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) N.A. (d) 9" x 9". (e) 2 to 3. (v) Nil. (vi) Bhasamanik, Chinsurah-3 (medium). (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) 36.84". (x) December, 1954.

2. TREATMENTS:
   All combinations of (1), (2) and (3)
   (1) 3 levels of N as A/S: N0 = 0, N1 = 30 and N2 = 60 lb./ac.
   (2) 3 levels of P2O5 as B.M.: P0 = 0, P1 = 20 and P2 = 40 lb./ac.
   (3) 2 levels of F.Y.M.: F0 = 0 and F1 = 100 mds./ac.

B.M. and F.Y.M. were applied at the time of general preparation of land and A/S broadcasted 4 weeks after transplantation.

3. DESIGN:
   (i) 3 x 3 x 2 partially confd. Confounding partially in NP and NPF. (ii) (a) 3 blocks/replication; 6 plots/block. (b) N.A. (iii) 4. (iv) (a) 19' x 34'. (b) 17' x 32'. (v) 1' x 1'. (vi) Yes.
4. GENERAL:
(i) Good. Plants in N₂ plots were lodged. (ii) Slight attack of *keleminthosporium*. (iii) Height of plants and no. of tillers/plant. Grain and straw yield. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) (a) Chinsurah and Berhampore. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 2460 lb./ac. (ii) 370.4 lb./ac. (iii) F effect and interaction F×N are highly significant. N effect is significant. Other effects are not significant. (iv) A yield of grain in lb./ac.

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S.E. of N or P marginal mean = 75.6 lb./ac.
S.E. of F marginal mean = 61.8 lb./ac.
S.E. of body of N×P table = 140.0 lb./ac.
S.E. of body of N×P or P×F table = 106.9 lb./ac.

Crop: Paddy (Aman).
Ref: W.B. 55(110).
Site: State Agri. Farm, Suri.
Type: 'M'.

Object: To study the effect of continuous application of A/S, B.M. and F.Y.M. applied alone and in combination on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Suri. (iii) August, 1955. (iv) (a) Ploughing. (b) Transplanting. (c) N.A. (d) 9"×9". (e) 2 to 3. (v) Nil. (vi) Bhasamanik (medium). (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) December, 1955.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 54(17) on page 94.

4. GENERAL:
(i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948—contd. (b) Yes. (c) Nil. (v) (a) Berhampore and Chinsurah. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 2556 lb./ac. (ii) 373.3 lb./ac. (iii) Interaction NF alone is highly significant. (iv) Av. yield of grain in lb./ac.

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Crop: Paddy (Aman).
Site: State Agri. Farm, Suri.

Object: To study the effect of continuous application of N, P and lime applied alone and in combinations on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Lateritic sandy clay. (b) Refer soil analysis, Suri. (iii) 1st week of July, 1956. (iv) (a) Ploughing and laddering. (b) Transplanting. (c) N.A. (d) 9'x9'. (e) 2. (v) Nil. (vi) Bhasmanik (medium). (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) 13th to last week of December, 1956.

2. TREATMENTS and 3. DESIGN:
Same as in exp. no. 54(17) on page 94

4. GENERAL:
(i) Normal. (ii) N.A. (iii) Yield of grain and straw. (iv) (a) 1948—contd. (b) Yes. (c) N.A. (v) (a) Chinsurah and Berhampore. (b) N.A. (vi) Crop effected by flood and strom. (vii) Nil.

5. RESULTS:
(i) 2693 lb./ac. (ii) 267.1 lb./ac. (iii) F effect and interactions N×F and N×P×F are highly significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

<table>
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S.E. of N or P marginal mean = 7.6 lb./ac.
S.E. of F marginal mean = 62.2 lb./ac.
S.E. of body of N×F or P×F table = 141.1 lb./ac.
S.E. of body of N×P table = 107.8 lb./ac.

Crop: Paddy (Aman).
Site: State Agri. Farm, Suri.

Object: To study the effect of continuous application of N, P and F.Y.M. applied alone and in combinations on the yield of Paddy.
1. BASAL CONDITIONS:
   (i) (a) No. (b) Paddy. (c) *A* s per treatments. (ii) (a) Lateritic sandy loam. (b) Refer soil analysis, Suri. (iii) Middle of August, 1957. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) N.A. (d) 9" x 9". (e) 2 to 3. (v) Nil. (vi) *Bhasamanik* (medium). (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) Last week of December, 1957.

2. TREATMENTS and 3. DESIGN:
   Same as in expl. no. 14(17) on page 94.

4. GENERAL:
   (i) Good. (ii) N.A. (iii) Yield of grain and straw. (iv) 1948—contd. (b) Yes. (c) N.A. (v) (a) Chinsurah and Berhampore. (b) N.A. (vi) Nil. (vii) N.A.

5. RESULTS:
   (i) 30/19 lb./ac. (ii) 430.4 lb./ac. (iii) Main effect of *F* is highly significant and main effect of *N* is significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

<table>
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S.E. of N or P marginal mean = 87.9 lb./ac.
S.E. of F marginal mean = 71.7 lb./ac.
S.E. of body of N x P table = 162.7 lb./ac.
S.E. of body of N x F or P x F table = 124.2 lb./ac.

**Crop:** Paddy (*Aman*).
**Site:** State Agri. Farm, Suri.
**Ref:** W.B. 58(32).
**Type:** *‘M’*.

Object:—To study the effect of continuous application of A/S, B.M. and F.Y.M. alone and in combination on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Lateritic sandy loam. (b) Refer soil analysis, Suri. (iii) Last week of July to 1st week of August, 1958. (iv) (a) 2 to 3 ploughings. (b) Transplanted. (c) N.A. (d) 9" x 9". (e) 2 to 3. (v) Nil. (vi) *Bhasamanik* (medium). (vii) N.A. (viii) 2 weedings. (ix) N.A. (x) Last week of December, 1958.

2. TREATMENTS:
   All combinations of (1), (2) and (3)
   (1) 3 levels of *N*: *N₀*=0, *N₁*=30 and *N₂*=60 lb./ac.
   (2) 3 levels of *P₂*₀: *P₀*=0, *P₁*=20 and *P₂*=40 lb./ac.
   (3) 2 levels of *F.Y.M.:* *F₀*=0 and *F₁*=100 mds./ac.
   N as A/S and P₂*₀ as B.M. B.M. and F.Y.M. were applied at the time of general preparation of land and A/S applied 4 weeks after transplantation.

3. DESIGN:
   (i) 3 x 3 x 2 fact. partially confd. 4 df. N x P and 4 df. N x P x F have been partially confd. (ii) (a) 6 plots/block; 3 blocks/replication. (b) N.A. (iii) 4. (iv) (a) 34" x 19". (b) 32" x 17". (v) 1' x 1' (vi) Yes.
4. GENERAL:
(i) Good. (ii) N.A. (iii) Yield of grain and straw. (iv) (a) 1943—contd. (b) Yes. (c) N.A. (v) (a) Chinsurah and Berhampore (b) N.A. (vi) N.A. (vii) Nil.

5. RESULTS:
(i) 228 lb./ac. (ii) 140.7 lb./ac. (iii) All the effects are highly significant. (iv) Av. yield of grain in lb./ac.

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S.E. of N or P marginal mean = 28.7 lb./ac.
S.E. of F marginal mean = 23.4 lb./ac.
S.E. of body of N x P table = 53.2 lb./ac.
S.E. of body of N x F or P x F table = 30.1 lb./ac.

Crop: Paddy (.1 man).
Site: State Agri. Farm, Suri.
Ref: W.B. 59(57).
Type: 'M'.

Object: To study the effect of continuous application of A/S, B.M. and F.Y.M. on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Lateritic sandy loam. (b) Refer soil analysis, Suri. (c.i) 13.8.1959. (iv) (a) 3 to 4 ploughings and laddering. (b) Transplanting. (c) N.A. (d) 9'×9'. (e) 2 to 3. (v) Nil. (vi) Bhosamik (CH-3 medium). (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) N.A.

2. TREATMENTS:
All combinations of (1), (2) and (3)
(1) 3 levels of N: N0=0, N1=30 and N2=60 lb./ac.
(2) 3 levels of P2O5: P0=0, P1=20 and P2=40 lb./ac.
(3) 2 levels of F.Y.M.: F0=0 and F1=10% mds./ac.

Date of manuring: B.M.—4.7.1959, F.Y.M.—9.7.1959 and A/S—8.9.1959. B.M. and F.Y.M. were applied at the time of general preparation of land and A/S was applied 4 weeks after transplantation.

3. DESIGN:
(i) 3×3×2 fact, partially confd. in randomised incomplete blocks. (ii) (a) 6 plots/block ; 3 blocks/replication. (b) N.A. (iii) 4. (iv) (a) 19'×34'. (b) 17'×32'. (v) Y'×Y'. (vi) Yes.

4. GENERAL:
(i) Good. (ii) Slight attack of helminthosporium. Draining out water from the effected plots. (iii) Yield of grain and straw. (iv) (a) 1948—contd. (b) Yes. (c) N.A. (v) (a) Chinsurah and Berhampore. (b) N.A. (vi) Draught and occasional heavy rainfall followed by flood slightly effected the crop. (vii) Nil.

5. RESULTS:
(i) 258 lb./ac. (ii) 261.0 lb./ac. (iii) Main effects of N and F are highly significant and interactions N×F and N×P×F are significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.
Subject: To study the effect of continuous application of A/S, B.M. and lime applied alone and in combination on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Sandy loam, red soil. (b) Refer soil analysis, Suri.
   (iii) August, 1954. (iv) (a) The field was ploughed 3 to 4 times before transplantation. (b) Transplanting.
   (c) August, 1954. (d) 9"x9". (e) 2 to 3. (f) Nil. (vi) Bhasamani (CH 3). (vii) Unirrigated. (viii) 2 to 3
   weedings. (ix) 36.84". (x) December, 1954.

2. TREATMENTS:
   All combinations of (1), (2) and (3)
   (1) 4 levels of N as A/S: N = 0, N = 30, N = 60 and N = 90 lb./ac.
   (2) 3 levels of P as B.M.: P0 = 0, P1 = 20 and P2 = 40 lb./ac.
   (3) 3 levels of lime: L0 = 0, L1 = 4 and L2 = 6 cwt./ac.
   B.M. is added at the general preparation of land and A/S broadcasted 4 weeks before transplantation.
   Liming is done once in 4 years at least 6 weeks before transplantation.

3. DESIGN:
   (i) 4x3x3 partially confd. confounding interactions P x L and N x P x L. (ii) (a) 3 blocks/replication; 12 plots/block. (b) N.A. (iii) 2. (iv) (a) 34"x19". (b) 32"x17". (v) 1"x1". (vi) Yes.

4. GENERAL:
   (i) Good. Plants receiving N2 and N3 doses were lodged. (ii) Slight attack of helminthosporium. (iii)
   Height of plants and no. of tillers per plant. Grain and straw yield. (iv) (a) 1948—contd. (b) Yes.
   (c) N.A. (v) (a) Chinsurah and Berhampore. (b) N.A. (vi) Nil. (vii) Some decrease in pH value was
   observed due to continuous application of A/S but supplementing B.M. and lime restored pH value to a
   certain extent.

5. RESULTS:
   (i) 1661 lb./ac. (ii) 272.8 lb./ac. (iii) Only N and P effects are highly significant. (iv) Av. yield of grain
   in lb./ac.
Crop :- Paddy (Aman).
Site :- State Agri. Farm, Suri.

Object :- To study the effect of continuous application of A/S, B.M. and lime applied alone and in combinations on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Sandy loam, red soil. (b) Refer soil analysis, Suri.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 55 (N.A.) on page 95.

4. GENERAL:
   (i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1948—contd. (b) Yes. (c) Nil. (v) (a) Berhampore and Chinsurah. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2174 lb./ac. (ii) 295.7 lb./ac. (iii) Only N effect is significant. (iv) Av. yield of grain in lb./ac.

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<th>N₃</th>
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S.E. of N marginal mean = 69.7 lb./ac.
S.E. of L or P marginal mean = 60.4 lb./ac.
S.E. of body of L × P table = 111.8 lb./ac.
S.E. of body of N × L or N × P table = 120.7 lb./ac.
Crop: Paddy (Aman).
Site: State Agri. Farm, Suri.

Object: To study the effect of continuous application of A/S, B.M. and lime on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) to (c) Nil. (ii) (a) Lateritic sandy clay. (b) Refer soil analysis, Suri. (iii) 1st August, 1956. (iv) (a) Ploughing and laddering. (b) Transplanted. (c) N.A. (d) 9"×9". (e) 2 to 3. (v) Nil. (vi) Bhasamanik (medium). (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) December, 1956.

2. TREATMENTS and 3. DESIGN:
   Same as in exp. no. 54(18) on page 99.

4. GENERAL:
   (i) Normal. (ii) N.A. (iii) Yield of grain and straw. (iv) (a) 1948—contd. (b) Yes. (c) N.A. (v) (a) Chinsurah and Berhampore. (b) N.A. (vi) Crop suffered due to flood and storm. (vii) N.A.

5. RESULTS:
   (i) 2133 lb./ac.  (ii) 290.5 lb./ac.  (iii) Only P effect is highly significant. (iv) Av. yield of grain in lb./ac.

\[
\begin{array}{cccc|ccc}
N_0 & N_1 & N_2 & N_3 & L_0 & L_1 & L_2 \\
\hline
P_0 & 1978 & 1937 & 2037 & 1940 & 1973 & 2222 & 1820 & 1877 \\
P_1 & 2020 & 2177 & 2139 & 2273 & 2152 & 2142 & 2083 & 2322 \\
P_2 & 2078 & 2300 & 2393 & 2321 & 2273 & 2237 & 2253 & 2330 \\
Mean & 2021 & 2138 & 2190 & 2178 & 2133 & 2200 & 2052 & 2416 \\
\hline
L_0 & 2126 & 2091 & 2149 & 2334 \\
L_1 & 1944 & 2218 & 2164 & 1882 \\
L_2 & 2006 & 2105 & 2156 & 2317 \\
\end{array}
\]

S.E. of N marginal mean = 68.5 lb./ac.
S.E. of L or P marginal mean = 59.3 lb./ac.
S.E. of body of N×P or N×L table = 118.6 lb./ac.
S.E. of body of L×P table = 109.8 lb./ac.

———

Crop: Paddy (Aman).
Site: State Agri. Farm, Suri.

Object: To study the effect of continuous application of A/S, B.M. and lime on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Lateritic sandy loam. (b) Refer soil analysis, Suri. (iii) August, 1957. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) N.A. (d) 9"×9". (e) 2 to 3. (v) Nil. (vi) Bhasamanik (Chinsurah—3, medium). (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) December, 1957.

2. TREATMENTS and 3. DESIGN:
   Same as in exp. no. 54(18) on page 99.

4. GENERAL:
   (i) Normal. (ii) N.A. (iii) Yield of grain and straw. (iv) (a) 1948—contd. (b) Yes. (c) N.A. (v) (a) Chinsurah and Berhampore. (b) N.A. (vi) N.A. (vii) Nil.

5. RESULTS:
   (i) 2482 lb./ac.  (ii) 351.4 lb./ac.  (iii) Main effect of P alone is highly significant. (iv) Av. yield of grain in lb./ac.
Table

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<th>N₂</th>
<th>N₃</th>
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S.E. of N marginal mean = 82.8 lb./ac.
S.E. of P or L marginal mean = 71.7 lb./ac.
S.E. of body of N x P or N x L table = 143.5 lb./ac.
S.E. of body of P x L table = 132.8 lb./ac.

Crop: Paddy (Aman).
Site: State Agri. Farm, Suri.
Object: To study the effect of continuous application of A/S, B.M. and lime alone and in combination on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Fallow - Paddy. (b) Fallow. (c) Nil. (ii) (a) Lateritic sandy loam. (b) Refer soil analysis, Suri.
   (iii) 1st week of August, 1958. (iv) (a) 3 to 4 ploughings. (b) Transplanted. (c) N.A. (d) 9' x 9'. (e) 2.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 54(18) on page 99.

4. GENERAL:
   (i) Normal. (ii) N.A. (iii) Yield of grain and straw. (iv) (a) 1948 — contd. (b) Yes. (c) N.A. (v) (a) Chinsurah and Berhampore. (b) N.A. (vi) N.A. (vii) Nil.

5. RESULTS:
   (i) 1787 lb./ac. (ii) 220.5 lb./ac. (iii) Main effects of N and P are highly significant. Interaction N x L is significant. Other effects are not significant. (iv) Av. yield of grain in lb./ac.

Table

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Object:—To study the effect of continuous application of A/S, B.M. and lime on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Fallow—Paddy. (b) Fallow. (c) Nil. (ii) (a) Lateritic sandy. (b) Refer soil analysis, Suri. (iii) 14.8.1959. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) N.A. (d) 9'×9'. (e) 2. (v) Nil. (vi) Bhasamani (medium). (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) 25 to 27.12.1959.

2. TREATMENTS and 3. DESIGN:
   Same as in exp. no. 54(18) on page 99.

4. GENERAL:
   (i) Normal. (ii) Slight attack of yellowing disease during early stage. (iii) Yield of grain and straw. (iv) (a) 1948—contd. (b) Yes. (c) N.A. (v) (a) Chinsurah and Berhampore. (b) N.A. (vi) Crop was slightly effected by drought and occasional heavy rainfall. (vii) Nil.

5. RESULTS:
   (i) 1784 lb./ac. (ii) 430.0 lb./ac. (iii) Main effects of P and L alone are significant. (iv) Av. yield of grain in lb./ac.

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S.E. of N marginal mean = 101.4 lb./ac.
S.E. of P or L marginal mean = 87.8 lb./ac.
S.E. of body of N×P or N×L table = 175.6 lb./ac.
S.E. of body of P×L table = 162.5 lb./ac.

Crop :- Paddy. (Aman).
Site :- State Agri. Farm, Suri.

Ref :- W.B. 59(58).
Type :- ‘M’.

Object:—To study the effect of continuous application of N, P, K and F.Y.M. on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Clayey. (b) N.A. (iii) N.A./4th week of July, 1957. (iv) (a) 4 ploughings, cross ploughings and puddling. (b) Transplanting. (c) 20 to 30 lb./ac. (d) 10'×10'. (e) N.A. (v) Nil. (vi) Nagra (120 to 150 days). (vii) Unirrigated. (viii) N.A. (ix) 32°. (x) 1st and 2nd week of December, 1957.
2. TREATMENTS:
All combinations of (1), (2), (3) and (4)
(1) 3 levels of N as A/S: N₀=0, N₁=30 and N₂=60 lb./ac.
(2) 3 levels of P₂O₅ as Super: P₀=0, P₁=30 and P₂=60 lb./ac.
(3) 3 levels of K₂O as Mur. Pot.: K₀=0, K₁=30 and K₂=60 lb./ac.
(4) 2 levels of F.Y.M.: F₀=0 and F₁=5000 lb./ac.

3. DESIGN:
(i) 3²×2 fact. confd. (ii) (a) 9 plots/block and 6 blocks/replication. (b) N.A. (iii) 1. (iv) (a) N.A. (b) 43'×22'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1957—condt. (b) N.A. (c) Nil. (v) (a) Mankbanda. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 2730 lb./ac. (ii) 358.8 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>P₀</th>
<th>P₁</th>
<th>P₂</th>
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| K₀ | 2756 | 2696 | 2801 | 2652 | 2851 | 2751 |
| K₁ | 2556 | 2783 | 3905 | 2924 | 2609 | 2712 |
| K₂ | 2664 | 2799 | 2610 | 2781 | 2697 | 2595 |
| P₀ | 2718 | 2759 | 2776 | 2760 | 2719 | 2730 |
| P₁ | 2637 | 1884 | 2723 | 2652 | 2851 | 2751 |
| P₂ | 2622 | 2634 | 2817 | 2652 | 2851 | 2751 |

S.E. of N, P or K marginal mean = 84.6 lb./ac.
S.E. of F marginal mean = 69.1 lb./ac.
S.E. of body of N×F, P×F or K×F table = 119.6 lb./ac.
S.E. of body of N×P, N×K or P×K table = 146.3 lb./ac.

Crop :- Paddy.
Site :- M.A.E. Farm, Burdwan.
Object :- Type II—To study the effect of N, P, K and F.Y.M. on the yield of Paddy.

Ref :- W.B. 58(MAE).
Type :- 'M'.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Clayey. (b) N.A. (iii) N.A./lst to 3rd week of August, 1959. (iv) (a) 4 ploughings and 1 hoeing. (b) Transplanting. (c) 20 to 30 lb./ac. (d) 10⁻⁵×10⁻⁵. (e) N.A. (v) Nil. (vi) N₄ₑ₃ra. (vii) Unirrigated. (viii) I weedimg. (ix) 3². (x) 1st and 2nd week of December, 1958.

2. TREATMENTS:
Same as in expct. no. 57(MAE) type II on page 103.

3. DESIGN:
(i) 3²×2 fact. confd. (ii) (a) 9 plots/block and 6 blocks/replication. (b) N.A. (iii) 1. (iv) (a) N.A. (b) 31.5'×11.5'. (v) N.A. (vi) Yes.
4. GENERAL:
(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1957—contd. (b) N.A. (c) Nil. (v) (a) Mankhanda. (b) N.A. (vi) Attack of rats. (vii) Nil.

5. RESULTS:
(ii) 2311 lb./ac. (ii) 399.0 lb./ac. (iii) Main effect of N is highly significant. Interaction N×K and F×P are significant. (iv) Av. yield of grain in lb./ac.

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<thead>
<tr>
<th></th>
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<th>N₂</th>
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</table>

S.E. of N, P or K marginal mean = 94.0 lb./ac.
S.E. of F marginal mean = 76.8 lb./ac.
S.E. of body of N×F, P×F or K×F table = 133.0 lb./ac.
S.E. of body of N×P, N×K or P×K table = 162.9 lb./ac.

Crop :- Paddy.
Site :- M.A.E. Farm, Burdwan.

Object :- Type II—To study the effect of N, P, K and F.Y.M. on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Clayey. (b) N.A. (iii) N.A./July to August, 1559. (iv) (a) 4 picthugings and 1 hoeing. (b) Transplanted. (c) 20 to 30 lb./ac. (d) 10" x 12". (e) N.A. (v) Nil. (vi) Nagra (4 to 5 months). (vii) Unirrigated. (viii) 1 weeding. (ix) 58°. (x) 2nd and 3rd week of December, 1558.

2. TREATMENTS:
Same as in expt. no. 57(MAE) type II on page 103.

3. DESIGN:
(i) 3³ x 2 fact. confd. (ii) (a) 9 plots/block and 6 blocks/replication. (b) N.A. (iii) 1. (iv) (a) 34" x 16", (b) 32" x 14". (v) 1" x 1". (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1957—contd. (b) N.A. (c) Nil. (v) (a) Mankhanda. (b) Nil. (vi) Crop flooded due to heavy rains. (vii) Nil.

5. RESULTS:
(ii) 2316 lb./ac. (ii) 184.0 lb./ac. (iii) Main effect of N is highly significant. Interaction N×K is significant. (iv) Av. yield of grain in lb./ac.
Crop: Paddy.
Site: M.A.E. Farm, Burdwan.
Ref: W.B. 57(MAE).
Type: ‘M’.

Object:—To study the direct and indirect methods of application of manures to Paddy.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Legume. (c) As per treatments. (ii) (a) Clayey. (b) N.A. (iii) N.A./4th week of July, 1957. (iv) (a) 4 ploughings, cross ploughings and puddling. (b) Transplanting. (c) 20 to 30 lb./ac. (d) 10"x10". (e) N.A. (f) Nil. (g) Nogra (120 to 150 days). (h) Unirrigated. (i) N.A. (j) 32°. (k) 1st and 2nd week of December, 1957.

2. TREATMENTS:
   Main-plot treatments:
   4 levels of P₂O₅ to previous legume crop: P₀=No legume and no P₂O₅, P₁=Legume only, P₂=40 lb./ac. to legume and P₃=80 lb./ac. to legume.

   Sub-plot treatments:
   3 levels of N as A/S: N₀=0, N₁=15 and N₂=30 lb./ac.

3. DESIGN:
   (i) Split-pl’t. (ii) 4 main-plots/replication and 3 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 31 ½’x13 ½’. (v) N.A. (vi) Yes.

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

5. RESULTS:
   (i) 2409 lb./ac. (ii) (a) 192.4 lb./ac. (b) 140.4 lb./ac. (iii) Main effect of N alone is highly significant. (iv) Av. yield of grain in lb./ac.

### Table

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S.E. of N, P or K marginal mean = 43.4 lb./ac.
S.E. of F marginal mean = 35.4 lb./ac.
S.E. of body of N×F, P×F or K×F table = 61.3 lb./ac.
S.E. of body of N×P, N×K or P×K table = 75.1 lb./ac.
Crop :- Paddy.  
Site :- M.A.E. Farm, Burdwan.  
Ref :- W.B. 58(MAE).  
Type :- 'M'.

Object :- Type IV—To study the direct and indirect methods of application of manures to Paddy.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Legume. (c) As per treatments. (ii) (a) Clayey. (b) N.A. (iii) N.A./1st to 3rd week of August, 1958. (iv) (a) 4 ploughings and 1 hoeing. (b) Transplanting. (c) 20 to 30 lb./ac. (d) 10°×12°.
   (e) N.A. (x) Nil. (yi) Nagra (120 to 150 days). (vii) Unirrigated. (viii) 1 weeding. (ix) 37°. (x) 1st and 2nd week of December, 1958.

2. TREATMENTS to 4. GENERAL:
   Same as in extno. 57(MAE) type IV on page 106.

5. RESULTS:
   (i) 2220 lb./ac. (ii) (a) 445.5 lb./ac. (b) 223.7 lb./ac. (iii) Main effect of N alone is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
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</table>

S.E. of difference of two
1. P marginal means = 210.0 lb./ac.
2. N marginal means = 91.3 lb./ac.
3. N means at the same level of P = 182.7 lb./ac.
4. P means at the same level of N = 257.6 lb./ac.

Crop :- Paddy.  
Site :- M.A.E. Farm, Burdwan.  
Ref :- W.B. 56 (MAE).  
Type :- 'M'.

Object :- Type V—To study the effect of different sources and times of application of N on Paddy.
1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Clayey. (b) N.A.  (iii) N.A./12.8.1956.  (iv) (a) N.A.  (b) Transplanting.  (c) 10 to 15 srs/ac. in nursery.  (d) 10' x 10'. (e) N.A.  (v) Nil. (vi) Thingasail.  (vii) Unirrigated.  (viii) and (ix) N.A.  (x) 23.10.1956.

2. TREATMENTS:
   All combinations of (1) and (2)+a control
   (1) 2 sources of N: S1 = Urea and S2 = A/S.
   (2) 7 times of application of N: T1 = Before planting, T2 = After planting, T3 = At tillering, T4 = After planting and ½ before flowering, T5 = After planting and ½ at tillering, T6 = ½ before planting and ½ at planting and ½ a week before flowering and T7 = ½ at planting, ½ at tillering and ½ a week before flowering.

   N applied at 30 lb/ac.

3. DESIGN:
   (i) R.B.D. (ii) ’a’ 15. (b) N.A. (iii) 3. (iv) (a) 45’ x 12’. (b) 43’ x 12’. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Unform. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—contd. (b) N.A. (c) Nil. (v) ‘Mankhanda’. (vi) Flood occurred due to spate of Banka and Damodar rivers but no damage caused. Crop was damaged by wild animals and rats. (vii) Nil.

5. RESULTS:
   (i) 2435 lb/ac. (ii) 385.0 lb/ac. (iii) ‘Control vs. others’ alone is significant. (iv) Av. yield of grain in lb/ac.

   Control = 2032 lb/ac.

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<td>2472</td>
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</table>

   S.E. of S marginal mean = 84.0 lb/ac.
   S.E. of T marginal mean = 157.2 lb/ac.
   S.E. of body of table or control mean = 222.3 lb/ac.

Crop = Paddy (Kharif).
Site := M.A.E. Farm, Bardwan.
Ref := W.B. 57(MAE).
Type := ‘M’.

Object := Type V—To study the effect of different sources and times of application of N on Paddy.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Clayey. (b) N.A.  (iii) N.A./4th week of July, 1957.  (iv) (a) 4 ploughings, cross ploughing, and puddling. (b) Transplanting.  (c) 20 to 30 lb/ac.  (d) 10’ x 10’. (e) N.A.  (v) 29 lb/ac of P2O5.  (vi) Nagra (120 to 150 days).  (vii) Unirrigated.  (viii) N.A.  (ix) 32’. (x) 1st and 2nd week of December, 1957.

2. TREATMENTS:
   Same as in exp. no. 56(MAE) type V on page 107.

3. DESIGN:
   (i) R B D. (ii) (a) 15. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 31’6” x 13’6”. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—contd. (b) N.A. (c) Nil. (v) to (vii) Nil.
### RESULTS:
(i) 2504 lb/ac.  
(ii) 218.3 lb/ac.  
(iii) None of the effects is significant.  
(iv) Av. yield of grain in lb/ac.

<table>
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<tr>
<th></th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
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S.E. of S marginal mean = 47.6 lb/ac.
S.E. of T marginal mean = 89.1 lb/ac.
S.E. of body of table or control mean = 126.0 lb/ac.

Crop : Paddy.
Site : M.A.E. Farm, Burdwan.
Ref : W.B. 58(MAE).
Type : 'M'.

Object :— Type V—To study the effect of different sources and times of application of N on Paddy.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A.  
(ii) (a) Clayey. (b) N.A. (iii) N.A./1st to 3rd week of August, 1958.  
(iv) (a) 4 ploughings and 1 hoeing. (b) Transplanting. (c) 20 to 30 lb/ac.  
(d) 10"x10". (e) N.A. (f) Nil. (g) Nagra (120 to 150 days).  
(h) Unirrigated. (ii) 1 weedings. (a) 37°.  
(l) lst and 2nd week of December, 1958.

2. TREATMENTS:
Same as in expt. no. 56(MAE) type V on page 107.

3. DESIGN:
(i) R.B.D.  
(ii) (a) 15. (b) N.A. (iii) 3.  
(iv) (a) N.A. (b) 1/102.4 ac. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Good.  
(ii) Nil. (iii) Grain yield.  
(iv) (a) 1956—contd. (b) N.A. (c) Nil. (v) (a) Mankhand. (b) Nil.  
(vi) Attack of rats. (vii) Nil.

5. RESULTS:
(i) 2153 lb/ac.  
(ii) 698.6 lb/ac.  
(iii) Not e of the effects is significant.  
(iv) Av. yield of grain in lb/ac.

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<th>T3</th>
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S.E. of S marginal mean = 152.4 lb/ac.
S.E. of T marginal mean = 285.2 lb/ac.
S.E. of body of table or control mean = 403.3 lb/ac.
Crop :- Paddy.  
Site :- M.A.E. Farm, Burdwan.  
Ref :- W.B. 59(MAE).  
Type :- 'M'.

Object :- Type V-To study the effect of different sources and times of application of N on Paddy.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A.  (ii) (a) Clayey.  (b) N.A.  (iii) N.A./July and August, 1959.  (iv) (a) 4 ploughings and 1 hoing.  (b) Transplanted.  (c) 20 to 33 lb/ac.  (d) 10'' x 12''.  (e) N.A.  (v) 20 lb/ac. of P\textsubscript{2}O\textsubscript{5} as Super.  (vi) Nagra (4 to 5 months).  (vii) Unirrigated.  (viii) 1 weeding.  (ix) 58°.  (x) 2nd and 3rd week of December, 1959.

2. TREATMENTS:
Same as in exp. no. 55(MAE) type V on page 107.

3. DESIGN:
(i) R.B.D.  (ii) (a) 15.  (b) N.A.  (iii) 3.  (iv) (a) 3' x 15.5'.  (b) 3' x 14.5'.  (v) 1' x 1'.  (vi) Yes.

4. GENERAL:
(i) Satisfactory.  (ii) Nil.  (iii) Grain yield.  (iv) 1956—contd.  (b) N.A.  (c) Nil.  (v) (a) Mankhanda.  (b) Nil.  (vi) In late September all the plots were flooded due to heavy rains and flooded in the river Banka.  There were constant heavy rains in the 1st fortnight of October, 1959.  On 27th and 29th October there was cyclonic weather causing damage to the crop just after flowering.  Fertilizer application before flowering was delayed since there was standing water.  (vii) Nil.

5. RESULTS:
(i) 2298 lb/ac.  (ii) 219.7 lb/ac.  (iii) Main effect of T and 'coatro1 vs. others' are significant.  (iv) Av. yield of grain 10 lb/ac.

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<th>T\textsubscript{2}</th>
<th>T\textsubscript{3}</th>
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<td>2444</td>
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<td>2324</td>
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</table>

S.E. of S marginal mean = 47.9 lb/ac.  
S.E. of T marginal mean = 8.7 lb/ac.  
S.E. of body of table or control mean = 126.8 lb/ac.

---

Crop :- Paddy.  
Site :- M.A.E. Farm, Burdwan.  
Ref :- W.B. 56(MAE).  
Type :- 'M'.

Object :- Type VI-To determine the source and method of placement of P for Paddy.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A.  (i) (a) Clayey.  (b) N.A.  (iii) N.A./21.8.1956.  (iv) (a) N.A.  (b) Transplanting.  (c) 10 to 15 shr. in nursery.  (d) 10'' x 10''.  (e) N.A.  (v) Nil.  (vi) N.A.  (vii) Unirrigated.  (viii) and (ix) N.A.  (x) 14.12.1956.

2. TREATMENTS:
All combinations of (1), (2) and (3)+a control in each block.

(i) 3 sources of P\textsubscript{2}O\textsubscript{5} : S\textsubscript{1}=A P, S\textsubscript{2}=Super and S\textsubscript{3}=Dical. Phos.
(ii) 2 levels of P\textsubscript{2}O\textsubscript{5} : P\textsubscript{1}=20 and P\textsubscript{2}=40 lb/ac.
(iii) 3 methods of application of P\textsubscript{2}O\textsubscript{5} : M\textsubscript{1}=Broadcast at puddling, M\textsubscript{2}=Dipping the seedlings in nutrient mixed with fertilizers before transplanting and M\textsubscript{3}=Placed in the form of pellets near the roots of plants at transplanting.
3. DESIGN:
(i) $3^2 \times 2 + 3$ fact. confd. (ii) (a) 3 blocks/repllication; 7 plots/block including one control plot. (b) N.A.
(iii) 4. (iv) (a) $45' \times 12'$. (b) $45' \times 10'$. (v) $1' \times 1'$. (vi) Yes.

4. GENERAL:
(i) Uniform. (ii) Nil. (iii) Grain yield. (iv) (a) $155' - $ contd. (b) N.A. (c) Nil. (v) (a) Mankhanda. (b) Nil. (vi) Minor damage caused by rats. (vii) $S \times M$ table is not adjusted for block effects.

5. RESULTS:
(i) 2175 lb./ac. (ii) 255.5 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

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S.E. of S or M marginal mean = 52.2 lb./ac.
S.E. of P marginal mean = 42.6 lb./ac.
S.E. of body of $S \times P$ or $M \times P$ table = 73.8 lb./ac.
S.E. of body of $S \times M$ table = 50.3 lb./ac.

Crop: Paddy.  
Site: M.A.E. Farm, Burdwan.

Ref: W.B. 57(MAE).  
Type: 'M'.

Object — Type VI—To determine the source and method of placement of P for Paddy.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Clayey. (b) N.A. (iii) N.A./4th week of July, 1957. (iv) (a) 4 ploughings, cross ploughings and puddling. (b) Transplanting. (c) 20 to 30 lb./ac. (d) $10' \times 10'$. (e) N.A. (v) Nil. (vi) Naga (120 to 150 days). (vii) Unirrigated. (viii) N.A. (a) $32'$. (x) 1st and 2nd week of December, 1957.

2. TREATMENTS:
Same as in expt. no. 56(MAE) type VI on page 110.

3. DESIGN:
(i) $3^2 \times 2 + 3$ fact. confd. (ii) (a) 3 blocks/repllication; 7 plots/block including one control plot. (b) N.A.
(iii) 4. (iv) (a) N.A. (b) $31.5' \times 13.5'$. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) $155' - $ contd. (b) N.A. (c) Nil. (v) (a) Mankhanda. (b) Nil. (vi) Slight attack of rats. (vii) Means in the body of $S \times M$ table are adjusted for block effects.

5. RESULTS:
(ii) 2327 lb./ac. (ii) 263.8 lb./ac. (iii) 'Control vs. others' alone is highly significant. (iv) Av. yield of grain in lb./ac.
Crop: Paddy.  
Site: M.A.E. Farm, Burdwan.  
Ref: W.B. 58(MAE).  
Type: 'M'.

Object: To determine the source and method of placement of P for Paddy.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A.  (ii) (a) Clayey.  (b) N.A.  (iii) N.A./1st to 3rd week of August, 1958.  (iv) (a) 4 ploughings and 1 hoeing.  (b) Transplanting.  (c) 20 to 30 lb./ac.  (d) 10" x 10".  (e) N.A.  (v) Nil.  (vi) Negra (120 to 150 days).  (vii) Unirrigated.  (viii) 1 weed.  (ix) 37°.  (x) 1st and 2nd week of December, 1958.

2. TREATMENTS:
Same as in exp. no. 56(MAE) type VI on page 110.

3. DESIGN:
(i) $3^2 \times 2 + 3$ fact. confd.  (ii) (a) 3 blocks/replication; 7 plcts/block including one control plot.  (b) N.A.  (iii) 4.  (iv) (a) N.A.  (b) $1/102.4$ ac.  (v) N.A.  (vi) Yes.

4. GENERAL:
(i) Good.  (ii) Nil.  (iii) Grain yield.  (iv) (a) 1956—contd.  (b) N.A.  (c) Nil.  (v) (a) Mankhanda.  (b) Nil.  (vi) Attack of rats.  (vii) $S \times M$ table is not adjusted for block effects.

5. RESULTS:
(i) 1984 lb./ac.  (ii) 191.2 lb./ac.  (iii) 'Control vs, others' alone is highly significant.  (iv) Av. yeld of grain in lb./ac.

---

### Crop: Paddy. Site: M.A.E. Farm, Burdwan. Ref: W.B. 58(MAE). Type: 'M'.

Object: To determine the source and method of placement of P for Paddy.

#### BASAL CONDITIONS:
1. (a) to (c) N.A.
2. (a) Clayey.  (b) N.A.
3. N.A./1st to 3rd week of August, 1958.
4. (a) 4 ploughings and 1 hoeing.  (b) Transplanting.  (c) 20 to 30 lb./ac.  (d) 10" x 10".  (e) N.A.  (f) Nil.  (g) Negra (120 to 150 days).  (h) Unirrigated.  (i) 1 weed.  (j) 37°.  (k) 1st and 2nd week of December, 1958.

#### TREATMENTS:
Same as in exp. no. 56(MAE) type VI on page 110.

#### DESIGN:
1. $3^2 \times 2 + 3$ fact. confd.
2. (a) 3 blocks/replication; 7 plcts/block including one control plot.
3. N.A.
4. 4.
5. (a) N.A.  (b) $1/102.4$ ac.
6. N.A.
7. Yes.

#### GENERAL:
1. Good.
2. Nil.
4. (a) 1956—contd.
5. (b) N.A.
6. (c) Nil.
7. (a) Mankhanda.
8. Nil.
10. $S \times M$ table is not adjusted for block effects.

#### RESULTS:
1. 1984 lb./ac.
2. 191.2 lb./ac.
3. 'Control vs, others' alone is highly significant.
4. Av. yeld of grain in lb./ac.

---

### Control = 2098 lb./ac.

<table>
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<tr>
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<td>2358</td>
<td>2426</td>
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</table>

S.E. of S or M marginal mean = 53.8 lb./ac.
S.E. of P marginal mean = 44.0 lb./ac.
S.E. of body of $S \times P$ or $M \times P$ table = 76.2 lb./ac.
S.E. of body of $M \times S$ table = 99.7 lb./ac.
Crop: Paddy.

Site: M.A.E. Farm, Burdwan.

Object: Type VI—to determine the source and method of placement of P for Paddy.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Clayey.  (b) N.A.  (iii) N.A./July—August, 1959.  (iv) (a) 4 ploughings and 1 hoeing.  (b) Transplanting.  (c) 20 to 30 lb./ac.  (d) 10'' × 12''.  (e) N.A.  (vi) Nages (4 to 5 months).  (vii) Unirrigated.  (viii) 1 weeding.  (ix) 58°.  (x) 2nd and 3rd week of December, 1959.

2. TREATMENTS:
   All combinations of (1), (2) and (3)—a control
   (1) 2 sources of P₂O₅: S₁ = A/P and S₂ = Super.
   (2) 2 levels of P₂O₅: P₁ = 20 and P₂ = 40 lb./ac.
   (3) 3 methods of application of P₂O₅: M₁ = Broadcast at puddling, M₂ = Dipping seedlings in mud-slush mixed with fertilizers and M₃ = Placed as pellets near the roots of plants at planting.

3. DESIGN:
   (i) R.B.D.  (ii) 13.  (b) N.A.  (iii) 3.  (iv) (a) 33' × 16.5'.  (b) 31' × 14.5'.  (v) 1' × 1'.  (vi) Yes.

4. GENERAL:
   (i) Satisfactory.  (ii) Nil.  (iii) Grain yield.  (iv) (a) 1956—contd.  (b) N.A.  (c) Nil.  (v) (a) Mankhanda.  (b) Nil.  (vi) Crop flooded due to heavy rains.  (vii) Nil.

5. RESULTS:
   (i) 2200 lb./ac.  (ii) 185.6 lb./ac.  (iii) Interaction S × P alone is significant.  (iv) Av. yield of grain in lb./ac.

   Control = 2065 lb./ac.

<table>
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<tr>
<th></th>
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   S.E. of S or P marginal mean = 43.3 lb./ac.
   S.E. of M marginal mean = 53.0 lb./ac.
   S.E. of body of S × M or P × M table = 75.0 lb./ac.
   S.E. of body of S × P table = 61.2 lb./ac.
1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Clayey. (b) N.A. (iii) N.A./1.8.1956. (iv) (a) N.A. (b) Transplanting. (c) 10 to 15 srs./ac. in nursery. (d) 10"×10". (e) N.A. (v) Nil. (vi) Nagra. (vii) Unirrigated. (viii) and (ix) N.A. (x) 5.12.1956.

2. TREATMENTS:

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<th>Treatment 2</th>
<th>Treatment 3</th>
</tr>
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<td>o c c c c c c p₁ p₂ p₃ p₄ p₅ p₆</td>
<td>o c c c c c c p₁ p₂ p₃ p₄ p₅ p₆</td>
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<tr>
<td>2nd year</td>
<td>o c c p₁ p₂ p₃ c c c p₁ p₂ p₃</td>
<td>o c c c c c c p₁ p₂ p₃</td>
<td>o c c c c c c p₁ p₂ p₃</td>
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<tr>
<td>3rd year</td>
<td>o c c c c c p₁ p₂ p₃ p₄ p₅ p₆</td>
<td>o c c c c c p₁ p₂ p₃ p₄</td>
<td>o c c c c c p₁ p₂ p₃ p₄</td>
</tr>
</tbody>
</table>

Plots under treatments 1 do not receive any manure. Plots under treatments 2 to 12 receive a basal application. (c) of 20 lb./ac. of N as A/S. p₁ = 10, p₂ = 20 and p₃ = 40 lb./ac. of P₂O₅.

3. DESIGN:
(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) 45'×24'. (b) 43'×22'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
(i) Uniform. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—contd. (1st year). (b) Yes. (c) Nil. (v) (a) Mankhanda. (b) Nil. (vi) Crop damaged by wild animals and rats. (vii) Nil.

5. RESULTS:
(i) 2463 lb./ac. (ii) 371.1 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.
Treatment  
Av. yield 2282 2488 2604 2375 2497 2497 2497 2497 2497 2497 2497 2497
S.E. of o or p₁ mean = 185.6 lb./ac.; S.E. of p₁ or p₂ mean = 131.2 lb./ac.
S.E. of c mean = 75.8 lb./ac.

Crop: Paddy.  
Site: M.A.E. Farm, Burdwan.  
Ref: W.B. 57(MAE).  
Type: 'M'.
Object:—Type VI (TCM)—To study the direct, residual and cumulative effect of P on Paddy.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Clayey. (b) N.A. (iii) N.A./4th week of July, 1957. (iv) (a) 4 ploughings, cross ploughings and puddling. (b) Transplanting. (c) 20 to 30 lb./ac. (d) 10"×10". (e) N.A. (v) Nil. (vi) Nagra. (vii) Unirrigated. (viii) N.A. (ix) 32°. (x) 1st and 2nd week of December, 1957.

2. TREATMENTS and 3. DESIGN:
Same as in exp. no. 56(MAE) type VI (TCM) on page 113.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—contd. (2nd year). (b) Yes. (c) Nil. (v) (a) Mankhanda. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 2474 lb./ac. (ii) 213.0 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.
Treatment  
Av. yield 2303 2550 2342 2579 2526 2255 2439 2471 2576 2576 2576 2576
S.E./mean except (2,3,6,7) = 106.5 lb./ac. and S.E. of (2,3,6,7) mean = 53.2 lb./ac.
Crop :- Paddy.
Site :- M.A.E. Farm, Mankhanda.

Object :- Type II—To study the effect of N, P, K and F.Y.M. on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Heavy clay. (b) N.A. (iii) N.A./4th week of August, 1958. (iv) (a) 4 ploughings. (b) Transplanting. (c) 20 to 30 lb./ac. (d) 10" x 12". (e) N.A. (v) Nil. (vi) Kalan kathi (120 to 150 days). (vii) Unirrigated. (viii) 1 weeding. (ix) 40°. (x) 2nd week of December, 1958.

2. TREATMENTS:
Same as in expt. no. 57(MAE) type II conducted at Burdwan on page 103.

3. DESIGN
(i) 3 x 2 fact. confd. (ii) (a) 9 plots/block ; 6 blocks/replication. (b) N.A. (iii) 1. (iv) (a) N.A. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1958—contd. (b) N.A. (c) Nil. (v) (a) Burdwan. (b) Nil. (vi) Over flooding due to heavy rains. (vii) Nil.

5. RESULTS:
(i) 2316 lb./ac. (ii) 278.0 lb./ac. (iii) Main effects of N and P are highly significant. (iv) Av. yield of grain in lb./ac

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S.E. of N, P or K marginal mean = 65.5 lb./ac.
S.E. of F marginal mean = 53.5 lb./ac.
S.E. of body of N x F, P x F or K x F table = 92.7 lb./ac.
S.E. of body of N x P, N x K or P x K table = 113.5 lb./ac.

Crop :- Paddy.
Site :- M.A.E. Farm, Mankhanda.

Object :- Type II—To study the effect of N, P, K and F.Y.M. on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Heavy clay. (b) N.A. (iii) N.A./2nd and 3rd week of August, 1959. (iv) (a) 3 ploughings. (b) Transplanting. (c) 20 to 30 lb./ac. (d) 10" x 12". (e) N.A. (v) Nil. (vi) Basmati (4 to 4½ months). (vii) Unirrigated. (viii) Nil. (ix) 38°. (x) November and December, 1959.

2. TREATMENTS:
Same as in expt. no. 57(MAE) type II conducted at Burdwan on page 103.
3. DESIGN:
(i) 3×2 fact. confd. (ii) (a) 9 plots/block ; 6 blocks/replication. (b) N.A. (iii) 1. (iv) (a) 30'×18'. (b) 26'×16'. (v) 2'×1'. (vi) Yes.

4. GENERAL:

5. RESULTS:
(i) 1346 lb./ac. (ii) 137.9 lb./ac. (iii) Main effects of N, P and interaction P×K are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>N0</th>
<th>N1</th>
<th>N2</th>
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</table>

S.E. of N, P or K marginal mean = 32.5 lb./ac.
S.E. of F marginal mean = 26.5 lb./ac.
S.E. of body of N×F, P×F or K×F table = 46.0 lb./ac.
S.E. of body of N×P, N×K or P×K table = 56.3 lb./ac.

---

Crop :- Paddy.
Site :- M.A.E. Farm, Mankhanda.
Object :- Type IV—To study the direct and indirect methods of application of manures on Paddy.

1. BASAL CONDITIONS:
(i) (a) N.A. (b) Dhaincha (G.M.). (c) As per treatments. (ii) (a) Heavy clay. (b) N.A. (iii) N.A./August and September, 1957. (iv) (a) 4 ploughings. (b) Transplanting. (c) 20 to 30 lb./ac. (d) 10×12", (e) N.A. (v) Nil. (vi) N.A. (vii) Unirrigated. (viii) 1 weeding. (ix) 17". (x) November and December, 1957.

2. TREATMENTS:
Same as in exp. no. 57 (MAE) type IV conducted at Burdwan on page 106. Dhaincha used as legume was ploughed in 2 months before planting.

3. DESIGN:
(i) Split-plot. (ii) (a) 4 main-plots/block ; 3 sub-plots/main-plot. (b) N.A.; (iii) 3. (iv) (a) N.A. (b) 1/80 ac. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Poor. (ii) CuSO₄ was broadcast to check the weeds. (iii) Grain yield. (iv) (a) 1957—contd. (b) N.A. (c) Nil. (v) (a) Burdwan. (b) Nil. (vi) Crop suffered due to draught conditions. (vii) Nil.

5. RESULTS:
(i) 271 lb./ac. (ii) (a) 175.7 lb./ac. (b) 151.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.
Crop :- Paddy.

Site :- M.A.E. Farm, Mankhanda.

Ref :- W.B. 58(MAE).

Type :- M'.

Object :- Type IV—To study the direct and indirect methods of applications of manures to Paddy.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Legume. (c) As per treatments. (ii) (a) Heavy clay. (b) N.A. (iii) N.A./4th week of August, 1958. (iv) (a) 4 ploughings. (b) Transplanting. (c) 20 to 30 lb./ac. (d) 10"×12". (e) N.A. (v) Nil. (vi) Kalkathi (120 to 150 days). (vii) Unirrigated. (viii) 1 weeding. (ix) 40'. (x) 2nd week of December, 1958.

2. TREATMENTS:
   Same as in expt. no. 57(MAE) type IV conducted at Burdwan on page 106.

3. DESIGN:
   (i) Split-plot. (ii) (a) 4 main-plots/block; 3 sub-plots/main-plot. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 26'×14'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) Nil. (iii) Grain yield. (iv) (a) 1957—contd. (b) N.A. (c) Nil. (v) (a) Burdwan. (b) Nil. (vi) Over flooding due to heavy rains. (vii) Nil.

5. RESULTS:
   (i) 2463 lb./ac. (ii) (a) 185.5 lb./ac. (b) 438.3 lb./ac. (iii) Main effect of N is highly significant. Main effect of P is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
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<td>2633</td>
<td>2659</td>
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</table>

S.E. of difference of two
   1. P marginal means = 87.4 lb./ac.
   2. N marginal means = 126.5 lb./ac.
   3. N means at the same level of P = 357.9 lb./ac.
   4. P means at the same level of N = 305.0 lb./ac.
Crop: Paddy (Kharif).
Site: M.A.E. Farm, Mankhanda.
Ref: W.B. 56(MAE).
Type: 'M'.

Object:—Type IV—To study the effect of different sources and times of application of N on Paddy.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) Heavy clay. (b) N.A. (iii) N.A./2 and 3.8.1956. (iv) (a) N.A. (b) Transplanting. (c) 8 to 10 yrs./ac. (d) 10' to 12' between plants and rows. (e) N.A. (v) Nil. (vi) Patina (4 months). (vii) Unirrigated. (viii) and (ix) N.A. (x) 17.12.1956.

2. TREATMENTS:
Same as in exp. no. 56(MAE) type V conducted at Burdwan on page 107. N applied at 40 lb./ac.

3. DESIGN:
(i) R.B.D. (ii) (a) 15. (b) N.A. (iii) 3. (iv) (a) 35'×20'. (b) 33'×18'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
(i) Good. The entire crop lodged due to heavy rains and high velocity of winds. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—contd. (b) N.A. (c) Nil. (v) (a) Burdwan. (b) Nil. (vi) Crop damaged by cyclone. (vii) Nil.

5. RESULTS:
(i) 2014 lb./ac. (ii) 269.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
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<tr>
<th></th>
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<th>T&lt;sub&gt;2&lt;/sub&gt;</th>
<th>T&lt;sub&gt;3&lt;/sub&gt;</th>
<th>T&lt;sub&gt;4&lt;/sub&gt;</th>
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<td>1934</td>
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S.E. of S marginal mean = 58.8 lb./ac.
S.E. of T marginal mean = 110.1 lb./ac.
S.E. of body of table or control mean = 155.7 lb./ac.

Crop: Paddy.
Site: M.A.E. Farm, Mankhanda.
Ref: W.B. 57(MAE).
Type: 'M'.

Object:—Type V—To study the effect of different sources and times of application of N on Paddy.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Heavy clay. (b) N.A. (iii) N.A./August and September, 1957. (iv) (a) 4 ploughings. (b) Transplanting. (c) 20 to 30 lb./ac. (d) 10'×12'. (e) N.A. (v) 20 lb./ac. of P<sub>2</sub>O<sub>5</sub>. (vi) N.A. (vii) Unirrigated. (viii) 1 weeding. (ix) 17'. (x) November and December, 1957.

2. TREATMENTS:
Same as in exp. no. 56(MAE) type V conducted at Burdwan on page 107. N applied at 40 lb./ac.

3. DESIGN:
(i) R.B.D. (ii) (a) 15. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 34'×16'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Poor. (ii) CuSO<sub>4</sub> broadcast to check the weeds. (iii) Grain yield. (iv) (a) 1956—contd. (b) N.A. (c) Nil. (v) (a) Burdwan. (b) Nil. (vi) Crop suffered due to draught conditions. (vii) Nil.
5. RESULTS:

(i) 522 lb./ac.  (ii) 208.6 lb./ac.  (iii) None of the effects is significant.  (iv) Av. yield of grain in lb./ac.

Control = 439 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>T1</th>
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<th>T3</th>
<th>T4</th>
<th>T5</th>
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<td>617</td>
<td>428</td>
<td>436</td>
<td>535</td>
<td>667</td>
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</table>

Mean 510 527 613 506 444 473 626 528

S.E. of T marginal mean = 85.2 lb./ac.
S.E. of S marginal mean = 45.5 lb./ac.
S.E. of body of table or control mean = 120.4 lb./ac.

Crop :- Paddy.
Site :- M.A.E. Farm, Mankanda.

Object :- Type V—To study the effect of different sources and times of application of N on Paddy.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A.:  (ii) (a) Heavy clay.  (b) N.A.  (iii) N.A./4th week of August, 1958.  (iv) (a) 4 ploughings.  (b) Transplanting.  (c) 20 to 50 lb./ac.  (d) 10"x12".  (e) N.A.  (v) Nil.  (vi) Kalankathi (120 to 150 days).  (vii) Unirrigated.  (viii) 1 weeding.  (ix) 40°.  (x) 2nd week of December, 1958.

2. TREATMENTS:
Same as in expt. no. 56(MAE) type V conducted at Burdwan on page 107.
N applied at 40 lb./ac.

3. DESIGN:
(i) R.B.D.  (ii) (a) 15.  (b) N.A.  (iii) 3.  (iv) (a) N.A.  (b) 1/120 ac.  (v) N.A.  (vi) Yes.

4. GENERAL:
(i) Good.  (ii) Nil.  (iii) Grain yield.  (iv) (a) 1956—cont'd.  (b) N.A.  (c) Nil.  (v) (a) Burdwan.  (b) Nil.  (vi) Over flooding due to heavy rains.  (vii) N.A.

5. RESULTS:
(i) 1868 lb./ac.  (ii) 283.5 lb./ac.  (iii) Main effect of S and 'control vs. others' are highly significant.  (iv) Av. yield of grain in lb./ac.

Control = 1396 lb./ac.

<table>
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<th>T1</th>
<th>T2</th>
<th>T3</th>
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<td>1875</td>
<td>1935</td>
<td>2037</td>
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Mean 1854 2034 1855 1815 2154 1795 1805 1902

S.E. of S marginal mean = 61.9 lb./ac.
S.E. of T marginal mean = 115.7 lb./ac.
S.E. of body of table or control mean = 163.7 lb./ac.

Ref :- W.B. 58(MAE).
Type :- 'M'.

Object :- Type V-To study the effect of different sources and times of application of N on Paddy.
Crop :- Paddy. Ref :- W.B. 59(MAE).
Site :- M.A.E. Farm, Mankhanda. Type :- 'M'.

Object :- Type V—To study the effect of different sources and times of application of N on Paddy.

1. BASAL CONDITIONS :
(i) (a) to (c) N.A. (ii) (a) Heavy clay. (b) N.A. (iii) N.A./2nd and 3rd week of August, 1959. (iv) (a) 3 ploughings. (b) Transplanting. (c) 20 to 30 lb./ac. (d) 10' x 12'. (e) N.A. (v) 20 lb./ac. of P₂O₅ as Super. (vi) N.A. (vii) Unirrigated. (viii) Nil. (ix) 58°. (x) November—December, 1959.

2. TREATMENTS :
Same as in exp. no. 56(MAE) type V conducted at Burdwan on page 107. N applied at 40 lb./ac.

3. DESIGN :
(i) R.B.D. (ii) (a) 15. (b) N.A. (iii) 3. (iv) (a) 30’ x 18’. (b) 26’ x 16’. (v) 2’ x 1’. (vi) Yes.

4. GENERAL :
(i) Normal. Crop lodged. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—contd. (b) N.A. (c) Nil. (v) (a) Burdwan. (b) Nil. (vi) In September due to heavy rains and high tide in the river Hoogly the entire area was flooded but the crop was not submerged. (vii) Nil.

5. RESULTS :
(i) 917 lb./ac. (ii) 132.2 lb./ac. (iii) Main effects of T, S and ‘control vs. others’ are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
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<tr>
<th></th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>T₄</th>
<th>T₅</th>
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<td>1036</td>
<td>930</td>
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</table>

S.E. of S marginal mean = 28.8 lb./ac.
S.E. of T marginal mean = 54.0 lb./ac.
S.E. of body of table or control mean = 76.3 lb./ac.

Crop :- Paddy. Ref :- W.B. 56(MAE).
Site :- M.A.E. Farm, Mankhanda. Type :- 'M'.

Object :- Type VI—To determine the source and method of placement of P for Paddy.

1. BASAL CONDITIONS :
(i) (a) to (c) N.A. (ii) (a) Heavy clay. (b) N.A. (iii) N.A./1 and 2.8.1956. (iv) (a) N.A. (b) Transplanting. (c) 8 to 10 yrs./ac. (d) 10’ to 12’ between rows and plants. (e) N.A. (v) Nil. (vi) Patnai (4 months). (vii) Unirrigated. (viii) and (ix) N.A. (x) 17.12.1956.

2. TREATMENTS :
Same as in exp. no. 56(MAE) type VI conducted at Burdwan on page 110.

3. DESIGN :
(i) 3 x 2 x 3 fact. confd. (ii) (a) 3 blocks/replication; 7 plots/block including one control plot. (b) N.A. (iii) 4. (iv) (a) 35’ x 20’. (b) 33’ x 18’. (v) 1’ x 1’. (vi) Yes.

4. GENERAL :
(i) Good. The entire crop lodged due to heavy rains and high velocity of wind. (ii) Nil. (iii) Grain yield. (iv) (a) to (c) N.A. (v) (a) Burdwan. (b) Nil. (vi) Crop damaged due to cyclone. (vii) Means in S x M table are adjusted for t. e. o. e. Control plot was dropped from analysis.
5. RESULTS:
(i) 2211 lb./ac.  (ii) 168.2 lb./ac.  (iii) Main effects of S, P, M and interaction S×M are highly significant.
(iv) Av. yield of grain in lb./ac.

<table>
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<tr>
<th></th>
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<th>S2</th>
<th>S3</th>
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Mean:

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S.E. of S or M marginal mean = 34.3 lb./ac.
S.E. of P marginal mean = 28.0 lb./ac.
S.E. of body of S×P or M×P table = 48.6 lb./ac.
S.E. of body of S×M table = 61.6 lb./ac.

Crop: Paddy.
Site: M.A.E. Farm, Mankhanda.
Ref: W.B. 59(MAE).
Type: 'M'.

Object — Type VI—To determine the source and method of placement of P for Paddy.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A.  (ii) (a) Heavy clay. (b) N.A.  (iii) N.A./2nd and 3rd week of August, 1959.  (iv) (a) 3 ploughings. (b) Transplanting. (c) 20 to 30 lb./ac. (d) 10'×12". (e) N.A.  (v) Nil.  (vi) Basmati (4 to 4½ months). (vii) Unirrigated. (viii) Nil.  (ix) 58°.  (x) November and December, 1959.

2. TREATMENTS:
Same as in exp. no. 59 (MAE) type VI conducted at Burdwan on page 113.

3. DESIGN:
(i) R.B.D.  (ii) 13.  (b) N.A.  (iii) 3.  (iv) (a) 33'×16.5'. (b) 29'×14.5'. (v) 2'×1'. (vi) Yes.

4. GENERAL:
(i) Normal. Crop lodged. (ii) Nil.  (iii) Grain yield.  (iv) (a) to (c) N.A.  (v) (a) Burdwan. (b) N.A.  (vi) Crop flooded due to heavy rains.  (vii) There was water logging in the experimental area.

5. RESULTS:
(i) 877 lb./ac.  (ii) 128.0 lb./ac.  (iii) ‘Control vs. others’ is highly significant. Main effects of S and P are significant.  (iv) Av. yield of grain in lb./ac.

Control = 272 lb./ac.

<table>
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Mean:

|     | 954  | 856 | 971  | 927  | 976  | 878 |

S.E.

| S1 | 1020 | 922 | 987  |
|----|------|-----|------|------|------|-----|
| S2 | 889  | 790 | 955  |
### Crop: Paddy.

**Site:** M.A.E. Farm, Mankhanda.  
**Ref:** W.B. 56(MAE).  
**Type:** 'M'.

Object:—Type VI (TCM)—To study the direct, residual and cumulative effect of P on the yield of Paddy.

1. **BASAL CONDITIONS:**
   - (i) (a) to (c) N.A.  
   - (ii) 'a' Heavy clay.  
   - (b) N.A.  
   - (iii) N.A./4.8.1956.  
   - (iv) (a) N.A.  
   - (b) Transplanting.  
   - (c) 8 to 10 5rs./ac.  
   - (d) 10" × 12" between rows and plants.  
   - (e) N.A.  
   - (v) Nil.  
   - (vi) Palna (4 months).  
   - (vii) Unirrigated.  
   - (viii) and (ix) N.A.  
   - (x) 23.12.1956.

2. **TREATMENTS:**
   - Same as in expt. no. 56(MAE) type VI (TCM) conducted at Burdwan on page 113.

3. **DESIGN:**
   - (i) R.B.D.  
   - (ii) (a) 12.  
   - (b) N.A.  
   - (iii) 4.  
   - (iv) (a) 35' × 20'.  
   - (b) 33' × 18'.  
   - (v) 1' × 1'.  
   - (vi) Yes.

4. **GENERAL:**
   - (i) Good. The entire crop was partially lodged due to heavy rains and high velocity of winds.  
   - (ii) Nil.  
   - (iii) Grain yield.  
   - (iv) (a) 1956—contd. (1st year).  
   - (b) Yes.  
   - (c) Nil.  
   - (v) (a) Burdwan.  
   - (b) Nil.  
   - (vi) Crop damaged due to cyclone.  
   - (vii) Nil.

5. **RESULTS:**
   - (i) 1654 lb./ac.  
   - (ii) 244.1 lb./ac.  
   - (iii) Treatment differences are highly significant.  
   - (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>o</th>
<th>c</th>
<th>p₁</th>
<th>p₂</th>
<th>p₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1449</td>
<td>1576</td>
<td>1852</td>
<td>1883</td>
<td>1665</td>
</tr>
<tr>
<td>S.E. for o or p₁ mean</td>
<td>122.0 lb./ac., S.E. for p₁ or p₂ mean</td>
<td>86.3 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.E. for c mean</td>
<td>49.8 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Crop: Paddy.

**Site:** M.A.E. Farm, Mankhanda.  
**Ref:** W.B. 57(MAE).  
**Type:** 'M'.

Object:—Type VI (TCM)—To study the direct, residual and cumulative effect of P on the yield of Paddy.

1. **BASAL CONDITIONS:**
   - (i) (a) to (c) N.A.  
   - (ii) ‘a’ Heavy clay.  
   - (b) N.A.  
   - (iii) N.A./August and September, 1957.  
   - (iv) (a) 4 ploughings.  
   - (b) Transplanting.  
   - (c) 20 to 30 lb./ac.  
   - (d) 10" to 12".  
   - (e) N.A.  
   - (v) Nil.  
   - (vi) N.A.  
   - (vii) Unirrigated.  
   - (viii) 1 weeding.  
   - (ix) 17°.  
   - (x) November and December, 1957.

2. **TREATMENTS:**
   - Same as in expt. no. 56(MAE) type VI (TCM) conducted at Burdwan on page 113.

3. **DESIGN:**
   - (i) R.B.D.  
   - (ii) (a) 12.  
   - (b) N.A.  
   - (iii) 3.  
   - (iv) (a) N.A.  
   - (b) 34' × 16'.  
   - (v) N.A.  
   - (vi) Yes.

4. **GENERAL:**
   - (i) Poor.  
   - (ii) CuSO₄ broadcast to check the weeds.  
   - (iii) Grain yield.  
   - (iv) (a) 1956—contd.  
   - (b) Yes.  
   - (c) Nil.  
   - (v) (a) Burdwan.  
   - (b) N.A.  
   - (vi) Crop suffered due to draught conditions.  
   - (vii) Nil.
5. RESULTS:
(i) 837 lb./ac. (ii) 232.5 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1 (2,3,6,7)</th>
<th>4</th>
<th>5</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>699</td>
<td>872</td>
<td>889</td>
<td>848</td>
<td>954</td>
<td>708</td>
<td>782</td>
<td>750</td>
</tr>
</tbody>
</table>

S.E. of mean except (2,3,6,7) = 134.2 lb./ac. and S.E. of (2,3,6,7) mean = 67.1 lb./ac.

---

Crop: Paddy.

Ref: W.B. 59(MAE).

Site: M.A.E. Farm, Mankhanda.

Type: 'M'.

Object: Type VI (TCM)—To study the direct, residual and cumulative effect of P on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (b) Heavy clay. (c) N.A./2nd and 3rd week of August, 1959. (iv) (a) 3 ploughings. (b) Transplanting. (c) 20 to 30 lb./ac. (d) 10' x 12', (e) N.A. (v) Nil. (vi) Basmati (4 to 4½ months). (vii) Unirrigated. (viii) Nil. (ix) 58°. (x) November and December, 1959.

2. TREATMENTS:
Same as in exp. no. 56(MAE) type VI (TCM) conducted at Burdwan on page 113.

3. DESIGN:
(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) 30' x 18'. (b) 26' x 18'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. Crop lodged. (ii) Nil. (iii) Grain yield. (iv) (a) 1959—contd. (new series). (b) and (c) Yes. (v) (a) Burdwan. (b) N.A. (vi) Crop flooded due to heavy rains. (vii) Nil.

5. RESULTS:
(i) 986 lb./ac. (ii) 196.8 lb./ac. (iii) Treatment differences and 'control vs. others' are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>o</th>
<th>c</th>
<th>P1</th>
<th>P1</th>
<th>P2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>691</td>
<td>889</td>
<td>1136</td>
<td>1136</td>
<td>1201</td>
</tr>
</tbody>
</table>

S.E. of o or p1 mean = 98.4 lb./ac.; S.E. of p1 or p2 mean = 69.6 lb./ac.

S.E. of c mean = 40.2 lb./ac.

---

Crop: Paddy (Kharif).

Ref: W.B. 54(TCM).

Centre: Burdwan.

Type: 'M'.

Object: Type I (a)—To study the effect of P and different sources and levels of N on Paddy.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Recent alluvium—clayey. (b) N.A. (iii) N.A./12.8.1954. (iv) (a) N.A. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) Kailma. (vii) Irrigated. (viii) and (ix) N.A. (x) 16.12.1954.

2. TREATMENTS:
All combinations of (1), (2) and (3)+3 extra treatments
(1) 3 levels of N: N0=0, N1=20 and N2=40 lb./ac.
(2) 3 sources of N: S1=A/S, S2=A/N and S3=Urea.
(3) 3 levels of P2O5 as triple Super: P3=0, P1=20 and P2=40 lb./ac.
Extra treatments: E1=60 lb./ac. of N as A/S+40 lb./ac. of P2O5 as Super, E2=40 lb./ac. of N as A/S+80 lb./ac. of P2O5 as Super and E3=60 lb./ac. of N as A/S+80 lb./ac. of P2O5 as Super.
Fertilizers applied before puddling.
3. DESIGN:
(i) 3^c confd. with 3 extra plots/block. (ii) (a) 12 plots/block; 3 blocks/replication. (b) N.A. (iii) 1. (iv) (a) 24'x45'. (b) 22'x43'. (v) 1'x1'. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Yield of grain. (iv) (a) 1953-1955. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 3121 lb./ac. (ii) 216.6 lb./ac. (iii) Main effect of N is highly significant. Interactions N x S and P x S are significant. (iv) Av. yield of grain in lb./ac.

\[ E_1 = 3584 \text{ lb./ac.}, \quad E_2 = 3513 \text{ lb./ac.} \quad \text{and} \quad E_3 = 3619 \text{ lb./ac.} \]

<table>
<thead>
<tr>
<th></th>
<th>( N_0 )</th>
<th>( N_1 )</th>
<th>( N_2 )</th>
<th>Mean</th>
<th>( S_1 )</th>
<th>( S_2 )</th>
<th>( S_3 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>( P_0 )</td>
<td>2929</td>
<td>3213</td>
<td>3102</td>
<td>3081</td>
<td>3442</td>
<td>2992</td>
<td>2810</td>
</tr>
<tr>
<td>( P_1 )</td>
<td>2811</td>
<td>3047</td>
<td>3418</td>
<td>3015</td>
<td>2992</td>
<td>3055</td>
<td>2999</td>
</tr>
<tr>
<td>( P_2 )</td>
<td>2487</td>
<td>2850</td>
<td>3162</td>
<td>2813</td>
<td>2786</td>
<td>2534</td>
<td>3118</td>
</tr>
</tbody>
</table>

Mean: 2666 3037 3207 2970 3073 2860 2976

S.E. of any marginal mean = 72.2 lb./ac.
S.E. of body of any table or E mean = 125.1 lb./ac.

Crop :- Paddy (Kharif).
Centre :- Burdwan.
Ref :- W.B. 55(TCM).
Type :- 'M'.

Object :- Type I (a)—To study the effect of P and different sources and levels of N on Paddy.

1. BASAL CONDITIONS:
(i) (a) to (c) Nil. (ii) (a) Recent alluvium—clayey. (b) N.A. (iii) 31.7.1955. (iv) (a) N.A. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) Kalma. (vii) Irrigated. (viii) and (ix) N.A. (x) 15.12.1955.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 3(TCM) type I (a) on page 121.

5. RESULTS:
(i) 3013 lb./ac. (ii) 3333 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

\[ E_1 = 3589 \text{ lb./ac.}, \quad E_2 = 3074 \text{ lb./ac.} \quad \text{and} \quad E_3 = 2877 \text{ lb./ac.} \]

<table>
<thead>
<tr>
<th></th>
<th>( N_0 )</th>
<th>( N_1 )</th>
<th>( N_2 )</th>
<th>Mean</th>
<th>( S_1 )</th>
<th>( S_2 )</th>
<th>( S_3 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>( P_0 )</td>
<td>2754</td>
<td>2778</td>
<td>3129</td>
<td>2887</td>
<td>2673</td>
<td>3039</td>
<td>2952</td>
</tr>
<tr>
<td>( P_1 )</td>
<td>2841</td>
<td>2817</td>
<td>2956</td>
<td>2871</td>
<td>2719</td>
<td>2994</td>
<td>2900</td>
</tr>
<tr>
<td>( P_2 )</td>
<td>3037</td>
<td>3036</td>
<td>3268</td>
<td>3114</td>
<td>3194</td>
<td>2980</td>
<td>3167</td>
</tr>
</tbody>
</table>

Mean: 2577 2877 3118 2957 2862 3004 3006

S1 — 3114 3142
S2 — 2585 3263
S3 — 2933 2948
Crop :- Paddy (Kharif).
Centre :- Burdwan.

Object :- Type II—To study the effect of different times of application of N on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A.  (ii) (a) Recent alluvium—clayey. (b) N.A. (iii) N.A./August, 1954.  (v) (a) N.A. (b) Transplanting. (c) to (e) N.A.  (v) 20 lb./ac. of $P_2O_5$. (vi) Jhinga soil. (vii) Irrigated. (viii) and (ix) N.A.  (x) December, 1954.

2. TREATMENTS:
All combinations of (1) and (2)+control
(1) 2 sources of 30 lb./ac. of N : $S_1$ = A/S and $S_2$ = Urea.
(2) 7 times of application of N: $T_1$ = Before planting, $T_2$ = At planting, $T_3$ = At tillering, $T_4$ = Half before planting+half as tillering, $T_5$ = Half at planting+half at tillering, $T_6$ = $\frac{1}{2}$ before planting+$\frac{1}{2}$ at tillering+$\frac{1}{2}$ a week before flowering and $T_7$ = $\frac{1}{2}$ at planting+$\frac{1}{2}$ at tillering+$\frac{1}{2}$ a week before flowering.

3. DESIGN:
(i) R.B.D.  (ii) (a) 15. (b) N.A. (iii) 3. (iv) (a) $15' \times 45'$. (b) $17' \times 43'$. (v) $Y' \times Y'$. (vi) Yes.

4. GENERAL:
(i) Normal.   (ii) Nil. (iii) Yield of grain. (iv) (a) 1954—1955. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 3353 lb./ac.  (ii) 326.5 lb./ac. (iii) ‘Control vs. others’ alone is highly significant. (iv) Av. yield of grain in lb./ac.

\[
\begin{array}{cccccc|c}
| & T_1 & T_2 & T_3 & T_4 & T_5 & T_6 & T_7 | \text{Mean} \\
S_1 & 3371 & 3330 & 3115 & 3381 & 3310 & 3381 & 3790 & 3383 \\
S_2 & 3422 & 3381 & 3259 & 3402 & 3718 & 3371 & 3279 & 3405 \\
\hline
\text{Mean} & 3397 & 3356 & 3187 & 3392 & 3514 & 3376 & 3535 & 3394 \\
\end{array}
\]

S.E. of S marginal mean = 71.2 lb./ac.
S.E. of T marginal mean = 133.3 lb./ac.
S.E. of body of table or control mean = 188.5 lb./ac.

---

Crop :- Paddy (Kharif).
Centre :- Burdwan.

Object — Type II—To study the effect of different times of application of N on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A.  (ii) (a) Recent alluvium—clayey. (b) N.A. (iii) N.A./28.7.1955.  (iv) (a) N.A. (b) Transplanting. (c) to (e) N.A.  (v) 20 lb./ac. of $P_2O_5$. (vi) Jhinga soil. (vii) Irrigated. (viii) and (ix) N.A.  (x) 10.12.1555.

2. TREATMENTS to 4. GENERAL:
Same as in exp. no. 54(TCM) type II above.
5. RESULTS:
   (i) 3225 lb/ac. (ii) 168.2 lb/ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb/ac.

   Control = 3036 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>3465</td>
<td>3151</td>
<td>3347</td>
<td>2952</td>
<td>3333</td>
<td>3305</td>
<td>3322</td>
<td>3268</td>
</tr>
<tr>
<td>S2</td>
<td>3161</td>
<td>3136</td>
<td>3.97</td>
<td>3194</td>
<td>3087</td>
<td>3328</td>
<td>3340</td>
<td>3206</td>
</tr>
<tr>
<td>Mean</td>
<td>3313</td>
<td>3144</td>
<td>3272</td>
<td>3073</td>
<td>3210</td>
<td>3317</td>
<td>3331</td>
<td>3237</td>
</tr>
</tbody>
</table>

   S.E. of S marginal mean = 36.7 lb/ac.
   S.E. of T marginal mean = 68.7 lb/ac.
   S.E. of body of table or control mean = 97.1 lb/ac.

   Crop :- Paddy (Kharif).
   Centre :- Burdwan.
   Ref :- W.B. 54(TCM).
   Type :- 'M'.

Object :- Type III—To study the residual effect of minor elements and K applied to previous Paddy crop

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Recent alluvium—clayey. (b) N.A. (iii) N.A./8.8.1954. (iv) (a) N.A. (b) Transplanting. (c) to (e) N.A. (vi) Nil. (vi) Jhingasail. (vii) Irrigated. (viii) and (ix) N.A. (x) 13.12.1954.

2. TREATMENTS:
   A set of 32 out of 256 treatment combinations formed of 8 factors each at two levels
   (A) Magnesium as MgSO₄: a₀ = 0 and a₁ = 2 cwt./ac.
   (B) Iron as FeSO₄: b₀ = 0 and b₁ = 100 cwt./ac.
   (C) Manganese as MnSO₄: c₀ = 0 and c₁ = 20 cwt./ac.
   (D) Zn as ZnSO₄: d₀ = 0 and d₁ = 20 lb./ac.
   (E) Copper as CuSO₄: e₁ = 0 and e₁ = 20 lb./ac.
   (F) Borax as granulated Borax: f₀ = 0 and f₁ = 10 lb./ac.
   (G) Molybdenum as Sol. Molybate: g₀ = 0 and g₁ = 20 oz./ac.
   (H) Potash as Pot. Sul.: k₀ = 0 and k₁ = 20 lb./ac.
   Treatments applied to previous paddy crop.

3. DESIGN:
   (i) Fractional replicate (1/8th of 2⁶ Fact. set up). (ii) (a) 8 plots/block and 4 blocks. (b) N.A. (iii) —. (iv) (a) 24' × 45'. (b) 22' × 45'. (v) 1' × 1'. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) N.A. (iii) Yield of grain. (iv) (a) 1953—1954. (b) Yes. (residual effect studied in 1954). (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 3238 lb/ac. (ii) 368.4 lb/ac. (iii) None of the effects is significant. (iv) Mean response of grain in lb/ac.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>-207.4</td>
<td>-151.0</td>
<td>-17.7</td>
<td>97.8</td>
<td>76.9</td>
<td>186.4</td>
<td>-56.4</td>
<td>77.1</td>
</tr>
</tbody>
</table>

   S.E. of mean response = 130.2 lb/ac.
Crop :- Paddy (Kharif).
Centre :- Burdwan.

Ref :- W.B. 54(TCM).
Type :- 'M'.

Object :- Type VI — To study the direct, residual and cumulative effects of phosphate application to Paddy.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Recent alluvium—clayey. (b) N.A. (iii) N.A./1.8.1954. (iv) (a) N.A. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) Jhingasail. (vii) Irrigated. (viii) and (ix) N.A. (x) 9 and 10.12.1954.

2. TREATMENTS:
   Treatment 1 2 3 4 5 6 7 8 9 10 11 12
   First year o c c p1 p2 c c c c c c
   Second year o c c c c p1 p2 c c c
   Third year o c c c c c c c p1 p2
   Treatments are three year rotations with 11 distinct treatments. Plots under treatment 1 do not receive any fertilizer. Other plots received a basal dose of 20 lb./ac. of N. Treatments 2 and 3 (viz. c) are identical and serve as control (2 plots/replication). Various symbols denote: p1=10 lb./ac., p2=20 lb./ac. and p3=40 lb./ac. of P2O5.

3. DESIGN:
   (i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) (a) 24'×45'. (b) 22'×43'. (v) 1'X1'. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Yield of grain. (iv) (a) 1953—1955. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 3298 lb./ac. (ii) 211.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.
   Treatment 1 (2,3,8 and 9) 4 5 6 7 8 9 10 11 12
   Av. yield 3315 3211 3582 3221 3274 3298 3318 3505 3393
   S.E./mean (except 2, 3, 8 and 9) = 105.7 lb./ac.
   S.E. of (2, 3, 8 and 9) mean = 52.9 lb./ac.

---

Crop :- Paddy (Kharif).
Centre :- Burdwan.

Ref :- W.B. 55(TCM).
Type :- 'M'.

Object :- Type VI — To study the direct, residual and cumulative effects of phosphate application to Paddy.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Recent alluvium—clayey. (b) N.A. (iii) N.A./26.7.1955. (iv) (a) N.A. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) Jhingasail. (vii) Irrigated. (viii) and (ix) N.A. (x) 6.12.1955.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 54(TCM) type VI conducted at Burdwan above.

5. RESULTS:
   (i) 2879 lb./ac. (ii) 186.0 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.
   Treatment 1 (2,3) 4 5 6 7 8 9 10 11 12
   Av. yield 2630 2803 3065 2929 2812 2896 2997 2847 2812 3161 2794
   S.E./mean (except 2, 3) = 93.0 lb./ac.
   S.E. of (2, 3) mean = 65.8 lb./ac.
Object: Type XI—To study the effect of different levels of N, P, and K on Paddy.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Recent alluvium—clayey. (b) N.A. (iii) N.A./2.8.1955. (iv) (a) N.A. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) Kalma. (vii) Irrigated. (viii) and (ix) N.A. (x) 15.12.1954.

2. TREATMENTS:
   All combinations of (1), (2) and (3)
   (1) 3 levels of N: N₀ = 0, N₁ = 20 and N₂ = 40 lb./ac.
   (2) 3 levels of P₂O₅: P₀ = 0, P₁ = 20 and P₂ = 40 lb./ac.
   (3) 3 levels of K₂O: K₀ = 0, K₁ = 20 and K₂ = 40 lb./ac.

3. DESIGN:
   (i) 3° conf. (ii) (a) 9 plots/block and 3 blocks/replication. (b) N.A. (iii) 1. (iv) (a) 24' × 45'. (b) 22' × 43'. (v) 1' × 1'. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Ntl. (iii) Yield of grain. (iv) (a) 1953—1955. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 2737 lb./ac. (ii) 452.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>Mean</th>
<th>K₀</th>
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<tr>
<td>K₂</td>
<td>2700</td>
<td>2660</td>
<td>2818</td>
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</tbody>
</table>

S.E. of any marginal mean = 150.8 lb./ac.
S.E. of body of any table = 261.3 lb./ac.

Object: Type XI—To study the effect of different levels of N, P and K on Paddy.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Recent alluvium—clayey. (b) N.A. (iii) N.A./2.8.1955. (iv) (a) N.A. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) Kalma. (vii) Irrigated. (viii) and (ix) N.A. (x) 17.12.1955.

2. TREATMENTS:
   Same as in expt. no. 54(TCM) type XI conducted at Burdwan above.

5. RESULTS:
   (i) 2915 lb./ac. (ii) 186.7 lb./ac. (iii) Main effect of N alone is significant. (iv) Av. yield of grain in lb./ac.
Crop: Paddy (Kharif).
Centre: Mankhanda.

Ref: W.B. 54(TCM).
Type: 'M'.

Object: — Type I(a)—To study the effect of P, and different sources and levels of N on Paddy.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Deltaic and saline—clayey. (b) N.A. (iii) N.A./August, 1954. (iv) (a) N.A.
   (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) Basmati. (vii) Irrigated. (viii) and (ix) N.A. (x) December, 1954.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 54(TCM) type I(a) conducted at Burdwan on page 123. Fertilizers top dressed 4 weeks after transplanting.

5. RESULTS:
   (i) 2163 lb./ac. (ii) 321 lb./ac. (iii) Main effect of N is highly significant and E effect is significant. (iv) Av. yield of grain in lb./ac.

   \[ E_1 = 3182 \text{ lb./ac.}, \quad E_2 = 2343 \text{ lb./ac.} \text{ and } E_3 = 2616 \text{ lb./ac.} \]

<table>
<thead>
<tr>
<th></th>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>Mean</th>
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</table>

S.E. of any marginal mean = 62.2 lb./ac.
S.E. of body of any table or E mean = 107.8 lb./ac.
Object: - Type I(a) - To study the effect of P and different sources and levels of N on Paddy.

1. BASAL CONDITIONS:
   (i) 'a' to (c) N.A. (ii) (a) Deltaic and saline - clayey. (b) N.A. (iii) N.A./12.8.1955. (iv) (a) N.A. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) Basmati. (vii) Irrigated. (viii) and (ix) N.A. (x) 1 to 3.12.1955.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 54(TCM) type I(a) conducted at Burdwan on page 123. Fertilizers top dressed 4 weeks after transplanting.

5. RESULTS:
   (i) 1325 lb./ac. (ii) 205.8 lb./ac. (iii) Main effect of N and 'E vs. others' are highly significant. P effect is significant. (iv) Av. yield of grain in lb./ac.

   \[
   E_1=1707 \text{ lb./ac.}, \quad E_2=1350 \text{ lb./ac.} \quad \text{and} \quad E_3=1598 \text{ lb./ac.}
   \]

   |   | \( N_0 \) | \( N_1 \) | \( N_2 \) | Mean
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
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</tr>
<tr>
<td>S_1</td>
<td>-</td>
<td>1221</td>
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<td></td>
</tr>
<tr>
<td>S_2</td>
<td>-</td>
<td>1077</td>
<td>1480</td>
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</tr>
<tr>
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<td>-</td>
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<tr>
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<td>1354</td>
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</tbody>
</table>

   S.E. of N or P marginal mean = 68.6 lb./ac.
   S.E. of S marginal mean = 84.0 lb./ac.
   S.E. of body of N x P or S x N table or E mean = 118.8 lb./ac.
   S.E. of body of S x P table = 145.5 lb./ac.

Object: - Type III - To study the residual effect of minor elements and K applied to previous paddy on Paddy.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Deltaic and saline - clayey. (b) N.A. (iii) N.A./August, 1954. (iv) (a) N.A. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) Mulепati. (vii) Irrigated. (viii) and (ix) N.A. (x) December, 1954.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 54(TCM) type III conducted at Burdwan on page 126.

5. RESULTS:
   (i) 1636 lb./ac. (ii) 114.9 lb./ac. (iii) None of the effects is significant. (iv) Mean response of grain in lb./ac.

   \[
   \text{Mean response} = 27.71, \quad 61.22, \quad -31.38, \quad 15.16, \quad 33.75, \quad 38.13, \quad 12.43, \quad 74.83
   \]

   S.E./mean response = 40.7 lb./ac.
Crop :- Paddy ('Kharif').
Centre :- Mankhanda.

Object :- Type VI—To study the direct, residual and cumulative effects of phosphate application to Paddy.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Deltaic and saline—clayey. (b) N.A. (iii) N.A./August, 1954. (iv) (a) N.A. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) Mud. (vii) Irrigated. (viii) and (ix) N.A. (x) December, 1954.

2. TREATMENTS to 4. GENERAL:
Same as in exp. no. 54(TCM) type VI conducted at Burdwan on page 127.

5. RESULTS:
(i) 1696 lb./ac. (ii) 244.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>1 (2, 3, 8 and 9)</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1508</td>
<td>1717</td>
<td>1772</td>
<td>1764</td>
<td>1560</td>
<td>1594</td>
<td>1916</td>
<td>1714</td>
</tr>
</tbody>
</table>

S.E./mean (except 2, 3, 8 and 9) = 122.3 lb./ac.
S.E./of (2, 3, 8 and 9) mean = 61.2 lb./ac.

Crop :- Paddy ('Kharif').
Centre :- Mankhanda.

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

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Deltaic and saline—clayey. (b) N.A. (iii) N.A./August, 1955. (iv) (a) N.A. (b) Transplanting. (c) to (e) N.A. (v) 20 lb./ac. of P₂O₅ as triple Super. (vi) Basmati. (vii) Irrigated. (viii) and (ix) N.A. (x) December, 1955.

2. TREATMENTS:
All combinations of (1) and (2)+control (2 plots)
(1) 2 levels of N : N₁=20 and N₂=40 lb./ac.
(2) 3 sources of N : S₁=A/S, S₂=A/S/N and S₃=Nitrochalk.
N broadcast 4 weeks after transplanting.

3. DESIGN:
(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 45°×24'. (b) 43°×22'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) N.A. (iii) Yield of grain. (iv) (a) 1955—N.A. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 1216 lb./ac. (ii) 364.7 lb./ac. (iii) None of the effects is significant. (v) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S₁</th>
<th>S₂</th>
<th>S₃</th>
<th>Mean</th>
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<tbody>
<tr>
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<td></td>
</tr>
<tr>
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<tr>
<td>N₂</td>
<td>1012</td>
<td>1421</td>
<td>1519</td>
<td>1317</td>
</tr>
<tr>
<td>Mean</td>
<td>1114</td>
<td>1279</td>
<td>1355</td>
<td>1249</td>
</tr>
</tbody>
</table>
S.E. of N marginal mean = 105.3 lb./ac.
S.E. of S marginal or control mean = 128.9 lb./ac.
S.E. of body of table = 182.3 lb./ac.

_Crop:_ Paddy; _Centre:_ Mankhanda.

Object:— Type XI—To study the effect of different levels of N, P and K on Paddy.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Deltaic and saline—clayey. (b) N.A.  (iii) N.A./August, 1954.  (iv) (a) N.A. (b) Transplanting.  (c) to (e) N.A.  (v) Nil.  (vi) _Vasakalam_. (vii) Irrigated.  (viii) and (ix) N.A.  (x) December, 1954.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 54(TCM) type XI conducted at Burdwan on page 128.

5. RESULTS:
   (i) 1572 lb./ac. (ii) 360.9 lb./ac.  (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>N1</th>
<th>N2</th>
<th>Mean</th>
<th>K1</th>
<th>K2</th>
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<tbody>
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<td>1983</td>
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<tr>
<td>Mean</td>
<td>1764</td>
<td>1911</td>
<td>2273</td>
<td>1983</td>
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</table>

S E. of any marginal mean = 78.9 lb./ac.
S E. of body of any table = 136.7 lb./ac.

_Crop:_ Paddy ( _Kharif_ ).  
_Centre:_ Mankhanda.  
Ref:— W.B. 55(TCM).  
Type:— ‘M’.

Object:— Type XI—To study the effect of different levels of N, P and K on Paddy.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Deltaic and saline—clayey. (b) N.A.  (iii) N.A./10.8.1955.  (iv) (a) N.A. (b) Transplanting.  (c) to (e) N.A.  (v) Nil.  (vi) _Vasakalam_. (vii) Irrigated.  (viii) and (ix) N.A.  (x) 6.12.1955.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 54(TCM) type XI conducted at Burdwan on page 128.

5. RESULTS:
   (i) 1572 lb./ac. (ii) 360.9 lb./ac.  (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.
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) Laterite and red.  (iii) to (v) N.A.  (vi) July—August, 1959.  (vii) to (ix) N.A.
   (x) December, 1959.

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

3. DESIGN:
   (i) and (ii) The district has been divided into four agriculturally homogeneous zones and one field assistant 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 charged 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. 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) N.A.  (b) 1/80 ac.  (iv) Yes.

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

5. RESULTS:
   Effect  n  p  k  S.E.  np  nk  pk  npk  S.E.
   Av. response of grain in lb./ac.  206  99  41  18.1  —16  33  —8  —123  17.3
   Control yield = 1942 lb./ac. and no. of trials = 28.
Crop: Paddy.  
Centre: Burdwan (c.f.).  
Object: Type A - To study the response of Paddy to levels of N, P, and K, applied individually and in combinations.

1. BASAL CONDITIONS:

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 59(SFT) type A on page 133 conducted at Birbhum.

5. RESULTS:

<table>
<thead>
<tr>
<th>Effect</th>
<th>n</th>
<th>p</th>
<th>k</th>
<th>S.E.</th>
<th>np</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
<th>S.E.</th>
</tr>
</thead>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Av. response of grain in lb./ac.</td>
<td>41</td>
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<td>74</td>
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<td>-16</td>
<td>74</td>
<td>-91</td>
<td>40.3</td>
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<tr>
<td>Control yield</td>
<td>= 2189 lb./ac. and no. of trials = 11.</td>
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<td></td>
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</tr>
<tr>
<td>Aman season</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Av. response of grain in lb./ac.</td>
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<td>41</td>
<td>58</td>
<td>32.1</td>
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<td>-8</td>
<td>-16</td>
<td>-58</td>
<td>23.0</td>
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<tr>
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<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

Crop: Paddy.  
Centre: Hooghly (c.f.).  
Object: Type A - To study the response of Paddy to levels of N, P, and K, applied individually and in combinations.

1. BASAL CONDITIONS:

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 59(SFT) type A on page 133 conducted at Birbhum.

5. RESULTS:

<table>
<thead>
<tr>
<th>Effect</th>
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<th>k</th>
<th>S.E.</th>
<th>np</th>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Av. response of grain in lb./ac.</td>
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<td>-16</td>
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<td>33</td>
<td>41</td>
<td>-82</td>
<td>28.0</td>
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<tr>
<td>Control yield</td>
<td>= 2049 lb./ac. and no. of trials = 12.</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aman season</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Av. response of grain in lb./ac.</td>
<td>25</td>
<td>107</td>
<td>-8</td>
<td>18.9</td>
<td>-66</td>
<td>-8</td>
<td>74</td>
<td>-66</td>
<td>13.2</td>
</tr>
<tr>
<td>Control yield</td>
<td>= 2164 lb./ac. and no. of trials = 9.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop: Paddy (Aman).  
Centre: Howrah (c.f.).  
Object: Type A - To study the response of Paddy to levels of N, P, and K, applied individually and in combinations.
1. **BASAL CONDITIONS**:
   (i) to (c) N.A. (ii) Alluvial. (iii) to (v) N.A. (vi) July—August, 1959. (vii) to (ix) N.A. (x) December, 1959.

2. **TREATMENTS to 4. GENERAL**:
   Same as in expt. no. 59(SFT) type A on page 133 conducted at Birbhum.

5. **RESULTS**:

   **Effect** | n | p | k | S.E. | np | nk | pk | npk | S.E.
---|---|---|---|-----|----|----|----|-----|-----
Av. response of grain in lb./ac. | 49 | 8 | 107 | 14.8 | 0 | -16 | 33 | -91 | 14.8 
Control yield = 1769 lb./ac. and no. of trials = 12.

---

**Crop**: Paddy.  
**Centre**: Mindnapore (c.f.).  
**Ref**: W.B. 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**:

2. **TREATMENTS to 4. GENERAL**:
   Same as in expt. no. 59(SFT) type A on page 133 conducted at Birbhum.

5. **RESULTS**:

   **Effect** | n | p | k | S.E. | np | nk | pk | npk | S.E.
---|---|---|---|-----|----|----|----|-----|-----
Av. response of grain in lb./ac. | 247 | 165 | 230 | 32.9 | -25 | -49 | 33 | 197 | 32.7 
Control yield = 1415 lb./ac. and no. of trials = 9.

---

**Effect** | n | p | k | S.E. | np | nk | pk | npk | S.E.
---|---|---|---|-----|----|----|----|-----|-----
Av. response of grain in lb./ac. | 156 | 58 | 74 | 28.8 | -25 | 0 | 49 | -74 | 30.4 
Control yield = 1551 lb./ac. and no. of trials = 14.

---

**Crop**: Paddy.  
**Centre**: Murshidabad (c.f.).  
**Ref**: W.B. 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**:

2. **TREATMENTS to 4. GENERAL**:
   Same as in expt. no. 59(SFT) type A on page 133 conducted at Birbhum.

5. **RESULTS**:

   **Effect** | n | p | k | S.E. | np | nk | pk | npk | S.E.
---|---|---|---|-----|----|----|----|-----|-----
Av. response of grain in lb./ac. | 239 | 123 | 74 | 16.5 | 33 | 16 | 8 | 18.9 
Control yield = 1338 lb./ac. and no. of trials = 3.
Object: Type A—To study the response of Paddy to levels of N, P and K, applied individually and in combinations.

1. BASAL CONDITIONS:

2. TREATMENTS to 4. GENERAL:
Same as in exp. no. 59(SFT) type A on page 133 conducted at Birbhum.

5. RESULTS:

**Aus season**

<table>
<thead>
<tr>
<th>Effect</th>
<th>n</th>
<th>p</th>
<th>k</th>
<th>S.E.</th>
<th>np</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. response of grain in lb./ac.</td>
<td>247</td>
<td>91</td>
<td>33</td>
<td>60.1</td>
<td>8</td>
<td>-49</td>
<td>16</td>
<td>-16</td>
<td>46.9</td>
</tr>
<tr>
<td>Control yield =</td>
<td>1835 lb./ac. and no. of trials = 8.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Aman season**

<table>
<thead>
<tr>
<th>Effect</th>
<th>n</th>
<th>p</th>
<th>k</th>
<th>S.E.</th>
<th>np</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. response of grain in lb./ac.</td>
<td>214</td>
<td>115</td>
<td>41</td>
<td>41.1</td>
<td>-25</td>
<td>25</td>
<td>-8</td>
<td>16</td>
<td>44.4</td>
</tr>
<tr>
<td>Control yield =</td>
<td>1876 lb./ac. and no. of trials = 10.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Crop:** Paddy.
**Centre:** 24 Parganas (c.f.).
**Ref:** W.B. 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:

2. TREATMENTS to 4. GENERAL:
Same as in exp. no. 59(SFT) type A on page 133 conducted at Birbhum.

5. RESULTS:

**Aus season**

<table>
<thead>
<tr>
<th>Effect</th>
<th>n</th>
<th>p</th>
<th>k</th>
<th>S.E.</th>
<th>np</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. response of grain in lb./ac.</td>
<td>288</td>
<td>99</td>
<td>115</td>
<td>51.0</td>
<td>16</td>
<td>-41</td>
<td>99</td>
<td>33</td>
<td>41.1</td>
</tr>
<tr>
<td>Control yield =</td>
<td>1975 lb./ac. and no. of trials = 8.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Aman season**

<table>
<thead>
<tr>
<th>Effect</th>
<th>n</th>
<th>p</th>
<th>k</th>
<th>S.E.</th>
<th>np</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. response of grain in lb./ac.</td>
<td>280</td>
<td>99</td>
<td>91</td>
<td>34.6</td>
<td>-16</td>
<td>-8</td>
<td>58</td>
<td>8</td>
<td>20.6</td>
</tr>
<tr>
<td>Control yield =</td>
<td>1884 lb./ac. and no. of trials = 8.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop: Paddy (Aman).
Centre: Birbhum (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) Laterite and red. (iii) to (v) N.A. (vi) July, 1959, (vii) to (ix) N.A. (x) December, 1959.

2. TREATMENTS:
   0 = Control (no manure).
   \( n_1 = 20 \text{ lb./ac. of N as A/S.} \)
   \( n_2 = 40 \text{ lb./ac. of N as A/S.} \)
   \( n_1' = 20 \text{ lb./ac. of N as Urea.} \)
   \( n_2' = 40 \text{ lb./ac. of N as Urea.} \)
   \( n_1'' = 20 \text{ lb./ac. of N as C/A/N.} \)
   \( n_2'' = 40 \text{ lb./ac. of N as C/A/N.} \)

3. DESIGN:
   (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) N.A. (b) 1/80 ac. (iv) Yes.

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

5. RESULTS:
   Treatment     Av. yield of grain in lb./ac.
   \( 0 \quad n_1 \quad n_2 \quad n_1' \quad n_2' \quad n_1'' \quad n_2'' \)
   Av. yield of grain in lb./ac. 1736 2246 2534 2337 2584 2172 2312
   G.M. = 2274 lb./ac., S.E./mean = 36.1 lb./ac. and no. of trials = 30.

Crop: Paddy.
Centre: Burdwan.

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

1. BASAL CONDITIONS:

2. TREATMENTS to 4. GENERAL:
   Same as in expir. no. 59(SFT) type B above conducted at Birbhum.

5. RESULTS:
   Treatment     Aus season
   \( 0 \quad n_1 \quad n_2 \quad n_1' \quad n_2' \quad n_1'' \quad n_2'' \)
   Av. yield of grain in lb./ac. 1917 2181 2403 2263 2403 2246 2320
   G.M. = 2248 lb./ac., S.E./mean = 49.5 lb./ac. and no. of trials = 11.
Aman season

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>$n_1$</th>
<th>$n_2$</th>
<th>$n_1'$</th>
<th>$n_2'$</th>
<th>$n_1''$</th>
<th>$n_2''$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield of grain in lb./ac.</td>
<td>2477</td>
<td>2864</td>
<td>3053</td>
<td>2806</td>
<td>2987</td>
<td>2847</td>
<td>3045</td>
</tr>
</tbody>
</table>

G.M. = 2868 lb./ac., S.E./mean = 37.8 lb./ac. and no. of trials = 11.

Crop :- Paddy.
Centre :- Hoogly (c.f.).
Ref :- W.B. 59(SFT).
Type :- 'M'.

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

1. BASAL CONDITIONS:

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 59(SFT) type B on page 137 conducted at Birbhum.

5. RESULTS:

Aus season

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>$n_1$</th>
<th>$n_2$</th>
<th>$n_1'$</th>
<th>$n_2'$</th>
<th>$n_1''$</th>
<th>$n_2''$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield of grain in lb./ac.</td>
<td>1679</td>
<td>1934</td>
<td>1917</td>
<td>1983</td>
<td>2041</td>
<td>1909</td>
<td>1934</td>
</tr>
</tbody>
</table>

G.M. = 1914 lb./ac.; S.E./mean = 54.1 lb./ac. and no. of trials = 9.

Aman season

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>$n_1$</th>
<th>$n_2$</th>
<th>$n_1'$</th>
<th>$n_2'$</th>
<th>$n_1''$</th>
<th>$n_2''$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield of grain in lb./ac.</td>
<td>2057</td>
<td>2320</td>
<td>2230</td>
<td>2255</td>
<td>2238</td>
<td>2345</td>
<td>2220</td>
</tr>
</tbody>
</table>

G.M. = 2239 lb./ac.; S.E./mean = 93.7 lb./ac. and no. of trials = 7.

Crop :- Paddy (Aman).
Centre :- Howrah (c.f.).
Ref :- W.B. 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) Alluvial. (iii) to (v) N.A. (vi) June—July, 1959. (vii) to (ix) N.A. (x) December, 1959.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 59(SFT) type B on page 137 conducted at Birbhum.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>$n_1$</th>
<th>$n_2$</th>
<th>$n_1'$</th>
<th>$n_2'$</th>
<th>$n_1''$</th>
<th>$n_2''$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield of grain in lb./ac.</td>
<td>1218</td>
<td>1415</td>
<td>1563</td>
<td>1481</td>
<td>1679</td>
<td>1399</td>
<td>1555</td>
</tr>
</tbody>
</table>

G.M. = 1472 lb./ac.; S.E./mean = 34.9 lb./ac. and no. of trials = 12.
Object: Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS:

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 59(SFT) type B conducted at Birbhum on page 137.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th><em>Aus season</em></th>
<th><em>Aman season</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield of grain in lb./ac.</td>
<td>1415</td>
<td>1445</td>
</tr>
<tr>
<td>G.M.</td>
<td>1677 lb./ac., S.E./mean</td>
<td>38.4 lb./ac. and no. of trials = 3.</td>
</tr>
<tr>
<td>Av. yield of grain in lb./ac.</td>
<td>1445</td>
<td>32.6 lb./ac. and no. of trials = 18.</td>
</tr>
</tbody>
</table>

---

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

1. BASAL CONDITIONS:

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 59(SFT) type B conducted at Birbhum on page 137.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th><em>Aus season</em></th>
<th><em>Aman season</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield of grain in lb./ac.</td>
<td>1415</td>
<td>1445</td>
</tr>
<tr>
<td>G.M.</td>
<td>1677 lb./ac., S.E./mean</td>
<td>38.4 lb./ac. and no. of trials = 3.</td>
</tr>
<tr>
<td>Av. yield of grain in lb./ac.</td>
<td>1445</td>
<td>32.6 lb./ac. and no. of trials = 18.</td>
</tr>
</tbody>
</table>

---

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) to (v) N.A.  (v) Aus: December 1959 and Aman: June—July 1959.

2. TREATMENTS to 4. GENERAL:
Same as in exp. no. 59(SFT) type B conducted at Birbhum on page 137.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Aus season</th>
<th>Av. yield of grain in lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2131 2304 2559 2370 2460 2320 2633</td>
</tr>
<tr>
<td>n1 n2 n3' n4' n5' n6' n7' n8'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G.M. = 2397 lb./ac., S.E./mean = 101.8 lb./ac. and no. of trials = 10.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Aman season</th>
<th>Av. yield of grain in lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1802 2041 2123 2000 1967 1950 2238</td>
</tr>
<tr>
<td>n1 n2 n3' n4' n5' n6' n7' n8'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G.M. = 2017 lb./ac., S.E./mean = 50.0 lb./ac. and no. of trials = 10.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Paddy.
Centre :- 24 Parganas (c.f.).
Object:- Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS:

2. TREATMENTS to 4. GENERAL:
Same as in exp. no. 59(SFT) type B conducted at Birbhum on page 137.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Aus season</th>
<th>Av. yield of grain in lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2271 2444 2276 2260 2280 2271</td>
</tr>
<tr>
<td>n1 n2 n3' n4' n5' n6' n7' n8'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G.M. = 2398 lb./ac., S.E./mean = 101.2 lb./ac. and no. of trials = 7.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Aman season</th>
<th>Av. yield of grain in lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1876 2032 1868 1777 1851 1983</td>
</tr>
<tr>
<td>n1 n2 n3' n4' n5' n6' n7' n8'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G.M. = 1869 lb./ac., S.E./mean = 30.8 lb./ac. and no. of trials = 10.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Paddy (Aman),
Centre :- Joypur (Bankura, c.f.).
Object:- To study the effect of application of N and P applied alone and in combination on the yield of Paddy.

1. BASAL CONDITIONS:
(i) Nil.  (b) Fellow.  (c) N.I.  (d) Loynty said.  (e) Nil.  (iv) Local.  (v) (a) 4 to 5 ploughings and laddering.  (b) Transplanting.  (c) Seed at 12 to 15 srs./ac. sown in the nursery.  (d) 9"x9".  (e) 2 to 3.  (vii) Middle of June 1st week of August, 1954.  (vii) Unirrigated.  (viii) and (ix) N.A.  (x) Middle of December, 1954.
2. TREATMENTS:
All combinations of (1) and (2).
(1) 5 levels of N as A/S: N₀=0, N₁=15, N₂=30, N₃=45 and N₄=60 lb./ac.
(2) 5 levels of P₂O₅ as super: P₀=0, P₁=20, P₂=40, P₃=60 and P₄=80 lb./ac.
Super thrust in at the time of general preparation of land and A/S applied 4 weeks after transplantation.

3. DESIGN:
(i) Fact. in R.B.D. with 4 replications. (ii) 5 agricultural farms and 7 cultivators’ fields in the vicinity of farms. (iii) (a) 36’×18’. (b) 34’×16’. (iv) Yes.

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

5. RESULTS:
(i) 1833 lb./ac. (ii) 374.7 lb./ac. (iii) Only N effect 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>N₃</th>
<th>N₄</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>P₀</td>
<td>1493</td>
<td>1524</td>
<td>1784</td>
<td>1959</td>
<td>1936</td>
<td>1739</td>
</tr>
<tr>
<td>P₁</td>
<td>1477</td>
<td>1916</td>
<td>1565</td>
<td>1875</td>
<td>1896</td>
<td>1746</td>
</tr>
<tr>
<td>P₂</td>
<td>1547</td>
<td>1636</td>
<td>2190</td>
<td>2231</td>
<td>2104</td>
<td>1942</td>
</tr>
<tr>
<td>P₃</td>
<td>1273</td>
<td>2106</td>
<td>1760</td>
<td>1829</td>
<td>1831</td>
<td>1760</td>
</tr>
<tr>
<td>P₄</td>
<td>1670</td>
<td>1708</td>
<td>1967</td>
<td>2193</td>
<td>2352</td>
<td>1978</td>
</tr>
</tbody>
</table>

Mean 1492 1778 1855 2017 2024 1833
S.E. of any marginal mean = 83.8 lb./ac.
S.E. of body of table = 187.4 lb./ac.

Crop :- Paddy (Aman).
Centre :- Mandhia (Bankura, c.f.).
Object :- To study the effect of application of N and P applied alone and in combination on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) N.A. (b) Fallow. (c) Nil. (ii) Loamy sand. (iii) Nil. (iv) Bhasamonik (improved, Ch. 3, medium). (v) 4 to 5 ploughings and laddering. (vi) Transplanting. (c) 12 to 15 srs./ac. sown in nursery.
(d) 9’×9’. (e) 2 to 3. (vi) Middle of June/1st week of August, 1954. (vii) Unirrigated. (viii) N/A. (x) Middle of December, 1954.

2. TREATMENTS:
Same as in exp. no. 54(25) on page 140.

3. DESIGN:
(i) Fact. in R.B.D. with 4 replications. (ii) 5 agricultural farms and 7 cultivators’ fields in the vicinity of farms. (iii) (a) 22’×33’. (b) 20’×31’. (iv) Yes.

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

5. RESULTS:
(i) 1960 lb./ac. (ii) 207.3 lb./ac. (iii) Only N effect is highly significant. (iv) Av. yield of grain in lb./ac.
Crop :- Paddy (Aman).

Centre :- Kanaimatsal (Burdwan, c.f.).

Object :- To study the effect of application of N and P applied alone and in combination on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) N.A. (b) Follow. (c) Nil. (ii) Sandy loam. (iii) Nil. (iv) Local (nagra). (v) (a) 4 to 5 ploughings and laddering. (b) Transplanting. (c) Seed at 12 to 15 srs./ac. (d) 9'x9'. (e) 2 to 3. (vi) 1st week of August, 1954. (vii) Unirrigated. (viii) N.A. (ix) 43.50'. (x) 2nd week of December, 1954.

2. TREATMENTS:
Same as in exp. no. 54;25 on page 140.

3. DESIGN:
(i) Fact. in R.B.D. with 4 replications. (ii) 5 state agricultural farms and 7 cultivators' fields in the vicinity of each farm. (iii) (a) 36'x20'. (b) 34'x18'. (iv) Yes.

4. GENERAL:
(i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953-1955. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 2155 lb/ac. (ii) 308.9 lb/ac. (iii) Only N effect is highly significant. (iv) Av. yield of grain in lb/ac.

<table>
<thead>
<tr>
<th>N0</th>
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<th>N3</th>
<th>N4</th>
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S.E. of any marginal mean = 69.1 lb/ac.
S.E. of body of table = 154.4 lb/ac.
Crop : - Paddy (Aman).
Centre :- Kana:imatsal (Burdwan, c.f.).

Object :—To study the effect of application of N and P applied alone and in combination on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Fallow. (c) Nil. (ii) Sandy loam. (iii) Nil. (iv) Local (negra). (v) (a) 4 to 5 ploughings and laddering. (b) Transplanting. (c) Seed at 12 to 15 srs./ac. (d) 9°×9°. (e) 2 to 3. (vi) 1.8.1955. (vii) Unirrigated. (viii) N.A. (ix) 0.77. (x) 12.12.1955.

2. TREATMENTS:
   Same as in expt. no. 54(25) on page 140.

3. DESIGN:
   (i) Fact. in R.B.D. with 4 replications. (ii) 5 state agricultural farms and 7 cultivator's fields in the vicinity of each farm. (iii) (a) 36'×20'. (b) 34'×18'. (iv) Yes.

4. GENERAL:
   (i) Good. (ii) Nil. (iii) Grain and straw yield. (iv) (a) 1953—1955. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 3133 lb./ac. (ii) 338.1 lb./ac. (iii) Main effect of N alone is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>P0</th>
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Mean 2951 3334 3381 3225 2780 3133

S.E. of any marginal mean = 75.6 lb./ac.
S.E. of body of table = 169.0 lb./ac.

Crop :- Paddy (Aman).
Centre :- Jagyamaraynur (Cooch Behar, c.f.).

Object :—To study the effect of application of N and P applied alone and in combination on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Fallow. (c) Nil. (ii) (a) Silty loam. (iii) Nil. (iv) Local. (v) (a) 4 to 5 ploughings and laddering. (b) Transplanting. (c) Seed at 12 to 15 srs./ac. (sown in the nursery). (d) 9°×9°. (e) 2 to 3. (vi) Middle of June /1st week of August, 1954. (vii) Unirrigated. (viii) and (ix) N.A. (x) Middle of December, 1954.

2. TREATMENTS:
   Same as in expt. no. 54(25) on page 140.

3. DESIGN:
   (i) Fact. in R.B.D. with 4 replications. (ii) 5 state agricultural farms and 7 cultivator's fields generally in the vicinity of each farm. (iii) (a) 36'×22'. (b) 36'×20'. (iv) Yes.

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

(i) 2317 lb./ac.  
(ii) 465.9 lb./ac.  
(iii) N effect is highly significant.  
(iv) Av. yield of grain in lb./ac.

<table>
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<td>2317</td>
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</table>

S.E. of any marginal mean = 104.2 lb./ac.
S.E. of body of the table = 233.0 lb./ac.

---

Crop: Paddy (*Aman*).
Centre: Bulbul Chandi (Malda, c.f.).

Object: To study the effect of application of N and P applied alone and in combination on the yield of Paddy.

1. BASAL CONDITIONS:

(i) (a) Nil.  (b) Fallow.  (c) Nil.  (ii) Loam.  (iii) Nil.  (iv) Local.  (v) (a) 4 to 5 ploughings and laddering.  (b) Transplanting.  (c) 12 to 15 srs./ac. sown in the nursery.  (d) 9"x9".  (e) 2 to 3.  (vi) Middle of June/1st week of August, 1954.  (vii) Unirrigated.  (viii) and (ix) N.A.  (x) Middle of December, 1954.

2. TREATMENTS:

Same as in exp. no. 54(25) on page 140.

3. DESIGN:

(i) Fact. in R.B.D. with 4 replications.  
(ii) 5 experimental farms and 7 cultivators' fields generally in the vicinity of the farms.  
(iii) (a) 38'x22'.  
(b) 36'x20'.  
(iv) Yes.

4. GENERAL:

(i) Normal.  
(ii) N.A.  
(iii) Grain and straw yield.  
(iv) (a) 1953—1555.  
(b) Yes.  
(c) Nil.  
(v) to (vii) Nil.

5. RESULTS:

(i) 1118 lb./ac.  
(ii) 237.2 lb./ac.  
(iii) N effect is highly significant.  
(iv) Av. yield of grain in lb./ac.

<table>
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<tr>
<th></th>
<th>N₀</th>
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<th>N₂</th>
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<td>1055</td>
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<td>1270</td>
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<td>1118</td>
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</table>

S.E. of any marginal mean = 53.0 lb./ac.
S.E. of body of the table = 118.6 lb./ac.
Crop :- Paddy (Aman).
Centre :- Lakshya (Midnapore, c.f).

Object :- To study the response due to the application of N and P applied alone and in combinations on the yield of Paddy.

1. BASAL CONDITIONS :
(i) (a) Nil. (b) Fallow. (c) Nil. (ii) Loamy sand. (iii) Nil. (iv) Local. (v) (a) 4 to 5 ploughings and ladderings. (b) Transplanting. (c) 12 to 15 srs./ac. sown in nursery. (d) 9” x 9”. (e) 2 to 3. (vi) Middle of June/1st week of August, 1954. (vii) Unirrigated. (viii) and (ix) N.A. (x) Middle of December, 1954.

2. TREATMENTS :
Same as in expt. no. 54(25) on page 140.

3. DESIGN :
(i) Fact. in R.B.D. with 4 replications. (ii) 5 agricultural farms and 7 cultivators field generally in the vicinity of farms. (iii) (a) 38’ x 22’. (b) 36’ x 20’. (iv) Yes.

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

5. RESULTS :
(i) 1206 lb./ac. (ii) 225.1 lb./ac. (iii) N and P effects are highly significant and interaction N x P is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
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<th>N2</th>
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<td>1836</td>
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</table>

Mean 714 979 1243 1518 1576 1206

S.E. of any marginal mean = 50.3 lb./ac.
S.E. of body of table = 112.6 lb./ac.

---

Crop :- Paddy (Aman).
Centre :- Hatgobindapur (Nadia, c.f).

Object :- To study the response due to N and P applied alone and in combinations on the yield of Paddy.

1. BASAL CONDITIONS :
(i) (a) Nil. (b) Fallow. (c) Nil. (ii) Loam. (iii) Nil. (iv) Local. (v) (a) 4 to 5 ploughings and ladderings. (b) Transplanting. (c) 12 to 15 srs./ac. sown in nursery. (d) 9” x 9”. (e) 2 to 3. (vi) Middle of June/1st week of August, 1954. (vii) Unirrigated. (viii) and (ix) N.A. (x) Middle of December, 1954.

2. TREATMENTS :
Same as in expt. no. 54(25) on page 140.

3. DESIGN :
(i) Fact. in R.B.D. with 4 replications. (ii) 5 agricultural farms and 7 fields in the vicinity of farms. (iii) (a) 38’ x 22’. (b) 36’ x 18’. (iv) Yes.
4. GENERAL:
(i) Good. (ii) N.A. (iii) Grain and straw yield. (iv) (a) 1953—1955. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 2589 lb./ac. (ii) 279.0 lb./ac. (iii) P effect is significant. (iv) Av. yield of grain in lb./ac.

<table>
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<th></th>
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<th>N₂</th>
<th>N₃</th>
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<td>2719</td>
<td>2626</td>
<td>2597</td>
<td>2589</td>
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</table>

S.E. of any marginal mean = 62.4 lb./ac.
S.E. of body of table = 139.5 lb./ac.

Object: To study the effect of gypsum on Paddy growing in salt affected soils.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Fallow. (c) Nil. (ii) Saline soil. (iii) Nil. (iv) Local. (v) (a) 4 to 5 ploughings and laderings. (b) Transplanting. (c) N.A. (d) 9' x 9'. (e) 2 to 3. (vi) Middle of June/Last week of July. (vii) Unirrigated. (viii) Nil. (ix) N.A. (x) Middle of December, 1954.

2. TREATMENTS:
4 levels of gypsum: G₀ = 0, G₁ = 0.5, G₂ = 1.0 and G₃ = 2.0 tons/ac.
Gypsum was applied by broadcast method in 3rd week of July.

3. DESIGN:
(i) R.B.D. with 4 replications. (ii) N.A. (iii) (a) 33' x 21'. (b) 31' x 19'. (iv) Yes.

4. GENERAL:
(i) Good. (ii) Nil. (iii) No. of tillers and their height. Grain and straw yield. (iv) (a) 1954—1955. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 1212 lb./ac. (ii) 416.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
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<th>Treatment</th>
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<th>G₁</th>
<th>G₂</th>
<th>G₃</th>
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<tbody>
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<td>1333</td>
<td>1191</td>
<td>1270</td>
<td>1055</td>
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</tbody>
</table>
S.E./mean = 208.2 lb./ac.

Object: To study the effect of gypsum on Paddy growing in salt affected soil.
1. **BASAL CONDITIONS**:
   (i) (a) Nil. (b) Fallow. (c) Nil. (ii) Saline soil. (iii) Nil. (iv) Local. (v) (a) 4 to 5 ploughings and laddering. (b) Transplanting. (c) N.A. (d) 9"×9". (e) 2 to 3. (vi) Middle of June/Last week of July 1955. (vii) Unirrigated. (viii) Nil. (ix) N.A. (x) Middle of December 1955.

2. **TREATMENTS** to 4. **GENERAL**:
   Same as in exp. no. 54(30) on page 146.

3. **RESULTS**:
   (i) 2822 lb./ac. (ii) 169.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

   Treatment
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<th>G₂</th>
<th>G₃</th>
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<tbody>
<tr>
<td>2771</td>
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<td>2684</td>
<td>2998</td>
</tr>
</tbody>
</table>
   Av. yield
   S.E./mean = 94.7 lb./ac.

---

**Crop**: Paddy (Aman).  
**Centre**: Dighirpar (24-Parganas, c.f.).  
Object: To study the effect of gypsum on Paddy growing in salt affected soil.

**Ref**: W.B. 56(10).  
**Type**: 'M'.

---

4. **GENERAL**:
   (i) Good. (ii) N.A. (iii) (a) 36'×20'. (b) 34'×18'. (iv) Yes.

5. **RESULTS**:
   (i) 2656 lb./ac. (ii) 229.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

   Treatment
<table>
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<th>G₃</th>
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<td>2695</td>
<td>2731</td>
<td>2530</td>
</tr>
</tbody>
</table>
   Av. yield
   S.E./mean = 114.8 lb./ac.

   **Straw yield**
   (i) 4700 lb./ac. (ii) 433.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

   Treatment
<table>
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<tr>
<th>G₀</th>
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<th>G₃</th>
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<tbody>
<tr>
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<td>4649</td>
<td>4686</td>
<td>4759</td>
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</tbody>
</table>
   Av. yield
   S.E./mean = 216.7 lb./ac.
Crop :- Paddy (Aman).
Centre :- Dighirpar (25-Parganas, c.f.).
Object :- To study the effect of gypsum on Paddy growing in salt affected soil.

1. BASAL CONDITIONS :
(i) (a) No. (b) Fallow. (c) Nil. (ii) Saline soil. (iii) Nil. (iv) Local. (v) (a) 4 to 5 ploughings and laddering. (b) Transplanting. (c) N.A. (d) 9" x 9". (e) 2 to 3. (vi) Middle of June/Last week of July 1957. (vii) Unirrigated (viii) Nil. (ix) N.A. (x) Middle of December, 1957.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 56(10) on page 147.
Due to drought after transplantation, some plants were watered from the ditch nearby.

5. RESULTS :
(i) 1936 lb./ac. (ii) 345.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
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<th>G₂</th>
<th>G₃</th>
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<td>S.E./mean</td>
<td>173.0 lb./ac.</td>
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</table>

Crop :- Paddy (Aman).
Centre :- Dighirpar (24-Parganas, c.f.).
Object :- To study the effect of gypsum on Paddy growing in salt affected soil.

1. BASAL CONDITIONS :
(i) (a) No. (b) Fallow. (c) Nil. (ii) Silty soil. (iii) 30 lb./ac. of N as A/S applied 4 weeks after transplantation. (iv) Local. (v) (a) 3 to 4 ploughings and laddering. (b) Transplanting. (c) N.A. (d) 9" x 9". (e) 2 to 3. (vi) End of July 1958. (vii) Unirrigated (viii) Nil. (ix) N.A. (x) Middle of December, 1958.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 56(10) on page 147.

5. RESULTS :
(i) 1519 lb./ac. (ii) 210.6 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>G₀</th>
<th>G₁</th>
<th>G₂</th>
<th>G₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1538</td>
<td>1794</td>
<td>1336</td>
<td>1409</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>105.3 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Paddy (Aman).
Centre :- Dighirpar (24-Parganas, c.f.).
Object :- To study the response of bulky organic manures and an equivalent amount of A/S on the yield of Paddy.

1. BASAL CONDITIONS :
(i) (a) N.A. (b) Fallow. (c) Nil. (ii) Heterogenous tracts. (iii) N.A. (iv) Local (improved). (v) (a) 3 to 4 ploughings and laddering. (b) Transplanting. (c) N.A. (d) 9" x 9". (e) 2 to 3 seedlings (about 30 days old). (vi) August 1955. (vii) Unirrigated. (viii) Nil. (ix) N.A. (x) December, 1955.
2. TREATMENTS:

4 manurial treatments: M_1 = No manure (control), M_2 = 30 lb./ac. of N as A/S, M_3 = 30 lb./ac. of N as T.C., and M_4 = 15 lb./ac. of N as A/S + 15 lb./ac. of N as T.C. T.C. in M_3 and M_4 and 1/3 of A/S in M_2 were applied at the time of puddling. The remainder 1/3 of A/S in M_2 and M_4 were applied 4 weeks after transplantation.

3. DESIGN:

(i) 23 fields scattered in 9 different districts of West Bengal where T.C. was available. (ii) Single replication/village. (iii) (a) Varying sizes of plot. (b) N.A. (iv) Yes.

4. GENERAL:

(i) Delay in the onset of monsoon in certain areas obviously delayed transplanting slightly beyond usual times. Temporary drought prevailed in the middle of growing season. (ii) Slightly affected by rice bug and Helminthosporium. (iii) Grain and straw yield. (iv) (a) 1955—1956. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:

(i) 2358 lb./ac. (ii) 256.5 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M_1</th>
<th>M_2</th>
<th>M_3</th>
<th>M_4</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>M_1</td>
<td>1860</td>
<td>2460</td>
<td>2534</td>
<td>2576</td>
<td></td>
<td>53.5 lb./ac.</td>
</tr>
</tbody>
</table>

---

Crop:—Paddy (Aman).

Site:—State Agri. Farm, Chinsurah.

Type:—‘MV’.

Object:—To find out the most resistant variety of Paddy towards N under Chinsurah soil.

1. BASAL CONDITIONS:

(i) (a) to (c) N.A. (ii) (a) N.A. (b) Refer soil analysis, Chinsurah. (iii) 6.8.1958. (iv) and (v) N.A. (vi) As per treatments. (vii) to (ix) N.A. (x) 12, 14 to 16.12.1958.

2. TREATMENTS:

Main-plot treatments:

3 doses of N as A/S: N_0 = 0, N_1 = 30 and N_2 = 60 lb./ac.

Sub-plot treatments:

8 varieties: V_1 = Raghusail, V_2 = Patnai-298, V_3 = Bhismananik, V_4 = Latisail, V_5 = Kailma-222, V_6 = Jhumasail, V_7 = Kalamkati-141, and V_8 = Nagra 41/14.

3. DESIGN:

(i) Split-plot. (ii) (a) 3 main-plots/block; 8 sub-plot/main-plot. (b) N.A. (iii) 5. (iv) (a) 38’ x 22’. (b) 56’ x 20’. (v) 1’ x 1’. (vi) Yes.

4. GENERAL:

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

5. RESULTS:

(i) 1303 lb./ac. (ii) (a) 2183.4 lb./ac. (b) 516.7 lb./ac. (iii) Main effect of V and interaction N x V are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>V_1</th>
<th>V_2</th>
<th>V_3</th>
<th>V_4</th>
<th>V_5</th>
<th>V_6</th>
<th>V_7</th>
<th>V_8</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N_0</td>
<td>1414</td>
<td>1295</td>
<td>1352</td>
<td>1206</td>
<td>1014</td>
<td>920</td>
<td>1174</td>
<td>1091</td>
</tr>
<tr>
<td>N_1</td>
<td>1621</td>
<td>1408</td>
<td>1710</td>
<td>1421</td>
<td>1231</td>
<td>1305</td>
<td>1394</td>
<td>1335</td>
</tr>
<tr>
<td>N_2</td>
<td>1413</td>
<td>1142</td>
<td>1551</td>
<td>1499</td>
<td>1326</td>
<td>981</td>
<td>1298</td>
<td>1169</td>
</tr>
<tr>
<td>Mean</td>
<td>1483</td>
<td>1283</td>
<td>1538</td>
<td>1375</td>
<td>1190</td>
<td>1069</td>
<td>1289</td>
<td>1198</td>
</tr>
</tbody>
</table>
S.E. of difference of two

1. N marginal means = 468.2 lb./ac.
2. V marginal means = 188.7 lb./ac.
3. V means at the same level of N = 326.8 lb./ac.
4. N means at the same level of V = 576.0 lb./ac.

**Crop:** Paddy (Aman).

**Site:** State Agri. Farm, Chinsurah.

**Ref:** W.B. 59(47)

**Type:** 'MV'.

Object:—To find out the most resistant variety of Paddy towards N under Chinsurah soil.

1. **BASAL CONDITIONS:**

   (i) (a) to (c) N.A.  (ii) (a) Gangetic alluvium, neutral clay.  (b) Refer soil analysis, Chinsurah.  (iii) 25.7.1959.  
   (iv) (a) 2 ploughings and 1 puddling.  (b) Transplanted in rows.  (c) Nil.  (d) 9"x9".  (e) 2.  (v) Nil.  
   (vi) As per treatments.  (vii) Unirrigated.  (viii) 1 weeding.  (ix) 55°.  (x) 4, 13, 15, 16 and 19.12.1959.

2. **TREATMENTS**

   **Main-plot treatments:**

   3 doses of N as A/S: \( N_0 = 0, N_1 = 30 \) and \( N_2 = 60 \) lb./ac.

   **Sub-plot treatments:**

   8 varieties: \( V_1 = Kalma- 222, V_2 = Patnai-13, V_3 = Brahmanik, V_4 = Nagrasail, V_5 = Rupsail, V_6 = Indrasail, V_7 = Rayhusail \) and \( V_8 = Sitasail-199 \).

3. **DESIGN:**

   (i) Split-plot.  (ii) 3 main-plots/block ; 8 sub-plots/main-plot.  (b) N.A.  (iii) 5.  
   (iv) (a) 38'x22', (b) 36'x20'.  (v) 1'x1'.  (vi) Yes.

4. **GENERAL:**

   (i) Good.  (ii) Nill.  (iii) Grain and straw yield.  (iv) 'a) 1956—contd.  (b) Yes.  (c) Nill.  (v) (a) and  
   (b) N A.  (vi) and (vii) Nil.

5. **RESULTS:**

   (i) 2030 lb./ac.  (ii) (a) 373.5 lb./ac.  (b) 214.9 lb./ac.  (iii) Main effects of N and V are highly significant  
   and interaction NxV is significant.  (iv) Av. yield of grain in lb./ac.

   \[
   \begin{array}{cccccccc}
   V_1 & V_2 & V_3 & V_4 & V_5 & V_6 & V_7 & V_8 \\
   N_0 & 2035 & 2245 & 2168 & 2165 & 2001 & 1932 & 2398 & 1890 \\
   N_1 & 2074 & 2241 & 2474 & 2290 & 2133 & 2010 & 2457 & 1924 \\
   N_2 & 1765 & 1844 & 2067 & 1940 & 1425 & 1807 & 1958 & 1492 \\
   \text{Mean} & 1938 & 2110 & 2236 & 2132 & 1853 & 1916 & 2271 & 1769 \\
   \end{array}
   \]

   S.E. of differences of two

   1. N marginal means = 83.5 lb./ac.
   2. V marginal means = 78.5 lb./ac.
   3. V means at the same level of N = 135.9 lb./ac.
   4. N means at the same level of V = 152.21 lb./ac.

---

**Crop:** Paddy (Khargir).

**Centre:** Burdwan (c.f.).

**Ref:** W.B. 54(TCM).

**Type:** 'MV'.

Object:—Type VIII—To study the effect of different levels of N and P on different varieties of Padd/.
1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Recent alluvium—clayey. (b) N.A. (iii) N.A./30.7.1955. (iv) (a) N.A. (b) Transplanting. (c) to (e) N.A. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) and (ix) N.A. (x) 13.12.1955.

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 \( P_2O_5 \): \( P_0 = 0 \), \( P_1 = 20 \) and \( P_2 = 40 \) lb./ac.
   (3) 3 varieties: \( V_1 = \text{Kalma}, V_2 = \text{Nagra} \) and \( V_3 = \text{Jhingasail} \).
   Fertilizers applied before transplanting.

3. DESIGN:
   (i) 3\(^2\) confd. (ii) (a) 9 plots/block and 3 blocks/repliication. (b) N.A. (iii) (iv) (a) 24' \( \times \) 45'. (b) 22' \( \times \) 43'.
   (v) 1' \( \times \) 1'. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) Nil. (iii) Yield of grain. (iv) (a) 1953—1965. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 3364 lb./ac. (ii) 401.7 lb./ac. (iii) Only main effect of N is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>( N_0 )</th>
<th>( N_1 )</th>
<th>( N_2 )</th>
<th>Mean</th>
<th>( V_1 )</th>
<th>( V_2 )</th>
<th>( V_3 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>( P_0 )</td>
<td>2645</td>
<td>3434</td>
<td>4073</td>
<td>3384</td>
<td>3410</td>
<td>3482</td>
<td>3260</td>
</tr>
<tr>
<td>( P_1 )</td>
<td>2885</td>
<td>3655</td>
<td>3829</td>
<td>3456</td>
<td>3059</td>
<td>4089</td>
<td>3220</td>
</tr>
<tr>
<td>( P_2 )</td>
<td>2087</td>
<td>3513</td>
<td>3157</td>
<td>3252</td>
<td>3245</td>
<td>3449</td>
<td>3063</td>
</tr>
<tr>
<td>Mean</td>
<td>2872</td>
<td>3534</td>
<td>3686</td>
<td>3364</td>
<td>3238</td>
<td>3673</td>
<td>3180</td>
</tr>
<tr>
<td>( V_1 )</td>
<td>2885</td>
<td>3363</td>
<td>3466</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( V_2 )</td>
<td>3205</td>
<td>3860</td>
<td>3955</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( V_3 )</td>
<td>3256</td>
<td>3379</td>
<td>3636</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 133.9 lb./ac.
S.E. of body of any table = 231.9 lb./ac.

Crop: Paddy (Kharif).
Centre: Burdwan.

Object: Type VIII—To study the effect of different levels of N and P on different varieties of Paddy.
<table>
<thead>
<tr>
<th>N&lt;sub&gt;0&lt;/sub&gt;</th>
<th>N&lt;sub&gt;1&lt;/sub&gt;</th>
<th>N&lt;sub&gt;2&lt;/sub&gt;</th>
<th>Mean</th>
<th>V&lt;sub&gt;1&lt;/sub&gt;</th>
<th>V&lt;sub&gt;2&lt;/sub&gt;</th>
<th>V&lt;sub&gt;3&lt;/sub&gt;</th>
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<tbody>
<tr>
<td>P&lt;sub&gt;0&lt;/sub&gt;</td>
<td>2847</td>
<td>3340</td>
<td>2960</td>
<td>3016</td>
<td>2865</td>
<td>3527</td>
</tr>
<tr>
<td>P&lt;sub&gt;1&lt;/sub&gt;</td>
<td>3138</td>
<td>2909</td>
<td>3296</td>
<td>3114</td>
<td>3051</td>
<td>3138</td>
</tr>
<tr>
<td>P&lt;sub&gt;2&lt;/sub&gt;</td>
<td>3402</td>
<td>2896</td>
<td>2861</td>
<td>3053</td>
<td>2869</td>
<td>3232</td>
</tr>
<tr>
<td>Mean</td>
<td>3129</td>
<td>3015</td>
<td>3039</td>
<td>3061</td>
<td>2928</td>
<td>3306</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 101.2 lb./ac.
S.E. of body of any table = 175.3 lb./ac.

---

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

**Centre**: Mankhanda.

**Object**: Type VIII—To study the effect of different levels of N and P on different varieties of Paddy.

1. **BASAL CONDITIONS**:
   (i) (a) to (c) N.A.
   (ii) (a) Deltaic; saline—clayey.
   (b) N.A.
   (iv) (a) N.A.
   (b) Transplanting.
   (c) to (e) N.A.
   (v) Nil.
   (vi) As per treatments.
   (vii) Irrigated.
   (viii) and (ix) N.A.
   (x) 27.11.1955.

2. **TREATMENTS to 4. GENERAL**:
   Same as in expt. no. 54(TCM) type VIII conducted at Burdwan on page 150.

   The varieties are: V<sub>1</sub>=Chamalomani, V<sub>2</sub>=Jhingasail and V<sub>3</sub>=Mouf.

5. **RESULTS**:
   (i) 1937 lb./ac.
   (ii) 367.5 lb./ac.
   (iii) None of the effects is significant.
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>N&lt;sub&gt;0&lt;/sub&gt;</th>
<th>N&lt;sub&gt;1&lt;/sub&gt;</th>
<th>N&lt;sub&gt;2&lt;/sub&gt;</th>
<th>Mean</th>
<th>V&lt;sub&gt;1&lt;/sub&gt;</th>
<th>V&lt;sub&gt;2&lt;/sub&gt;</th>
<th>V&lt;sub&gt;3&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>P&lt;sub&gt;0&lt;/sub&gt;</td>
<td>1835</td>
<td>1725</td>
<td>1792</td>
<td>1784</td>
<td>1741</td>
<td>1714</td>
</tr>
<tr>
<td>P&lt;sub&gt;1&lt;/sub&gt;</td>
<td>1581</td>
<td>2303</td>
<td>2092</td>
<td>1992</td>
<td>1910</td>
<td>2360</td>
</tr>
<tr>
<td>P&lt;sub&gt;2&lt;/sub&gt;</td>
<td>2439</td>
<td>1626</td>
<td>2037</td>
<td>2034</td>
<td>2029</td>
<td>1918</td>
</tr>
<tr>
<td>Mean</td>
<td>1952</td>
<td>1885</td>
<td>1974</td>
<td>1937</td>
<td>1893</td>
<td>2050</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 122.5 lb./ac.
S.E. of body of any table = 212.1 lb./ac.

---

**Crop**: Paddy (*Aman*).

**Site**: State Agri. Farm, Berhampore.

**Object**: To find out the optimum spacing for Paddy.

**Ref**: W.B. 56(13).

**Type**: 'C'.
1. BASAL CONDITIONS:
   (i) (a) Leguminous crop—Paddy. (b) Gram-Lentil. (c) 150 mds./ac. of cowdung. (ii) (a) Loamy. (b) Refer soil analysis, Berhampore. (iii) 7.6.1956. (iv) (a) 4 ploughings and laddering. (b) As per treatments. (c) N.A. (d) As per treatments. (e) N.A. (v) 150 mds./ac. of cowdung, 1 md. 35 srs./ac. of Super + 1 md. 8 srs./ac. of A/S applied in two doses. (vi) Dharial. (vii) Unirrigated. (viii) Weeding, hoeing and mulching thrice each and thinning once. (ix) 15.6.1957. (x) 4 to 7.10.1957.

2. TREATMENTS:
   6 spacings: $S_1 = 12" \times 3"$ (single line), $S_2 = 9" \times 3"$ (single line), $S_3 = $ Broadcast, $S_4 = 18" \times 3" \times 3"$ (double line), $S_5 = 12" \times 3" \times 3"$ (double line) and $S_6 = 15" \times 3" \times 3"$ (double line).

3. DESIGN:
   R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) and (b) 42' x 24'. (v) Nil. (vi) Yes.

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

5. RESULTS:
   (i) 859 lb./ac. (ii) 146.9 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

   Treatment
   $S_1$ $S_2$ $S_3$ $S_4$ $S_5$ $S_6$
   Av. yield 1004 924 853 815 905 654
   S.E./mean = 60.0 lb./ac.

---

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

**Site :- State Agri. Farm, Berhampore.**

Object :- To find out the optimum spacing for Paddy.

---

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

**Site :- State Agri. Farm, Chinsurah.**

Object :- To study the effect of different spacings on the yield of Paddy.
1. BASAL CONDITIONS:
   (i) (a) N.I. (b) Pulse. (c) Nil. (ii) (a) Alluvial clay soil. (b) Refer soil analysis, Chinsurah. 
   (iii) 18.8.1954. (iv) (a) 2 ploughings and 1 puddling. (b) Transplanted in lines. 
   (c) 15 sr./ac. (d) As per treatments. (e) 2. (v) 20 lb./ac. of N as A/S and T.C. and 20 lb./ac. of 

2. TREATMENTS:
   10 spacings: 
   \[ S_1 = 6' \times 6', \quad S_2 = 6' \times 9', \quad S_3 = 6' \times 12', \quad S_4 = 6' \times 15', \quad S_5 = 9' \times 9', \quad S_6 = 9' \times 12', \quad S_7 = 12' \times 12', \quad S_8 = 12' \times 15', \quad S_9 = 15' \times 15'. \]

3. DESIGN:
   (i) R.B.D. (ii) (a) 10. (b) N.A. (iii) 4. (iv) (a) 2 ploughings and 1 puddling. 

4. GENERAL:
   (i) Fair. (ii) Nil. (iii) Grains and straw yield. (iv) (a) B.P. (b) Nil. (c) Nil. (v) Nil. 
   (vi) Yes. (vii) Nil. (viii) Nil. (ix) Nil. (x) Nil.

5. RESULTS:
   (i) 763 lb./ac. (ii) 87.1 lb./ac. (iii) Treatment differences are highly significant. 
   (iv) Av. yield of grain in lb./ac.

   \[
   \begin{array}{cccccccccc}
   \text{Treatment} & S_1 & S_2 & S_3 & S_4 & S_5 & S_6 & S_7 & S_8 & S_9 & S_{10} \\
   \text{Av. yield} & 1125 & 904 & 895 & 634 & 807 & 693 & 666 & 735 & 630 & 493 \\
   \text{S.E./mean} & 43.6 lb./ac. \\
   \end{array}
   \]

   Crop :- Paddy (Aman). 
   Site :- State Agri. Farm, Chinsurah.

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

   1. BASAL CONDITIONS:
   (i) (a) to (c) Nil. (ii) (a) Ganggetic alluvial, neutral clay. (b) Refer soil analysis, Chinsurah. 
   (iii) 8.6.1954/18.8.1954. (iv) (a) 2 ploughings and 1 puddling. (b) Transplanted. (c) N.A. (d) As per 
   treatments. (e) 2. (v) Nil. (vi) Bhakamanik medium. (vii) Nil. (viii) Irrigation. (ix) 1 weedings. (x) 49.84°. 
   (x) 9.12.1954.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 54(52) on page 153.

3. GENERAL:
   (i) Good. (ii) Nil. (iii) Nil. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (d) No. (e) Nil. 
   (f) Nil. (g) Nil. (h) Nil. (i) Nil.

4. RESULTS:
   (i) 763 lb./ac. (ii) 87.1 lb./ac. (iii) Treatment differences are highly significant. 
   (iv) Av. yield of grain in lb./ac.

   \[
   \begin{array}{cccccccccc}
   \text{Treatment} & S_1 & S_2 & S_3 & S_4 & S_5 & S_6 & S_7 & S_8 & S_9 & S_{10} \\
   \text{Av. yield} & 1125 & 904 & 895 & 634 & 807 & 693 & 666 & 735 & 630 & 493 \\
   \text{S.E./mean} & 43.6 lb./ac. \\
   \end{array}
   \]

   Crop :- Paddy (Aman). 
   Site :- State Agri. Farm, Chinsurah.

   Object :- To study the effect of different spacings on the yield of Paddy.
1. BASAL CONDITIONS:
(i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Clay (sweet alluvial). (b) Refer soil analysis, Chinsurah. 
(iii) 14.6.1955/11.8.1955. (iv) (a) 3 to 4 ploughings and harrowing. (b) Transplanting. (c) 15 srs./ac. sown 
in nursery bed. (d) As per treatments. (e) 1. (v) 20 lb./ac. of N as A/S and 20 lb./ac. of P₂O₅ as Super. 1/2 of 
N and full of phosphate broadcast at the time of puddling, 1/2 of N applied 1 month after transplanting and 
remaining ½ dose 15 days before flowering. (vi) Bhasamanik (Chinsurah 3, medium). 

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 54(52) on page 153.

4. GENERAL:
(i) Good. (ii) Negligible. (iii) Grain and straw yield. (iv) (a) 1954—1957. (b) Yes. (c) No. (v) (a) and 
(b) No. (vi) and (vii) Nil.

5. RESULTS:
(i) 1952 lb./ac. (ii) 268.8 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S₁</th>
<th>S₂</th>
<th>S₃</th>
<th>S₄</th>
<th>S₅</th>
<th>S₆</th>
<th>S₇</th>
<th>S₈</th>
<th>S₉</th>
<th>S₁₀</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2218</td>
<td>2054</td>
<td>1985</td>
<td>1794</td>
<td>1855</td>
<td>1540</td>
<td>2124</td>
<td>1700</td>
<td>2006</td>
<td>2045</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>134.4 lb./ac.</td>
<td></td>
<td></td>
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</table>

Crop -> Paddy (Aman).  
Site -> State Agri. Farm, Chinsurah.  
Ref -> W.B. 56(19).  
Type -> 'C'.

Object:—To study the effect of different spacings on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Clay (sweet alluvial). (b) Refer soil analysis, Chinsurah. 
(iii) 15.6.1956/21.7.1956. (iv) (a) 3 to 4 ploughings and harrowing. (b) Transplanting. (c) Seed sown in 
nursery at 15 srs./ac. (d) As per treatments. (e) 1. (v) 30 lb./ac. of N as A/S and T.C. and 30 lb./ac. of 
P₂O₅ as Super. 1/2 of N and full of phosphate broadcast at the time of puddling, 1/2 of N applied 
4 weeks after transplanting and remaining ½ dose 15 days before flowering. (vi) Bhasamanik 
(Chinsurah 3, medium). (vii) Irrigated. (viii) 2 weedings. (ix) 61.06". (x) 15.12.1956.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 54(52) on page 153.

4. GENERAL:
(i) Fair. (ii) Negligible attack of stem borer. (iii) Grain and straw yield. (iv) (a) 1954—1957. (b) Yes. 
(c) Nil. (v) (a) and (b) No. (vi) and (vii) Nil.

5. RESULTS:
(i) 1949 lb./ac. (ii) 161.8 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

<table>
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<th>Treatment</th>
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<th>S₂</th>
<th>S₃</th>
<th>S₄</th>
<th>S₅</th>
<th>S₆</th>
<th>S₇</th>
<th>S₈</th>
<th>S₉</th>
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<td>Av. yield</td>
<td>2069</td>
<td>2015</td>
<td>1866</td>
<td>1951</td>
<td>2051</td>
<td>1882</td>
<td>2157</td>
<td>1978</td>
<td>1712</td>
<td>1809</td>
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<tr>
<td>S.E./mean</td>
<td>80.9 lb./ac.</td>
<td></td>
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</table>

Crop -> Paddy (Aman).  
Site -> State Agri. Farm, Chinsurah.  
Ref -> W.B. 57(16).  
Type -> 'C'.

Object:—To study the effect of different spacings on the yield of Paddy.
1. BASAL CONDITIONS:
(i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Clay (sweet alluvial). (b) Refer soil analysis, Chinsurah. (iii) 6-6-1957/25.7.1957. (iv) (a) 3 to 4 ploughings and harrowing. (b) Transplanting. (c) Seed sown in nursery bed at 15 srs./ac. (d) As per treatments. (e) (i) (v) 30 lb./ac. of N as A.S and T.C, and 30 lb./ac. of P₂O₅ as Super. 1/3 of N and full of P₂O₅ are broadcast at the time of puddling, 1/3 of N broadcast 4 weeks after transplanting and remaining 1/3 of N broadcast 15 days before flowering. (vi) Bhasamanik (Chinsurah 3, medium). (vii) Irrigated. (viii) 2 weedings. (ix) 47.94° (x) 10.12.1957.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 54,52) on page 153.

4. GENERAL:
(i) Fair. (ii) Negligible attack of stem borer. (iii) Grain and straw yield. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) (a) and (b) No. (vi) and (vii) Nil.

5. RESULTS:
(i) 2629 lb./ac. (ii) 265.4 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
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<th>S₂</th>
<th>S₃</th>
<th>S₄</th>
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<td>Av. yield</td>
<td>2796</td>
<td>2414</td>
<td>2916</td>
<td>2393</td>
<td>2630</td>
<td>2880</td>
<td>2504</td>
<td>2692</td>
<td>2383</td>
<td>293</td>
</tr>
</tbody>
</table>
| S.E./mean | 132.7 lb./ac.

Crop :- Paddy (Aman).
Site :- State Agri. Farm, Chinsurah.
Object :- To study the effect of antilodging operation on Paddy.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Gangetic alluvial soil. (b) Refer soil analysis, Chinsurah. (iii) 17.8.1958. (iv) (a) 2 ploughings and 1 puddling. (b) Transplanted in lines. (c) 50 lb./ac. (d) 9' X 9'. (e) 2. (v) Nil. (vi) Bhasamanik (medium). (vii) Unirrigated. (viii) I weeding. (ix) N.A. (x) 8.12.1958.

2. TREATMENTS:
3 antilodging operations: T₀ =Control, T₁ =Chipping and T₂ =Tieing.

3. DESIGN:
(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 4. (iv) (a) 38' X 22'. (b) 36' X 20'. (v) 1' X 1'. (vi) Yes.

4. GENERAL:
(i) Fair (ii) Nil. (iii) Yield of paddy grain and straw. (iv) (a) 1935—1958. (b) Yes. (c) Nil. (v) a Burdwan. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 1786 lb./ac. (ii) 122.6 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>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1662</td>
<td>1747</td>
<td>1930</td>
</tr>
</tbody>
</table>
| S.E./mean | 61.3 lb./ac.

Crop :- Paddy (Aman).
Site :- State Agri. Farm, Chinsurah.
Object :- To study the effect of intercultural operation with or without field weeder on the yield of Paddy.
1. BASAL CONDITIONS:
(i) (a) to (c) Nil. (ii) (a) Ganga low land clay. (b) Refer soil analysis, Chinsurah. (iii) 29.7.1957. (iv) (a) 3 ploughings and 3 laddering. (b) Transplanting. (c) ×12 to 15 kg./ac. (d) 10’×10’. (e) 2. (v) 30 lb./ac. of A/S, 30 lb./ac. of Super and 30 lb./ac. of Mur. Pot. (vi) Bhasamanik (medium). (vii) Unirrigated. (viii) As per treatments. (ix) N.A. (x) 14.12.1957.

2. TREATMENTS:
4 cultural treatments: T0=No weeding (control), T1=Weeding on both sides (Japanese weeder), T2=Weeding one side (Japanese weeder) and T3=Hand weeding.
1st weeding one month after transplantation on 28.8.1957.

3. DESIGN:
(i) R.B.D. (ii) (a) N.A. (b) N.A. (iii) 4. (iv) (a) 27’ 6”×24’ 6”. (b) 26’×23’. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Good. (ii) N.A. (iii) Yield of grain. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) No. (b) Nil. (vi) N.A. (vii) Experiment conducted during 1956 was with one replication and hence not included in the compendium.

5. RESULTS:
(i) 3754 lb./ac. (ii) 115.8 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>
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</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3037</td>
<td>2980</td>
<td>3153</td>
<td>3050</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>57.9 lb./ac.</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

_Crop_ :- Paddy (_Aman_). 
_Site_ :- State Agri. Farm, Chinsurah. 
_Refr_ :- W.B. 58(58). 
_Type_ :- ‘C’.

Object :- To study the effect of intercultural operation with or without weeder on the yield of Paddy.
Crop: Paddy (Aman).
Site: State Agri. Farm, Chinsurah.

Ref: W.B. 58(60).
Type: ‘CV’.

Object: To study the effect of mixed cropping under transplanted condition on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) to (c) Nil. (ii) (a) Ganga low land clay. (b) Refer soil analysis, Chinsurah. (iii) As per treatments.
   (iv) (a) 3 to 4 ploughings and 3 ladderings. (b) Transplanted. (c) 12 to 15 kg./ac. (d) As per treatments.
   (e) 2 to 3. (vi) 40 lb./ac. of A/Sand 40 lb./ac. of Super. (vii) Duler (early) and Bhosamanik (medium).

2. TREATMENTS:
   5 cultural treatments: C1 = Transplanting of V1 on 23.7.1958 with 10’x9’ spacing, C2 = Transplanting of V2 on 7.8.1958 with 10’x9’ spacing, C3 = Interplanting of V1 and V2 in alternate rows on 23.7.1958, C4 = Interplanting of V1 and V2 in alternate rows on 7.8.1958 and 23.7.1958 respectively and C5 = Interplanting of V1 and V2 in alternate rows on 23.7.1958 and 7.8.1958 respectively.

3. DESIGN:
   (i) R.B D. (ii) 5. (b) N.A. (iii) 4. (iv) (a) 32’x14’. (b) 30’x12’. (v) 1’x1’. (vi) Yes

4. RESULTS:
   (i) 1495 lb./ac. (ii) 2049 lb./ac. (iii) Treatment differences are highly significant. ‘IV’ Av. yield of grain in lb./ac.

   Treatment    C1    C2    C3    C4    C5
   Av. yield    1065  1471  1543 1613 1781
   S.E./mean    102.5 lb./ac.

Crop: Paddy (Aman).
Site: State Agri. Farm, Chinsurah.

Ref: W.B. 54(39).
Type: ‘CV’.

Object: To find out the optimum late transplanting period for late varieties of Paddy.

1. BASAL CONDITIONS:
   (i) Paddy - Fallow. (b) Fallow. (c) Nil. (ii) (a) Clay. (b) Refer soil analysis, Chinsurah. (i.) 1, 10, 20, 30.7.1554 and 9.8.1954. (iv) (a) 3 to 4 ploughings and ladderings. (b) Transplanting. (c) 15 to 30 days. (d) 6’x6’. (e) 3. (v) 30 lb./ac. of N as A/S and T.C. 30 lb. ac. of P2O5 as Super. (vi) No N and less of P2O5 applied at the time and puddling of other N broadcast 4 weeks after transplanting. (vii) Irrigated. (viii) Weeded. (ixa) :0.20’. (x) 4.2.1955.

2. TREATMENTS:
   Main-plot treatments:
   Sub-plot treatments:
   3 varieties: V1 =Kumargor, V2 =Achra and V3 =Tilakkachari.

3. DESIGN:
   (i) Split-plot. (ii) 5 main-plots/replication and 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 19’x10’. (b) 18’x9’. (c) 6’x6’. (c) Yes.

4. RESULTS:
   (i) Good. (ii) Negligible. (iii) Grain and straw yield. (iv) (a) 1953—1957 (modified on this farm). (b) Yes.
   (c) No. (v) (a) and (b) No. (vi) Nil. (vii) Experiment conducted during the year 1956 spoiled by floods.
5. RESULTS:
(i) 1562 lb./ac. (ii) (a) 403.2 lb./ac. (b) 403.2 lb./ac. (iii) D effect is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>D₁</th>
<th>D₂</th>
<th>D₃</th>
<th>D₄</th>
<th>D₅</th>
<th>Mean</th>
</tr>
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<tbody>
<tr>
<td>V₁</td>
<td>1613</td>
<td>1765</td>
<td>1571</td>
<td>1344</td>
<td>890</td>
<td>1437</td>
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<tr>
<td>V₂</td>
<td>1579</td>
<td>1916</td>
<td>2034</td>
<td>1669</td>
<td>1058</td>
<td>1651</td>
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<tr>
<td>V₃</td>
<td>1907</td>
<td>1680</td>
<td>1680</td>
<td>1546</td>
<td>1176</td>
<td>1598</td>
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<tr>
<td>Mean</td>
<td>1700</td>
<td>1787</td>
<td>1762</td>
<td>1520</td>
<td>1041</td>
<td>1562</td>
</tr>
</tbody>
</table>

S.E. of the difference of two
1. D marginal means = 164.5 lb./ac.
2. V marginal means = 127.5 lb./ac.
3. V means at the same level of D = 285.1 lb./ac.
4. D means at the same level of V = 285.1 lb./ac.

Crop :- Paddy (Aman).
Site :- State Agri. Farm, Chinsurah.

Ref :- W.B. 55(25).
Type :- ‘CV’.

Object :- To find out the optimum late transplanting period for the late varieties of Paddy.

1. BASAL CONDITIONS:
(i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Clay. (b) Refer soil analysis, Chinsurah. (iii) 1, 10, 20, 30.7.1955 and 9.8.1955. (iv) (a) 3 to 4 ploughings and laddering. (b) Transplanting. (c) Seed at 15 to 20 srs/ac. (d) 6’ x 6’. (e) 3 seedlings. (v) 30 lb./ac. of N as A/S and T.C. 30 lb./ac. of P₂O₅ as Super, ½ of N and full P₂O₅ was applied at the time of puddling and other ½ of N broadcast 4 weeks after transplantations. (vi) As per treatments (late). (vii) Unirrigated. (viii) Weeding once (ix) 45.04”.
(x) 2.1.1956.

2. TREATMENTS:
Main-plot treatments:

Sub-plot treatments:
3 varieties: V₁ = Kumargone, V₂ = Achra 108/1 and V₃ = Tikkachri.

3. DESIGN and 4. GENERAL:
Same as in expt. no. 54(39) on page 158.

5. RESULTS:
(i) 4121 lb./ac. (ii) (a) 602.3 lb./ac. (b) 465.1 lb./ac. (iii) D effect is highly significant, V effect is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>D₁</th>
<th>D₂</th>
<th>D₃</th>
<th>D₄</th>
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<tr>
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<td>4546</td>
<td>4352</td>
<td>4084</td>
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<td>4001</td>
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<tr>
<td>V₃</td>
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<td>4618</td>
<td>3974</td>
<td>3764</td>
<td>3448</td>
<td>4121</td>
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</tbody>
</table>

S.E. of difference of two
1. D marginal means = 245.9 lb./ac.
2. V marginal means = 147.1 lb./ac.
3. V means at the same level of D = 328.9 lb./ac.
4. D means at the same level of V = 364.1 lb./ac.
1. BASAL CONDITIONS:
   (i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Clay. (b) Refer soil analysis, Chinsurah. (iii)
   1, 10, 20, 30.7.1957 and 9.8.1957. (iv) (a) 3 to 4 ploughings and ladderig. (b) Transplanting. (c)
   Seed at 15 to 20 srs. (d) 5' x 5'. (e) 2 to 3. (v) 30 lb./ac. of N as A/S and T.C. 30 lb./ac. of P2O5
   as Super, 1/2 of N and full of P2O5 are applied at the time of puddling and other 1/2 of N broadcast 4
   weeks after transplanting. (vi) As per treatments (late varieties). (vii) Unirrigated. (viii) 1 weeding. (ix)
   47.±4'. (x) 1st week of January, 1958.

2. TREATMENTS:
   Main-plot treatments:
   Sub-plot treatments:
   3 varieties: V1 = Kumargone, V2 = Achra 108/1 and V3 = Tilakachry.

3. DESIGN and 4. GENERAL:
   Same as in expt. no. 54(39) on page 156.

5. RESULTS:
   (i) 1014 lb./ac. (ii) (a) 256.0 lb./ac. (b) 254.9 lb./ac. (iii) Only D effect is highly significant. (iv) Av.
   yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
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<td>980</td>
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<td>1462</td>
<td>851</td>
<td>1128</td>
<td>572</td>
<td>1014</td>
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</tbody>
</table>

S.E. of difference of two
1. D marginal means = 104.5 lb./ac.
2. V marginal means = 80.6 lb./ac.
3. V means at the same level of D = 180.2 lb./ac.
4. D means at the same level of V = 180.5 lb./ac.

Crop :- Paddy (Aman).
Site :- State Agri. Farm, Chinsurah.

Object :- To study the effect of different sources of N and crop rotation on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) Khesari—Paddy—Khesari. (b) Khesari. (c) N.A. (ii) (a) Ganga low land clay. (b) Refer soil
   analysis, Chinsurah. (iii) 20 to 26.7.1957. (iv) (a) 3 to 4 ploughings. (b) Transplanting. (c) and (d)
   N.A. (e) 2 to 3. (v) N.A. (vi) Bhupamuk. (vii) Unirrigated. (viii) 2 to 3 weeding and throning. (ix)
   N.A. (x) Last week of December 1957.

2. TREATMENTS:
   Main-plot treatments:
   2 rotations: R1 = Paddy followed by khesari and R2 = Paddy alone.
   Sub-plot treatments:
   3 sources of 30 lb./ac. of N : S0 = Control (no manure), S1 = A/S and S2 = A/C.

3. DESIGN:
   (i) Split-plot. (ii) (a) 2 main-plots/block and 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 34' x 19'.
   (b) 32' x 17'. (v) 1' x 1'. (vi) Yes.
4. GENERAL:
(i) Normal. (ii) N.A. (iii) Yield of grain. (iv) (a) 1957—contd. (b) Yes. (c) N.A. (v) (a) Nalhati, Majhian and Kalyani. (b) N.A. (vi) Nil. (vii) The experiment was conducted at Chinsurah instead of Kalyani.

5. RESULTS:
(i) 3130 lb./ac. (ii) (a) 461.2 lb./ac. (b) 420.4 lb./ac. (iii) None of the effects is significant. (iv) Avg. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S₀</th>
<th>S₁</th>
<th>S₂</th>
<th>Mean</th>
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<tbody>
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<td>3145</td>
<td>3404</td>
<td>3168</td>
</tr>
</tbody>
</table>

Mean 2992 3162 3237 3130

S.E. of difference of two
1. R marginal means = 188.3 lb./ac.
2. S marginal means = 210.2 lb./ac.
3. S means at the same level of R = 297.3 lb./ac.
4. R means at the same level of S = 307.5 lb./ac.

—

Crop: Paddy (Aman).
Site: State Agri. Farm, Chinsurah.

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

1. BASAL CONDITIONS:
(i) (a) Paddy—Khesari. (b) Khesari. (c) Nil. (ii) (a) Gangetic alluvium soil. (b) Refer soil analysis, Chinsurah. (iii) 19.7.1958. (iv) (a) 2 ploughings and 1 puddling. (b) Transplanted in rows. (c) 25 srs./ac. (d) 9"x9". (e) 2. (v) Nil. (vi) Bhasamanik (medium). (vii) Unirrigated. (viii) 1 weeding. (ix) N.A. (x) 4.12.1958.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 57(50) on page 160.

4. GENERAL:
(i) Fair. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1957—contd. (b) Yes. (c) Nil. (v) (a) Nalhati. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 2380 lb./ac. (ii) (a) 282.4 lb./ac. (b) 158.8 lb./ac. (iii) Only N effect is highly significant. (iv) Avg. yield of grain in lb./ac.

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Mean 2174 2522 2444 2380

S.E. of difference of two
1. R marginal means = 115.3 lb./ac.
2. S marginal means = 79.4 lb./ac.
3. S means at the same level of R = 112.3 lb./ac.
4. R means at the same level of S = 147.3 lb./ac.
Crop :- Paddy.

Site :- State Agri. Farm, Chinsurah.

Object :- To study the effect of different sources of N and crop rotations on Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Khesari. (b) Khesari. (c) Nil. (ii) (a) Gangetic alluvium, neutral clay. (b) Refer soil analysis, Chinsurah. (iii) 11.7.1959. (iv) (a) 6 ploughings and 4 laddernings. (b) Line transplantation. (c) 5 srs./ac. (d) 9"×9". (e) 3. (v) Nil. (vi) *Bhasamanik* (medium). (vii) Unirrigated. (viii) 2 weedicings. (ix) N.A. (x) 3.12.1959.

2. TREATMENTS and DESIGN:
   Same as in exp. no. 57(50) on page 160. A/S top dressed on 11.8.1959.

3. GENERAL:
   (i) Fair growth. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1957—contd. (b) Yes. (c) N.A. (v) (a) Nalhati and Majhian. (b) No. (vi) and (vii) Nil.

4. RESULTS:
   (i) 2740 lb./ac. (ii) (a) 259.4 lb./ac. (b) 120.6 lb./ac. (iii) Only S effect is highly significant. (iv) Av. yield of grain in lb./ac.

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   S.E. of difference of two
   1. R marginal means = 105.9 lb./ac.
   2. S marginal means = 60.3 lb./ac.
   3. S means at the same level of R = 85.2 lb./ac.
   4. R means at the same level of S = 126.7 lb./ac.

Crop :- Paddy (*Aus*).

Site :- State Agri. Farm, Cooch Behar.

Object :- To find out the optimum seed rate and fertilizer for Paddy.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Pulses. (b) Pulses. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Cooch Behar. (iii) 28.4.1955. (iv) (a) 5 to 6 ploughings and harrowings. (b) Broadcast. (c) As per treatments. (d) (e) and (f) N.A. (v) Nil. (vi) *Dharia* (early). (vii) Unirrigated. (viii) 1 weeding. (ix) 107.80". (x) 16.7.1955.

2. TREATMENTS:
   All combinations of (1) and (2)
   (1) 3 doses of fertilizers : M₁ = 30 lb./ac. of N + 30 lb./ac. of P₂O₅, M₂ = 45 lb./ac. of N + 45 lb./ac. of P₂O₅ and M₃ = 60 lb./ac. of N + 60 lb./ac. of P₂O₅.
   (2) 3 seed rates : R₁ = 30, R₂ = 45 and R₃ = 60 lb./ac.

3. DESIGN:
   (i) Fact. in R.B.D. (ii) (a) 9. (b) N.A. (iii) 4. (iv) (a) 29'×15'. (b) 27'×13'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
   (i) and (ii) N.A. (iii) Grain and straw yield. (iv) (a) 1954—1956. (b) Yes. (c) N.A. (v) to (vii) Nil.

5. RESULTS:
   (i) 863 lb./ac. (ii) 183.1 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.
Crop :- Paddy (Aus).
Site :- State Agri. Farm, Cooch Behar.

Object :- To find out the optimum seed rate and fertilizers for Paddy.

1. BASAL CONDITIONS :
   (i) (a) Paddy—Pulses. (b) Pulses. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Cooch Behar. (iii) 23.4.1956. (iv) (a) 5 to 6 ploughings and harrowing. (b) Broadcast. (c) As per treatments. (d) and (e) N.A. (v) Dharial (early). (vi) Unirrigated. (vii) Weeding on 1.6.1956. (ix) 103.18". (x) 24.7.1956 to 26.7.1956.

2. TREATMENTS to 4. GENERAL :
   Same as in expt. no. 55(2) on page 162.

5. RESULTS :
   (i) 1475 lb./ac. (ii) 194.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

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S.E. of any marginal mean = 56.2 lb./ac.
S.E. of body of table = 97.3 lb./ac.

---

Crop :- Paddy (Aus).
Site :- State Agri. Farm, Cooch Behar.

Object :- To find out the optimum requirement of seed rate and fertilizer for Paddy.

1. BASAL CONDITIONS :
   (i) (a) Paddy—Pulses. (b) Pulses. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Cooch Behar. (iii) 3.5.1957. (iv) (a) 5 to 6 ploughings and harrowings. (b) Broadcast. (c) As per treatments. (d) and (e) N.A. (v) Cowdung at 50 mds./ac. at 1.25 mds./ac. of A/S top dressed on 28.6.1957 and Super on 3.5.1957. (vi) Dharial. (vii) Unirrigated. (viii) 1 weeding on 9 and 11.6.1957. (ix) N.A. (x) 12 and 13.8.1957.

2. TREATMENTS and 3. DESIGN :
   Same as in expt. no. 55(2) on page 162.
   Fertilizers were broadcast.
4. GENERAL:
(i) Good. (ii) N.A. (iii) Grain and straw yield. (iv) (a) 1954—1957. (b) Yes. (c) No. (v) (a) and (b) No. (vi) and (vii) Nil.

5. RESULTS:
(i) 842 lb./ac. (ii) 166.6 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

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</table>

Mean 946 801 778 842

S.E. of any marginal mean = 48.1 lb./ac.
S.E. of body of table = 83.3 lb./ac.

Crop: Paddy (Aman). Site: State Seed Multiplication Farm, Majhian. Ref: W.B. 57(51).
Type: "CM".

Object: To study the effect of different sources of N and crop rotations on the yield of Paddy.

1. BASE CONDITIONS:
(i) (a) Khesari—Paddy. (b) Khesari. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Majhian. (iii) Middle of August, 1957. (iv) (a) 3 to 4 ploughings and spading. (b) Transplanting. (c) and (d) N.A. (e) 2 to 3. (v) and (vi) N.A. (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) 1st week of December, 1957.

2. TREATMENTS:
Same as in expt. no. 57(50) on page 160.

3. DESIGN:
(i) Split-plot. (ii) (a) 2 main-plots/block : 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 36' x 20'. (b) 34' x 18'. (v) 1' x 1'. (vi) Yes.

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

5. RESULTS:
(i) 2636 lb./ac. (ii) (a) 574.1 lb./ac. (b) 675.2 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

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Mean 2450 2378 3081 2636

S.E. of difference of two
1. R marginal means = 234.4 lb./ac.
2. S marginal means = 337.6 lb./ac.
3. S means at the same level of R = 477.4 lb./ac.
4. R means at the same level of S = 454.0 lb./ac.
Crop :- Paddy (Aman).
Site :- State Seed Multiplication Farm, Majhian.
Ref :- W.B. 58(46).
Type :- 'CM'.

Object :- To study the effect of different sources of N and crop rotations on Paddy.

1. BASAL CONDITIONS :
   (i) (a) Khesari—Paddy. (b) Khesari. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Majhian.
   (iii) 10.8.1958. (iv) (a) 2 to 3 ploughings and laddering. (b) Transplanting. (b) 33 lb./ac. (d) 1' between
   rows. (e) 2 to 3. (v) N.A. (vi) Nagru (early). (vii) Unirrigated. (viii) 2 to 3 weedings and thinning.

2. TREATMENTS :
   Same as in expt. no. 57(50) on page 160.
   Fertilizer applied on 10.9.1958.

3. DESIGN :
   (i) Split-plot. (ii) (a) 2 main-plots/block and 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) (a) 24' x 30'.
   (b) 22' x 28'. (v) 1' x 1'. (vi) Yes.

4. GENERAL :
   (i) Good. (ii) N.A. (iii) Yield of grain. (iv) (a) 1957—1959. (b) Yes (c) N.A. (v) (a) Chinsurah and
   Nalhati. (b) N.A. (vi) N.A. (vii) Nil.

5. RESULTS :
   (i) 2892 lb./ac. (ii) (a) 622.5 lb./ac. (b) 193.4 lb./ac. (iii) Only S effect is highly significant. (iv) Av. yield
   of grain in lb./ac.

   \[
   \begin{array}{ccc}
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   \hline
   R_1 & 2338 & 3166 & 2900 \\
   R_2 & 2516 & 3397 & 3036 \\
   \hline
   \text{Mean} & 2427 & 3282 & 2968 \\
   \end{array}
   \]

   S.E. of difference of two
   1. R marginal means = 254.1 lb./ac.
   2. S marginal means = 96.7 lb./ac.
   3. S means at the same level of R = 136.7 lb./ac.
   4. R means at the same level of S = 277.6 lb./ac.
4. GENERAL:

(i) Fair.  (ii) Nil.  (iii) Yield of grain and straw.  (iv) (a) 1957—contd.  (b) Yes.  (c) Nil.  (v) (a) Chinsurah and Nalhati.  (b) Nil.  (vi) and (vii) Nil.

5. RESULTS:

(i) 2386 lb./ac.  (ii) (a) 273.0 lb./ac.  (b) 322.5 lb./ac.  (iii) R effect is significant while S effect is highly significant.  (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two

1. R marginal means = 111.4 lb./ac.
2. S marginal means = 161.3 lb./ac.
3. S means at the same level of R = 228.0 lb./ac.
4. R means at the same level of S = 217.0 lb./ac.

---

**Crop:** Paddy (Aman).

**Site:** State Agri. Farm, Nalhati.

**Ref.** W.B. 58(47).

**Type:** 'CM'.

**Object:** To study the effect of different sources of N and crop rotations on Paddy.

1. BASAL CONDITIONS:

   (i) (a) Khesari—Paddy.  (b) Khesari.  (c) N.A.  (ii) (a) Sandy clay loam.  (b) Refer soil analysis, Nalhati.  (iii) N.A.  (iv) (a) 3 to 4 ploughings.  (b) Transplanting.  (c) 15 kg./ac.  (d) 8'x9'.  (e) 2 to 3.  (v) 100 mds./ac. of cowdung.  (vi) Patnai (medium).  (vii) Unirrigated.  (viii) 2 weedings and 2 thinnings.  (ix) and (x) N.A.

2. TREATMENTS and 3. DESIGN:

   Same as in expt. no. 57(50) on page 160.

4. GENERAL:

   (i) Good.  (ii) N.A.  (iii) Yield of grain.  (iv) (a) 1956—1959.  (b) Yes.  (c) N.A.  (v) (a) Majhian.  (b) N.A.  (v) N.A.  (vi) Nil.

5. RESULTS:

(i) 1880 lb./ac.  (ii) (a) 411.8 lb./ac.  (b) 532.0 lb./ac.  (iii) Only S effect is significant.  (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two

1. R marginal means = 168.1 lb./ac.
2. S marginal means = 266.0 lb./ac.
3. S means at the same level of R = 376.2 lb./ac.
4. R means at the same level of S = 350.8 lb./ac.
Object: To study the effect of different sources of N and crop rotations on the yield of Aman Paddy.

1. BASAL CONDITIONS:
   (i) (a) Khesari—Paddy. (b) Khesari. (c) As per treatments. (ii) (a) Lateritic soil. (b) Refer soil analysis, Nalhati. (iii) 6.8.1959. (iv) (a) 4 to 6 ploughings and 4 laddernings. (b) Line transplanting. (c) 12 srs./ac. (d) 9" x 9". (e) 2. (v) Nil. (vi) Patnoi (medium). (vii) Unirrigated. (viii) 2 weedings. (ix) N.A. (x) 6.1.1960.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 57(50) on page 160.

4. GENERAL:
   (i) Fair. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1956—contd. (b) Yes. (c) Nil. (v) (a) Majhian—(b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2179 lb./ac. (ii) (a) 415.4 lb./ac. (b) 306.6 lb./ac. (iii) S effect alone is highly significant. (iv) Av. yield of grain in lb./ac.

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

Crop: Paddy. (Aman).
Site: State Seed Multiplication Farm, Nalhati.
Type: 'CM'.

Object: To study the effect of different sources of N and crop rotations on the yield of Aman Paddy.

1. BASAL CONDITIONS:
   (i) (a) Khesari—Paddy. (b) Khesari. (c) As per treatments. (ii) (a) Lateritic soil. (b) Refer soil analysis, Nalhati. (iii) 6.8.1959. (iv) (a) 4 to 6 ploughings and 4 laddernings. (b) Line transplanting. (c) 12 srs./ac. (d) 9" x 9". (e) 2. (v) Nil. (vi) Patnoi (medium). (vii) Unirrigated. (viii) 2 weedings. (ix) N.A. (x) 6.1.1960.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 57(50) on page 160.

4. GENERAL:
   (i) Fair. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1956—contd. (b) Yes. (c) Nil. (v) (a) Majhian—(b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 2179 lb./ac. (ii) (a) 415.4 lb./ac. (b) 306.6 lb./ac. (iii) S effect alone is highly significant. (iv) Av. yield of grain in lb./ac.

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

Crop: Paddy.
Site: M.A.E. Farm, Burdwan.
Type: 'CM'.

Object: Type VII—To study the effect of cultural and manurial treatments on Paddy.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Clayey. (b) N.A. (iii) As per treatments. (iv) (a) N.A. (b) Transplanting. (c) 10 to 15 srs./ac. in nursery. (d) As per treatments. (e) N.A. (f) Nil. (g) Nil. (vi) and (vii) Nil. (viii) Nil.

2. TREATMENTS:
   Main-plot treatments:
   All combinations (1), (2) and (3)
   (1) 3 dates of sowing: D1 = 17.7.1956, D2 = 28.8.1956 and D3 = 15.8.1956.
   (2) 3 spacings: S1 = 6" x 6", S2 = 8" x 8" and S3 = 10" x 10".
   (3) 3 seed rates: R1 = 2, R2 = 4 and R3 = 6 plant/hole.

   Sub-plot treatments:
   All combinations of (1) and (2)
   (i) 2 levels of N as A/S: N0 = 0 and N1 = 40 lb./ac.
   (ii) 2 levels of P2O5 as Super: P0 = 0 and P2 = 40 lb./ac.

3. DESIGN:
   (i) Split-plot confd. (ii) (a) 3 blocks/replication; 9 main-plots/block and 4 sub-plots/main-plot. (b) N.A. (iii) 2. (iv) (a) 16.5' x 33'. (b) 14.5' x 33'. (v) 1' x 1'. (vi) Yes.
4. GENERAL:
(i) Uniform. (ii) Crop damaged by wild animals and rats. (iii) Grain yield. (iv) (a) 1956—contd. (b) Yes. (c) Nil. (v) (a) Mankhanda. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 2389 lb./ac. (ii) (a) 421.1 lb./ac. (b) 205.5 lb./ac. (iii) Main effects of N, P and interactions N x P and D x N are highly significant. Interaction S x N x P is significant. (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two
1. D, S or R marginal means = 70.2 lb./ac.
2. N or P marginal means = 28.0 lb./ac.
3. N or P means at the same level of D, S or R = 48.4 lb./ac.
4. D, S or R means at the same level of N or P = 78.1 lb./ac.
S.E. of body of D x S, D x R or S x R table = 86.0 lb./ac.
S.E. of body of N x P table = 28.0 lb./ac.

Crop: Paddy. Ref: W.B. 57(MAE). Site: M.A.E. Farm, Burdwan. Type: 'CM'.

Object:—Type VII—To study the effect of cultural and manurial treatments on Paddy.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Clayey. (b) N.A. (iii) As per treatments. (iv) (a) 4 ploughings, cross ploughings and puddling. (b) Transplanted. (c) 20 to 30 lb./ac. (d) and (e) As per treatments. (v) Nil. (vi) Nagra (120 to 150 days). (vii) Irrigated. (viii) N.A. (ix) 32°. (x) 1st and 2nd week of December, 1957.

2. TREATMENTS:
   Same as in expt. no. 56(MAE) type VII on page 167.
   Dates of sowing are: D1=18.7.1957, D2=4.8.1957 and D4=18.8.1957.

3. DESIGN:
   (i) Split-plot confd. (ii) (a) 3 blocks/replication ; 9 main-plots/block and 4 sub-plots/main-plot. (b) N.A. (iii) 1. (iv) (a) N.A. (b) 39.5' x 10.5'. (v) N.A. (vi) Yes.
4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—contd. (b) Yes. (c) Nil. (v) (a) Mankhanda, (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 2455 lb./ac. (ii) (a) 517.3 lb./ac. (b) 266.6 lb./ac. (iii) Main effect of N is highly significant and main effect of S and interaction D×N are significant. (iv) Av. yield of grain in lb./ac

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S.E. of difference of two
1. D, S or R marginal means = 121.9 lb./ac.
2. N or P marginal means = 51.3 lb./ac.
3. N or P means at the same level of D, S or R = 88.9 lb./ac.
4. D, S or R means at the same level of N or P = 137.2 lb./ac.
S.E. of body of D×S, D×R or S×R table = 149.3 lb./ac.
S.E. of body cf N×P table = 51.3 lb./ac.

Crop :- Paddy.
Site :- M.A.E. Farm, Burdwan.
Ref :- W.B. 59(MAE).
Type :- 'CM'.

Object :- Type VII — To study the effect of cultural and manural treatments on Paddy.

1. BASAL CONDITIONS :
(i) (a) to (c) N.A. (ii) (a) Clayey. (b) N.A. (iii) As per treatments. (iv) (a) 4 ploughings and 1 hoeing. (b) Transplanted. (c) 20 to 30 lb./ac. (d) and (e) As per treatments. (v) 5000 lb./ac. of F.Y.M. to all plots except control plots. (vi) Negra (4 to 5 months). (vii) Unirrigated. (viii) 1 weeding. (ix) 28th, (x) 2nd and 3rd week of December, 1959.

2. TREATMENTS :
Same as in expt. no. 56(MAE) type VII on page 167.
Dates of sowing are : D1=17.7.1959, D2=2 to 4.8.1959 and D3=16 and 17.8.1959.

3. DESIGN :
(i) Split-plot. (ii) (a) 3 blocks/replication ; 9 main-plots/block and 4 sub-plots/main-plot. (b) N.A. (iii) 1. (iv) (a) 42'x13'. (b) 40'x11'. (v) 1'x1'. (vi) Yes.

4. GENERAL :
(i) Satisfactory. (ii) Nil. (iii) Grain yield. (iv) (a) 1956—contd. (b) Yes. (c) Nil. (v) (a) Mankhanda. (b) N.A. (vi) Crop flooded due to heavy rains. (vii) Nil.
5. RESULTS:

(i) 2170 lb./ac.  (ii) to 234.0 lb./ac.  (b) 238.2 lb./ac.  (iii) Interaction D×N is highly significant. Main
effect of D is significant.  (iv) Av. yield of grain in lb./ac.

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S.E. of difference of two
1. D, S or R marginal means = 55.2 lb./ac.
2. N or P marginal means = 45.8 lb./ac.
3. N or P means at the same level of D, S or R = 79.4 lb./ac.
4. D, S or R means at the same level of N or P = 78.7 lb./ac.
S.E. of body of D×S, D×R or S×R table = 67.6 lb./ac.
S.E. of body of N×P table = 45.8 lb./ac.

Crop : Paddy.
Site : M.A.E. Farm, Mankhanda.
Object : Type VII—To study the effect of cultural and manurial treatments on Paddy.

1. BASAL CONDITIONS :
   (i) (a) to (c) N.A.  (ii) As per treatments.  (iii) As per treatments.  (iv) N.A.  (b) Transplanting.
   (c) 8 to 10 srs./ac.  (d) 8 to 10 srs./ac.  (e) 8 to 10 srs./ac.  (f) Nil.  (v) Khakharia (4 months).  (vi) Unirrigated.

2. TREATMENTS :
   Same as in expt. no. 56(5MAE) type VII conducted at Burdwan on page 167.
   Dates of sowing are : D₁ = 1.8.1956, D₂ = 7.8.1956 and D₃ = 15.8.1956.

3. DESIGN:
   (i) Split-plot confd.  (ii) 3 blocks/replication ; 9 main-plots/block and 4 sub-plots/main-plot.  (b) N.A.
   (iii) 1.  (iv) (a) 33'×23'.  (b) 31'×21'.  (v) 1'×1'.  (vi) Yes.

4. GENERAL :
   (i) Good.  The entire crop lodged due to heavy rains and high velocity of wind.  (ii) Nil.  (iii) Grain yield.
   (iv) (a) to (c) No.  (v) (a) Burdwan.  (b) Nil.  (vi) Crop damaged due to cyclone.  (vii) Nil.

5. RESULTS :
   (i) 2222 lb./ac.  (ii) (a) 203.1 lb./ac.  (b) 175.4 lb./ac.  (iii) Main effects of R and N are highly significant.  Interaction S×P is significant.  (iv) Av. yield of grain in lb./ac.
Crop: Paddy (Aman).
Site: State Agri. Farm, Chinsurah.

Object: To study the effect of different insecticides against Paddy stem borer.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Fallow. (b) Fallow. (c) Nil. (ii) (a) Clay. (b) Refer soil analysis, Chinsurah. (iii) 16.6.1954/30.7.1954. (iv) (a) 3 to 4 ploughings and harrowing. (b) Transplanting. (c) N.A. (d) 9" x 9". (e) 2 to 3. (v) Nil. (vi) Bhasamanik (Ch 3, medium). (vii) Irrigated. (viii) 2 weedings and hoeing. (ix) N.A. (x) 20.11.1954.

2. TREATMENTS:
9 insecticidal treatments: D₀ = Control, D₁ = DDT (5% dust), D₂ = BHC (5% dust), D₃ = DDT (5% wettable) spray with 0.1% concentration, D₄ = BHC (50% wettable spray) with 0.1% concentration, D₅ = Folidol E-605 (5% dust), D₆ = Folidol E-605 spray with 0.4% concentration, D₇ = Toxaphane (5% dust) and D₈ = Toxaphane (25%) spray with 0.1% concentration. There were 4 applications of each treatment at an interval of 15 days beginning from 15.8.1954.

3. DESIGN:
   (i) R.B.D. (ii) (a) 9. (b) N.A. (iii) 12. (2 trials of 6 replications each at 2 different sites at the same farm). (iv) (a) and (b) 16.5" x 825". (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) Attack of stem borer, control measures as per treatments. (iii) Percentage of stem borer damaged tillers/plot were taken at the time of harvest. (iv) (a) 1953—1954. (b) Yes. (c) No. (v) (a) and (b) No. (vi) and (vii) Nil.

5. RESULTS:
   (i) 0.87%. (ii) 0.50%. (iii) Control vs. others' effect is highly significant. (iv) Mean percentage of stem borer damaged tillers.

### Crop: Paddy (Aman), Site: State Agri. Farm, Chinsurah

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S.E. of difference of two

1. D, S or R marginal means = 47.2 lb./ac.
2. N or P marginal means = 33.9 lb./ac.
3. N or P means at the same level of D, S or R = 58.8 lb./ac.
4. D, S or R means at the same level of N or P = 62.9 lb./ac.
S.E. of body of D x S, D x R or S x R table = 81.7 lb./ac.
S.E. of body of N x P table = 33.9 lb./ac.
Crop: Paddy (Aman).
Site: State Agri. Farm, Gosaba.
Object: To study the effect of different insecticides against S. incertalas on Paddy.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) Nil. (ii) (a) Heavy clay. (b) Refer soil analysis, Gosaba. (iii) 21.6.1955/8.8.1955. (iv) (a) 3 to 4 ploughings and ladderings. (b) Transplanting. (c) N.A. (d) 9"x9". (e) 1. (v) 40 lb/ac. of N and 40 lb/ac. of P2O5. (vi) Rizhbasai. (vii) Irrigated. (viii) 2 weedings. (ix) N.A. (a) 15.11.1955.

2. TREATMENTS:
7 insecticidal treatments: D0 = Control (2 plots/block), D1 = Parathion 1.0%, D2 = Parathion 0.5%, D3 = Parathion 0.25%, D4 = Endrin-5 c.c. per gallon of water, D5 = Endrin-7 c.c. per gallon of water and D6 = Endrin-10 c.c. per gallon of water.

3. DESIGN:
(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 4. (iv) (a) 33'x33'. (b) 27'x27'. (v) 3'x3'. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Damaged by S. incertalas and stink bug. (iii) Percentage of damage done by S. incertalas. Average ears/plants; total no. of earheads/plot; number of damaged earheads and grain yield/plot. (iv) (a) and (b) No. (c) N.A. (v) (a) and (b) No. (vi) and (vii) Nil.

5. RESULTS:
(i) 2718 lb/ac. (ii) 478.0 lb/ac. (iii) 'Control vs. treated' effect is significant. (iv) Av. yield of grain in lb/ac.

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S.E./mean for control = 169.0 lb/ac.
S.E./mean for others = 239.0 lb/ac.

Crop: Wheat (Rabi).
Site: State Agri. Farm, Bardwan.
Object: To study the effect of A/S and A/C in different doses on the yield of Wheat.

1. BASAL CONDITIONS:
(i) (a) Paddy—Wheat. (b) Paddy. (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Bardwan. (iii) 3rd week of November, 1956. (iv) (a) 4 to 5 puddlings, 2 puddlings and planking. (b) and (c) N.A. (d) 9"x9". (e) 3. (v) N.A. (vi) N.P.—710. (vii) Unirrigated. (viii) 2 weedings and 3 interculturings. (ix) 2.61". (x) Last week of March, 1957.

2. TREATMENTS:
All combinations of (1) and (2)+a control
(1) 2 sources of N: S1 = A/S and S2 = A/C.
(2) 2 levels of N: N1 = 40 and N2 = 60 lb/ac.

3. DESIGN:
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (x) (a) 31'x33'. (b) 31'x21'. (v) 1'x1'. (vi) Yes.
4. **GENERAL:**

(i) Normal. (ii) Pest attack; Control measure—N.A. (iii) Yield of grain. (iv) (a) 1956—contd. (b) Yes. (c) N.A. (v) (a) Krishnagar. (b) N.A. (vi) and (vii) Nil.

5. **RESULTS:**

(i) 2404 lb./ac. (ii) 137.8 lb./ac. (iii) Main effect of N and 'control vs. others' are highly significant. (iv) Av. yield of grain in lb./ac.

$$\text{Control} = 1418 \text{ lb./ac.}$$

<table>
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<tr>
<th></th>
<th>$S_1$</th>
<th>$S_2$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$N_1$</td>
<td>2547</td>
<td>2496</td>
<td>2521</td>
</tr>
<tr>
<td>$N_2$</td>
<td>2813</td>
<td>2745</td>
<td>2779</td>
</tr>
<tr>
<td>Mean</td>
<td>2690</td>
<td>2620</td>
<td>2690</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean $= 43.6 \text{ lb./ac.}$

S.E. of body of table or control mean $= 61.6 \text{ lb./ac.}$

---

**Crop:** Wheat (*Rabi*).  
**Site:** State Agri. Farm, Burdwan.  
**Ref:** W.B. 57(36).  
**Type:** ‘M’.

Object:—To study the effect of A/S and A/C in different doses on the yield of Wheat.

1. **BASAL CONDITIONS:**

(i) (a) Paddy—Wheat. (b) Paddy. (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Burdwan. (iii) 15 to 28.11.1957. (iv) (a) 3 to 4 ploughings and puddling. (b) and (c) N.A. (d) 9" x 9". (e) 2 to 3. (v) Nil. (vi) N.P.—710. (vii) Unirrigated. (viii) 2 intercultures and 2 to 3 weedings. (ix) 3.23". (x) Last week of March to 1st week of April, 1958.

2. **TREATMENTS to 4. GENERAL:**

Same as in expt. no. 56(30) on page 172.

5. **RESULTS:**

(i) 1609 lb./ac. (ii) 236.1 lb./ac. (iii) ‘Control vs. others’ effect is highly significant. (iv) Av. yield of grain in lb./ac.

$$\text{Control} = 905 \text{ lb./ac.}$$

<table>
<thead>
<tr>
<th></th>
<th>$S_1$</th>
<th>$S_2$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$N_1$</td>
<td>1711</td>
<td>1855</td>
<td>1783</td>
</tr>
<tr>
<td>$N_2$</td>
<td>1934</td>
<td>1638</td>
<td>1786</td>
</tr>
<tr>
<td>Mean</td>
<td>1822</td>
<td>1746</td>
<td>1784</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean $= 74.7 \text{ lb./ac.}$

S.E. of body of table or control mean $= 105.6 \text{ lb./ac.}$

---

**Crop:** Wheat (*Rabi*).  
**Site:** State Agri. Farm, Burdwan.  
**Ref:** W.B. 58(35).  
**Type:** ‘M’.

Object:—To study the effect of different sources of N on the yield of Wheat.
1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Burdwan. (iii) 7 to 15.11.1953. (iv) (a) 4 to 5 ploughings and 2 harrowings. (b) Line sowing. (c) 66 to 77 lb./ac. (d) 9' between rows (e) N.A. (v) 100 mds./ac. of cow dung. (vi) N.P.—710. (vii) Unirrigated. (viii) 1 to 2 weedings and 2 hoeings. (ix) N.A. (x) Last week of April, 1959.

2. TREATMENTS:
   5 sources of 40 lb./ac. of N : S0 = No application of N, S1 = A/S, S2 = Urea, S3 = A/C and S4 = C/N.

3. DESIGN:
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 34' x 26'. (b) 32' x 24'. (v) 1' x 1'. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) N.A. (iii) Yield of grain. (iv) (a) 1955—60 (modified in the year 1953 only). (b) Yes. (c) N.A. (v) (a) and (b) No. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1659 lb./ac. (ii) 210.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of grain in lb./ac.

   * Treatment  
     S0  S1  S2  S3  S4  
     Av. yield 1085 1727 1878 1762 1843  

   S.E./mean = 93.9 lb./ac.

---

Crop := Wheat (Rabi).

Site := State Agri. Farm, Burdwan.

Object := To study the effects of A/S and A/C on Wheat.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Wheat. (b) Paddy. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Burdwan. (iii) 9 11.1959. (iv) (a) 2 ploughings and ladderings. (b) Line sowing by seed drill. (c) 30 srs./ac. (d) 9' between rows. (e) N.A. (v) Nil. (vi) N.P.—710. (vii) Unirrigated. (viii) 1 weedings. (ix) 0.03'. (x) 19.3.1960 to 21.3.1960.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 56.30 on page 172.

3. RESULTS:
   (i) 1400 lb./ac. (ii) 216.4 lb./ac. (iii) Main effect of N alone is highly significant. (iv) Av. yield of grain in lb./ac.

   Control = 1295 lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S1</th>
<th>S2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1</td>
<td>1284</td>
<td>1319</td>
<td>1301</td>
</tr>
<tr>
<td>N2</td>
<td>1718</td>
<td>1386</td>
<td>1552</td>
</tr>
<tr>
<td>Mean</td>
<td>1501</td>
<td>1352</td>
<td>1426</td>
</tr>
</tbody>
</table>

   S.E. of any marginal mean = 68.4 lb./ac.
   S.E. of body of table or control mean = 96.8 lb./ac.
Crop :- Wheat (Rabi).
Site :- State Agri. Farm, Burdwan.
Object :- To study the effects of N, P and K on the yield of Wheat.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Wheat. (b) Paddy. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Burdwan.
   (iii) 14.11.1959. (iv) (a) 6 ploughings and 4 laddering. (b) Line sowing by seed drill. (c) N.A. (d) 9" between lines. (e) N.A. (f) Nil. (g) N.P.—798. (h) Irrigated. (i) 16.3.1960 to 19.3.1960.

2. TREATMENTS:
   All combinations of (1), (2) and (3)
   (1) 3 levels of N : N_0 =0, N_1 =40 and N_2 =60 lb./ac.
   (2) 3 levels of P_2O_5 : P_0 =0, P_1 =20 and P_2 =40 lb./ac.
   (3) 3 levels of K_2O : K_0 =0, K_1 =20 and K_2 =40 lb./ac.
   P_2O_5 applied on 14.11.1959 ; N and K_2O applied on 22.12.1959.

3. DESIGN:
   (i) Fact. in R.B.D. (ii) (a) 27. (b) N.A. (iii) 2. (iv) (a) 33'×33'. (b) 31'×31'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
   (i) Fair. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1959—contd. (b) Yes. (c) Nil. (v) (a) Malda and Kalyan. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 846 lb/ac. (ii) 232.6 lb/ac. (iii) Main effect of N alone is highly significant. (iv) Av. yield of grain in lb/ac.


\[
\begin{array}{|c|c|c|c|c|c|c|}
\hline
\text{ } & \text{P}_0 & \text{P}_1 & \text{P}_2 & \text{Mean} & \text{N}_0 & \text{N}_1 & \text{N}_2 \\
\hline
\text{K}_0 & 868 & 893 & 862 & 875 & 421 & 1018 & 1185 \\
\text{K}_1 & 800 & 814 & 890 & 835 & 406 & 927 & 1171 \\
\text{K}_2 & 812 & 758 & 913 & 828 & 451 & 987 & 1045 \\
\hline
\text{Mean} & 827 & 822 & 888 & 846 & 426 & 977 & 1134 \\
\hline
\end{array}
\]

S.E. of any marginal mean = 54.8 lb./ac.
S.E. of body of any table = 95.0 lb./ac.

Crop :- Wheat.
Site :- State Agri. Farm, Cooch Behar.
Object :- To study the effects of A/S and A/C on Wheat.

1. BASAL CONDITIONS:
   (i) (a) Wheat—Jute. (b) Jute. (c) Nil. (ii) (a) Sandy loam. (k) Refer soil analysis, Cooch Behar. (iii) 14.11.1957. (iv) (a) 6 ploughings and laddering. (b) Broadcast. (c) 1 md./ac. (d) and (e) N.A. (v) 100 mds/ac. of cow dung. (vi) N.P.—710 (medium). (vii) Irrigated. (viii) 1 hand weeding. (ix) N.A. (x) 9.4.1958.

2. TREATMENTS:
   All combinations of (1) and (2)+a control
   (1) 2 sources of N : S_1=A/S and S_2=A/C.
   (2) 2 levels of N : N_1 =40 and N_2 =60 lb./ac.
   Fertilizers were broadcast on 17.12.1957.
3. DESIGN:
(i) L. sq. (ii) (a) S. (b) N.A. (iii) 5. (iv) (a) 34'×26'. (b) 32'×24'. (v) 1'×1'. (vi) Yes.

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

5. RESULTS:
(i) 2016 lb./ac. (ii) 204.2 lb./ac. (iii) Main effect of N is significant and 'control vs. others' is highly significant. (iv) Av. yield of grain in lb./ac.

\[
\begin{array}{|c|c|c|}
\hline
& S_1 & S_2 & \text{Mean} \\
\hline
N_1 & 2252 & 2165 & 2208 \\
N_2 & 1508 & 2089 & 1998 \\
\hline
\text{Mean} & 2060 & 2127 & 2103 \\
\hline
\end{array}
\]

S.E. of any marginal mean = 64.6 lb./ac.
S.E. of body of table or control mean = 91.3 lb./ac.

---

**Crop**: Wheat.

**Site**: State Agri. Farm, Cooch Behar.

**Object**: To study the effects of A/S and A/C on Wheat.

**Ref**: W.B. 58(10).

**Type**: 'M'.

---

1. **BASAL CONDITIONS**:
(i) (a) Wheat—Jute. (b) Jute. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Cooch Behar. (iii) 18.11.1938. (iv) (a) 6 ploughings and 1 harrow. (b) Broadcast. (c) 1 md./ac. (d) and (e) N.A. (v) Cowdung at 100 mds./ac. broadcast on 12.11.1938. (vi) N.P.—710 (medium). (vii) Irrigated. (viii) 1 weeding. (ix) 9.85'. (x) 22 and 23.4.1959.

2. **TREATMENTS to 4. GENERAL**:
Same as in exp. no. 57,5) on page 175.

5. **RESULTS**:
(i) 169 lb./ac. (ii) 113.0 lb./ac. (iii) Main effects of N and S and 'control vs. others' are highly significant. (iv) Av. yield of grain in lb./ac.

\[
\begin{array}{|c|c|c|}
\hline
& S_1 & S_2 & \text{Mean} \\
\hline
N_1 & 1596 & 1718 & 1657 \\
N_2 & 1815 & 2026 & 1920 \\
\hline
\text{Mean} & 1705 & 1872 & 1788 \\
\hline
\end{array}
\]

S.E. of any marginal mean = 35.7 lb./ac.
S.E. of body of table or control mean = 50.5 lb./ac.
Crop :- Wheat (Rabi).

Site :- State Agri. Farm, Cooch Behar.

Object :- To study the effects of A/S and A/C on Wheat.

1. BASAL CONDITIONS :

(i) (a) Jute—Wheat. (b) Jute. (c) N.A. (ii) (a) Silty and fine sandy loam. (b) Refer soil analysis, Cooch Behar. (iii) 18.11.1959. (iv) (a) 4 to 6 ploughings and harrowings. (b) Broadcast. (c) 1 md./ac. (d) and (e) N.A. (v) Nil. (vi) N.P.—710 (medium). (vii) Unirrigated. (viii) 2 weedings. (ix) N.A. (x) 4.4.1960 and 5.4.1960.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(5) on page 175.
Fertilizers applied on 15.11.1959 and top dressing done on 20.12.1959.

5. RESULTS :

(i) 1810 lb./ac. (ii) 95.5 lb./ac. (iii) Main effect of N and 'control vs. others' are highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Control = 1479 lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>N₁</td>
</tr>
<tr>
<td>N₂</td>
</tr>
<tr>
<td>Mean</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 30.2 lb./ac.
S.E. of body of table or control mean = 42.7 lb./ac.

---

Crop :- Wheat (Rabi).

Site :- State Seed Multiplication Farm, Fulia.

Object :- To study the effects of A/S and A/C on Wheat.

1. BASAL CONDITIONS :

(i) (a) Jute—Wheat. (b) Jute. (c) As per treatments. (ii) (a) Fine sandy loam. (b) Refer soil analysis, Fulia. (iii) N.A. (iv) (a) 4 to 6 ploughings and laddergings. (b) Broadcast. (c) to (e) N.A. (v) Nil. (vi) N.P.—710 (medium). (vii) Unirrigated. (viii) 2 weedings. (ix) and (x) N.A.

2. TREATMENTS to 4. GENERAL :

Same as in expt. no. 57(5) on page 175.

5. RESULTS :

(i) 1887 lb./ac. (ii) 218.6 lb./ac. (iii) Main effect of S is significant and 'control vs. others' is highly significant. (iv) Av. yield of grain in lb./ac.

Control = 1463 lb./ac.

<table>
<thead>
<tr>
<th>Control = 1463 lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>N₁</td>
</tr>
<tr>
<td>N₂</td>
</tr>
<tr>
<td>Mean</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 69.1 lb./ac.
S.E. of body of table or control mean = 97.8 lb./ac.
Crop :- Wheat.  
Site :- Govt. Farm, Hathwara.  
Object :- To test the effect of using kharif G.M. as mulches on the yield of Wheat crop.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) Paddy.  (c) 30 mds./ac. of F.Y.M.  
   (ii) (a) Sandy. (b) Refer soil analysis, Hathwara.  
   (iii) 4.11.1955.  
   (iv) (a) 2 ploughings by desi plough.  (b) Sowing behind the plough.  
   (c) 40 trs./ac.  
   (d) Row to row 1'.  
   (e) N.A.  (v) 40 lb./ac. of N as A/S and 40 lb./ac. P2O5 as Super.  
   (vi) N.P.—52 (improved late).  
   (vii) Irrigated. (viii) 1 weeding. (ix) 3.59'.  
   (x) 8.3.1956 and 9.3.1956.

2. TREATMENTS:
   4 G.M. treatments:  
   G0=No G.M., G1=Sowing sanai in 1st week of July and turning it in the middle of August, G2=Same as G1 but cutting and spreading as mulch in the middle of August and G3=Same as in G1 but turning it in the last week of September.

3. DESIGN:
   (i) R.B.D.  
   (ii) (a) 4.  (b) N.A.  
   (iii) (a) 5. (iv) (a) 57'x19'.  (b) 55.5'x17.5'.  
   (v) 9'x9'.  
   (vi) Yes.

4. GENERAL:
   (i) Poor.  
   (ii) Attack of termites, the plot were dusted with geuserol 405 against termites.  
   (iii) No. of tillers and height at the time of harvest and yield of grain and straw.  
   (iv) (a) 1955—N.A.  
   (b) N.A.  
   (c) Nil.  
   (d) and (b) N.A.  
   (vi) and (vii) Nil.

5. RESULTS:
   (i) 220 lb./ac.  
   (ii) 64.0 lb./ac.  
   (iii) Treatment differences are not significant.  
   (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>G0</th>
<th>G1</th>
<th>G2</th>
<th>G3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>228</td>
<td>197</td>
<td>228</td>
<td>278</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>28.6 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Wheat (Rabi).
Site :- State Agri. Farm, Kalyani.  
Object :- To study the effect of A/S and C/N on the yield of Wheat.

1. BASAL CONDITIONS:
   (i) (a) and (b): N.A.  
   (c) Nil.  
   (ii) (a) and (b): N.A.  
   (iii) Middle of November, 1956.  
   (iv) (a) 4 to 5 ploughings and laddering.  
   (b) Broadcast.  
   (c) 82 lb./ac.  
   (d) 9' between plant.  
   (e) N.A.  
   (v) 80 to 100 mds./ac. of cowdung.  
   (vi) N.P.—710 (late).  
   (vii) Unirrigated. (viii) 2 weedings.  
   (ix) N.A.  
   (x) Last week of March, 1957.

2. TREATMENTS:
   All combinations of (1) and (2)+a control  
   (1) 2 sources of N : S1=A/S and S2=C/N.  
   (2) 2 levels of N : N1=40 and N2=60 lb./ac.

3. DESIGN:
   (i) R.B.D.  
   (ii) (a) 5.  
   (iii) 5. (iv) (a) 34'x26'. (b) 32'x24'.  
   (v) 1'x1'.  
   (vi) Yes.

4. GENERAL:
   (i) Normal.  
   (ii) N.A.  
   (iii) Yield of grain.  
   (iv) (a) 1956—1958.  
   (b) Yes.  
   (c) N.A.  
   (v) (a) Malda.  
   (b) N.A.  
   (vi) and (vii) Nil.

5. RESULTS:
   (i) 1054 lb./ac.  
   (ii) 192.5 lb./ac.  
   (iii) 'Control vs. others' alone is highly significant.  
   (iv) Av. yield of grain in lb./ac.
Control = 716 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$S_1$</th>
<th>$S_2$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$N_1$</td>
<td>1089</td>
<td>1050</td>
<td>1069</td>
</tr>
<tr>
<td>$N_2$</td>
<td>1231</td>
<td>1184</td>
<td>1207</td>
</tr>
</tbody>
</table>

Mean | 1160  | 1117  | 1138 |

S.E. of any marginal mean = 60.9 lb./ac.
S.E. of body of table or control mean = 86.1 lb./ac.

Crop: Wheat (Rabi).
Site: State Agri. Farm, Kalyani.

Object: To study the effect of A/S and C/N on the yield of Wheat.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Kalyani. (iii) 1st to 2nd week of November, 1957. (iv) (a) 2 to 3 ploughings and 2 harrowings. (b) Line sowing. (c) 66 to 77 lb./ac. (d) 9" between rows. (e) N.A. (v) 150 mds./ac. of cowdung. (vi) N.P.—710 (late). (vii) Irrigated. (viii) 2 to 3 weedings and 2 hoeings. (ix) N.A. (x) Last week of March to 1st week of April, 1958.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 56(33) on page 178.

5. RESULTS:
   (i) 1279 lb./ac. (ii) 107.3 lb./ac. (iii) Main effect of N and 'Control vs. others' are highly significant. (iv) Av. yield of grain in lb./ac.

Control = 783 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$S_1$</th>
<th>$S_2$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>$N_1$</td>
<td>1358</td>
<td>1270</td>
<td>1314</td>
</tr>
<tr>
<td>$N_2$</td>
<td>1493</td>
<td>1492</td>
<td>1492</td>
</tr>
</tbody>
</table>

Mean | 1425  | 1381  | 1403 |

S.E. of any marginal mean = 33.9 lb./ac.
S.E. of body of table or control mean = 48.0 lb./ac.

Crop: Wheat (Rabi).
Site: State Agri. Farm, Kalyani.

Object: To study the effect of A/S and C/N on the yield of Wheat.

4. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Kalyani. (iii) 10.11.1958. (iv) (a) 3 to 4 ploughings and 2 harrowings. (b) Line sowing. (c) 66 to 77 lb./ac. (d) 9" between lines. (e) N.A. (v) 150 mds./ac. of F.Y.M. (vi) N.P.—710. (vii) Irrigated. (viii) 2 weedings and 2 hoeings. (ix) N.A. (x) 20.3.1959 to 23.3.1959.
2. TREATMENTS:
   Same as in expt. no. 56(33) on page 178.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 5. (b) N.A.  (iii) 5.  (iv) (a) 40'×27'. (b) 38'×25'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
   Same as in expt. no. 56(33) on page 178.

5. RESULTS:
   (i) 1947 lb./ac.  (ii) 205.6 lb./ac.  (iii) Main effect of S and 'control vs. others' are significant.  (iv) Av. yield of grain in lb./ac.

   Control = 1714 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1</td>
<td>2150</td>
<td>1898</td>
<td>2024</td>
</tr>
<tr>
<td>N2</td>
<td>2005</td>
<td>1869</td>
<td>1987</td>
</tr>
<tr>
<td>Mean</td>
<td>2127</td>
<td>1883</td>
<td>2005</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 65.0 lb./ac.
S.E. of body of table or control mean = 91.9 lb./ac.

Crop :- Wheat (Rabi).  
Site :- State Seed Multiplication Farm, Kalyani.  
Ref :- W.B. 59(13).  
Type :- 'M'.

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

1. BASAL CONDITIONS:
   (i) (a) Jute—Wheat. (b) Jute. (c) Nil. (ii) (a) and (b). N.A.  (iii) 21 and 22.11.1959.  (iv) (a) 4 to 6 ploughings and ladderings. (b) Broadcasting. (c) N.A.  (d) and (e) Nil. (v) Nil. (vi) N.P.—710 (medium).  (vii) Unirrigated.  (viii) 2 weedings. (ix) N.A.  (x) 28.3.1960.

2. TREATMENTS:
   All combinations of (1), (2) and (3)
   (1) 3 levels of N as A.S : N0=0, N1=40 and N2=60 lb./ac.
   (2) 3 levels of K2O as Mur. Pot. : K0=0, K1=20 and K2=40 lb./ac.
   (3) 3 levels of P2O5 as Super : P0=0, P1=20 and P2=40 lb./ac.

3. DESIGN:
   (i) 3⁸ confd. (NPK² and NPK are confd.). (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A.  (iii) 2.  (iv) (a) 36'×30'. (b) 34'×28'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
   (i) Fair. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) and (b) No. (c) Nil. (v) (a) Burdwan and Maida. (b) N.A.  (vi) and (vii) Nil.

5. RESULTS:
   (i) 1704 lb./ac. (ii) 85.9 lb./ac.  (iii) Main effects of N, K and interaction N×P, N×K, are highly significant. and P effect is significant.  (iv) Av. yield of grain in lb./ac.
Crop :- Wheat (Rabi).
Site : State Agri. Farm, Krishnagar.

Object :- To study the effect of A/S and A/C at different levels on the yield of Wheat.

1. BASAL CONDITIONS :
   (i) (a) Jute—Wheat. (b) Jute. (c) N.A. (ii) (a) Sandy loam. (b) N.A. (iii) Last week of November, 1956.
   (iv) (a) 3 to 4 ploughings and puddlings. (b) Planting. (c) N.A. (d) 9" x 9". (e) 2 to 3. (v) and (vi) N.A. (vii) Unirrigated. (viii) 4 to 5 weedings. (ix) 6.29". (x) 3rd week of March, 1957.

2. TREATMENTS :
   All combinations of (1) and (2)+ a control
   (1) 2 sources of N : S₁ = A/S and S₂ = A/C.
   (2) 2 levels of N : N₁ = 40 and N₂ = 60 lb./ac.

3. DESIGN :
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 34" x 26". (b) 32" x 24". (v) 1" x 1". (vi) Yes.

4. GENERAL :
   (i) Good. (ii) Nil. (iii) Yield of grain. (iv) (a) 1956—N.A. (b) and (c) N.A. (v) (a) Burdwan. (b) N.A.
   (vi) and (vii) Nil.

5. RESULTS :
   (i) 1830 lb./ac. (ii) 457.3 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

Control = 1388 lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S₁</th>
<th>S₂</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₁</td>
<td>1826</td>
<td>1773</td>
<td>1799</td>
</tr>
<tr>
<td>N₂</td>
<td>2123</td>
<td>2042</td>
<td>2082</td>
</tr>
<tr>
<td>Mean</td>
<td>1974</td>
<td>1907</td>
<td>1940</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 144.7 lb./ac.
S.E. of body of table or control mean = 204.5 lb./ac.
Crop :- Wheat (Rabi).
Site :- State Agri. Farm, Malda.

Object :- To study the effect of different levels and sources of N on the yield of Wheat.

1. BASAL CONDITIONS :
   (i) (a) to (c) N.A. (ii) (a) Loam and silty clay loam. (b) Refer soil analysis, Malda. (iii) 3.11.1958. (iv) (a) to 4 ploughings and harrowing. (b) Line sowing. (c) 66 to 77 lb./ac. (d) (v) 100 to 150 mds./ac. of cowdung. (vi) N.P.—710. (vii) Unirrigated. (viii) 2 to 3 weedings and 2 hoeings. (ix) N.A. (x) 27 to 30.3.1959.

2. TREATMENTS :
   Main-plot treatments :
   3 sources of N : S1 = A/S, S2 = C/N and S3 = A/C.

   Sub-plot treatments :
   3 levels of N : N0 = 0, N1 = 40 and N2 = 60 lb./ac.

3. DESIGN:
   (i) Split-plot. (ii) (a) 3 main-plots/replication ; 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 25’ x 20’. (b) 23’ x 18’. (v) 1’ x 1’. (vi) Yes.

5. RESULTS :
   (i) 1586 lb./ac. (ii) (a) 324.7 lb./ac. (b) 487.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N0</td>
<td></td>
<td></td>
<td></td>
<td>1409</td>
</tr>
<tr>
<td>N1</td>
<td>1764</td>
<td>1338</td>
<td>1891</td>
<td>1664</td>
</tr>
<tr>
<td>N2</td>
<td>1846</td>
<td>1706</td>
<td>1503</td>
<td>1685</td>
</tr>
</tbody>
</table>

   Mean 1805 1522 1697

   S.E. of difference of two
   1. S marginal means = 93.7 lb./ac.
   2. N marginal means = 162.3 lb./ac.
   3. N means at the same level of S = 281.2 lb./ac.
   4. S means at the same level of N = 253.8 lb./ac.
3. DESIGN:
   (i) R.B.D. (ii) (a) 11. (b) N.A. (iii) 4. (iv) (a) 30’ x 20’. (b) 28’ x 18’. (v) 1’ x 1’. (vi) Yes.

4. GENERAL:
   (i) Fair. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1959—contd. (b) Yes. (c) N.A. (v) to (vii) Nil.

5. RESULTS:
   (i) 1436.6 lb./ac. (ii) 185.4 lb./ac. (iii) Main effect of N and ‘control vs. others’ are highly significant. (iv) Av. yield of grain in lb./ac.

\[
\begin{array}{cccccc}
\text{Control} & S_1 & S_2 & S_3 & S_4 & S_5 \\
\hline
N_1 & 1399 & 1558 & 1227 & 1461 & 1307 & 1390 \\
N_2 & 1592 & 1712 & 1635 & 1649 & 1562 & 1630 \\
\text{Mean} & 1495 & 1635 & 1431 & 1555 & 1434 & 1510 \\
\end{array}
\]

S.E. of S marginal mean = 65.5 lb./ac.
S.E. of N marginal mean = 41.4 lb./ac.
S.E. of body of table or control mean = 92.7 lb./ac.

Crop:- Wheat (Rabi).
Site:- State Agri. Farm, Malda.

Object:- To study the effects of N, P and K on the yield of Wheat.

4. BASAL CONDITIONS:
   (i) (a) to (c) Nil. (ii) (a) Gangetic alluvium, natural clay. (b) Refer soil analysis, Malda. (iii) 25.11.1959, (iv) (a) 6 ploughings and 4 ladderings. (b) Line sowing by seed drill. (c) N.A. (d) Spacing between lines 9”. (e) N.A. (f) Nil. (g) Nil. (h) N.P.-799; (i) Irrigated. (ii) 1 weeding. (ix) 4.5”. (x) 6 to 8.4.1960.

2. TREATMENTS:
All combinations of (1), (2) and (3)
(1) 3 levels of N: N_0 = 0, N_1 = 40 and N_2 = 60 lb./ac.
(2) 3 levels of P: P_0 = 0, P_1 = 20 and P_2 = 40 lb./ac.
(3) 3 levels of K: K_0 = 0, K_1 = 20 and K_2 = 40 lb./ac.
P_2O_5 applied on 24.11.1959 and N, K_2O applied on 6.1.1960.

3. DESIGN:
   (i) Fact. in R.B.D. (ii) (a) 27. (b) N.A. (iii) 2. (iv) (a) 30’ x 36’. (b) 28’ x 34’. (v) 1’ x 1’. (vi) Yes.

4. GENERAL:
   (i) Fair. (ii) Nil. (iii) Yield of grain and straw. (iv) (a) 1959—contd. (b) Yes. (c) N.A. (v) to (vii) Nil.

5. RESULTS:
   (i) 1109 lb./ac. (ii) 172.2 lb./ac. (iii) Main effect of N alone is highly significant. (iv) Av. yield of grain in lb./ac.
Crop :- Wheat (Rabi).
Site :- State Agri. Farm, Malda.
Object :- To study the effect of C/N, A/S and A/C on Wheat.

1. BASAL CONDITIONS:
   (i) (a) Paddy—Wheat. (b) Paddy. (c) N.A. (iii) (a) Loam and sandy loam. (b) Refer soil analysis, Malda.
   (ii) 22.11.1957. (iv) (a) 4 to 5 ploughings and 2 ladderings. (b) Line sowing. (c) 66 to 77 lb./ac. (d) 9° between lines. (e) N.A. (v) N.A. (vi) N.P.—710. (vii) Unirrigated. (viii) 2 to 3 weedings and thinning.
   (ix) N.A. (x) 8.4.1958 to 10.4.1958.

2. TREATMENTS:
   All combinations of (1), (2)+a control (3 plots).
   (1) 2 levels of N: N$_1$ = 40 and N$_2$ = 60 lb./ac.
   (2) 3 sources of N: S$_1$ = A/S, S$_2$ = C/N and S$_3$ = A/C.

3. DESIGN:
   (i) R.B.D. (ii) 9. (b) N.A. (ii) 6. (iv) (a) 25'×20'. (b) 23'×18'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) N.A. (iii) Yield of grain. (iv) (a) 1955—1958 (failed in 1956). (b) Yes. (c) N.A. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 1674 lb./ac. (ii) 188.3 lb./ac. (iii) 'Control vs. rest' alone is highly significant. (iv) Av. yield of grain in lb./ac.

   Control = 1385 lb./ac.

<table>
<thead>
<tr>
<th>S$_1$</th>
<th>S$_2$</th>
<th>S$_3$</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N$_1$</td>
<td>1804</td>
<td>1727</td>
<td>1774</td>
</tr>
<tr>
<td>N$_2$</td>
<td>1729</td>
<td>1883</td>
<td>1995</td>
</tr>
<tr>
<td>Mean</td>
<td>1766</td>
<td>1805</td>
<td>1884</td>
</tr>
</tbody>
</table>

   S.E. of N marginal mean or control mean = 44.4 lb./ac.
   S.E. of S marginal mean = 54.4 lb./ac.
   S.E. of the body of the table = 76.9 lb./ac.
Crop :- Wheat (Rabi).
Centre :- Birbhum (c.f.).
Object :- Type A—To study the response of Wheat to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) Laterite and red. (iii) Nil. (iv) and (v) N.A. (vi) November, 1959. (vii) Irrigated. (viii) and (ix) N.A. (x) April, 1960.

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

3. DESIGN:
   (i) and (ii) The district has been divided into four agriculturally homogeneous zones and one field assistant posted in each zone. The field assistant conducts the trials in one Revenue circle or thana in one 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 kharif cereal, 8 on 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) N.A. (b) 1/80 ac. (iv) Yes.

4. GENERAL:
   (i) Good. (ii) N.A. (iii) Yield of grain. (iv) (a) 1958—contd. (b) No. (c) N.A. (v) As per treatments. (vi) and (vii) Nil.

5. RESULTS:
   Effect n p k S.E. np nk pk npk S.E.
   Av. response of grain in lb./ac. 247 91 16 50.2 0 8 25 16 39.5
   Control yield = 848 lb./ac. and no. of trials = 16.

Crop :- Wheat (Rabi).
Centre :- Murshidabad (c.f.).
Object :- Type A—To study the response of Wheat 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) and (v) N.A. (vi) November, 1958. (vii) Unirrigated. (viii) and (ix) N.A. (x) April, 1959.

2. TREATMENTS:
   Same as in exper. no. 59(SFT) above conducted at Birbhum.

5. RESULTS:
   Effect n p k S.E. np nk pk npk S.E.
   Av. response of grain in lb./ac. 107 74 49 55.1 41 16 74 -33 42.8
   No. of trials = 5.
Crop :- Wheat (*Rabi*).

Centre :- Murshidabad (c.f.).

Object :- Type A—To study the response of Wheat 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) and (v) N.A. (vi) November, 1959. (vii) As per treatments. (viii) and (ix) N.A. (x) April, 1960.

2. TREATMENTS to 4. GENERAL :
   Same as in expt. no. 59(SFT) on page 185 conducted in Birbhum.

5. RESULTS :

<table>
<thead>
<tr>
<th>Irrigated</th>
<th>Effect</th>
<th>n p k</th>
<th>S.E.</th>
<th>np</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. response of grain in lb./ac.</td>
<td>280</td>
<td>49</td>
<td>33</td>
<td>14.0</td>
<td>0</td>
<td>16</td>
<td>41</td>
<td>25</td>
</tr>
<tr>
<td>Control yield</td>
<td>=</td>
<td>848 lb./ac. and no. of trials</td>
<td>=</td>
<td>6.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unirrigated</th>
<th>Effect</th>
<th>n p k</th>
<th>S.E.</th>
<th>np</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. response of grain in lb./ac.</td>
<td>239</td>
<td>123</td>
<td>-8</td>
<td>33.7</td>
<td>16</td>
<td>-74</td>
<td>82</td>
<td>-16</td>
</tr>
<tr>
<td>Control yield</td>
<td>=</td>
<td>1036 lb./ac. and no. of trials</td>
<td>=</td>
<td>8.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

Crop :- Wheat (*Rabi*).

Centre :- Nadia (c.f.).

Object :- Type A—To study the response of Wheat 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) and (v) N.A. (vi) November, 1959. (vii) Unirrigated. (viii) and (ix) N.A. (x) April, 1960.

2. TREATMENTS to 4. GENERAL :
   Same as in expt. no. 59(SFT) on page 185 conducted in Birbhum.

5. RESULTS :

<table>
<thead>
<tr>
<th>Effect</th>
<th>n p k</th>
<th>S.E.</th>
<th>np</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. response of grain in lb./ac.</td>
<td>49</td>
<td>16</td>
<td>16</td>
<td>5.8</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Control yield</td>
<td>=</td>
<td>379 lb./ac. and no. of trials</td>
<td>=</td>
<td>12.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

Crop :- Wheat (*Rabi*).

Centre :- 24-Parganas (c.f.).

Object :- Type A—To study the response of Wheat 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) and (v) N.A. (vi) November, 1955. (vii) Irrigated. (viii) and (ix) N.A. (x) April, 1960.
2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 59(SFT) on page 185 conducted in Birbhum.

5. RESULTS:
   TREATMENTS:
   
<table>
<thead>
<tr>
<th>Effect</th>
<th>n</th>
<th>p</th>
<th>k</th>
<th>S.E.</th>
<th>np</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. response of grain in lb./ac.</td>
<td>255</td>
<td>49</td>
<td>33</td>
<td>14.8</td>
<td>0</td>
<td>0</td>
<td>25</td>
<td>-8</td>
<td>11.5</td>
</tr>
</tbody>
</table>
   
   Control yield = 42 lb./ac. and no. of trials = 7.

   **Crop := Wheat (Rabi).**
   **Centre := Birbhum (c.f.).**

   Ref := W.B. 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) Laterite and red.  
   (iii) Nil.  
   (iv) and (v) N.A.  
   (vi) November, 1959.  
   (vii) Irrigated.  
   (viii) and (ix) N.A.  
   (x) April, 1960.

2. TREATMENTS:
   0 = Control (no manure).
   \( n_1 = 20 \text{ lb./ac. of N as A/S.} \)
   \( n_2 = 40 \text{ lb./ac. of N as A/S.} \)
   \( n_1' = 20 \text{ lb./ac. of N as Urea.} \)
   \( n_2' = 40 \text{ lb./ac. of N as Urea.} \)
   \( n_1'' = 20 \text{ lb./ac. of N as C/A/N.} \)
   \( n_2'' = 40 \text{ lb./ac. of N as C/A/N.} \)

3. DESIGN:
   (i) and (ii) The district has been divided into four agriculturally homogeneous zones and one field assistant posted in each zone. The field assistant conducts the trials in one Revenue circle or thana in the zone and the circle/thana is changed once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year, 8 on kharif cereal, 8 on 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 the 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) N.A.  
   (b) 1/80 ac.  
   (iv) Yes.

4. GENERAL:
   (i) Good.  
   (ii) N.A.  
   (iii) Grain yield.  
   (iv) (a) 1958—contd.  
   (b) No.  
   (c) N.A.  
   (v) As per treatments.  
   (vi) and (vii) Nil.

5. RESULTS:
   Treatment:
   
<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>( n_1 )</th>
<th>( n_2 )</th>
<th>( n_1' )</th>
<th>( n_2' )</th>
<th>( n_1'' )</th>
<th>( n_2'' )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield of grain in lb./ac.</td>
<td>823</td>
<td>1004</td>
<td>1078</td>
<td>987</td>
<td>1127</td>
<td>938</td>
<td>1020</td>
</tr>
</tbody>
</table>
   
   G.M. = 997 lb./ac.; S.E/mean = 19.78 lb./ac. and no. of trials = 13.

   **Crop := Wheat (Rabi).**
   **Centre := Murshidabad (c.f.).**

   Ref := W.B. 58(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) Alluvial.  
   (iii) Nil.  
   (iv) and (v) N.A.  
   (vi) November.  
   (vii) Unirrigated.  
   (viii) and (ix) N.A.  
   (x) April, 1959.

2. **TREATMENTS:**
   0 = Control (no manure).  
   $n_1' = 20$ lb./ac. of N as Urea.  
   $n_2' = 40$ lb./ac. of N as Urea.  
   $n_3' = 20$ lb./ac. of N as A/S/N.  
   $n_4' = 40$ lb./ac. of N as A/S/N.  
   $n_5' = 20$ lb./ac. of N as C/A/N.  
   $n_6' = 40$ lb./ac. of N as C/A/N.

3. **DESIGN and 4. GENERAL:**
   Same as in exp. no. 59(SFT) on page 187 conducted at Birbhum.

5. **RESULTS:**

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$n_1'$</th>
<th>$n_2'$</th>
<th>$n_3'$</th>
<th>$n_4'$</th>
<th>$n_5'$</th>
<th>$n_6'$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irrigated</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Av. yield of grain in lb./ac.</td>
<td>1257</td>
<td>1358</td>
<td>1415</td>
<td>1514</td>
<td>1359</td>
<td>1481</td>
</tr>
<tr>
<td>G.M.</td>
<td>1431 lb./ac.</td>
<td>S.E./mean</td>
<td>12.80 lb./ac.</td>
<td>no. of trials</td>
<td>3.</td>
<td></td>
</tr>
<tr>
<td>Unirrigated</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Av. yield of grain in lb./ac.</td>
<td>1045</td>
<td>1119</td>
<td>1152</td>
<td>1119</td>
<td>1201</td>
<td></td>
</tr>
<tr>
<td>G.M.</td>
<td>1162 lb./ac.</td>
<td>S.E./mean</td>
<td>47.1 lb./ac.</td>
<td>no. of trials</td>
<td>7.</td>
<td></td>
</tr>
</tbody>
</table>

---

**Crop:** Wheat (*Rabi*).  
**Centre:** Murshidabad (c.f.).  
**Ref:** W.B. 59(SFT).  
**Type:** 'M'.

Object: To investigate the relative efficiency of different nitrogenous fertilizers at different doses.
Crop: Wheat (Rabi).  
Centre: Nadia (c.f.).  
Object: 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) and (v) N.A.  
   (vi) November, 1959.  
   (vii) Unirrigated.  
   (viii) to (ix) N.A.  
   (x) April, 1960.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 59(SFT) on page 187 conducted at Birbhum.

5. RESULTS:
   Treatment  
   0  $n_1$  $n_2$  $n_1'$  $n_2'$  $n_1''$  $n_2''$
   Av. yield of grain in lb./ac. 387 436 494 420 461 461 477
   G.M. = 448 lb./ac.; S.E./mean = 12.2 lb./ac. and no. of trials = 12.

Crop: Wheat (Rabi).  
Centre: 24-Parganas (c.f.).  
Object: 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) and (v) N.A.  
   (vi) November, 1959.  
   (vii) Irrigated.  
   (viii) and (ix) N.A.  
   (x) April, 1960.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 59(SFT) on page 187 conducted at Birbhum.

5. RESULTS:
   Treatment  
   0  $n_1$  $n_2$  $n_1'$  $n_2'$  $n_1''$  $n_2''$
   Av. yield of grain in lb./ac. 675 839 930 815 913 815 922
   G.M. = 844 lb./ac.; S.E./mean = 23.9 lb./ac. and no. of trials = 7.

Crop: Wheat (Rabi).  
Site: State Agri. Farm, Kalimpong.  
Object: To find out the best date of sowing of different varieties of Wheat.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  
   (ii) Sandy loam.  
   (b) N.A.  
   (iii) As per treatments.  
   (iv) and (v) N.A.  
   (vi) Ploughing and spading.  
   (vii) Line sowing.  
   (c) 20 srs./ac.  
   (d) 1' X 3".  
   (e) N.A.  
   (v) N.A.  
   (vi) As per treatments.  
   (vii) Irrigated.  
   (viii) Weeding and thinning.  
   (ix) N.A.  
   (x) 8.3.1957 to 8.5.1957.

2. TREATMENTS:
   All combinations of (1) and (2)
   (1) 2 varieties: V1 = N.P.-781 and V2 = N.P.-809.

3. DESIGN:
   (i) Fact. in R.B.D.  
   (ii) (a) 20.  
   (b) N.A.  
   (iii) 2.  
   (iv) (a) 6' X 6'.  
   (b) 4' X 5.5'.  
   (v) 1' X 1'.  
   (vi) Yes.
4. GENERAL:

(i) Good. (ii) N.A. (iii) Yield of grain. (iv) to (vi) N.A. (vii) Yield in the treatments D9 and D10 with V1 and V2 were very low, hence rejected for analysis.

5. RESULTS:

(i) 2488 lb./ac. (ii) 746.2 lb./ac. (iii) Main effect of D alone is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
<th>D5</th>
<th>D6</th>
<th>D7</th>
<th>D8</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>3655</td>
<td>3115</td>
<td>2309</td>
<td>1941</td>
<td>3276</td>
<td>2926</td>
<td>2538</td>
<td>2462</td>
<td>2903</td>
</tr>
<tr>
<td>V2</td>
<td>3324</td>
<td>3693</td>
<td>1219</td>
<td>2348</td>
<td>2386</td>
<td>2613</td>
<td>748</td>
<td>1013</td>
<td>2173</td>
</tr>
</tbody>
</table>

Mean:
- S.E. of V marginal mean = 186.5 lb./ac.
- S.E. of D marginal mean = 373.1 lb./ac.
- S.E. of body of table = 527.6 lb./ac.

---

Crop: Wheat (Rabi).  
Object: To find out the best method of sowing for Wheat.

1. BASAL CONDITIONS:

(i) Paddy—Wheat. (b) Paddy. (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Tollygunj. (iii) 26.11.1954. (iv) (a) Ploughing and laddering. (b) to (d) As per treatments. (e) N.A. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) Thinning and weeding. (ix) N.A. (x) 15 to 24.3.1955.

2. TREATMENTS:

All combinations of (1) and (2)

(1) 2 varieties of wheat: V1 = Gangajali and V2 = N.P.
(2) 2 methods of sowing: M1 = Broadcasting at 1 m.l./ac. and M2 = Line sowing by seed drill at 20 srs./ac. with 1' x 3' spacing.

3. DESIGN:

(i) Fact. in R.B.D. (ii) 4. (b) 70’ x 29’. (iii) 4. (iv) (a) 29’ x 16’. (b) 27’ x 14’. (v) 1’ x 1’. (vi) Yos.

4. GENERAL:

(i) Good. (ii) N.A. (iii) Yield of grain. (iv) (a) 1953—1957. (b) N.A. (c) N.A. (v) to (vii) Nil.

5. RESULTS:

(i) 1449 lb./ac. (ii) 295.0 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M1</th>
<th>M2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>1396</td>
<td>1467</td>
<td>1431</td>
</tr>
<tr>
<td>V2</td>
<td>1302</td>
<td>1632</td>
<td>1467</td>
</tr>
</tbody>
</table>

Mean:
- S.E. of any marginal mean = 104.3 lb./ac.
- S.E. of body of table = 147.5 lb./ac.
Crop: Wheat (Rabi).


Ref.: W.B. 55(87).

Object: To find out the best method of sowing for Wheat.

1. BASAL CONDITIONS:

(i) (a) to (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Tollygunj. (iii) 10.11.1955. (iv) (a) Ploughing and laddering. (b) to (d) As per treatments. (e) N.A. (v) Nil. (vi) As per treatments. (vii) Irrigated. (viii) 4 weedings and thinning. (ix) N.A. (x) 6 to 20.3.1956.

2. TREATMENTS:

Same as in exp. no. 54(65) on page 190.

3. DESIGN:

(i) R.B.D. (ii) (a) 22. (b) 32' x 26'. (iii) 4. (iv) (a) 26' x 13'. (b) 24' x 11'. (v) 1' x 1'. (vi) Yes.

4. GENERAL:

(i) Fair. (ii) N.A. (iii) Yield of grain. (iv) (a) 1955-1957. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:

(i) 795 lb./ac. (ii) 155.1 lb./ac. (iii) Main effect of V and interaction M x V are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>M1</th>
<th>M2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>820</td>
<td>789</td>
<td>804</td>
</tr>
<tr>
<td>V2</td>
<td>789</td>
<td>995</td>
<td>992</td>
</tr>
<tr>
<td>Mean</td>
<td>804</td>
<td>985</td>
<td>949</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean

= 54.8 lb./ac.

S.E. of body of table

= 77.5 lb./ac.
Crop :- Wheat (Rabi).  
Object :- To find out the best date of sowing of different varieties of Wheat.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Clay loam.  (b) R : fer soil analysis, Tollygunj.  (iii) As per treatments.  (iv) (a) Ploughing and spading.  (b) Line sowing by drill.  (c) 23 ins./ac.  (d) 1' x 1'.  (e) N.A.  (v) Nil.  (vi) As per treatments.  (vii) Unirrigated.  (viii) Weeding and thinning.  (ix) N.A.  (x) 15.3.1957 to 16.4.1957.

2. TREATMENTS:
   All combinations of (1) and (2)
   (i) 2 varieties of wheat : V₁ = Gangajali and V₂ = N.P. — 799.

3. DESIGN:
   (i) Fact. in R.B.D.  (ii) (a) 12.  (b) N.A.  (iii) 2.  (iv) (a) 10' x 18'.  (b) 8' x 16'.  (v) 1' x 1'.  (vi) Yes.

4. GENERAL:
   (i) Normal.  (ii) N.A.  (iii) Yield of grain.  (iv) (a) 195.  (b) No.  (c) Nil.  (v) to (vii) Nil.

5. RESULTS:
   (i) 670 lb./ac.  (ii) 245.0 lb./ac.  (iii) Main effects of V and D are highly significant.  (iv) Av. yield of grain in lb./ac.

Crop :- Barley (Rabi).  
Site :- State Agri. Farm, Malda.  
Object :- To study the effect of boron over a basal dressing of N and P on the yield of Barley.
1. **BASAL CONDITIONS:**
   (i) (a) to (c) Nil. (ii) (a) Clay loam. (b) Refer soil analysis, Malda. (iii) 18.12.1957. (iv) (a) 2 to 3 ploughings. (b) Line sowing. (c) to (e) N.A. (v) 30 lb./ac. of N as A'S and 25 lb./ac. of P₂O₅ as Super. (vi) Local. (vii) Unirrigated. (viii) Thinning and weeding. (ix) 4.45". (x) 9.4.1958.

2. **TREATMENTS:**
   5 levels of boron: B₀=0, B₁=5, B₂=10, B₃=20 and B₄=30 lb./ac. Boron applied on 17.1.1958.

3. **DESIGN:**
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 20'×16'. (v) N.A. (vi) Yes.

4. **GENERAL:**
   (i) Good. (ii) N.A. (iii) Yield of grain. (iv) (a) and (b) No. (c) Nil. (v) to (vii) Nil.

5. **RESULTS:**
   (i) 1445 lb./ac. (ii) 334.9 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>B₀</th>
<th>B₁</th>
<th>B₂</th>
<th>B₃</th>
<th>B₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1478</td>
<td>1330</td>
<td>1264</td>
<td>1531</td>
<td>1622</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>167.4 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**Crop:** Potato. **Ref:** W.B. 58(3).
**Site:** State Agri. Farm, Berhampore. **Type:** 'M'.

Object: To find out the optimum phosphate requirement for Potato.

1. **BASAL CONDITIONS:**
   (i) (a) Nil. (ii) Potato. (c) Nil. (d) (a) Sandy loam. (b) Refer soil analysis, Berhampore. (iii) N.A. (iv) (a) 4 ploughings and ladderings. (b) and (c) N.A. (d) 2'×9'. (e) N.A. (v) 80 lb./ac. of N+80 lb./ac. of K₂O. (vi) Darjeeling red round (medium). (vii) Irrigated. (viii) 2 earthing and 4 weedings. (ix) and (x) N.A.

2. **TREATMENTS:**
   5 levels of P₂O₅: P₀=0, P₁=40, P₂=80, P₃=120 and P₄=160 lb./ac.

3. **DESIGN:**
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) 30'×22'. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. **GENERAL:**
   (i) Satisfactory. (ii) Nil. (iii) Yield of tuber. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. **RESULTS:**
   (i) 7.80 tons./ac. (ii) 0.62 tons./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in tons./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>P₀</th>
<th>P₁</th>
<th>P₂</th>
<th>P₃</th>
<th>P₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>7.05</td>
<td>7.46</td>
<td>7.57</td>
<td>7.79</td>
<td>9.11</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>0.31 tons./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Crop:** Paddy. **Ref:** W.B. 59(11).
**Site:** State Agri. Farm, Berhampore. **Type:** 'M'.

Object: To find out the optimum phosphate requirement for Potato.
1. **BASAL CONDITIONS:**
   (i) (a) Nil. (b) Potato. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Berhampore. (iii) N.A. (iv) (a) 4 ploughings and ladderings. (b) to (e) N.A. (v) 80 lb./ac. of N + 80 lb./ac. of K₂O. (vi) Darjeeling red round (medium). (vii) Unirrigated. (viii) 2 earthings and 4 weedings. (ix) and (x) N.A.

2. **TREATMENTS to 4. GENERAL:**
   Same as in exp. no. 58(3) on page 193.

5. **RESULTS:**
   (i) 11.39 tons./ac. (ii) 1.19 tons./ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in tons./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>P₀</th>
<th>P₁</th>
<th>P₂</th>
<th>P₃</th>
<th>P₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>11.49</td>
<td>11.52</td>
<td>11.00</td>
<td>11.68</td>
<td>11.28</td>
</tr>
</tbody>
</table>

S.E./mean = 0.60 tons./ac.

---

**Crop:** Potato.  
**Site:** State Agri. Farm, Bhanjang.  
**Ref:** W.B. 56(18).  
**Type:** 'M'.

Object: To find out the most suitable dose of fertilizers for increasing the yield of Potato in the hills.

1. **BASAL CONDITIONS:**
   (i) (a) Nil. (b) Cabbage. (c) 100 mds./ac. of cow dung + 80 lb./ac. of N + 160 lb./ac. of P₂O₅ + 80 lb./ac. of K₂O.  
   (ii) (a) Brown forest soil. (b) Refer soil analysis, Bhanjang. (iii) 8.1.1956. (iv) (a) to (c) N.A. (d) 2'x9'. (e) N.A. (v) Nil. (vi) Darjeeling red round (early). (vii) Unirrigated. (viii) 2 earthings and 4 weedings. (ix) 54.73'. (x) 24.7.1956.

2. **TREATMENTS:**
   4 manurial treatments: M₀=Control, M₁=40 lb./ac. of N + 80 lb./ac. of P₂O₅ + 20 lb./ac. of K₂O, M₂=60 lb./ac. of N + 120 lb./ac. of P₂O₅ + 30 lb./ac. of K₂O, M₃=80 lb./ac. of N + 160 lb./ac. of P₂O₅ + 40 lb./ac. of K₂O and M₄=20 lb./ac. of N + 40 lb./ac. of P₂O₅ + 60 lb./ac. of K₂O.

N, P₂O₅ and K₂O applied as A/S. Super and Mur. Pot. respectively.

3. **DESIGN:**
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 6. (iv) (a) 30'x22'. (b) 27.75'x16'. (v) 12'x3'. (vi) Yes.

4. **GENERAL:**
   (i) Not satisfactory. (ii) About 60% plants affected with blight disease. Five sprayings were given with 4 lb. Perenox and 2 lb. of 50% water dispersible DDT per 100 gallons of water. (iii) Yield of tuber. (iv) (a) 1955—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. **RESULTS:**
   (i) 1.20 tons/ac. (ii) 0.37 tons/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M₀</th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
<th>M₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>0.43</td>
<td>1.26</td>
<td>1.37</td>
<td>1.76</td>
<td>1.17</td>
</tr>
</tbody>
</table>

S.E./mean = 0.15 tons/ac.

---

**Crop:** Potato.  
**Site:** State Agri. Farm, Bhanjang.  
**Ref:** W.B. 57(1).  
**Type:** 'M'.

Object: To find out the effect of application of lime on the yield of Potato.
1. BASAL CONDITIONS:
   (i) (a) N.A.  (b) Potato.  (c) N.A.  (ii) (a) Brown forest soil.  (b) Refer soil analysis, Bhanjang.  (iii) 30.11.1957.  (iv) (a) to (c) N.A.  (d) 2'x9'.  (e) N.A.  (v) N.A.  (vi) Darjeeling red round (medium).  (vii) Unirrigated.  (viii) 2 earthings and 4 weedings.  (ix) 98.40°.  (x) 7.10.1958.

2. TREATMENTS:
   5 levels of lime:  \( L_0 = 0, L_1 = 5, L_2 = 10, L_3 = 15 \) and \( L_4 = 20 \) mds/ac.
   Lime applied as broadcast on 30.11.1957.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 5.  (b) N.A.  (iii) 4.  (iv) (a) 30'x22'.  (b) 1/100 ac.  (v) N.A.  (vi) Yes.

4. GENERAL:
   (i) Moderate.  (ii) N.A.  (iii) Yield of tuber.  (iv) (a) to (c) N.A.  (v) to (vii) Nil.

5. RESULTS:
   (i) 2.10 tons/ac.  (ii) 0.20 tons/ac.  (iii) Treatment differences are highly significant.  (iv) Av. yield of tuber in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>( L_0 )</th>
<th>( L_1 )</th>
<th>( L_2 )</th>
<th>( L_3 )</th>
<th>( L_4 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1.69</td>
<td>2.45</td>
<td>2.05</td>
<td>2.02</td>
<td>2.31</td>
</tr>
<tr>
<td>S.E./mean  = 0.10 tons/ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Object: To find out the optimum requirement of potash level for Potato.

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Crop: Potato.  
Site: State Agri. Farm, Bhanjang. 

Ref: W.B. 58(4).
Type: 'M'.

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Crop: Potato.  
Site: State Agri. Farm, Bhanjang. 

Ref: W.B. 58(9).
Type: 'M'.

Object: To find out the optimum requirement of potash for the Potato crop in hills.
1. BASAL CONDITIONS:
(i) (a) Nil. (b) Potato. (c) Nil. (ii) (a) Brown forest soil. (b) Refer soil analysis, Bhanjang. (iii) N.A. 
(iv) (a) 4 ploughings and laderings. (b) and (c) N.A. (d) 9' × 2'. (e) N.A. (v) 80 lb./ac. of N+160 lb./ac. of P₂O₅. (vi) Ackertegen (medium). (vii) Unirrigated. (viii) 2 earthings and 4 weedings. (ix) 83 10'. (x) N.A.

2. TREATMENTS:
5 levels of K₂O: K₀=0, K₁=20, K₂=40, K₃=80 and K₄=160 lb./ac.

3. DESIGN:
(i) R.B.D. (ii) (a) 3. (b) 5. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 1/80 ac. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Fair. (ii) Nil. (iii) Yield of tuber. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 2.08 tons/ac. (ii) 1.12 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>K₀</th>
<th>K₁</th>
<th>K₂</th>
<th>K₃</th>
<th>K₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2.60</td>
<td>2.45</td>
<td>2.24</td>
<td>1.35</td>
<td>1.76</td>
</tr>
</tbody>
</table>

S.E./mean = 0.65 tons/ac.

Crop :- Potato. 
Site :- State Agri. Farm, Bhanjang. 

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

Object :- To find out the possibilities of G.M. on the potato crop in the hills with a view to increase the production.

1. BASAL CONDITIONS:
(i) a) Nil. (b) Potato. (c) Nil. (ii) (a) Hill and forest soil. (b) Refer soil analysis, Bhanjang. (iii) N.A. 
(iv) (a) 4 ploughings and laderings. (b) and (c) N.A. (d) 9' × 2'. (e) N.A. (v) Nil. (vi) Darjeeling red round (medium). (vii) 2 earthings and 4 weedings. (ix) 83.10'. (x) N.A.

2. TREATMENTS:
7 manurial treatments: M₀=Control (30 mds./ac. of mustard oil cake), M₁=G.M. (normal), M₂=G.M. with 4 weeks old plants, M₃=G.M. with 6 weeks old plants, M₄=M₂+40 lb./ac. of N+80 lb./ac. of P₂O₅+80 lb./ac. of K₂O, M₅=M₃+40 lb./ac. of N+80 lb./ac. of P₂O₅+80 lb./ac. of K₂O and M₆=100 mds./ac. of F.Y.M.+80 lb./ac. of N+80 lb./ac. of P₂O₅+80 lb./ac. of K₂O. 

Lupin was used as G.M. crop.

3. DESIGN:
(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Fair. (ii) Nil. (iii) Yield of tuber. (iv) (a) 1959—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 0.59 tons/ac. (ii) 0.50 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in tons/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>
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<tbody>
<tr>
<td>Av. yield</td>
<td>0.62</td>
<td>0.59</td>
<td>0.55</td>
<td>0.40</td>
<td>0.77</td>
<td>0.68</td>
<td>0.55</td>
</tr>
</tbody>
</table>

S.E./mean = 0.25 tons/ac.
Crop :- Potato. Site :- Seed Multiplication Farm, Burdwan.

Object :- To study the effect of N, P and K on the yield of Potato.

1. BASAL CONDITIONS:
   (i) (a) N.A. (b) Paddy. (c) 100 mds./ac. of compost. (ii) (a) Sandy loam. (b) Refer soil analysis, Burdwan. (iii) N.A. (iv) (a) 2 tractor ploughings followed by harrowing and 1 country ploughing followed by laddering. (b) to (e) N.A. (v) Nil. (vi) Medium. (vii) Irrigated. (viii) 2 earthings followed by top dressing. (ix) and (x) N.A.

2. TREATMENTS:
   All combinations of (1), (2) and (3)
   (1) 2 levels of N : \( N_0 = 0 \) and \( N_1 = 40 \) lb./ac.
   (2) 2 levels of \( P_2O_5 \) : \( P_0 = 0 \) and \( P_1 = 40 \) lb./ac.
   (3) 2 levels of \( K_2O \) : \( K_0 = 0 \) and \( K_1 = 40 \) lb./ac.

3. DESIGN:
   (i) 2\(^2\) balanced partial confd. (ii) [(a) 4 plots/block and 2 blocks/replication. (b) N.A. (iii) 4. (iv) (a) 42\(^\prime\) \times 22\(^\prime\). (b) 39\(^\prime\) \times 19\(^\prime\). (v) 1\(^\frac{1}{2}\) \times 1\(^\frac{1}{2}\). (vi) Yes.

4. GENERAL:
   (i) and (ii) N.A. (iii) Yield of tuber. (iv) (a) 1954—1956. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 3.96 tons/ac. (ii) 0.09 tons/ac. (iii) Main effects of N, K and interactions \( N \times K \) and \( P \times K \) are highly significant. Interaction \( N \times P \times K \) is significant. (iv) Av. yield of tuber in tons/ac.

<table>
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<tr>
<th></th>
<th>( P_0 )</th>
<th>( P_1 )</th>
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<td>3.97</td>
<td>3.96</td>
<td>3.75</td>
<td>4.16</td>
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S.E. of any marginal mean = 0.02 tons/ac.
S.E. of body of any table = 0.03 tons/ac.
5. RESULTS:
(i) 4.92 tons/ac. (ii) 0.61 tons/ac. (iii) Main effects of N and K are highly significant. (iv) Av. Yield of tuber in tons/ac.

<table>
<thead>
<tr>
<th></th>
<th>P₀</th>
<th>P₁</th>
<th>Mean</th>
<th></th>
<th>K₀</th>
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S.E. of any marginal mean = 0.15 tons/ac.
S.E. of body of any table = 0.22 tons/ac.

Crop : Potato (Rabi).
Site : State Agri. Farm, Burdwan.

Ref. : W.B. 57(43).
Type : 'M'.

Object : To study the effect of N, P and K alone and in combination on the yield of Potato.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (b) Clay loam. (c) Refer soil analysis, Burdwan. (ii) 2nd week of October, 1957.
(iv) (a) 5 to 6 ploughings. (b) Planting. (c) 15 to 18 mds./ac. (d) 2' x 9'. (e) 1. (v) 100 mds./ac. of cowdung. (vi) Red round (early). (vii) Unirrigated. (viii) 3 weedings and earthing. (ix) N.A. (x) Last week of March, 1958.

2. TREATMENTS:
All combinations of (1), (2) and (3)
(1) 3 levels of N as A/S : N₁ = 40, N₂ = 80 and N₃ = 120 lb./ac.
(2) 3 levels of P₂O₅ as Super : P₁ = 40, P₂ = 80 and P₃ = 120 lb./ac.
(3) 3 levels of K₂O as Mur. Pot. : K₁ = 40, K₂ = 80 and K₃ = 120 lb./ac.

3. DESIGN:
(i) 3² conf. Confounding NPK effect. (ii) (a) 9 plots/block ; 3 blocks/replication. (b) N.A. (iii) 2.
(iv) (a) 34' x 26'. (b) 32' x 24'. (v) 1' x 1'. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) N.A. (iii) Yield of tuber. (iv) (a) 1956—1960. (b) Yes. (c) N.A. (v) to (vii) Nil.

5. RESULTS:
(i) 3.14 tons/ac. (ii) 0.71 tons/ac. (iii) Main effect of P alone is significant. (iv) Av. yield of grain in tons/ac.

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<tr>
<th></th>
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<th>P₃</th>
<th>Mean</th>
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<tr>
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<td>3.14</td>
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<td>3.05</td>
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<td>3.96</td>
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</tbody>
</table>
Crop :- Potato (Rabi).

Site :- State Agri. Farm, Burdwan.

Object :- To study the effect of N, P and K on the yield of Potato.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Sandy loam.  (b) Refer soil analysis, Burdwan.  (iii) 23 and 24.11.1959.  (iv) (a) 2 ploughings and 2 ladderings.  (b) N.A.  (c) 15 to 18 mds./ac.  (d) 6"×24".  (e) R.K.M.  (vii) Irrigated.  (viii) 2 earthings.  (ix) N.A.  (x) 5 to 14.3.1960.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 57(43) on page 198.

4. GENERAL:
   (i) Good.  (ii) N.A.  (iii) Yield of tuber.  (iv) (a) 1956—1960.  (b) Yes.  (c) N.A.  (v) (a) Kalyani, Malda and Fulia.  (b) N.A.  (vi) and (vii) Nil.

5. RESULTS:
   (i) 2.86 tons/ac.  (ii) 1.13 tons/ac; (iii) None of the effects is significant.  (iv) Av. yield of tuber in tons/ac.

<table>
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<th></th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
<th>Mean</th>
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<th>K2</th>
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<tr>
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<td>3.07</td>
<td>3.74</td>
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</table>

S.E. of any marginal mean = 0.17 tons/ac.
S.E. of body of table = 0.29 tons/ac.

Crop :- Potato.

Site :- State Agri. Farm, Burdwan.

Object :- To study the effect of N, P and K on the yield of Potato.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Sandy loam.  (b) Refer soil analysis, Burdwan.  (iii) 23 and 24.11.1959.  (iv) (a) 2 ploughings and 2 ladderings.  (b) N.A.  (c) 15 to 18 mds./ac.  (d) 6"×24".  (e) N.A.  (v) Nil, (vi) R.K.M.  (vii) Irrigated.  (viii) 2 earthings.  (ix) 0.03".  (x) 5 to 14.3.1960.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 57(43) on page 198.
4. GENERAL:
(i) Fair. (ii) Nil. (iii) Yield of tubers. (iv) (a) 1957—contd. (b) No. (c) Nil. (v) (a) Kalyani. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 1.88 tons/ac. (ii) 0.27 tons/ac. (iii) Main effect of N and interaction N×P are highly significant. Main effect of P is significant. (iv) Av. yield of tuber in tons/ac.

<table>
<thead>
<tr>
<th></th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
<th>Mean</th>
<th>K1</th>
<th>K2</th>
<th>K3</th>
</tr>
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<td>1.62</td>
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</tr>
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</tr>
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<tr>
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S.E. of any marginal mean = 0.06 tons/ac.
S.E. of body of any table = 0.11 tons/ac.

Crop: Potato (Rabi).
Site: State Agri. Farm, Fulia.
Ref.: W.B. 57(26).
Type: 'M',

Object: To study the effect of N, P and K alone and in combination on the yield of Potato

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Fulia. (iii) 1st week of November, 1957. (iv) (a) 5 to 6 ploughings and 2 harrowings. (b) Sprouts placed in furrows 2' deep. (c) 15 to 18 mds./ac. (d) 2'×9'. (e) 1. (v) 100 mds./ac. of cowdung. (vi) Royal kidney (medium). (vii) Unirrigated. (viii) 3 eastings and 2 to 3 weedings. (ix) N.A. (x) 3rd week of March, 1958.

2. TREATMENTS:
All combinations of (1), (2) and (3)
(1) 3 levels of N as A/S: N0=0, N1=80 and N2=160 lb./ac.
(2) 3 levels of P2O5 as Super: P0=0, P1=40 and P2=80 lb./ac.
(3) 3 levels of K2O as Mur. Pot.: K0=0, K1=40 and K2=80 lb./ac.

3. DESIGN:
(i) 3² partially confd. (ii) (a) 9 plots/block; 3 blocks/replication. (b) N.A. (iii) 2. (iv) (a) 30'×22'. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) N.A. (iii) Yield of tuber. (iv) (a) 1957—contd. (b) N.A. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 6.15 tons/ac. (ii) 1.12 tons/ac. (iii) Main effects of N and P are highly significant. (iv) Av. yield of tuber in tons/ac.
Object:—To study the effect of N, P and K alone and in combination on the yield of Potato.

1. **BASAL CONDITIONS**:

   (i) (a) Nil. (b) Potato. (c) Nil. (ii) (a) Fine sandy loam. (b) Refer soil analysis, Fulia. (iii) Last week of November, 1958. (iv) (a) 1 ploughing and 4 harrowings accompanied by laddering. (b) Planted in rows. (c) 18 mds./ac. (d) 2'×9". (e) 1. (v) 0 mds./ac. of cowdung about a month before planting. (vi) Royal kidney (medium). (vii) Unirrigated. (viii) 2 earthings and 2 weedings. (ix) N.A. (x) Last week of March, 1959.

2. **TREATMENTS** and 3. **DESIGN**:

   Same as in expt. no. 57(26) on page 200.

4. **GENERAL**:

   (i) Normal. (ii) Nil. (iii) Yield of tuber. (iv) (a) 1957—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. **RESULTS**:

   (i) 5.90 tons/ac. (ii) 0.94 tons/ac. (iii) Main effect of N is highly significant and interaction N×K is significant. (iv) Av. yield of tuber in tons/ac.

<table>
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<th></th>
<th>$P_0$</th>
<th>$P_1$</th>
<th>$P_2$</th>
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Mean:

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<td>$K_2$</td>
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</table>

S.E. of any marginal mean = 0.22 tons/ac.
S.E. of body of any table = 0.38 tons/ac.
Crop :- Potato.  
Site :- State Agri. Farm, Fulia.  
Object :- To study the effect of N, P and K on the yield of Potato.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Potato. (c) Nil. (ii) (a) Fine sandy loam. (b) Refer soil analysis, Fulia. (iii) N.A. (iv) (a) 4 ploughings and ladderings. (b) and (c) N.A. (d) 9'×2'. (e) N.A. (v) Nil. (vi) Darjeeling Red round (medium). (vii) Unirrigated. (viii) 2 earthing and 4 weedings. (ix) and (x) N.A.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 57(26) on page 200.

4. GENERAL:
(i) Fair. (ii) Nil. (iii) Yield of tuber. (iv) (a) 1957—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 4.30 tons/ac. (ii) 0.45 tons/ac. (iii) Main effect of N and interaction N×P×K are highly significant. Interaction N×P is significant. (iv) Av. yield of tuber in tons/ac.

<table>
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<tr>
<th></th>
<th>P_0</th>
<th>P_1</th>
<th>P_2</th>
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<th>K_0</th>
<th>K_1</th>
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<td>3.44</td>
<td>3.09</td>
<td>3.27</td>
<td>3.97</td>
</tr>
<tr>
<td>N_1</td>
<td>4.89</td>
<td>5.39</td>
<td>5.13</td>
<td>5.14</td>
<td>4.69</td>
<td>5.99</td>
<td>4.73</td>
</tr>
<tr>
<td>N_2</td>
<td>4.63</td>
<td>4.71</td>
<td>3.60</td>
<td>4.31</td>
<td>4.22</td>
<td>4.19</td>
<td>4.53</td>
</tr>
<tr>
<td>Mean</td>
<td>4.18</td>
<td>4.37</td>
<td>4.34</td>
<td>4.30</td>
<td>4.00</td>
<td>4.48</td>
<td>4.41</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 0.11 tons/ac.
S.E. of body of any table = 0.18 tons/ac.

'Crop :- Potato (Rabi).  
Site :- State Agri. Farm, Kalyani.  
Object :- To study the effect of different sources of N on the yield of Potato.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Loam and sandy loam. (b) Refer soil analysis, Kalyani. (iii) 1st week of October, 1956. (iv) (a) 6 to 8 ploughings. (b) Planting. (c) 15 mds./ac. (d) 2'×9'. (e) 1. (v) 100 to 120 mds./ac. of cowdung. (vi) R.—29 (late). (vii) Irrigated. (viii) 4 weedings and interculture. (ix) N.A. (x) Last week of Feb., 1957.

2. TREATMENTS:
All combinations of (I) and 2 + control
(I) 2 sources of N : S_1=A/S and S_2=C/N.
(2) 2 levels of N : N_1=40 and N_2=80 lb./ac.

3. DESIGN:
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 34'×26'. (b) 32'×24'. (v) 1'×1'. (vi) Yes.

4. GENERAL:
(i) Good. (ii) N.L. (iii) Yield of tuber. (iv) (a) 1956—N.A. (b) Yes. (c) N.A. (v) (a) Malda. (d) N.A. (vi) and (vii) Nil.
5. RESULTS:
(i) 2.75 tons/ac.  (ii) 0.41 tons/ac.  (iii) Only 'control vs. others' is highly significant.  (iv) Av. yield of tuber in tons/ac.

\[ \text{Control} = 1.97 \text{ tons/ac.} \]

<table>
<thead>
<tr>
<th></th>
<th>S₁</th>
<th>S₂</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₁</td>
<td>2.93</td>
<td>2.80</td>
<td>2.86</td>
</tr>
<tr>
<td>N₂</td>
<td>3.11</td>
<td>2.95</td>
<td>3.03</td>
</tr>
<tr>
<td>Mean</td>
<td>3.02</td>
<td>2.88</td>
<td>2.95</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 0.13 tons/ac.
S.E. of body of table or control mean = 0.18 tons/ac.

**Crop:** Potato *(Rabi).*  
**Site:** State Agri. Farm, Kalyani.  
**Object:** To study the effect of N, P, and K on the yield of Potato.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A.  (ii) (a) Loam and sandy loam.  (b) Refer soil analysis, Kalyani.  (iii) 1st week of November, 1957.  (iv) (a) 7 to 8 ploughings and spadings.  (b) Planting.  (c) 15 to 18 mds./ac.  (d) 2' × 9".
(e) 1.  (v) 100 mds./ac. of cowdung and 40 lb./ac. of each of N, P, and K.  (vi) N.A.  (vii) Irrigated.  (viii) 2 weeding, 3 thinnings and 3 earthings; (ix) N.A.  (x) Last week of February, 1958.

2. TREATMENTS:
All combinations of (1), (2) and (3)
(1) 3 levels of N as A/S: N₁ = 40, N₂ = 80 and N₃ = 120 lb./ac.
(2) 3 levels of P as Super: P₁ = 40, P₂ = 80 and P₃ = 120 lb./ac.
(3) 3 levels of K₂O as Mur. Pot. K₁ = 40, K₂ = 80 and K₃ = 120 lb./ac.

3. DESIGN:
(i) 3³ confd.  (ii) 9 plots/block and 3 blocks/replication.  (b) N.A.  (iii) 1.  (iv) (a) 34' × 26'.  (b) 32' × 24'.  (v) 1' × 1'.  (vi) Yes.

4. GENERAL:
(i) Good.  (ii) N.A.  (iii) Yield of tuber.  (iv) (a) 1957—contd.  (b) Yes.  (c) N.A.  (v) (a) Malda, Fulia and Burdwan.  (b) N.A.  (vi) and (vii) Nil.

5. RESULTS:
(i) 4.87 tons/ac.  (ii) 0.48 tons/ac.  (iii) None of the effects is significant.  (iv) Av. yield of tuber in tons/ac.

<table>
<thead>
<tr>
<th></th>
<th>K₁</th>
<th>K₂</th>
<th>K₃</th>
<th>Mean</th>
<th>P₁</th>
<th>P₂</th>
<th>P₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₁</td>
<td>4.62</td>
<td>4.50</td>
<td>4.44</td>
<td>4.52</td>
<td>4.18</td>
<td>4.39</td>
<td>4.98</td>
</tr>
<tr>
<td>N₂</td>
<td>4.93</td>
<td>5.16</td>
<td>4.58</td>
<td>4.90</td>
<td>4.81</td>
<td>4.72</td>
<td>5.16</td>
</tr>
<tr>
<td>N₃</td>
<td>5.19</td>
<td>5.43</td>
<td>5.00</td>
<td>5.21</td>
<td>5.07</td>
<td>5.50</td>
<td>5.05</td>
</tr>
<tr>
<td>Mean</td>
<td>4.92</td>
<td>5.03</td>
<td>4.67</td>
<td>4.87</td>
<td>4.69</td>
<td>4.87</td>
<td>5.06</td>
</tr>
</tbody>
</table>
Crop :- Potato (Rabi).

**Ref :- W.B. 58(48).**

**Site :- State Agri. Farm, Kalyani.**

**Type :- 'M'.**

Object :- To study the effect of N, P and K alone and in combination on the yield of Potato.

1. **BASAL CONDITIONS :**
   (i) (a) to (c) N.A.  (ii) (a) Loam and sandy loam. (b) Refer soil analysis, Kalyani. (iii) 21 and 22.11.1958. (iv) (a) 6 to 7 ploughings. (b) Planting. (c) 15 mds/ac (d) 2'×9'. (e) 1. (v) N.A. (vi) Royal kidney (medium). (vii) Irrigated. (viii) 3 weedings and 3 earthing. (ix) N.A. (x) 5 and 6.3.1959.

2. **TREATMENTS:**
   Same as in expt. no. 57(52) on page 203.

3. **DESIGN :**
   (i) 3² confd. (ii) (a) 9 plots/block and 3 blocks/replication. (b) N.A. (iii) 2. (iv) (a) 32'×28'. (b) 30'×26'. (v) 1'×1'. (vi) Yes.

4. **GENERAL :**
   (i) Good. (ii) N.A. (iii) Yield of tuber. (iv) (a) 1957—1958. (b) Yes. (c) N.A. (v) N.A. (vi) Malda Fulia and Burdwan. (vii) and (vii) Nil.

5. **RESULTS :**
   (i) 6.47 tons/ac. (ii) 0.73 tons/ac. (iii) Interactions NP²K and NPK² are highly significant. Main effect of P is significant. (iv) Av. yield of tuber in tons/ac.

<table>
<thead>
<tr>
<th></th>
<th>P₁</th>
<th>P₂</th>
<th>P₃</th>
<th>Mean</th>
<th>K₁</th>
<th>K₂</th>
<th>K₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₁</td>
<td>6.26</td>
<td>5.63</td>
<td>7.04</td>
<td>6.31</td>
<td>5.83</td>
<td>6.72</td>
<td>6.39</td>
</tr>
<tr>
<td>N₂</td>
<td>6.84</td>
<td>6.67</td>
<td>6.52</td>
<td>6.68</td>
<td>6.89</td>
<td>6.16</td>
<td>6.98</td>
</tr>
<tr>
<td>K₁</td>
<td>5.91</td>
<td>5.90</td>
<td>7.25</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K₂</td>
<td>6.70</td>
<td>6.18</td>
<td>6.28</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K₃</td>
<td>6.41</td>
<td>6.56</td>
<td>7.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 0.17 tons/ac.
S.E. of body of any table = 0.30 tons/ac.

---

**Crop :- Potato.**

**Ref :- W.B. 58(2).**

**Site :- Jute Seed Multiplication Farm, Krishnagar.**

**Type :- 'M'.**

Object :- To find out whether G.M. is better than the normal cultivators practices for the cultivation of Tapioca and also to find out the optimum time for planting under G.M. crop.

1. **BASAL CONDITIONS :**
   (i) (a) Nil. (b) Potato. (c) Nil. (ii) (a) Alluvial. (b) Refer soil analysis, Krishnagar. (iii) N.A. (iv) (a) 4 ploughings and ladderings. (b) and (c) N.A. (d) 9'×2'. (e) N.A. (v) Nil. (vi) Darjeeling red round (medium). (vii) Irrigated. (viii) 2 earthing and 4 weedings. (ix) and (x) N.A.
2. TREATMENTS:

7 manurial treatments: 
M₀ = Control (30 mds./ac. of mustard oil cake), M₁ = G.M. (normal), M₂ = G.M. with 4 weeks old, M₃ = G.M. with 6 weeks old +4 lb./ac. of N +80 lb./ac. of P₂O₅ +80 lb./ac. of K₂O, M₄ = G.M. with 6 weeks old +40 lb./ac. of N +80 lb./ac. of P₂O₅ +80 lb./ac. of K₂O and M₅ = 100 mds./ac. of cowdung +80 lb./ac. of N +80 lb./ac. of P₂O₅ +80 lb./ac. of K₂O.

Dhanicha was used as G.M. crop.

3. DESIGN:

(i) R.B.D. (ii) 7. (b) N.A. (iii) 4. (iv) 1/100 ac. (v) N.A. (vi) Yes,

4. GENERAL:

(i) Satisfactory. (ii) Nil. (iii) Yield of tuber. (iv) 1958—cond. (b) Yes. (c) Nil. (v) (a) Maida. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 3.20 tons/ac. (ii) 0.60 tons/fac. (iii) Treatment differences are significant. (iv) Av. yield of tuber in tons/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>
<td>2.83</td>
<td>2.87</td>
<td>2.68</td>
<td>3.27</td>
<td>4.11</td>
<td>3.56</td>
<td>3.03</td>
</tr>
</tbody>
</table>

S.E./mean = 0.30 tons/ac.

---

Crop :- Potato.
Site :- Jute Seed Multiplication Farm, Krishnagar.
Type :- 'M'.

Object :- To find out whether G.M. is better than the normal cultivation practices for cultivation of Potato and to find out the optimum time for ploughing under G.M. crop.

1. BASAL CONDITIONS:

(i) (a) Nil. (b) Dhanicha. (c) Nil. (ii) (a) Loamy soil. (b) Refer soil analysis, Krishnagar. (iii) N.A. (iv) (a) 4 ploughings and ladderings. (b) to (e) N.A. (v) Nil. (vi) Darjeeling red round. (vii) Unirrigated. (viii) 2 earthings and 4 weedings. (ix) and (x) N.A.

2. TREATMENTS:

Same as in expt. no. 58(2) on page 204.

3. DESIGN:

(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) 30’×22’. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL:

(i) Good. (ii) Nil. (iii) Yield of tuber. (iv) 1958—cond. (b) Yes. (c) Nil. (v) (a) Maida. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 6.09 tons/ac. (ii) 0.50 tons/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in tons/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>
<td>7.13</td>
<td>5.29</td>
<td>4.19</td>
<td>5.55</td>
<td>7.13</td>
<td>7.24</td>
<td>6.10</td>
</tr>
</tbody>
</table>

S.E./mean = 0.45 tons/ac.

Ref :- W.B. 59(3).
Crop :- Potato.
Site :- State Agri. Farm, Malda.
Object :- Find out the most suitable manurial dose for Potato.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Paddy. (c) 30 mds/ac. of compost +20 lb./ac. of N as A/S + 20 lb./ac. of P, as Super.
   (ii) (a) Ganga riverine. (b) Refer soil analysis, Malda. (iii) 11 and 12.11.1955. (iv) (a) Nil. (b) Planted in rows. (c) N.A. (d) 2' x 9'. (e) N.A. (v) Nil. (vi) Up-to-date (late). (vii) Irrigated. (viii) 2 earthings and 3 weedings. (ix) N.A. (x) 11 and 12.3.1956.

2. TREATMENTS:
14 manurial treatments: M₀ = Control, M₁ = 80 lb./ac. of N, M₂ = M₁ + 40 lb./ac. of P₂O₅, M₃ = M₁ + 200 lb./ac. of P₂O₅, M₄ = M₁ + 60 lb./ac. of K₂O, M₅ = M₁ + 100 lb./ac. of K₂O, M₆ = M₁ + 160 lb./ac. of K₂O, M₇ = M₁ + 240 lb./ac. of K₂O, M₈ = M₁ + 40 lb./ac. of P₂O₅, M₉ = M₁ + 80 lb./ac. of P₂O₅ + 80 lb./ac. of K₂O, M₁₀ = M₁ + 140 lb./ac. of K₂O, M₁₁ = M₁ + 120 lb./ac. of K₂O, M₁₂ = M₁ + 200 lb./ac. of K₂O, M₁₃ = M₁ + 300 lb./ac. of K₂O.

₇N, P₂O₅ and K₂O were applied in the form of A/S, Super and Mur. Pot., respectively.

3. DESIGN:
   (i) R.B.D. (ii) (a) 14. (b) N.A. (iii) 4. (iv) (a) 30' x 22'. (b) 1/100 ac. (v) N.A. (vi) Yes. (vii) 4. (viii) (a) 18.11.1957.

4. GENERAL:
   (i) Good. (ii) The crop was very slightly infected with bacterial wilt. (iii) Yield of tuber. (iv) (a) 1955—1957. (b) Yes. (c) N.A. (v) Nil. (vi) Yes. (vii) Nil.

5. RESULTS:
   (i) 7.61 tons./ac. (ii) 1.4 tons./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in tons./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>
<td>4.03</td>
<td>7.93</td>
<td>7.23</td>
<td>7.63</td>
<td>6.45</td>
<td>8.47</td>
<td>6.25</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M₇</th>
<th>M₈</th>
<th>M₉</th>
<th>M₁₀</th>
<th>M₁₁</th>
<th>M₁₂</th>
<th>M₁₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>6.29</td>
<td>8.63</td>
<td>8.81</td>
<td>8.60</td>
<td>7.41</td>
<td>9.47</td>
<td>9.40</td>
</tr>
</tbody>
</table>

S E.,mean = 0.70 tons./ac.
5. RESULTS:
(i) 4.55 tons/ac. (ii) 0.96 tons/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$M_0$</th>
<th>$M_1$</th>
<th>$M_2$</th>
<th>$M_3$</th>
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<th>$M_5$</th>
<th>$M_6$</th>
<th>$M_7$</th>
<th>$M_8$</th>
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<th>$M_{10}$</th>
<th>$M_{11}$</th>
<th>$M_{12}$</th>
<th>$M_{13}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1.78</td>
<td>4.06</td>
<td>3.51</td>
<td>4.86</td>
<td>4.02</td>
<td>4.89</td>
<td>3.29</td>
<td>4.87</td>
<td>6.21</td>
<td>4.35</td>
<td>5.86</td>
<td>5.27</td>
<td>5.34</td>
<td>5.40</td>
</tr>
</tbody>
</table>

S.E./mean = 0.48 tons/ac.

Crop: Potato (Rabi).
Site: State Agri. Farm, Malda.
Ref.: W.B. 57(27).
Type: 'M'.

Object: To find out the most suitable dose of N, P and K for Potato.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Jute. (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Malda. (iii) Last week of October to middle of November, 1957. (iv) (a) 6 ploughings and harrowing. (b) Planting. (c) 15 to 18 mds/ac. (d) 2° x 9°. (e) 1. (v) 150 mds/ac. of cowdung. (vi) Royal kidney (late). (vii) Irrigated. (viii) 4 weedicings and 2 earthings. (ix) 0.68°. (x) Last week of February to middle of March, 1958.

2. TREATMENTS:
Same as in expt. no. 55(8) on page 206.

3. DESIGN:
(i) R.B.D. (ii) (a) 14. (b) N.A. (iii) 3. (iv) (a) 30° x 22°. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Fair. (ii) Nil. (iii) Yield of tuber. (iv) (a) 1955-1957. (b) Yes. (c) N.A. (v) (a) and (b) Nil. (vi) Crop effected due to drought. (vii) Nil.

5. RESULTS:
(i) 4.27 tons/ac. (ii) 0.69 tons/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</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>$M_7$</th>
<th>$M_8$</th>
<th>$M_9$</th>
<th>$M_{10}$</th>
<th>$M_{11}$</th>
<th>$M_{12}$</th>
<th>$M_{13}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>2.13</td>
<td>3.74</td>
<td>3.51</td>
<td>4.17</td>
<td>3.61</td>
<td>4.17</td>
<td>3.64</td>
<td>4.83</td>
<td>4.69</td>
<td>5.46</td>
<td>5.75</td>
<td>4.67</td>
<td>4.47</td>
<td>4.93</td>
</tr>
</tbody>
</table>

S.E./mean = 0.40 tons/ac.

Crop: Potato (Rabi).
Site: State Agri. Farm, Malda.
Ref.: W.B. 56(32).
Type: 'M'.

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

1. BASAL CONDITIONS:
(i) (a) to (c) Nil. (b) Loam and silty clay loam. (b) Refer soil analysis, Malda. (iii) Last week of October to 1st week of November, 1956. (iv) (a) 6 to 7 ploughings and spading. (b) Planting. (c) 15 to 17 mds/ac. (d) 2° x 6°. (e) 1. (v) 100 mds/ac. of cowdung. (vi) R-9 (late). (vii) Irrigated. (viii) 2 to 3 weedicings. (ix) 6.94°. (x) 18 to 21.3.1957.
2. TREATMENTS:
All combinations of (1) and (2) + a control
(1) 2 sources of N: \( S_1 = 1/5 \) and \( S_2 = \text{C/N} \).
(2) 2 levels of N: \( N_1 = 40 \) and \( N_2 = 80 \) lb./ac.

3. DESIGN:
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) \( 40' \times 18' \). (b) \( 35' \times 16' \). (v) \( 1' \times 1' \). (vi) Yes.

4. GENERAL:
(i) Good. (ii) N.A. (iii) Yield of tuber. (iv) (c) to (e) N.A. (v) (a) Kalyani. (b) N.A. (vi) d (vii) Nil.

5. RESULTS:
(i) 3.04 tons/ac. (ii) 0.71 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of tuber in tons/ac.

\[
\begin{array}{ccc}
\text{Source} & S_1 & S_2 & \text{Mean} \\
\hline
\text{N}_1 & 3.09 & 3.11 & 3.10 \\
\text{N}_2 & 2.95 & 2.90 & 2.92 \\
\hline
\text{Mean} & 3.02 & 3.00 & 3.01
\end{array}
\]

S.E. of any marginal mean = 0.22 tons/ac.
S.E. of body of table or control mean = 0.32 tons/ac.

Crop : Potato. 
Ref :- W.B. 58(1).

Site : State Agri. Farm, Malda. 
Type : 'M'.

Object:- To find out whether G.M. is better than the normal cultivator's practices for the cultivation of Potato and also to find out the optimum time for ploughing under G.M. crop.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Potato. (c) Nil. (ii) (a) Ganga river in flow. (b) Refer soil analysis, Malda. (iii) N.A. (iv) (a) 4 ploughings and ladders. (b) and (c) N.A. (d) \( 9' \times 2' \). (e) N.A. (f) Nil. (g) Darjeeling red round (medium). (h) Irrigated. (i) 2 earthings and 4 weedings. (ii) \( 84.20' \). (iii) Nil.

2. TREATMENTS:
7 manorial treatments: \( M_0 \) = Control (30 mds./ac. of mustard oil cake), \( M_1 \) = G.M. (normal), \( M_2 \) = G.M. with 4 weeks old, \( M_3 \) = G.M. with 6 weeks old, \( M_4 \) = G.M. with 4 weeks old + 40 lb/ac. of N + 80 lb/ac. of P + 60 lb/ac. of K, \( M_5 \) = G.M. with 6 weeks old + 40 lb/ac. of N + 80 lb/ac. of P + 60 lb/ac. of K and \( M_6 \) = 100 mds./ac. of cow dung + 80 lb/ac. of N + 80 lb/ac. of P + 80 lb/ac. of K.

Dhaischa was used as the G.M. crop.

3. DESIGN:
(i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 1/100 ac. (c) N.A. (d) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Yield of tuber. (iv) (a, 1955—contd. (b) Yes. (c) Nil. (d) (a) Krishnagar. (b) N.A. (c) and (d) Nil.

5. RESULTS:
(i) 3.94 tons/ac. (ii) 0.94 tons/ac. (iii) Treatment differences are significant. (iv) Av. yield of tuber in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</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>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>4.41</td>
<td>3.49</td>
<td>3.45</td>
<td>2.83</td>
<td>5.40</td>
<td>4.00</td>
<td>3.97</td>
</tr>
</tbody>
</table>

S.E./mean = 0.49 tons/ac.
Crop :- Potato.  
Site :- State Agri. Farm, Malda.  
Ref :- W.B. 59(18).  
Type :- 'M'.

Object :- To find out whether G.M. is better than the normal cultivation practices for cultivation of Potato and to find out the optimum time for ploughing under G.M. crop.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Dhaincha. (c) Nil.  
   (ii) (a) Clay loam. (b) Refer soil analysis, Malda.  
   (iii) N.A.  
   (iv) (a) 4 ploughings and laddering. (b) to (e) N.A.  
   (viii) 2 earthings and 4 weedings. (ix) 4.45'. (x) N.A.

2. TREATMENTS:
   Same as in expt. no. 58(1) on page 208.

3. DESIGN:
   (i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) 30'x22'. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) Nil. (iii) Yield of tuber. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) (a) Krishnagar. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 5.85 tons/ac. (ii) 1.37 tons/ac. (iii) Treatment differences are significant. (iv) Av. yield of tuber in tons/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>
<td>6.47</td>
<td>4.45</td>
<td>4.04</td>
<td>6.03</td>
<td>5.84</td>
<td>7.09</td>
<td>7.02</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>0.68 tons/ac,</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Potato.  
Site :- State Agri. Farm, Hathwara, Purulia.  
Ref :- W.B. 55(65).  
Type :- 'M'.

Object :- To test the effect of K on the yield of Potato.

1. BASAL CONDITIONS:
   (i) (a) Sugarcane—Paddy—Potato. (b) Paddy. (c) 89½ mds./ac. of F.Y.M.+100 lb./ac. of A/S+108 lb./ac. of Super.  
   (ii) (a) Sandy. (b) Refer soil analysis, Purulia. (iii) 21.11.1955. (iv) (a) 5 ploughings by desi plough. (b) N.A. (c) 6½ mds./ac. (d) 3'x97. (e) N.A. (f) Nil. (g) Darjeeling improved (late). (h) Irrigated.  
   (i) Hoeing and earthing. (ix) 3.59'. (x) 2.3.1956.

2. TREATMENTS:
   5 manurial treatments : M₀=Control, M₁=80 lb./ac. of N as A/S, M₂=M₁+80 lb./ac. of P₂O₅ as Super, M₃=M₁+80 lb./ac. of K₂O as Mur. Pot. and M₄=M₁+80 lb./ac. of P₂O₅ as Super+80 lb./ac. of K₂O as Mur. Pot.

3. DESIGN:
   (i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 4. (iv) (a) and (b) 52'x14'. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) Attack of aphids; spraying with perenox, soda and for the late blight, roseign. (iii) Yield of tuber, average height, no. of affected plants, no. of dead plants, no. of total plants and no. of tubers above 1" diameter. (iv) (a) to (c) No. (v) to (vii) Nil.

5. RESULTS:
   (i) 2.49 tons/ac. (ii) 0.35 tons/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M₀</th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
<th>M₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1.11</td>
<td>2.62</td>
<td>2.67</td>
<td>2.77</td>
<td>3.26</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>0.17 tons/ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop: Potato.  
Centre: Birbhum (c.f.).  
Object: Type A—To study the response of Potato to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) Laterite and red.  (iii) to (x) N.A.

2. TREATMENTS:

<table>
<thead>
<tr>
<th>Effect</th>
<th>( n )</th>
<th>( p )</th>
<th>( k )</th>
<th>S.E.</th>
<th>( np )</th>
<th>( nk )</th>
<th>( pk )</th>
<th>npk</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>50 lb./ac. of N as A/S.</td>
<td>25 lb./ac. of ( P_2O_5 ) as Super.</td>
<td>50 lb./ac. of ( K_2O ) as Mur. Pot.</td>
<td>50 lb./ac. of N as A/S + 25 lb./ac. of ( P_2O_5 ) as Super.</td>
<td>50 lb./ac. of N as A/S + 50 lb./ac. of ( K_2O ) as Mur. Pot.</td>
<td>25 lb./ac. of ( P_2O_5 ) as Super + 50 lb./ac. of ( K_2O ) as Mur. Pot.</td>
<td>50 lb./ac. of N as A/S + 25 lb./ac. of ( P_2O_5 ) as Super + 50 lb./ac. of ( K_2O ) as Mur. Pot.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. DESIGN:
   (i) and (ii) The district has been divided into four agriculturally homogeneous zones and one field assistant posted in each zone. The field assistant conducts the trials in one Revenue circle or thana in the zone and the circle/thana is changed once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year, 8 on kharif cereal, 8 on rabi cereal, 8 on cash crops, 4 on an oil seed 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) N.A.  (b) 1/80 ac.  (iv) Yes.

4. GENERAL:
   (i) Normal.  (ii) N.A.  (iii) Tuber yield.  (iv) (a) 1958—cond.  (b) No.  (c) Nil.  (v) As per treatments.  (vi) and (vii) N.A.

5. RESULTS:

<table>
<thead>
<tr>
<th>Effect</th>
<th>( n )</th>
<th>( p )</th>
<th>( k )</th>
<th>S.E.</th>
<th>( np )</th>
<th>( nk )</th>
<th>( pk )</th>
<th>npk</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.37</td>
<td>0.06</td>
<td>-0.61</td>
<td>0.006</td>
<td>0.56</td>
<td>0.24</td>
<td>0.46</td>
<td>0.47</td>
<td>0.004</td>
</tr>
</tbody>
</table>

Control yield = 3.52 tons/ac. and no. of trials = 6.

---

Crop: Potato.  
Centre: Burdwan (c.f.).  
Object: Type A—To study the response of Potato 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) above conducted in Birbhum.

5. RESULTS:

<table>
<thead>
<tr>
<th>Effect</th>
<th>( n )</th>
<th>( p )</th>
<th>( k )</th>
<th>S.E.</th>
<th>( np )</th>
<th>( nk )</th>
<th>( pk )</th>
<th>npk</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.24</td>
<td>0.35</td>
<td>0.30</td>
<td>0.116</td>
<td>-0.20</td>
<td>-0.04</td>
<td>0.04</td>
<td>0.30</td>
<td>0.162</td>
</tr>
</tbody>
</table>

No. of trials = 5.
**Crop:** Potato  
**Centre:** Howrah (c.f.)  
**Ref:** W.B. 59(SFT).  
**Type:** ‘M’

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

1. **BASAL CONDITIONS:**  
   (i) (a) to (c) N.A.  
   (ii) Alluvial.  
   (iii) to (x) N.A.

2. **TREATMENTS to 4. GENERAL:**  
   Same as in expt. no. 59(SFT) on page 210 conducted in Birbhum.

3. **RESULTS:**  
<table>
<thead>
<tr>
<th>Effect</th>
<th>n</th>
<th>p</th>
<th>k</th>
<th>S.E.</th>
<th>np</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. response of potato in tons/ac.</td>
<td>0.60</td>
<td>1.40</td>
<td>0.15</td>
<td>0.002</td>
<td>1.16</td>
<td>0.06</td>
<td>0.04</td>
<td>0.05</td>
<td>0.003</td>
</tr>
</tbody>
</table>

Control yield = 1.56 tons/ac. and no. of trials = 6.

---

**Crop:** Potato  
**Centre:** Midnapore (c.f.)  
**Ref:** W.B. 59(SFT).  
**Type:** ‘M’

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

1. **BASAL CONDITIONS:**  
   (i) (a) to (c) N.A.  
   (ii) Red and saline.  
   (iii) to (x) N.A.

2. **TREATMENTS to 4. GENERAL:**  
   Same as in expt. no. 59(SFT) on page 210 conducted at Birbhum.

3. **RESULTS:**  
<table>
<thead>
<tr>
<th>Effect</th>
<th>n</th>
<th>p</th>
<th>k</th>
<th>S.E.</th>
<th>np</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. response of potato in tons/ac.</td>
<td>0.74</td>
<td>0.50</td>
<td>0.53</td>
<td>0.004</td>
<td>0.12</td>
<td>0.08</td>
<td>0.03</td>
<td>0.06</td>
<td>0.003</td>
</tr>
</tbody>
</table>

Control yield = 3.66 tons/ac. and no. of trials = 9.

---

**Crop:** Potato  
**Centre:** Murshidabad (c.f.)  
**Ref:** W.B. 59(SFT).  
**Type:** ‘M’

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

1. **BASAL CONDITIONS:**  
   (i) (a) to (c) N.A.  
   (ii) Alluvial.  
   (iii) to (x) N.A.

2. **TREATMENTS to 4. GENERAL:**  
   Same as in expt. no. 59(SFT) on page 210 conducted at Birbhum.

3. **RESULTS:**  
<table>
<thead>
<tr>
<th>Effect</th>
<th>n</th>
<th>p</th>
<th>k</th>
<th>S.E.</th>
<th>np</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. response of potato in tons/ac.</td>
<td>0.51</td>
<td>0.14</td>
<td>0.20</td>
<td>0.006</td>
<td>0.06</td>
<td>0.00</td>
<td>0.03</td>
<td>0.18</td>
<td>0.004</td>
</tr>
</tbody>
</table>

Control yield = 2.89 tons/ac. and no. of trials = 7.
Crop: Potato.  
Centre: 24-Parganas.  
Object: Type A—To study the response of Potato to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS:
   (i) to (c) N.A.  (ii) Alluvial.  (iii) to (x) N.A.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 59(SFT) on page 210 conducted at Birbhum.

5. RESULTS:
   Effect n p k S.E. np nk pk npk S.E.
   Av. response of potato in tons/ac. 1.11 0.58 0.47 0.195 0.09 -0.09 -0.09 0.21 0.120
   Number of trials = 7.

Crop: Potato.  
Centre: 24-Parganas (c.f.).  
Object: Type A—To study the response of Potato to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS:
   (i) to (c) N.A.  (ii) Alluvial.  (iii) to (x) N.A.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 59(SFT) on page 210 conducted at Birbhum.

5. RESULTS:
   Effect n p k S.E. np nk pk npk S.E.
   Av. response of potato in tons/ac. 0.89 -0.04 0.37 0.007 -0.04 -0.18 -0.16 -0.16 0.008
   Control yield = 2.47 tons/ac. and no. of trials = 4.

Crop: Potato.  
Centre: Birbhum (c.f.).  
Object: Type B—To investigate the relative efficiencies of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) Laterite.  (iii) to (x) N.A.

2. TREATMENTS:
   0 = Control (no manure).
   n1 = 50 lb./ac. of N as A/S.
   n2 = 100 lb./ac. of N as A/S.
   n1' = 50 lb./ac. of N as Urea.
   n2' = 100 lb./ac. of N as Urea.
   n1'' = 50 lb./ac. of N as C/A/N.
   n2'' = 100 lb./ac. of N as C/A/N.
3. DESIGN:
(i) and (ii) The district has been divided into four agriculturally homogenous zones and one field assistant posted in each zone. The field assistant conducts the trials in one Revenue circle or thana in the zone and the circle/ thana is changed once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year, 8 on kharif cereal, 8 on 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) N.A. (b) 1/80 ac. (iv) Yes.

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

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>n1</th>
<th>n2</th>
<th>n1'</th>
<th>n2'</th>
<th>n1''</th>
<th>n2''</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield of potato in tons/ac.</td>
<td>3.02</td>
<td>3.90</td>
<td>3.96</td>
<td>4.74</td>
<td>4.26</td>
<td>3.60</td>
<td>3.68</td>
</tr>
<tr>
<td>G.M. = 3.88 tons/ac; S.E./mean = 0.011 tons/ac. and no. of trials = 6.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Potato. Centre :- Howrah (c.f.).
Ref :- W.B. 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) Alluvial. (iii) to (x) N.A.

2. TREATMENTS:
Same as in expt. no. 59(SFT) type B on page 212 conducted at Birbhum.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>n1</th>
<th>n2</th>
<th>n1'</th>
<th>n2'</th>
<th>n1''</th>
<th>n2''</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield of potato in tons/ac.</td>
<td>2.12</td>
<td>2.74</td>
<td>2.92</td>
<td>2.31</td>
<td>2.65</td>
<td>2.83</td>
<td>2.66</td>
</tr>
<tr>
<td>G.M. = 2.61 tons/ac. ; S.E./mean = 0.072 tons/ac. and no. of trials = 14.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Potato. Centre :- Midnapore (c.f.).
Ref :- W.B. 59(SFT). Type :- 'M'.
Object :- Type B—To investigate the relative efficiency of different nitrogenous fertilizers at different doses.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) Red. (iii) to (x) N.A.

2. TREATMENTS:
Same as in expt. no. 59(SFT) type B on page 212 conducted at Birbhum.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>n1</th>
<th>n2</th>
<th>n1'</th>
<th>n2'</th>
<th>n1''</th>
<th>n2''</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield of potato in tons/ac.</td>
<td>3.28</td>
<td>4.21</td>
<td>4.44</td>
<td>4.10</td>
<td>4.36</td>
<td>4.04</td>
<td>4.32</td>
</tr>
<tr>
<td>G.M. = 4.11 tons/ac. ; S.E./mean = 0.143 tons/ac. and no. of trials = 9.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop :- Potato.  
Centre :- Murshidabad (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) to (x) N.A.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 59(SFT) type B on page 212 conducted at Birbhum.

5. RESULTS:
   Treatment 0  \( n_1 \)  \( n_2 \)  \( n_1' \)  \( n_2' \)  \( n_1'' \)  \( n_2'' \)
   Av. yield of potato in tons/acre: 2.82 2.64 3.12 2.56 2.61 2.45 2.35
   G.M. = 2.65 tons/acre; S.E./mean = 0.091 tons/acre and no. of trials = 5.

Crop :- Potato.  
Centre :- 24-Parganas (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) to (x) N.A.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 59(SFT) type B on page 212 conducted in Birbhum.

5. RESULTS:
   Treatment 0  \( n_1 \)  \( n_2 \)  \( n_1' \)  \( n_2' \)  \( n_1'' \)  \( n_2'' \)
   Av. yield of potato in tons/acre: 2.70 3.44 3.96 3.42 3.48 3.42 3.57
   G.M. = 3.43 tons/acre; S.E./mean = 0.170 tons/acre and no. of trials = 5.

Crop :- Potato.  
Site :- State Agri. Farm, Berhampore.  
Object :- To study the effect of different sizes on the yield of tuber.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) G.M. (Sunnhemp).  (c) 30 lb./acre of \( P_2O_5 \) as Super.  (ii) (a) Sandy loam.  (b) Refer soil analysis, Berhampore.  (iii) 30.10.1956.  (iv) (a) 1 ploughing with tractor followed by 4 times harrowing and lauding.  (b) Planted in rows.  (c) 18 mds./acre.  (d) \( 12'' \times 9'' \).  (e) N.A.  (v) 100 mds./acre of cowdung applied a month before planting. 80 lb./acre of N+160 lb./acre of \( P_2O_5 \)+80 lb./acre of \( K_2O \).  \( \frac{1}{4} \) of the fertilizers are applied in trenches at the time of planting and other \( \frac{1}{4} \) after about a month at the time of 1st earthing.  (vi) Rangbul-9.  (vii) Irrigated.  (viii) 2 earlings and 1 weeding.  (ix) 3.42'.  (x) 24.2.1957.

2. TREATMENTS:
   3 sizes of tuber for planting: \( S_1 \) = Whole tuber, \( S_2 \) = Whole tuber cut into 2 pieces and \( S_3 \) = Whole tuber cut into 4 pieces.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 3.  (b) N.A.  (iii) 4.  (iv) 'a' 30' \times 20'.  (b) 1/100 acre.  (v) N.A.  (vi) Yes.

4. GENERAL:
   (i) Good.  (ii) (a) 3 sprayings with 4 lbs. of parathox and 2 lbs. of 50% water dispersible DDT per 100 gallons of water were given to control blight disease.  (iii) Yield of tuber.  (iv) (a) 1956—1957.  (b) Yes.  (c) Nil.  (v) to (vii) Nil.
5. RESULTS:

(i) 10.85 tons/ac.  (ii) 1.08 tons/ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of tuber in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S_1</th>
<th>S_2</th>
<th>S_3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>11.40</td>
<td>10.94</td>
<td>10.22</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>0.54 tons/ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**Crop:** Potato (*Rabi*).  
**Site:** State Agri. Farm, Berhampore.  
**Ref:** W.B. 57(28).  
**Type:** 'C'.

Object:—To study the effect of different sizes on the yield of the tuber.

1. BASAL CONDITIONS:

(i) (a) to (c) Nil.  (ii) (a) Clay loam.  (b) Refer soil analysis, Berhampore.  (iii) Last week of October, 1957.  (iv) (a) 4 ploughings and harrowing.  (b) Planting.  (c) 15 to 18 mds./ac.  (d) 2' X 9".  (e) 1.  (v) 100 mds./ac. of cowdung.  (vi) *Rungbull*—9 medium.  (vii) Last week of October, 1957.  (viii) 2 weedings and 2 earthing.  (ix) N.A.  (x) 1st week of February, 1958.

2. TREATMENTS and 3. DESIGN:

Same as in exp 56(11) on page 214.

4. GENERAL:

(i) Fair.  (ii) N.A.  (iii) Yield of tuber.  (iv) (a) 1956—1957.  (b) Yes.  (c) N.A.  (v) (a) and (b) N.A.  (vi) Slight drought.  (vii) Nil.

5. RESULTS:

(i) 5.74 tons/ac.  (ii) 0.60 tons/ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of tuber in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S_1</th>
<th>S_2</th>
<th>S_3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>6.06</td>
<td>5.86</td>
<td>5.30</td>
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<tr>
<td>S.E./mean</td>
<td>0.30 tons/ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**Crop:** Potato.  
**Site:** State Agri. Farm, Bhanjang.  
**Ref:** W.B. 56(14).  
**Type:** 'C'.

Object:—To study the effect of different sizes on the yield of the tuber.

1. BASAL CONDITIONS:

(i) (a) Potato—Potato.  (b) Potato.  (c) 100 mds./ac. of cowdung+80 lb./ac. of N as A/S+160 lb./ac. of P_2O_5 as Super+80 lb./ac. of K_2O as Mur. Pot.  (ii) (a) Brown forest soil.  (b) Refer soil analysis, Bhanjang.  (iii) 7.1.1956.  (iv) (a) 3 to 4 ploughings.  (b) to (d) N.A.  (e) 1.  (v) 100 mds./ac. of cowdung applied a month before planting.  (vi) Half of the fertilizer applied in trenches at the time of planting and other half 2 months later at the time of first earthing.  (vi) 20.7.1956.

2. TREATMENTS:

4 methods of planting : M_1=Ridge and furrow method, M_2=2 rows in 1 ridge, M_3=Dibbled in the ridge and M_4=Flat bed.

3. DESIGN:

(i) R.B.D.  (ii) 4.  (b) N.A.  (iii) 6.  (iv) (a) 30' X 22'.  (b) 27' X 16'.  (v) 3' X 3'.  (vi) Yes.
4. GENERAL:
(i) Not satisfactory. (ii) About 50% of plants were affected by blight disease. 5 sprays were given with 4 lbs. perenox and 2 lbs. of 50% water dispensible DDT per 100 gallons of water. (iii) Yield of tuber. (iv) (a) 1956—N.A. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 2.67 tons/ac. (ii) 0.29 tons/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
<th>M₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3.05</td>
<td>2.92</td>
<td>2.76</td>
<td>1.95</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>0.12 tons/ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Crop:** Potato.  
**Site:** State Agri. Farm, Bhanjang.  
**Object:** To study the effect of different methods of planting Potato.

1. BASAL CONDITIONS:
(i) (a) N.A. (b) Potato. (c) N.A. (ii) (a) Brown forest soil. (b) Refer soil analysis, Bhanjang. (iii) 11.12.1957. (iv) (a) to (c) N.A. (d) 2'×9'. (e) 1. (v) N.A. (vi) Darjeeling red round (medium). (vii) Unirrigated. (viii) 2 earthings and 4 weedings. (ix) 98.40'. (x) 3.11.1958.

2. TREATMENTS:
4 methods of planting: M₁=Ridge and furrows method (single row), M₂=Planting in flat bed (single row), M₃=2 rows in 1 ridge and M₄=3 rows in 1 ridge (3' to 4' high).

3. DESIGN:
(i) R B.D. (ii) (a) 4. (b) N.A. (iii) 5. (iv) (a) 30'×22'. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Very good. (ii) Nil. (iii) Yield of tuber. (iv) (a) N.A. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 3.30 tons/ac. (ii) 0.27 tons/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
<th>M₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3.64</td>
<td>2.42</td>
<td>3.55</td>
<td>3.59</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>0.12 tons/ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Crop:** Potato.  
**Site:** Jute Seed Multiplication Farm, Krishnagar.  
**Object:** To find out the suitable depth for planting Potato tubers.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) 2 tons/ac. of cowdung+30 lb./ac. of N as A/S. (ii) (a) Ganga riverine. (b) Refer soil analysis, Krishnagar. (iii) 14.11.1956. (iv) (a) 1 ploughing with tractor followed by harrowing and laddering 4 times. (b) Planted in rows. (c) 18 mds./ac. (d) 2'×9'. (e) N.A. (v) 100 mds./ac. of cowdung applied a month before planting. 80 lb./ac. of N+160 lb./ac. of P₂O₅+80 lb./ac. of K₂O. Half of the fertilizers were applied in trenches at the time of planting and other half after about a month later at the time of 1st earthing. (vi) Royal kidney. (vii) Irrigated. (viii) 2 earthings and 2 weedings. (ix) 3.21'. (x) 13.3.1957.
2. TREATMENTS:
All combinations of (1) and (2)
(1) 3 depths of planting tubers: \(D_1=2"\), \(D_2=4"\) and \(D_3=6"\).
(2) 2 heights for raising soil cover := \(H_0=0\) and \(H_1=2"\).

3. DESIGN:
(i) Fact. in R.B.D. (ii) 6. (b) N.A. (iii) 4. (iv) (a) \(30' \times 22'\). (b) \(27.75' \times 1.6'\). (v) \(1' \times 3'\). (vi) Yes.

4. GENERAL:
(i) Fair. (ii) About 2.5% of plants were affected by blight disease. Three sprayings with 4 lbs. of pencyx and 2 lbs. of 50% water dispensible DDT per 100 gallons of water. (iii) Yield of tuber. (iv) (a) 1956—1957 (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 8.25 tons/ac. (ii) 1.18 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of grain in tons/ac.

<table>
<thead>
<tr>
<th></th>
<th>(D_1)</th>
<th>(D_2)</th>
<th>(D_3)</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>(H_0)</td>
<td>7.87</td>
<td>7.92</td>
<td>7.37</td>
<td>7.72</td>
</tr>
<tr>
<td>(H_1)</td>
<td>8.33</td>
<td>8.99</td>
<td>9.04</td>
<td>8.79</td>
</tr>
<tr>
<td>Mean</td>
<td>8.10</td>
<td>8.46</td>
<td>8.20</td>
<td>8.25</td>
</tr>
</tbody>
</table>

- S.E. of \(H\) marginal means = 0.34 tons/ac.
- S.E. of \(D\) marginal means = 0.42 tons/ac.
- S.E. of body of table = 0.59 tons/ac.

Crop: Potato (Rabi).
Site: Jute Seed Multiplication Farm, Krishnagar.
Object: To find out the suitable depth for planting Potato tubers.

Ref: W.B. 57(29).
Type: \("C\).
Crop: Potato.
Site: State Agri. Farm, Bhanjang.

Object: To study the effect of spacing and seed size at different manurial levels on the yield of Potato.

1. Basal Conditions:
   - No. (a) Potato. (b) 100 mds./ac. of cowdung and 80 lb./ac. of N in the form of A/S, 160 lb./ac. of $P_2O_5$ in the form of Super and 80 lb./ac. of $K_2O$ in the form of Mur. Pot. (ii) Brown forest soil. (b) Refer soil analysis, Bhanjang. (iii) 15 to 17.1.1954. (iv) (a) to (c) N.A. (d) As per treatments. (e) N.A. (v) 100 mds./ac. of cowdung at the time of preparation of land (vi) Darjeeling red round (early). (vii) Unirrigated. (viii) 5 weedings and 2 earthing. Roging of virus infected plants was done twice. (ix) 123.5'. (x) 14 and 16.9.1954.

2. Treatments:
   - All combinations of (1), (2), (3) and (4)
     - (1) 3 inter-row distances: $R_1=18''$, $R_2=24''$ and $R_3=30''$.
     - (2) 9 inter-tuber distances: $P_1=6''$, $P_2=13''$, $P_3=20''$, $P_4=5''$, $P_5=10''$, $P_6=15''$, $P_7=4''$, $P_8=8''$ and $P_9=12''$.
     - (3) 3 tuber sizes: $T_1=\cdot$, $T_2=\cdot$, and $T_3=\cdot$.
     - (4) 3 manuria treatments: $M_1=40$ lb./ac. of N + 80 lb./ac. of $P_2O_5$ + 40 lb./ac. of $K_2O$, $M_2=60$ lb./ac. of N + 120 lb./ac. of $P_2O_5$ + 60 lb./ac. of $K_2O$ and $M_3=60$ lb./ac. of N + 160 lb./ac. of $P_2O_5$ + 80 lb./ac. of $K_2O$.

N, $P_2O_5$, and $K_2O$ were applied in the form of A/S, Super and Mur. Pot respectively.

3. Design:
   - (i) 9 x 3 confd. (ii) 9 plots, blocks and 9 blocks/replication. (b) N.A. (iii) 3. (iv) (a) $30'\times10'$. (b) 1/145.2 ac. (v) N/A. (vi) Yes.

4. General:
   - (i) Fair. (ii) The crop was found to be infected by blight disease and viruses. The crop was sprayed five times with a mixture of 4 lbs. of penenox and 2 lbs. of 50% water dispersible DDT in 100 gallons of water. (iii) Tuber yield. (iv) (a) 1954—contd. (b) Yes. (c) N/A. (v) (a) Burdwan and Krishnagar. (b) N/A. (vi) N/A. (vii) Two way tables are not available in the records.

5. Results:
   - (i) 3.59 tons/ac. (ii) 1.98 tons/ac. (iii) Main effect of T alone is highly significant. (iv) Av. yield of tuber in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$R_1$</th>
<th>$R_2$</th>
<th>$R_3$</th>
<th>$T_1$</th>
<th>$T_2$</th>
<th>$T_3$</th>
<th>$M_1$</th>
<th>$M_2$</th>
<th>$M_3$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3.60</td>
<td>3.61</td>
<td>3.56</td>
<td>2.39</td>
<td>3.74</td>
<td>4.64</td>
<td>3.85</td>
<td>3.36</td>
<td>3.55</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$P_1$</th>
<th>$P_2$</th>
<th>$P_3$</th>
<th>$P_4$</th>
<th>$P_5$</th>
<th>$P_6$</th>
<th>$P_7$</th>
<th>$P_8$</th>
<th>$P_9$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>4.34</td>
<td>3.56</td>
<td>2.85</td>
<td>4.09</td>
<td>3.09</td>
<td>3.67</td>
<td>4.58</td>
<td>3.16</td>
<td>2.93</td>
</tr>
</tbody>
</table>

S.E. of R, T or M marginal mean = 0.38 tons/ac.
S.E. of P marginal mean = 0.66 tons/ac.

---

Crop: Potato.
Site: State Agri. Farm, Bhanjang.

Object: To study the effect of spacing and seed size at different manurial levels on the yield of Potato.

Ref: W.B. 55(7).
Type: 'CM'.
1. BASAL CONDITIONS:

(i) (a) No. (b) Potato. (c) 100 mds./ac. of cowdung and 80 lb./ac. of N in the form of A/S, 160 lb./ac. of P_2O_5 in the form of Super and 80 lb./ac. of K_2O in the form of Mur. Pot. (ii) (a) Brown forest soil. (c) 100 mds./ac. of cowdung and 80 lb./ac. of N in the form of A/S, 160 lb./ac. of P_2O_5 in the form of Super and 80 lb./ac. of K_2O in the form of Mur. Pot.

2. TREATMENTS to 4. GENERAL:

Same as in expno. 54(1) on page 218.

5. RESULTS:

(i) 3.17 tons/ac. (ii) 0.43 tons/ac. (iii) Main effects of P, T and M are highly significant. (iv) Av. yield of tuber in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>R_1</th>
<th>R_2</th>
<th>R_3</th>
<th>T_1</th>
<th>T_2</th>
<th>T_3</th>
<th>M_1</th>
<th>M_2</th>
<th>M_3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3.24</td>
<td>3.17</td>
<td>3.10</td>
<td>2.68</td>
<td>3.28</td>
<td>3.54</td>
<td>2.82</td>
<td>3.30</td>
<td>3.38</td>
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<table>
<thead>
<tr>
<th>Treatment</th>
<th>P_1</th>
<th>P_2</th>
<th>P_3</th>
<th>P_4</th>
<th>P_5</th>
<th>P_6</th>
<th>P_7</th>
<th>P_8</th>
<th>P_9</th>
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</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3.62</td>
<td>3.16</td>
<td>2.93</td>
<td>3.76</td>
<td>3.05</td>
<td>3.70</td>
<td>3.29</td>
<td>3.45</td>
<td>2.56</td>
</tr>
</tbody>
</table>

S.E. of R, T or M marginal mean = 0.08 tons/ac.
S.E. of P marginal mean = 0.14 tons/ac.

Crop: Potato (Rabi).
Site: State Agri. Farm, Bhanjang.
Object: To study the effect of spacing and seed size at different manurial levels on the yield of Potato.

1. BASAL CONDITIONS:

(i) (a) to (c) N.A. (ii) (a) Loamy. (b) Refer soil analysis, Bhanjang. (iii) 1st week of December, 1957. (iv) (a) 6 to 8 ploughings and harrowing. (b) N.A. (c) 15 mds./ac. (d) As per treatments. (e) 2. (v) 100 mds. ac. of cowdung. (vi) Darjeeling (red-round early). (vii) Unirrigated. (viii) 3 weedings and 2 earthings. (ix) 114.3°. (x) 24 and 26.9.1955.

2. TREATMENTS:

Same as in expno. 54(1) on page 218.

3. DESIGN:

(i) 9 x 3^3 confd. (ii) (a) 9 plots/block : 9 blocks/replication. (b) N.A. (iii) 4. (iv) (a) N.A. (b) 30' x 20', (v) N.A. (vi) Yes.

4. GENERAL:

(i) Normal. (ii) N.A. (iii) Yield of tuber. (iv) (a) 1954—contd. (b) Yes. (c) N.A. (v) (a) Burdwan and Krishnagar. (b) Nil. (vi) Nil. (vii) Confounded effects and other two way tables are not available.

5. RESULTS:

(i) 5.19 tons/ac. (ii) 0.35 tons/ac. (iii) Main effects of M and T are highly significant and main effect of R is significant. (iv) Av. yield of tuber in tons/ac.

<table>
<thead>
<tr>
<th></th>
<th>M_1</th>
<th>M_2</th>
<th>M_3</th>
<th>Mean</th>
<th>R_1</th>
<th>R_2</th>
<th>R_3</th>
</tr>
</thead>
<tbody>
<tr>
<td>T_1</td>
<td>4.45</td>
<td>4.87</td>
<td>4.87</td>
<td>4.73</td>
<td>4.48</td>
<td>4.72</td>
<td>4.99</td>
</tr>
<tr>
<td>T_2</td>
<td>5.03</td>
<td>5.35</td>
<td>5.20</td>
<td>5.19</td>
<td>4.85</td>
<td>5.90</td>
<td>4.83</td>
</tr>
<tr>
<td>T_3</td>
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<td>Mean</td>
<td>4.74</td>
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<td>5.45</td>
<td>5.19</td>
<td>4.93</td>
<td>5.44</td>
<td>5.19</td>
</tr>
<tr>
<td>R_1</td>
<td>4.20</td>
<td>5.23</td>
<td>5.37</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>R_2</td>
<td>5.10</td>
<td>5.74</td>
<td>5.48</td>
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<tr>
<td>R_3</td>
<td>4.93</td>
<td>5.15</td>
<td>5.50</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
Crop :- Potato.
Site :- State Agri. Farm, Bardwan.

Object :- To study the effect of spacing and seed size at different manurial levels on the yield of Potato.

1. BASAL CONDITIONS :
(i) (a) No. (b) Jute. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Bardwan. (iii) 6 and 7.11.1954.
(iv) (a) to (c) N.A. (d) As per treatments. (e) N.A. (v) 100 mds/ac. of cowdung. (vi) Darjeeling red round (early). (vii) Irrigated. (viii) 4 weedings and 2 earthings. (ix) 1.18°. (x) 10 and 11.3.1955.

2. TREATMENTS and 3. DESIGN :
Same as in expt. no. 54(1) on page 218.

N was applied in the form of A/S, P2O5 in the form of Super, K2O in the form of Mur. Pot. \[ \text{of fertilizer mixture applied at the time of planting in trenches and at the time of first earthing up.} \]

4. GENERAL :
(i) Good. (ii) The crop was infected by mosaic. Sprayed four times during the season with a mixture of 5 lb. of perenox and 2 lbs. of 50% water soluble DDT in 100 gallons water. (iii) Yield of tubers. (iv) (a) 1953—1955. (b) Yes. (c) Nil. (v) (a) Krishnagar and Bhanjang. (b) Nil. (vi) and (vii) Nil.

5. RESULTS :
(i) 6 16 tons/ac. (ii) 0.81 tons/ac. (iii) Mean effects of T, M and P are significant. (iv) Av. yield of tuber in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>R1</th>
<th>R2</th>
<th>R3</th>
<th>R4</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>6.34</td>
<td>6.12</td>
<td>6.02</td>
<td>5.76</td>
<td>6.34</td>
<td>6.39</td>
<td>5.87</td>
<td>6.10</td>
<td>6.52</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Treatment</th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
<th>P4</th>
<th>P5</th>
<th>P6</th>
<th>P7</th>
<th>P8</th>
<th>P9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>6.41</td>
<td>6.38</td>
<td>6.24</td>
<td>6.95</td>
<td>5.77</td>
<td>6.65</td>
<td>6.50</td>
<td>5.85</td>
<td>5.70</td>
</tr>
</tbody>
</table>

S.E. of R, T or M marginal mean = 0.16 tons/ac.
S.E. of P marginal mean = 0.27 tons/ac.

Crop :- Potato.
Site :- State Agri. Farm, Bardwan.

Object :- To study the effect of spacing and seed size at different manurial levels on the yield of Potato.

1. BASAL CONDITIONS :
(i) (a) No. (b) Jute. (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Bardwan. (iii) 27 and 28.11.1955. (iv) (a) to (c) N.A. (d) As per treatments. (e) N.A. (v) 103 mds/ac. of cowdung. (vi) Darjeeling red round (early). (vii) Irrigated. (viii) 3 weedings and 2 earthings. (ix) N.A. (x) 20 and 21.3.1956.

2. TREATMENTS and 3. DESIGN :
Same as in expt. no. 54(1) on page 218.

4. GENERAL :
(i) Fair. (ii) The crop was slightly infected with virus, sprayed three times during the season with a mixture of 3 lbs. of perenox and 2 lbs. of 50% water soluble DDT in 100 gallons of water. (iii) Yield of tubers. (iv) (a) 1953—1955. (b) Yes. (c) Nil. (v) (a) Krishnagar and Bhanjang. (b) Nil. (vi) and (vii) Nil.
5. RESULTS:

(i) 4.95 tons/ac. (ii) 0.36 tons/ac. (iii) Main effects of M and P are significant. Interaction M × T is highly significant. (iv) Av. yield of tuber in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>R₁</th>
<th>R₂</th>
<th>R₃</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>4.98</td>
<td>4.92</td>
<td>4.94</td>
<td>5.00</td>
<td>4.87</td>
<td>4.98</td>
<td>4.90</td>
<td>4.85</td>
<td>5.10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Treatment</th>
<th>P₁</th>
<th>P₂</th>
<th>P₃</th>
<th>P₄</th>
<th>P₅</th>
<th>P₆</th>
<th>P₇</th>
<th>P₈</th>
<th>P₉</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>4.81</td>
<td>5.07</td>
<td>5.08</td>
<td>4.85</td>
<td>4.80</td>
<td>5.06</td>
<td>5.38</td>
<td>4.60</td>
<td>4.88</td>
</tr>
</tbody>
</table>

S.E. of R, T or M marginal mean = 0.07 tons/ac.  
S.E. of P marginal mean = 0.12 tons/ac.

Crop :- Potato.  
Site :- Jute Seed Multiplication Farm, Krishnagar.  
Ref :- W.B. 54(3).  
Type :- ‘CM’.

Object :- To study the effect of spacing and seed size at different manurial levels on the yield of Potato.

1. BASAL CONDITIONS:

(i) (a) No. (b) Jute followed by kalai. (c) N.A. (ii) (a) New alluvium. (b) Refer soil analysis, Krishnagar. (iii) 1 and 2.12.1954. (iv) (a) to (c) N.A. (d) As per treatments. (e) N.A.  
(v) 100 mds./ac. of cowdung at the time of preparation of land. (vi) Royal kidney (medium). (vii) Irrigated. (viii) 3 weedings and 2 earings. (ix) N.A. (x) 24 to 26.3.1954.

2. TREATMENTS and 3. DESIGN:

Same as in expt. no. 54(1) on page 218.

4. GENERAL:

(i) Fair. (ii) The crop was sprayed three times during the season with a mixture of 3 lbs. of penenox dan 2 lbs. of 50% water soluble DDT in 100 gallons of water. (iii) Yield of tubers. (iv) (a) 1954-1955. (b) Yes. (c) Nil. (v) (a) Burdwan and Bhanjang. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:

(i) 6.12 tons/ac. (ii) 4.04 tons/ac. (iii) None of the effects is significant. (iv) Av. yield of tuber in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>R₁</th>
<th>R₂</th>
<th>R₃</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>6.31</td>
<td>6.06</td>
<td>5.99</td>
<td>5.70</td>
<td>6.10</td>
<td>6.57</td>
<td>5.71</td>
<td>6.07</td>
<td>6.58</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Treatment</th>
<th>P₁</th>
<th>P₂</th>
<th>P₃</th>
<th>P₄</th>
<th>P₅</th>
<th>P₆</th>
<th>P₇</th>
<th>P₈</th>
<th>P₉</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>7.41</td>
<td>5.91</td>
<td>5.60</td>
<td>6.99</td>
<td>6.26</td>
<td>4.95</td>
<td>6.83</td>
<td>6.22</td>
<td>4.90</td>
</tr>
</tbody>
</table>

S.E. of R, T or M marginal mean = 0.78 tons/ac.  
S.E. of P marginal mean = 1.35 tons/ac.

Crop :- Potato.  
Site :- Jute Seed Multiplication Farm, Krishnagar.  
Ref :- W.B. 55(7).  
Type :- ‘CM’.

Object :- To study the effect of spacing and seed size at different manurial levels on the yield of Potato.

1. BASAL CONDITIONS:

(i) (a) No. (b) Paddy followed by kalai. (c) 40 mds./ac. of compost+20 lb./ac. of N as A/S+20 lb./ac. of P₂O₅ as Super. (ii) (a) New alluvium. (b) Refer soil analysis, Krishnagar. (iii) 28 and 29.11.1955. (iv) (a) to (c) N.A. (d) As per treatments. (e) N.A.  
(v) 100 mds./ac. of cowdung at the time of preparation of land. (vi) Royal kidney (medium). (vii) Irrigated. (viii) 3 weedings and 2 earings. (ix) N.A. (x) 24 and 25.3.1956.
2. TREATMENTS and 3. DESIGN:
   Same as in exp. no. 54(1) on page 218.

4. GENERAL:
   (i) Fair. (ii) The crop was sprayed twice during the season with a mixture of 3 lbs. of perenox and 2 lbs. of 50% water soluble DDT in 100 gallons of water. (iii) Yield of tuber. (iv) (a) 1954–1955. (b) Yes. (c) Nil. (v) (a) Burdwan and Bhanjang. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 4.73 tons/ac.  (ii) 1.64 tons/ac.  (iii) None of the effects is significant.  (iv) Av. yield of tuber in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>R₁</th>
<th>R₂</th>
<th>R₃</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>M₁</th>
<th>M₂</th>
<th>M₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>4.63</td>
<td>4.68</td>
<td>4.88</td>
<td>4.57</td>
<td>4.83</td>
<td>4.79</td>
<td>4.62</td>
<td>4.95</td>
<td>4.61</td>
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</table>

<table>
<thead>
<tr>
<th>Treatment</th>
<th>P₁</th>
<th>P₂</th>
<th>P₃</th>
<th>P₄</th>
<th>P₅</th>
<th>P₆</th>
<th>P₇</th>
<th>P₈</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>4.21</td>
<td>4.43</td>
<td>5.25</td>
<td>5.23</td>
<td>3.89</td>
<td>4.92</td>
<td>5.13</td>
<td>4.43</td>
</tr>
</tbody>
</table>

S.E. of R, T or M marginal mean = 0.32 tons/ac.
S.E. of P marginal mean = 0.55 tons/ac.

---

Crop :- Potato.  
Site :- State Agri. Farm, Kalyani.  
Object :- To study the effect of different doses of irrigations in combination with different doses of N on the yield of potato.

1. BASAL CONDITIONS:
   (i) (a) Nil.  (b) Potato.  (c) Nil.  (d) Loam and sandy loam.  (b) Refer soil analysis, Kalyani.  (iii) N.A.  (iv) (a) 4 ploughings and ploughings.  (b) and (c) N.A.  (d) 9 x 2'.  (e) N.A.  (v) Nil.  (vi) Darjeeling red round medium.  (vi) Irrig.  (vii) 2 earthings and 4 weedings.  (ix) and (x) N.A.

2. TREATMENTS:
   All combinations of (1) and (2):  
   (i) 3 times of irrigation at 2" depth: T₁ = 4, T₂ = 8 and T₃ = 12 times.  
   (2) 2 manual treatments: M₁ = 80 lb/ac. of N + 160 lb/ac. of P₂O₅ + 80 lb/ac. of K₂O and M₂ = 160 lb/ac. of N + 160 lb/ac. of P₂O₅ + 80 lb/ac. of K₂O.

3. DESIGN:
   (i) Fact. in R.B.D.  (ii) (a) 6.  (b) N.A.  (iii) 4.  (iv) (a) 40'6" x 45'6".  (b) 1/27.82 ac.  (v) N.A.  (vi) Yes.

4. GENERAL:
   (i) Fair.  (ii) Nil.  (iii) Yield of tuber.  (iv) (a) 1959–contd.  (b) Yes.  (c) Nil.  (v) to (vii) Nil.

5. RESULTS:
   (i) 6.38 tons/ac.  (ii) 1.18 tons/ac.  (iii) Main effect of T alone is highly significant.  (iv) Av. yield of tuber in tons/ac.

<table>
<thead>
<tr>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>M₁</td>
<td>6.92</td>
<td>6.72</td>
<td>4.83</td>
</tr>
<tr>
<td>M₂</td>
<td>7.96</td>
<td>6.20</td>
<td>5.66</td>
</tr>
<tr>
<td>Mean</td>
<td>7.44</td>
<td>6.46</td>
<td>5.24</td>
</tr>
</tbody>
</table>

S.E. of M marginal mean = 0.34 tons/ac.
S.E. of T marginal mean = 0.42 tons/ac.
S.E. of body of table = 0.59 tons/ac.

---
Crop: Potato (Rabi).

Site: State Agri. Farm, Bhanjang.

Object: To study whether application of artificial hormones to soil can increase the yield of Potato.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Potato. (c) 100 mds./ac. of cowdung+80 lb./ac. of N as A/S+160 lb./ac. of P₂O₅ as Super+80 lb./ac. of K₂O as Mur. Pot. (ii) (a) Brown forest soil. (b) Refer soil analysis, Bhanjang. (iii) 10.1.1955.
   (iv) (a) N.A. (b) Planted in rows at a depth of 2' to 3' below the soil. (c) 15 to 18 mds./ac. (d) 2'×9". (e) 1. 100 mds./ac. of cowdung at the time of land preparation. (f) 80 lb./ac. of N as A/S+160 lb./ac. of P₂O₅ as Super+80 lb./ac. of K₂O as Mur. Pot. applied in trench at the time of planting and 40 lb./ac. of N at the time of earthing up. (v) Darjeeling red round (early). (vi) Unirrigated. (vii) 4 weedings and 2 earthings. (ix) 54.73". (x) 16.9.1955.

2. TREATMENTS:
   3 artificial hormones: H₀=Control, H₁=Hortomene A [sprouted tuber were soaked in solution of hortomone A of strength 2 c.c. in 1 pint of water] and H₂=Serndex A [A second dose of hormone was applied at the base of the plant when just coming out of the soil].

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 4. (iv) (a) 30'×22'. (b) 1/100 ac. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Fair. (ii) The crop was found to be infected with blight disease and increase with slight extent. A mixture of 4 lbs. of perenox and 2 lbs. of 50% water soluble DDT in 100 gallons of water sprayed 4 times. (iii) Yield of tuber. (iv) (a) 1954—1957. (b) Yes. (c) N.A. (v) (a) Midnapore. (b) N.A. (vi) Hail storm in the month of April, 1955. (vii) The crop was damaged due to hail storm.

5. RESULTS:
   (i) 0.71 tons/ac. (ii) 0.08 tons/ac. (iii) Treatment differences are highly significant. (iv) Av. yield of tuber in tons/ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>H₀</th>
<th>H₁</th>
<th>H₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>0.55</td>
<td>0.81</td>
<td>0.78</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>0.04 tons/ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop: Potato.

Site: State Agri. Farm, Bhanjang.

Object: To find out whether yield of Potato can be increased by application of artificial hormones.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Potato. (c) 100 mds./ac. of cowdung+80 lb./ac. of N as A/S+160 lb./ac. of P₂O₅+80 lb./ac. of K₂O. (ii) (a) Brown forest soil. (b) Refer soil analysis, Bhanjang. (iii) 3.1.1956. (iv) (a) N.A. (b) Planted in rows. (c) N.A. (d) 2'×9". (e) N.A. (v) 100 mds./ac. of cowdung applied a month before planting. 10 lb./ac. of N+160 lb./ac. of P₂O₅+80 lb./ac. of K₂O. Half of the fertilizer was applied at the time of planting and other half at the time of ploughing (in trenches). (vi) Darjeeling red round (early). (vii) Unirrigated. (viii) 2 earthings and 4 weedings. (ix) 54.73". (x) 18.7.1956.

2. TREATMENTS:
   Same as in exp. no. 55(71) above.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 4. (iv) (a) 30'×22'. (b) 27.75'×16'. (v) 1'×3'. (vi) Yes.

4. GENERAL:
   (i) Not satisfactory. (ii) Infected with blight disease. 5 sprays with 4 lbs. perenox and 2 lbs. of 50% water soluble DDT per 100 gallons of water. (iii) Yield of tuber. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) (a) Midnapore. (b) Nil. (vi) and (vii) Nil.
5. RESULTS:
  (i) 1.37 tons/acre. (ii) 0.46 tons/acre. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in tons/acre.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>H₂</th>
<th>H₁</th>
<th>H₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1.22</td>
<td>1.36</td>
<td>1.53</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>0.23 tons/acre</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop: Potato (Rabi).
Site: State Agri. Farm, Bhanjang.
Object: To study whether application of artificial hormone to soil can increase the yield of Potato.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) and (c) N.A. (ii) (a) Brown forest soil. (b) Refer soil analysis, Bhanjang. (iii) 1st week of January, 1957. (iv) (a) and (b) N.A. (c) 15 to 18 mds./acre. (d) 2' x 9". (e) 1. (v) 100 mds./acre of cowdung. (vi) Red round (early). (vii) Unirrigated. (viii) 3 weedings and 3 earthings. (ix) N.A. (x) Last week of July, 1957.

2. TREATMENTS and 3. DESIGN:
   Same as in exp. no. 55(71) on page 223.

4. GENERAL:
   (i) Fair. (ii) N.A. (iii) Yield of tuber. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) (a) Midnapore. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 4.04 tons/acre. (ii) 0.69 tons/acre. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in tons/acre.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>H₂</th>
<th>H₁</th>
<th>H₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>3.44</td>
<td>4.05</td>
<td>4.64</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>0.34 tons/acre</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop: Potato.
Site: State Agri. Farm, Bhanjang.
Object: To find out the most effective fungicide, its dosage and interval of spraying for the control of blight disease of Potato.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Potato. (c) 100 mds./acre of cowdung + 80 lb./acre of N as A/S + 160 lb./acre of P₂O₅ as Super + 80 lb./ acre of K₂O as Mur. Pot. (ii) (a) Brown forest soil. (b) Refer soil analysis, Bhanjang. (iii) 9 to 11.1.1955. (iv) (a) to (c) N.A. (d) 2' x 9". (e) N.A. (v) 100 mds./acre of cowdung at the time of land preparation. 40 lb./acre of N as A/S + 160 lb./acre of P₂O₅ as Super + 80 lb./acre of K₂O as Mur. Pot. in man.ches at the time of planting and 40 lb./acre of N at the time of first earthir g up. (vi) Darjeeling red round (early). (vii) Unirrigated. (viii) 4 weedings and 2 earthings. Roguing of virus affected plants was done twice. (ix) 123 5°. (x) 12 to 14.9.1555.

2. TREATMENTS:
   All combinations of (1) and (2)+a control
   (1) 5 fungicides: F₁ = Perenoxy, F₂ = Dithane Z-78, F₃ = Copper sandoz, F₄ = Coppesan and F₅ = Blitox.
   (2) 5 concentrations of fungicides: C₁ = 1.25, C₂ = 2.5, C₃ = 3, C₄ = 4 and C₅ = 5 lb./100 gallons of water.
   The above 26 treatment combinations were applied at 4 different intervals viz.: I₁ = 6, I₂ = 8, I₃ = 10 and I₄ = 14 days.
3. DESIGN:
   (i) R.B.D. (ii) (a) 26 for each I. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 1/450 ac. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Fair. (ii) The crop was infected with blight diseases and virus. (iii) Tuber yield. (iv) (a) 1954—contd. (b) Yes. (c) Nil. (v) and (vi) Nil. (vii) Other two way tables : N.A.

5. RESULTS:
   (i) 3.20 tons/ac. (ii) 0.69 tons/ac. (iii) Main effects of C, I and interaction F×C are highly significant. (iv) Av. yield of tuber in tons/ac.

   Control = 2.22 tons/ac.

   \[
   \begin{array}{cccccc}
   & C_1 & C_2 & C_3 & C_4 & C_5 & \text{Mean} \\
   F_1 & 2.66 & 2.81 & 3.06 & 3.24 & 3.65 & 3.08 \\
   F_2 & 2.56 & 2.96 & 3.05 & 2.83 & 3.48 & 3.05 \\
   F_3 & 2.48 & 2.91 & 2.95 & 3.16 & 3.72 & 3.04 \\
   F_4 & 2.92 & 2.26 & 3.27 & 3.65 & 4.32 & 3.48 \\
   F_5 & 2.74 & 3.29 & 3.10 & 3.60 & 4.85 & 3.52 \\
   \hline
   \text{Mean} & 2.67 & 3.05 & 3.09 & 3.30 & 4.08 & 3.24 \\
   \end{array}
   \]

   S.E. of C or F marginal mean = 0.09 tons/ac.
   S.E. of body of table or control mean = 0.20 tons/ac.

---

**Crop :** Potato.  
**Site :** State Agri. Farm, Bhanjang.  
**Ref :** W.B. 55(10).  
**Type :** 'D'.

Object :—To find out the most effective fungicide, its dosage and interval of spraying for the control of blight disease of Potato.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Potato. (c) 100 mds/ac. of cowdung+80 lb/ac. of N in the form of A/S+160 lb/ac. of P₂O₅ in the form of Super+80 lb/ac. of K₂O in the form of Muri. Pot. (ii) (a) Brown forest soil. (b) Refer soil analysis, Bhanjang. (iii) 13 to 15.1.1954. (iv) (a) to (c) N.A. (d) 2×3°. (e) N.A. (v) 100 mls/ac. of cowdung at the time of land preparation. 40 lb/ac. of N as A/S+160 lb/ac. of P₂O₅ as Super+80 lb/ac. of K₂O as Muri. Pot.channels the time of planting and 40 lb/ac. of N at the time of first earthing up. (vi) Darjeeling red round (early). (vii) Unirrigated. (viii) 4 weeding and 2 earthing. Roguing of virus infected plants was done twice. (ix) 114.3°. (x) 10 to 13.9.1954.

2. TREATMENTS:
   All combinations of (1) and (2)+a control
   (1) 5 fungicides: F₁=Peroxox, F₂=Dithane—78, F₃=Copperas, F₄=Copper sandoz and F₅=Craigs fungicide (658).
   (2) 5 concentrations of fungicide: C₁=1.25, C₂=2.5, C₃=3, C₄=4 and C₅=5 lb./100 gallons of water.
The above 26 treatment combinations applied at 4 different intervals viz: I₁=6, I₂=8, I₃=10 and I₄=14 days.

3. DESIGN:
   Same as in expl. no. 54(6) on page 224.

4. GENERAL:
   (i) Fair. (ii) The crop was infected with blight disease and viruses. (iii) Yield of tuber. (iv) (a) 1954—contd. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 2.67 tons/ac. (ii) 0.41 tons/ac. (iii) Main effects of F, C, I and interactions F×C, F×I and F×C×I are highly significant. (iv) Av. yield of tuber in tons/ac.
Control = 0.88 tons/ac.

<table>
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<th></th>
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<th>C₂</th>
<th>C₃</th>
<th>C₄</th>
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S.E. of I marginal mean = 0.05 tons/ac.
S.E. of F or C marginal mean = 0.05 tons/ac.
S.E. of body of I×F or I×C table = 0.11 tons/ac.
S.E. of body of F×C table or control mean = 0.12 tons/ac.

Crop := Potato (Rabi).
Site := State Agri. Farm, Bhanjang.
Type := 'D'.

Object := To find out the most effective fungicide, its dosages and interval of spraying for the control of blight disease of Potato.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) and (c) N.A. (ii) (a) Brown forest soil. (b) Refer soil analysis, Bhanjang. (iii) 1st week of January, 1957. (iv) (a) to 8 of ploughings and harrowing. (b) Sprouts placed in furrows 2' deep. (c) 15 to 18 mds/ac. (d) Inter row 2' and from plant to plant 9'. (e) 1 tuber/hole. (v) 100 mds/ac of cowdung. (vi) Darjeeling red round (early). (vii) Unirrigated. (viii) 5 weedings and 2 earthing. (ix) 56.17°. (x) Last week of July to middle of August, 1957.

2. TREATMENTS:
All combinations of (1) and (2)+a control
(1) 6 fungicides: F₁=Perenox, F₂=Dithane, F₃=Coppessen, F₄=Copper sandoz, F₅=Cupravite and F₆=Shell copper.
(2) 5 concentrations of fungicide: C₁=1.25, C₂=2.5, C₃=3, C₄=4 and C₅=5 lb./100 gallons of water.
The above 31 treatment combinations applied at 4 different intervals viz: I₁=6, I₂=8, I₃=10 and I₄=14 days.

3. DESIGN:
(i) R.B.D. (ii) (a) 31 for each I. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 1/194 ac. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Not satisfactory. (ii) Plants infected with blight disease. Spraying done as per treatments. (iii) Yield of tuber. (iv) (a) 1954—1957. (b) Yes. (c) Nil. (v) and (vi) N.A. (vii) Nil.

5. RESULTS:
(i) 1.03 tons/ac. (ii) 0.55 tons/ac. (iii) Main effects of I, F, C, interactions I×F, I×F×C and ‘control vs. others’ are highly significant. (iv) Av. yield of tubers in tons/ac.
Control = 0.69 tons/ac.

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<th>C4</th>
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<td>1.00</td>
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<tr>
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S.E. of I marginal mean = 0.06 tons/ac.
S.E. of C marginal mean = 0.05 tons/ac.
S.E. of F marginal mean = 0.07 tons/ac.
S.E. of body of I x C table = 0.13 tons/ac.
S.E. of body of I x F table = 0.14 tons/ac.
S.E. of body of C x F table = 0.16 tons/ac.
S.E. of control mean = 0.16 tons/ac.

Crop :- Potato.

Site :- State Agri. Farm, Midnapore.

Ref :- W.B. 55(4).

Object :- To find out whether yield of Potato can be increased by the application of artificial hormones.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Paddy. (c) 40 mds./ac. of T.C. as basic dose, 70 lb./ac. of N as A/S+20 lb./ac. of P2O5 as Super. (ii) (a) Lateritic soil. (b) Refer soil analysis, Midnapore. (iii) 19.11.1955. (iv) (a) N.A. (b) Planted in rows. (c) N.A. (d) 2' X 9". (e) N.A. (v) 100 mds./ac. of cowdung at the time of land preparation, 40 lb./ac. of N as A/S, 160 lb./ac. of P2O5 as Super and 80 lb./ac. of K2O as Mur. Pot. applied in trenches at the time of planting and 40 lb./ac. of N as A/S applied at the time of first earthing up. (vi) Darjeeling red round (early). (vii) Irrigated. (viii) 3 weedings. (ix) N.A. (x) 17 acd 18.3.1956.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 55(71) on page 223.

4. GENERAL:
(i) Fair. (ii) The crop was infected with mosaic virus to some extent. The crop was sprayed 2 times with a mixture of 4 lbs. of peronox and 2 lbs. of 30% water soluble DDT in 100 gallons of water. (iii) Tuber yield. (iv) (a) 1953-1955. (b) Yes. (c) Nil. (v) (a) Bhanjang. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
(i) 5.83 tons/ac. (ii) 0.61 tons/ac. (iii) Treatment differences are not significant. (iv) Av. yield of tuber in tons/ac.

<table>
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<th>Treatment</th>
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<td>6.05</td>
<td>5.92</td>
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<tr>
<td>S.E./mean</td>
<td>= 0.30 tons/ac.</td>
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</table>
Crop :- Potato.
Site :- State Agri. Farm, Rangbull.

Object :- To find out the most suitable fungicides, its concentration and interval of spraying for the control of blight disease of Potato.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) [Potato].
   (c) 100 mds./ac. of cowdung + 80 lb./ac. of N+160 lb./ac. of P₂O₅ and 80 lb./ac. of K₂O.
   (ii) (a) Brown forest soil. (b) Refer soil analysis, Rangbull. (iii) 3.1.1956.
   (iv) (a) N.A. (b) Whole tubers planted at a depth of 2" to 3".
   (c) N.A. (d) 2' X 9".
   (e) N.A. (v) 100 mds./ac. of cowdung and 80 lb./ac. of N, 160 lb./ac. of P₂O₅ and 80 lb./ac. of K₂O. Cowdung applied about a month previous to planting. Half of balance first applied in trenches at the time of planting and the other half about two months later at the time of first earthing up. (vi) Darjeeling red round (medium). (vii) Unirrigated. (viii) 2 earlings and 4 weedings. (ix) 54.73°. (x) 17.7.1956.

2. TREATMENTS:
   All combinations of (1) and (2)+a control
   (1) 6 fungicides: F₁=Perenox, F₂=D.thne Z-73, F₃=Coppesan, F₄=Copper, tandox, F₅=Craigs fungicide—658 and F₆=Shell copper.
   (2) 5 concentrations: C₁=1.25, C₂=2.5, C₃=3, C₄=4 and C₅=5 lb./100 gallons of water.
   The above 31 treatment combinations applied at 4 different intervals: I₁=6, I₂=8, I₃=10 and I₄=14 days.

3. DESIGN:
   (i) R.B.D. (ii) (a) 31 for each I. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 1/193.6 ac. (v) Nil. (vi) Yes.

4. GENERAL:
   (i) Not satisfactory. (ii) About 40% of plants were infected with blight disease. (iii) Yield of tuber. (iv) (a) 1956—N.A. (b) Yes. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 1.48 tons/ac. (ii) 0.09 tons/ac. (iii) Main effects of F, C, I and interactions F X I and 'control vs. others' are highly significant. (iv) Av. yield of tuber in tons/ac.

\[
\begin{array}{cccccc}
<table>
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<tr>
<th></th>
<th>C₁</th>
<th>C₂</th>
<th>C₃</th>
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<th>C₅</th>
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S.E. of I marginal mean = 0.01 tons/ac.
S.E. of C marginal mean = 0.01 tons/ac.
S.E. of F marginal mean = 0.01 tons/ac.
S.E. of body of I X C table = 0.02 tons/ac.
S.E. of body of I X F table = 0.02 tons/ac.
S.E. of body of C X F table = 0.03 tons/ac.
S.E. of control mean = 0.03 tons/ac.
**Crop**: Brinjal *{Rabi}.*  
**Site**: State Agri. Farm, Krishnagar.  
**Ref**: W.B. 57(57).  
**Type**: ‘CV’.

Object:—To find out the best time for planting of different varieties of Brinjal.

1. **BASAL CONDITIONS**:  
(i) (a) to (c) N.A.  
(ii) (a) Loam and sandy loam. (b) Refer soil analysis, Krishnagar.  
(iii) As per treatments.  
(iv) (a) Ploughing and spading. (b) planting.  
(c) to (e) N.A.  
(v) Nil.  
(vi) As per treatments.  
(vii) Unirrigated. (viii) N.A.  
(ix) 53.0%.  
(x) 82 to 88, 93, 79 and 68 days respectively after transplantation.

2. **TREATMENTS**:  
   **Main-plot treatments**:  
   4 dates of planting:  
   \( D_1 = 30.9.1957, D_2 = 15.10.1957, D_3 = 30.10.1957 \) and \( D_4 = 15.11.1957 \).
   **Sub-plot treatments**:  
   2 varieties: \( V_1 = \text{SN0-47C} \) and \( V_2 = \text{SN0-28} \).

3. **DESIGN**:  
(i) Split-plot.  
(ii) (a) 4 main-plots/replication; 2 sub-plots/main-plot. (b) N.A.  
(iii) 6.  
(iv) and (v) N.A.  
(vi) Yes.

4. **GENERAL**:  
(i) Good.  
(ii) N.A.  
(iii) Yield of brinjal per plant.  
(iv) (a) 1955-1957. (b) Yes.  
(c) N.A.  
(v) (a) No.  
(b) Nil.  
(vi) N.A.  
(vii) Nil.

5. **RESULTS**:  
(i) 2.0 lb./plant.  
(ii) (a) 0.48 lb./plant.  
(b) 0.12 lb./plant.  
(iii) Main effects of \( D, V \) and interaction \( V \times D \) are highly significant.  
(iv) Av. yield of brinjal in lb./plant.

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<td>0.7</td>
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</table>

S.E. of difference of two  
1. D marginal means = 0.20 lb./plant.
2. V marginal means = 0.03 lb./plant.
3. V means at the same level of D = 0.07 lb./plant.
4. D means at the same level of V = 0.20 lb./plant.

**Crop**: Cauliflower *{Rabi}.*  
**Site**: State Agri. Farm, Krishnagar.  
**Ref**: W.B. 59(55).  
**Type**: ‘M’.

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

1. **BASAL CONDITIONS**:  
(i) (a) to (c) Nil.  
(ii) (a) Loam and clay loam. (b) Refer soil analysis, Krishnagar.  
(iii) Middle of October, 1959.  
(iv) (a) Ploughing, spading etc. (b) Planting.  
(c) to (e) N.A.  
(d) 2' x 2'. (e) N.A.  
(v) 100 mds./ac. of compost.  
(vi) Donia (Kalimpong). (vii) Unirrigated. (viii) Interculture and weeding.  
(ix) 68.28°.  
(x) 1st week of January, 1960.
2. TREATMENTS:
All combinations of (1), (2) and (3)
(1) 3 levels of N : \( N_0 = 0, \ N_1 = 60 \) and \( N_2 = 120 \) lb./ac.
(2) 3 levels of \( P_2 \) : \( P_0 = 0, \ P_1 = 60 \) and \( P_2 = 120 \) lb./ac.
(3) 3 levels of \( K_2 \) : \( K_0 = 0, \ K_1 = 60 \) and \( K_2 = 120 \) lb./ac.
The whole mixture of Potash and Super was added during land preparation. \( \frac{1}{2} \) of N was applied during transplanting. \( \frac{1}{2} \) applied after 20 days of transplantation and the rest of N after 40 days of transplanting.

3. DESIGN:
(i) 3 partially confd. (ii) (a) 9 plots/block; 3 blocks/replication. (b) N.A. (iii) 4. (iv) (a) 18' x 14'. (b) 16' x 12'. (v) 1' x 1'. (vi) Yes.

4. GENERAL:
(i) Good. (ii) N.A. (iii) Yield of edible heads of cauliflower. (iv) (a) to (c) N.A. (v) to (vii) Nil.

5. RESULTS:
(i) 17543 lb./ac. (ii) 3337 lb./ac. (iii) Mean effect of N alone is highly significant. (iv) Av. yield of edible heads in lb./ac.

<table>
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<th>( P_1 )</th>
<th>( P_2 )</th>
<th>Mean</th>
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<td>5514</td>
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<tr>
<td>( N_1 )</td>
<td>21906</td>
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<td>( N_2 )</td>
<td>26480</td>
<td>25650</td>
<td>25937</td>
<td>26022</td>
<td>25682</td>
<td>25097</td>
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<td>Mean</td>
<td>17434</td>
<td>17188</td>
<td>18008</td>
<td>17543</td>
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<tr>
<td>( K_0 )</td>
<td>17516</td>
<td>16715</td>
<td>17035</td>
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<td></td>
</tr>
<tr>
<td>( K_1 )</td>
<td>16153</td>
<td>17816</td>
<td>18301</td>
<td></td>
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<tr>
<td>( K_2 )</td>
<td>18533</td>
<td>17034</td>
<td>18688</td>
<td></td>
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</tr>
</tbody>
</table>

S.E. of any marginal mean = 556 lb./ac.
S.E. of body of any table = 963 lb./ac.

Crop: Cauliflower (Rabi).
Site: State Agri. Farm, Kalimpong.
Ref: W.B. 55(83).
Type: 'CV'.

Object:—To find out the best time for planting different varieties of Cauliflower.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Kalimpong. (iii) As per treatments. (iv) (a) Spading and land preparation. (b) Planting. (c) and (d) N.A. (e) I. (v) Nil. (vi) As per treatments. (vii) Unirrigated. (viii) Earthing-up and interculture. (ix) 94.88'. (x) N.A.

2. TREATMENTS:
Main-plot treatments:
4 dates of planting: \( D_1 = 20.9.1955, D_2 = 5.10.1955, D_3 = 20.10.1955 \) and \( D_4 = 4.11.1955 \).
Sub-plot treatments:
2 varieties: \( V_1 = \) Snowball and \( V_2 = \) Dania.

3. DESIGN:
(i) Split-plot. (ii) (a) 4 main-plots/replication; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) and (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) N.A. (iii) Yield per plant. (iv) (a) 1955—1957. (b) Yes. (c) N.A. (v) to (vii) Nil.
5. RESULTS:
(i) 1.78 lb./plant. (ii) (a) 0.32 lb./plant. (b) 0.22 lb./plant. (iii) All effects are highly significant. (iv) Av. yield of cauliflower in lb./plant.

<table>
<thead>
<tr>
<th></th>
<th>$D_1$</th>
<th>$D_2$</th>
<th>$D_3$</th>
<th>$D_4$</th>
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<tr>
<td>$V_1$</td>
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<td>2.31</td>
<td>2.35</td>
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</tr>
<tr>
<td>$V_2$</td>
<td>1.41</td>
<td>1.92</td>
<td>2.09</td>
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<td>Mean</td>
<td>1.46</td>
<td>2.12</td>
<td>2.22</td>
<td>1.34</td>
<td>1.78</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. $D$ marginal means = 0.13 lb./plant.
2. $V$ marginal means = 0.06 lb./plant.
3. $V$ means at the same level of $D$ = 0.13 lb./plant.
4. $D$ means at the same level of $V$ = 0.16 lb./plant.

Object:—To find out the best time for planting of different varieties of Cauliflower.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Kalimpong. (iii) As per treatments. (iv) (a) Spading and land preparation. (b) Planting. (c) and (d) N.A. (e) 1. (v) N.A. (vi) As per treatments. (vii) Unirrigated. (viii) Thinning and earthing up. (ix) 94.06° (x) N.A.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 55(83) on page 230.

5. RESULTS:
(i) 1.56 lb./plant. (ii) (a) 0.39 lb./plant. (b) 0.33 lb./plant. (iii) $D$ effect alone is significant. (iv) Av. yield of cauliflower in lb./plant.

<table>
<thead>
<tr>
<th></th>
<th>$D_1$</th>
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<tr>
<td>$V_2$</td>
<td>1.39</td>
<td>1.71</td>
<td>1.80</td>
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<tr>
<td>Mean</td>
<td>1.38</td>
<td>1.71</td>
<td>1.79</td>
<td>1.36</td>
<td>1.56</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. $D$ marginal means = 0.16 lb./plant.
2. $V$ marginal means = 0.10 lb./plant.
3. $V$ means at the same level of $D$ = 0.19 lb./plant.
4. $D$ means at the same level of $V$ = 0.21 lb./plant.
1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Kalimpong. (iii) As per treatments. (iv) (a) Planting and spading. (b) Planting, (c) to (e) N.A. (v) Nil. (vi) As per treatments. (vii) Unirrigated. (viii) Thinning and interculture. (ix) 70.49°. (x) 63, 65, 66 and 73 days for V₁ and 63, 65, 73 and 73 days for V₂ after plantation.

2. TREATMENTS:
Main-plot treatments:
Sub-plot treatments:
2 varieties: V₁ = Snowball and V₂ = Dana.

3. DESIGN and 4. GENERAL:
Same as in expt. no. 55(83) on page 230.

5. RESULTS:
(i) 1.94 lb./plant. (ii) (a) 0.41 lb./plant. (b) 0.28 lb./plant. (iii) D effect is significant. V effect is highly significant. (iv) Av. yield of cauliflower in lb./plant.

<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>V₁</td>
<td>1.81</td>
<td>2.29</td>
<td>2.27</td>
<td>2.17</td>
<td>2.14</td>
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<tr>
<td>V₂</td>
<td>1.52</td>
<td>1.68</td>
<td>2.11</td>
<td>1.65</td>
<td>1.74</td>
</tr>
<tr>
<td>Mean</td>
<td>1.67</td>
<td>1.98</td>
<td>2.19</td>
<td>1.91</td>
<td>1.94</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. D marginal means = 0.17 lb./plant.
2. V marginal means = 0.08 lb./plant.
3. V means at the same level of D = 0.16 lb./plant.
4. D means at the same level of V = 0.20 lb./plant.

Crop: Cauliflower (Rabi).
Site: State Agri. Farm, Krishnagar.

Ref: W.B. 57(59)
Type: ‘CV’

Object: To find out the best time of planting of different varieties of Cauliflower.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Loam and sandy loam. (b) Refer soil analysis, Krishnagar. (iii) As per treatments. (iv) (a) Ploughing and spading. (b) Planting. (c) to (e) Nil. (v) N.A. (vi) As per treatments. (vii) Unirrigated. (viii) Thinning etc. (ix) 53.00°. (x) Last week of January, 1958.

2. TREATMENTS:
Main-plot treatments:
Sub-plot treatments:
2 varieties: V₁ = Dana and V₂ = Snow ball.

3. DESIGN:
(i) Split-plot. (ii) (a) 3 main-plots/replication and 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) and (v) N.A. (vi) Yes.

4. GENERAL:
(i) Good. (ii) N.A. (iii) Yield of heads of cauliflower. (iv) (a) 1955—1957. (b) Yes. (c) N.A. (v) (a) Kalimpong. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 0.57 lb/plant. (ii) (a) 0.88 lb/plant. (b) 0.33 lb/plant. (iii) None of the effects is significant. (iv) Av. yield of cauliflower in lb/plant.

Object: To find out the best time of planting of different varieties of Cauliflower.
Crop: Bhindi (Rabi).
Site: State Agri. Farm, Krishnagar.
Object: To find out the best time for planting of different varieties of Bhindi.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Loam and sandy loam. (b) Refer soil analysis, Krishnagar. (iii) As per treatments. (iv) (a) Ploughing and spading. (b) Planting. (c) and (d) N.A. (e) 1. (f) N.A. (g) As per treatments. (h) Unirrigated. (i) Earthing and interculture. (j) 49.76. (k) N.A.

2. TREATMENTS:
   Main-plot treatments:
   4 dates of planting: D1 = 15.3.1955, D2 = 15.4.1955, D3 = 15.5.1955 and D4 = 15.6.1955.
   Sub-plot treatments:
   3 varieties: V1 = Best II, V2 = Vendi pocho and V3 = Green long.

3. DESIGN:
   (i) Split-plot. (ii) (a) 4 main-plots/replication and 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) and (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) N.A. (iii) Yield of bhindi per plant. (iv) (a) 1955—1957. (b) Yes. (c) N.A. (v) (a) No. (b) Nil. (vi) Nil. (vii) Data for 1956 and 1957 are N.A.

5. RESULTS:
   (i) 2.81 lb./plot. (ii) (a) 1.55 lb./plot. (b) 0.88 lb./plot. (iii) All effects are highly significant. (iv) Av. yield of bhindi in lb./plot (5 plants).

<table>
<thead>
<tr>
<th></th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
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<tbody>
<tr>
<td>V1</td>
<td>3.07</td>
<td>8.58</td>
<td>1.70</td>
<td>0.58</td>
</tr>
<tr>
<td>V2</td>
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<td>8.88</td>
<td>1.29</td>
<td>0.56</td>
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<td>V3</td>
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<td>1.46</td>
<td>1.56</td>
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<tr>
<td>Mean</td>
<td>2.46</td>
<td>6.72</td>
<td>1.48</td>
<td>0.57</td>
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S.E. of difference of two
1. D marginal means = 0.52 lb./plot.
2. V marginal means = 0.25 lb./plot.
3. V means at the same level of D = 0.51 lb./plot.
4. D means at the same level of V = 0.66 lb./plot.
Crop: - Tomato (Rabi).

Site: - State Agri. Farm, Kalimpong.

Object: - To find out the best time for planting different varieties of Tomato.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Sandy loam.  (b) Refer soil analysis, Kalimpong.  (iii) As per treatments.  (iv) (a) Ploughing and spading etc.  (b) Planting.  (c) and (d) N.A.  (e) I.  (v) Nil.  (vi) As per treatments.  (vii) Unirrigated.  (viii) Weeding and interculture.  (ix) 94.06'.  (x) N.A.

2. TREATMENTS:
   Main-plot treatments:

   Sub-plot treatments:
   2 varieties: $V_1=$ Perfection and $V_2=$ Sions.

3. DESIGN:
   (i) Split-plot.  (ii) (a) 3 main-plots/replication and 2 sub-plots/main-plot.  (b) N.A.  (iii) 6.  (iv) and (v) N.A  (vi) Yes.

4. GENERAL:
   (i) Good.  (ii) N.A.  (iii) Yield per plant of tomato.  (iv) (a) 1956-1957.  (b) Yes.  (c) N.A.  (v) to (vii) Nil.

5. RESULTS:
   (i) 3.42 lb./plant.  (ii) 'a'; 0.67 lb./plant.  (b) 0.40 lb./plant.  (iii) D effect alone is highly significant.  (iv) Av. yield of tomato in lb./plant.

   \[
   \begin{array}{cccc}
   & D_1 & D_2 & D_3 & \text{Mean} \\
   V_1 & 4.81 & 3.03 & 2.62 & 3.49 \\
   V_2 & 4.12 & 3.15 & 2.77 & 3.35 \\
   \text{Mean} & 4.47 & 3.09 & 2.70 & 3.42 \\
   \end{array}
   \]

   S.E. of difference of two
   1. D marginal means = 0.27 lb./plant.
   2. V marginal means = 0.13 lb./plant.
   3. V means at the same level of D = 0.32 lb./plant.
   4. D means at the same level of V = 0.23 lb./plant.
4. GENERAL:
(i) Normal. (ii) Infestation of early blight. (iii) Yield of tomato. (iv) (a) 1955—1957. (b) Yes. (c) N.A. (v) (a) Krishnagar. (b) N.A. (v) and (vii) Nil.

5. RESULTS:
(i) 2.69 lb./plant. (ii) (a) 0.81 lb./plant. (b) 0.53 lb./plant. (iii) Main effect of D and interaction VxD are highly significant. (iv) Av. yield of tomato in lb./plant.

<table>
<thead>
<tr>
<th></th>
<th>D₁</th>
<th>D₂</th>
<th>D₃</th>
<th>D₄</th>
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<tr>
<td>V₁</td>
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<td>4.23</td>
<td>2.07</td>
<td>1.26</td>
<td>2.56</td>
</tr>
<tr>
<td>V₂</td>
<td>3.47</td>
<td>3.18</td>
<td>3.22</td>
<td>1.37</td>
<td>2.81</td>
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<tr>
<td>Mean</td>
<td>3.08</td>
<td>3.71</td>
<td>2.64</td>
<td>1.32</td>
<td>2.69</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. D marginal means = 0.33 lb./plant.
2. V marginal means = 0.15 lb./plant.
3. V means at the same level of D = 0.31 lb./plant.
4. D means at the same level of V = 0.40 lb./plant.

Crop :- Tomato.
Site :- State Agri. Farm, Krishnagar.

Object :- To study the effect of spacing on different varieties of Tomato.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Bottle gold. (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Krishnagar. (iii) 1.10.1954 and 20.10.1954. (iv) (a) Thorough ploughing.. (b) Sown in nursery. (c) 5 oz./ac. (d) As per treatments. (e) (v) 20 C.I.L/ac. of F.Y.M. (vi) As per treatments. (vii) Irrigated. (viii) 3 to 4 weedings. (ix) 15.40'. (x) 28.12.1954 to 15.4.1955.

2. TREATMENTS:
Main-plot treatments :
3 varieties: V₁=S-20, V₂=Bonni best and V₃=Morglobe.

Sub-plot treatments :
3 spacings: S₁=3'x3', S₂=3'x4' and S₃=4'x4'.

3. DESIGN:
(i) Split-plot. (ii) (a) 3 main-plots/replication; 3 sub-plots/main-plot. (b) N.A. (iii) 5. (iv) (a) 52'x12'. (b) 45'x6', 44'x6' and 44'x4'. (v) 1 guard row around each plot. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) Nil. (iii) Yield of tomato. (iv) (a) 1954—1956. (b) Yes. (c) Nil. (v) (a) and (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
(i) 11.01 tons/ac. (ii) (a) 2.91 tons/ac. (b) 1.41 tons/ac. (iii) V effect is significant. S effect is highly significant. (iv) Av. yield of tomato in tons/ac.

<table>
<thead>
<tr>
<th></th>
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<th>V₂</th>
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<tbody>
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<td>S₃</td>
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<tr>
<td>Mean</td>
<td>9.83</td>
<td>10.04</td>
<td>13.15</td>
<td>11.01</td>
</tr>
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</table>
Object:—To study the effect of spacing on the growth of different varieties of Tomato.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Pumpkin. (c) 1 m.3/ac. of F.Y.M. in each pit. (ii) (a) Sandy loam. (b) Refer soil analysis, Krishnagar. (iii) 1.9.1955/28.9.1955. (iv) (a) Thorough ploughing. (b) Sown in nursery bed. (c) 5 oz./ac. (d) As per treatments. (e) (i) A/S at 3 mds. 22 srs./ac.+Mur. Pot. at 1 md, 35 srs./ac.+Super at 5 mds. 30 srs./ac. applied at the time of preparation of land. (vi) As per treatments. (vii) Irrigated. (viii) 6 weedicings and molluscings. (ix) 10.51. (x) 8.12.1955 to 11.2.1956.

2. TREATMENTS and 3. DESIGN:
   Same as in exp. no. 54(40) on page 235.

4. GENERAL:
   (i) A few virus affected plants were removed and fresh seedlings transplanted. (ii) Nil. (iii) Yield of Tomato. (iv) (a) 1954–1956. (b) Yes. (c) Nil. (v) (a) and (b) No. (vi) and (vii) Nil.

5. RESULTS:
   (i) 12.94 tons/ac. (ii) (a) 3.59 tons/ac. (b) 1.76 tons/ac. (iii) Interaction V×S is highly significant. (iv) Av. yield of tomato in tons/ac.

<table>
<thead>
<tr>
<th></th>
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<td>15.31</td>
<td>12.59</td>
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<td>14.86</td>
<td>13.59</td>
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</table>

Mean 10.85 14.00 13.98 12.94

S.E. of difference of two:
1. V marginal means  1.06 tons/ac.
2. S marginal means  0.51 tons/ac.
3. S means at the same level of V  0.89 tons/ac.
4. V means at the same level of S  1.29 tons/ac.
2. TREATMENTS:

Main-plot treatments:

Sub-plot treatments:
- 3 spacings: S₁=3' x 3', S₂=3' x 4' and S₃=4' x 4'.

3. DESIGN:

(i) Split-plot. (ii) 4 main-plots/replication; 3 sub-plots/main-plot. (b) N.A. (iii) S. (iv) (a) 43' x 12'.
- (b) 36' x 6'. (v) 1 guard row around each plot. (vi) Yes.

4. GENERAL:

(i) Good. (ii) Nil. (iii) Yield of tomato. (iv) (a) 1954–1956. (b) Yes. (c) Nil. (v) (a) and (b) No.
- (vi) and (vii) Nil.

5. RESULTS:

(i) 21.20 tons/acre. (ii) (a) 6.59 tons/acre. (b) 3.53 tons/acre. (iii) S effect is significant. Interaction V x S is highly significant. (iv) Av. yield of tomato in tons/acre.

<table>
<thead>
<tr>
<th></th>
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<th>V₄</th>
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<tr>
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<td>17.97</td>
<td>22.17</td>
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<tr>
<td>Mean</td>
<td>21.12</td>
<td>17.79</td>
<td>21.31</td>
<td>24.58</td>
<td>21.20</td>
</tr>
</tbody>
</table>

S.E. of difference of two:
1. V marginal means = 2.41 tons/acre.
2. S marginal means = 1.12 tons/acre.
3. S means at the same level of V = 2.23 tons/acre.
4. V means at the same level of S = 3.02 tons/acre.

Crop = Onion (Rabi).

Site = State Agri. Farm, Kalimpong.

Ref = W.B. 56(41).

Type = ‘CV’.

Object = To find out the best time for planting of different varieties of Onion.

1. BASAL CONDITIONS:

(i) (a) to (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Kalimpong. (iii) As per treatments. (iv) (a) Ploughing and spading. (b) Planting. (c) to (e) N.A. (v) N.A. (vi) As per treatments. (vii) Un-irrigated. (viii) Earthing up and other intercultures. (ix) 54.06°. (x) N.A.

2. TREATMENTS:

Main-plot treatments:

Sub-plot treatments:
- 2 varieties: V₁=Poona red and V₂=Red Patna.

3. DESIGN:

(i) Split-plot. (ii) 4 main-plots/replication; 2 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) and (v) N.A.
- (vi) Yes.

4. GENERAL:

(i) Good. (ii) Nil. (iii) Yield of bulbs per plant. (iv) (a) 1556 only. (b) Yes. (c) N.A. (v) (a) Krishnagar.
- (b) N.A. (vi) and (vii) Nil.

5. RESULTS:

(i) 0.21 lb./plant. (ii) (a) 0.07 lb./plant. (b) 0.05 lb./plant. (iii) D effect alone is highly significant. (iv) Av. yield of onion in lb./plant.
Crop: Cabbage (Rabi).
Site: State Agri. Farm, Kalimpong.
Object: To find out the best time for planting of different varieties of Cabbage.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) All sandy loam (b) Refer soil analysis, Kalimpong. (iii) As per treatments. (iv) (a) Spacing and ploughing. (b) Planting. (c) N.A. (d) 1. (e) N.A. (vi) As per treatments. (vii) Unirrigated. (viii) Weeding and earthing. (ix) Nil. (x) N.A.

2. TREATMENTS:
   Main-plot treatments:
   Sub-plot treatments:
   - 2 varieties: V_1 = 'E. lip; D: \\nu n i l and V_2 = English ball.

3. DESIGN:
   (i) Split-plot. (ii) 4 main-plots : replication ; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) and (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) N.A. (iii) Yield of cabbage per plant. (iv) (a) 1956 - 1957. (b) Yes. (c) N.A. (v) to (vii) Nil.

5. RESULTS:
   (i) 4.18 lb./plant. (ii) (a) 2.19 lb./plant. (b) 0.63 lb./plant. (iii) D effect alone is significant. (iv) Av. yield of cabbage in lb./plant.

<table>
<thead>
<tr>
<th></th>
<th>D_1</th>
<th>D_2</th>
<th>D_3</th>
<th>D_4</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V_1</td>
<td>5.26</td>
<td>4.36</td>
<td>3.89</td>
<td>3.26</td>
<td>4.19</td>
</tr>
<tr>
<td>V_2</td>
<td>4.62</td>
<td>4.48</td>
<td>4.45</td>
<td>3.14</td>
<td>4.17</td>
</tr>
<tr>
<td>Mean</td>
<td>4.94</td>
<td>4.42</td>
<td>4.17</td>
<td>3.20</td>
<td>4.18</td>
</tr>
</tbody>
</table>

S.E. of difference of two

1. D marginal means = 1.02 lb./plant.
2. V marginal means = 0.18 lb./plant.
3. V means at the same level of D = 0.36 lb./plant.
4. D means at the same level of V = 1.05 lb./plant.
Crop: Cabbage (Rabi).

Site: State Agri. Farm, Kalimpong.

Object: To find out the best time for planting of different varieties of Cabbage.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Kalimpong. (iii) As per treatments. (iv) (a) Ploughing and spading. (b) Planting. (c) to (e) N.A. (v) Nil. (vi) As per treatments. (vii) Unirrigated. (viii) Earthing and weeding. (ix) 70.49°. (x) 77, 100, 92, 81 and 102 days for V1 and 74, 97, 85, 81 and 89 days for V2 after transplanting.

2. TREATMENTS:
   Main-plot treatments:
   5 dates of planting: D1 = 17.9.1957, D2 = 2.10.1957, D3 = 22.10.1957, D4 = 12.11.1957; D5 = 22.11.1957.
   Sub-plot treatments:
   2 varieties of cabbage: V1 = English ball, V2 = Eclipse Drum head.

3. DESIGN:
   (i) Split-plot. (ii) (a) 5 main-plots/replication; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) and (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) N.A. (iii) Yield of cabbage per plant. (iv) (a) 1956—1957. (b) Yes. (c) N.A. (v) (a) Krishnagar. (b) N.A. (vi) and (vii) Nil.

5. RESULTS:
   (i) 6.09 lb/plant. (ii) (a) 0.67 lb/plant. (b) 0.86 lb/plant. (iii) Main effects of D and V are highly significant. (iv) Av. yield of cabbage in lb/plant.

<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>5.38</td>
<td>8.58</td>
<td>7.33</td>
<td>5.29</td>
<td>3.28</td>
<td>5.97</td>
</tr>
<tr>
<td>V2</td>
<td>5.35</td>
<td>7.62</td>
<td>8.02</td>
<td>5.94</td>
<td>4.66</td>
<td>6.20</td>
</tr>
</tbody>
</table>

Mean: 5.36, 8.10, 7.68, 5.62, 3.67, 6.09.

S.E. of difference of two:
1. D marginal means = 0.27 lb/plant.
2. V marginal means = 0.22 lb/plant.
3. V means at the same level of D = 0.50 lb/plant.
4. D means at the same level of V = 0.44 lb/plant.

---

Crop: Cabbage (Rabi).

Site: State Agri. Farm, Krishnagar.

Object: To find out the best time of planting of different varieties of Cabbage.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Loam and sandy loam. (b) Refer soil analysis, Krishnagar. (iii) As per treatments. (iv) (a) Spading and ploughing. (b) Planting. (c) (d) N.A. (e) 1. (f) Nil. (vi) As per treatments. (vii) Unirrigated. (viii) 2 earthings. (ix) 53.60°. (x) 104, 91, 90 and 77 days for V1 and 97, 56, 95 and 80 days for V2 after planting.

2. TREATMENTS:
   Main-plot treatments:
   Sub-plot treatments:
   2 varieties: V1 = English ball and V2 = Eclipse Drum head.
3. DESIGN:
(i) Split-plot. (ii) (a) 4 main-plots/replication; 2 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) and (v) N.A. (vi) Yes.

4. GENERAL:
(i) Good. (ii) N.A. (iii) Yield of edible head per plant. (iv) (a) 1955—1957. (b) Yes. (c) N.A. (v) N.A. (vi) N.A. (vii) Nil.

5. RESULTS:
(i) 2.23 lb./plant. (ii) (a) 0.14 lb./plant. (b) 0.08 lb./plant. (iii) All effects are highly significant. (iv) (v) Av. yield of cabbage in lb./plant.

<table>
<thead>
<tr>
<th></th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>2.60</td>
<td>2.55</td>
<td>2.45</td>
<td>1.12</td>
<td>2.18</td>
</tr>
<tr>
<td>V2</td>
<td>2.40</td>
<td>2.37</td>
<td>2.85</td>
<td>1.50</td>
<td>2.28</td>
</tr>
<tr>
<td>Mean</td>
<td>2.50</td>
<td>2.46</td>
<td>2.65</td>
<td>1.31</td>
<td>2.23</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. D marginal means = 0.06 lb./plant.
2. V marginal means = 0.02 lb./plant.
3. V means at the same level of D = 0.05 lb./plant.
4. D means at the same level of V = 0.06 lb./plant.

---

Crop: Pea (Rabi).
Site: State Agri. Farm, Klimpong.

Object: To find out the best time for planting of different varieties of Pea.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Klimpong. (iii) As per treatments. (iv) (a) Spading and land preparation. (b) Planting. (c) and (d) N.A. (e) Nil. (i) Nil. (ii) As per treatments. (vi) Unirrigated. (vii) Interplanting and thinning. (ix) 94 88°. (x) N.A.

2. TREATMENTS:
Main-plot treatments:
3 dates of planting: \( D_1 = 21.9.1955, D_2 = 6.10.1955 \) and \( D_3 = 22.10.1955. \)
Sub-plot treatments:
3 varieties \( V_1 = \) Early giant, \( V_2 = \) American wonder and \( V_3 = \) Alderman.

3. DESIGN:
(i) Split-plot. (ii) (a) 3 main-plots/replication; 3 sub-plots/main-plot. (b) N.A. (iii) 4. (iv) and (v) N.A. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) N.A. (iii) Yield of pod per plant. (iv) (a) 1955—1957. (b) Yes. (c) N.A. (v) (a) Nil. (b) Nil. (vi) N.A. (vii) Data for 1936 and 1937 N.A.

5. RESULTS:
(i) 1.12 lb./plant. (ii) (a) 0.36 lb./plant. (b) 0.29 lb./plant. (iii) None of the effects is significant. (iv) Av. yield of pod in lb./plant.

<table>
<thead>
<tr>
<th></th>
<th>V1</th>
<th>V2</th>
<th>( \bar{V} )</th>
<th>( \bar{\bar{V}} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td>0.59</td>
<td>1.13</td>
<td>1.29</td>
<td>1.14</td>
</tr>
<tr>
<td>D2</td>
<td>1.21</td>
<td>1.12</td>
<td>1.32</td>
<td>1.22</td>
</tr>
<tr>
<td>D3</td>
<td>0.87</td>
<td>0.96</td>
<td>1.14</td>
<td>0.99</td>
</tr>
<tr>
<td>Mean</td>
<td>1.02</td>
<td>1.07</td>
<td>1.25</td>
<td>1.12</td>
</tr>
</tbody>
</table>

Ref:—W.B. 55(85).
Type:—‘CV’.
Crop: Arhar (Kharif).
Site: State Agri. Farm, Berhampore.

Object: To find out the optimum spacing for Arhar.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Ganga riverine clay loam. (b) Refer soil analysis, Berhampore. (iii) 1st week of June, 1954. (iv) (a) 2 to 3 ploughings and laddering. (b) Dibbling. (c) N.A. (d) As per treatments. (e) N.A. (v) 140 to 150 mds./ac. of F.Y.M. (vi) B=7 (medium). (vii) Unirrigated. (viii) Weeding and thinning. (ix) and (x) N.A.

2. TREATMENTS:
   7 spacings between plants: S0 = Broadcast (control), S1 = 2’ x 2’, S2 = 2’ x 3’, S3 = 2’ x 4’, S4 = 3’ x 3’, S5 = 3’ x 4’ and S6 = 4’ x 4’.

3. DESIGN:
   (i) R.B.D. (ii) (a) 7. (b) N.A. (iii) 4. (iv) (a) 28’ x 16’. (b) 24’ x 12’. (v) 2’ x 2’. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) N.A. (iii) Yield of grain. (iv) (a) 1952—1956. (b) No. (c) Nil. (v) (a) No. (b) Nil, (vi) N.A. (vii) Nil.

5. RESULTS:
   (i) 2251 lb./ac. (ii) 462.5 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain, in lb./ac.
   Treatment   S0   S1   S2   S3   S4   S5   S6
   Av. yield  1561  2577  2529  2543  2387  2335  1828
   S.E./mean = 231.2 lb./ac.

Crop: Arhar (Kharif).
Site: State Agri. Farm, Berhampore.

Object: To find out the optimum spacing for Arhar.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Ganga riverine clay loam. (b) Refer soil analysis, Berhampore. (iii) June, 1955. (iv) (a) 2 to 3 ploughings and laddering. (b) Dibbling. (c) N.A. (d) As per treatments. (e) 1. (v) 150 mds./ac. of F.Y.M. (vi) B=7 (medium). (vii) N.A. (viii) 1 to 2 weedings and 1 thinning. (ix) N.A. (x) 1st week of March, 1956.

2. TREATMENTS and 3. DESIGN:
   Same as in expt. no. 54(68) above.

4. GENERAL:
   (i) Poor. (ii) Crop suffered from the attack of insects, measures taken—N.A. (iii) Nil. (iv) 1952—1956. (b) No. (c) Nil. (v) (a) No. (b) Nil. (vi) N.A. (vii) Nil.
5. RESULTS:
(i) 1145 lb./ac. (ii) 307.8 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S&lt;sub&gt;0&lt;/sub&gt;</th>
<th>S&lt;sub&gt;1&lt;/sub&gt;</th>
<th>S&lt;sub&gt;2&lt;/sub&gt;</th>
<th>S&lt;sub&gt;3&lt;/sub&gt;</th>
<th>S&lt;sub&gt;4&lt;/sub&gt;</th>
<th>S&lt;sub&gt;5&lt;/sub&gt;</th>
<th>S&lt;sub&gt;6&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av yield</td>
<td>1235</td>
<td>1367</td>
<td>1041</td>
<td>1265</td>
<td>983</td>
<td>1080</td>
<td>1045</td>
</tr>
</tbody>
</table>

S.E./mean = 153.9 lb./ac.

Object: To find out the optimum spacing for Arhar.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Ganga riverine clay loam. (b) Refer soil analysis, Berhampore. (iii) Middle of June, 1956. (iv) (a) Ploughing and laddering. (b) Dibbling. (c) N.A. (d) As per treatments. (c) 1. (v) 150 mds/ac. of F.Y.M. (vi) B—7 (medium). (vii) Untirrigated. (viii) 2 weedings, thinning and earthing up. (ix) N.A. (a) 1st week of March, 1957.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 54(68) on page 241.

4. GENERAL:
(i) Poor. (ii) Attack of wilt caused uneven plant populations; measures taken—N.A. (iii) Yield of grain. (iv) (a) 1952—1956. (b) No. (c) Nil. (v) (a) No. (b) Nil. (vi) Crop suffered due to heavy rain. (vii) Nil.

5. RESULTS:
(i) 779 lb./ac. (ii) 192.6 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S&lt;sub&gt;0&lt;/sub&gt;</th>
<th>S&lt;sub&gt;1&lt;/sub&gt;</th>
<th>S&lt;sub&gt;2&lt;/sub&gt;</th>
<th>S&lt;sub&gt;3&lt;/sub&gt;</th>
<th>S&lt;sub&gt;4&lt;/sub&gt;</th>
<th>S&lt;sub&gt;5&lt;/sub&gt;</th>
<th>S&lt;sub&gt;6&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av yield</td>
<td>924</td>
<td>1196</td>
<td>831</td>
<td>705</td>
<td>647</td>
<td>438</td>
<td></td>
</tr>
</tbody>
</table>

S.E./mean = 96.3 lb./ac.

Object: To study the optimum time of sowing for Arhar crop.

Ref: W.B. 56(52). Type: ‘C’.
5. RESULTS:

(i) 2669 lb./ac.  
(ii) 385.0 lb./ac.  
(iii) Treatment differences are highly significant.  
(iv) Av. yield of grain 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>3773</td>
<td>3190</td>
<td>2143</td>
<td>1570</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>157.2 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop: Arhar (Kharif).  
Site: State Agri. Farm, Berhampore.  
Object: To study the optimum time of sowing for Arhar.

1. BASAL CONDITIONS:

(i) (a) to (c) N.A.  
(ii) (a) Ganga riverine clay loam. (b) Refer soil analysis, Berhampore.  
(iii) As per treatments.  
(iv) (a) 2 to 3 ploughings and spading. (b) Dibbling. (c) to (e) N.A.  
(v) 100 to 120 mds./ac. of F.Y.M.  
(vi) B—7 (medium).  
(vii) N.A.  
(viii) Weeding and earthing.  
(ix) N.A.  
(x) Last week of February to 1st week of March, 1956.

2. TREATMENTS and 3. DESIGN:

Same as in expt. no. 54(69) on page 242.

4. GENERAL:

(i) Poor.  
(ii) Crop suffered badly by attack of insects, control measures—N.A.  
(iii) Yield of grain.  
(iv) (a) 1951—1955. (b) No. (c) Nil.  
(v) (a) No. (b) Nil.  
(vi) N.A.  
(vii) N.A.  
(x) Last week of February to 1st week of March, 1956.

5. RESULTS:

(i) 1103 lb./ac.  
(ii) 616.8 lb./ac.  
(iii) Treatment differences are significant.  
(iv) Av. yield of grain 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>1661</td>
<td>1207</td>
<td>959</td>
<td>583</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>251.8 lb./ac.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop: Khesari (Pulse) (Rabi).  
Site: State Seed Multiplication Farm, Nalhati.  
Object: To study the effect of different sources of N on Khesari.

1. BASAL CONDITIONS:

(i) (a) Paddy—Khesari. (b) Paddy. (c) As per treatments.  
(ii) (a) Lateritic soil. (b) N.A.  
(iii) 4.11.1959.  
(iv) (a) 4 to 6 ploughings and ladderings. (b) Broadcast. (c) to (e) N.A.  
(v) Nil.  
(vii) Kliecíad (pulse).  
(viii) Unirrigated. (ix) 0.55".  
(x) 12.3.1960.

2. TREATMENTS:

3 sources of 30 lb./ac. of N: S_0 = Control, S_1 = A/S and S_2 = A/C.

3. DESIGN:

(i) R.B.D.  
(ii) (a) 3. (b) N.A. (iii) 4. (iv) (a) 34'x19'. (b) 32'x17'. (v) 1'x1'. (vi) Yes.

4. GENERAL:

(i) Fair. (ii) Nil. (iii) Yield of khesari grain. (iv) (a) 1956—contd. (b) Yes.  
(c) Nil. (v) Majhian. (b) Nil.  

5. RESULTS:

(i) 379 lb./ac.  
(ii) 32.9 lb./ac.  
(iii) Treatment differences are significant.  
(iv) Av. yield of grain in lb./ac.
Crop: Khesari (Rabi).  Ref: W.B. 59(SFT).
Centre: Howrah (c.f.).  Type: 'M'.

Object: Type C—To compare the responses of leguminous crops to alternative levels of phosphate.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) Alluvial.  (iii) to (v) N.A.  (vi) November, 1959.  (vii) to (ix) N.A.  (x) March and April, 1960.

2. TREATMENTS:
   3 levels of $P_2O_5$ as Super: $P_0 = 0$, $P_1 = 30$ and $P_2 = 60$ lb/ac.

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 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) N.A.  (b) 1/80 ac.  (iv) Yes.

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

5. RESULTS:
   Treatment          $P_0$  $P_1$  $P_2$
   Av. yield of grain in lb./ac.  568  741  782
   G.M. = 697 lb./ac., S.E./mean = 36.7 lb./ac. and no. of trials = 3.

---

Crop: Khesari (Rabi).  Ref: W.B. 59(SFT).
Centre: Midnapore (c.f.).  Type: 'M'.

Object: Type C—To compare the responses of leguminous crops to alternative levels of phosphate.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) Red and saline.  (iii) to (v) N.A.  (vi) November, 1959.  (vii) to (ix) N.A.  (x) March and April, 1960.

2. TREATMENTS:
   Same as in expt. no. 59(SFT) type C above conducted at Howrah.

5. RESULTS:
   Treatment          $P_0$  $P_1$  $P_2$
   Av. yield of grain in lb./ac.  913  1029  1103
   G.M. = 1015 lb./ac., S.E./mean = 5.8 lb./ac. and no. of trials = 2.
Crop :- Khesari \textit{(Rabi)}.
Centre :- 24-Parganas \textit{(c.f.)}.

Object :- Type C—To compare the responses of leguminous crops to different levels of Phosphate.

1. BASAL CONDITIONS to 4: GENERAL:
Same as in exp. no. 59(SFT) type C on page 264 conducted at Howrah:

5. RESULTS:

<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 of grain in lb./ac.</td>
<td>716</td>
<td>757</td>
<td>765</td>
</tr>
</tbody>
</table>

G.M. = 746 lb./ac., S.E./mean = 8.1 lb./ac. and no. of trials = 3.

Crop :- Gram \textit{(Rabi)}.
Site :- State Agri. Farm, Tollygunj.

Object :- To find out the suitable date of sowing for Gram.

1. BASAL CONDITIONS :
(i) (a) to (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Tollygunj. (iii) As per treatments. (iv) (a) Ploughing and laddering. (b) Dibbling. (c) N.A. (b) 12°9'. (c) 1. (v) N.A. (vi) T—87 (U P.), (vii) Unirrigated. (viii) 2 to 3 weedings. (ix) N.A. (x) 8 to 31.3.1958.

2. TREATMENTS:

3. DESIGN:
(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 18'x20'. (b) 16.5'x18'. (v) 0.75'x1'. (vi) Yes.

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

5. RESULTS:
(i) 708 lb./ac. (ii) 269.9 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$D_1$</th>
<th>$D_2$</th>
<th>$D_3$</th>
<th>$D_4$</th>
<th>$D_5$</th>
<th>$D_6$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>797</td>
<td>976</td>
<td>933</td>
<td>622</td>
<td>584</td>
<td>335</td>
</tr>
</tbody>
</table>

S.E./mean = 135.0 lb./ac.

Crop :- Bengal Gram.
Centre :- Birbhum \textit{(c.f.)}.

Object :- Type C—To compare the responses of leguminous crops to different levels of Phosphate.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) Laterite. (iii) to (v) N.A. (vi) November, 1959. (vii) to (ix) N.A. (x) April, 1960.

2. TREATMENTS:
3 levels of $P_2O_5$ as Super: $P_0$=0, $P_1$ = 30 and $P_2$ = 60 lb./ac.
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 charged 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) N.A. (b) 1/80 ac. (iv) Yes.

4. GENERAL:
(i) Normal. (ii) N.A. (iii) Grain yield. (iv) (a) 1958—contd. (b) No. (c) N.A. (v) As per treatments. (vi) and (vii) N.A.

5. RESULTS:
<table>
<thead>
<tr>
<th>Treatment</th>
<th>P₀</th>
<th>P₁</th>
<th>P₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield of grain in lb./ac.</td>
<td>658</td>
<td>823</td>
<td>922</td>
</tr>
<tr>
<td>G.M. = 801 lb./ac., S.E./mean = 30.8 lb./ac. and no. of trials = 7.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Crop:** Bengal Gram *(Rabi).*
**Centre:** Burdwan *(c.f.).*
Object:— Type C—To compare the responses of leguminous crops to different levels of Phosphate.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) Other alluvial. (iii) to (v) N.A. (vi) November, 1958. (vii) to (ix) N.A. (x) April, 1958.

2. TREATMENTS to 4. GENERAL:
Same as in exp. no. 59(SFT) type C on page 245 conducted at Birbhum.

5. RESULTS:
<table>
<thead>
<tr>
<th>Treatment</th>
<th>P₀</th>
<th>P₁</th>
<th>P₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield of grain in lb./ac.</td>
<td>749</td>
<td>864</td>
<td>889</td>
</tr>
<tr>
<td>G.M. = 834 lb./ac., S.E./mean = 49.5 lb./ac. and no. of trials = 11.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Crop:** Bengal Gram *(Rabi).*
**Centre:** Midnapore *(c.f.).*
Object:— Type C—To compare the responses of leguminous crops to different levels of Phosphate.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) Red soil. (iii) to (v) N.A. (vi) November, 1958. (vii) to (ix) N.A. (x) April, 1959.

2. TREATMENTS to 4. GENERAL:
Same as in exp. no. 59(SFT) type C on page 245 conducted at Birbhum.

5. RESULTS:
<table>
<thead>
<tr>
<th>Treatment</th>
<th>P₀</th>
<th>P₁</th>
<th>P₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield of grain in lb./ac.</td>
<td>1646</td>
<td>2296</td>
<td>2296</td>
</tr>
<tr>
<td>G.M. = 2079 lb./ac., S.E./mean = 41.9 lb./ac. and no. of trials = 5.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop: Bengal gram (*Rabi*).
Centre: Midnapore (c.f.).
Object:— Type C—To compare the responses of leguminous crops to different levels of Phosphate.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) Red and saline. (iii) to (v) N.A. (vi) November, 1959. (vii) to (ix) N.A. (x) April, 1960.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 59(SFT) type C on page 245 conducted at Birbhum.

5. RESULTS:
   Treatment $P_0$ $P_1$ $P_2$
   Av. yield of grain in lb./ac. 1004 1349 1514
   G.M. = 1289 lb./ac. , S.E./mean = 15.7 lb./ac. and no. of trials = 4.

Crop: Bengal gram (*Rabi*).
Centre: Murshidabad (c.f.).
Object:— Type C—To compare the responses of leguminous crops to different levels of Phosphate.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) Alluvial. (iii) to (v) N.A. (vi) November, 1958. (vii) to (ix) N.A. (x) April, 1959.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 59(SFT) type C on page 245 conducted at Birbhum.

5. RESULTS:
   Treatment $P_0$ $P_1$ $P_2$
   Av. yield of grain in lb./ac. 839 963 1070
   G.M. = 957 lb./ac., S.E./mean = 22.1 lb./ac. and no. of trials = 5.
Object:—Type C—To compare the responses of leguminous crops to different levels of Phosphate.

1. BASAL CONDITIONS:

   (i) (a) to (c) N.A. (ii) Alluvial. (iii) to (v) N.A. (vi) November, 1959. (vii) to (ix) N.A. (x) April, 1960.

2. TREATMENTS to 4. GENERAL:

   Same as in expt. no. 59(SFT) type C on page 245 conducted at Birbhum.

5. RESULTS:

   Treatment | P₀ | P₁ | P₂ | Av. yield of grain in lb./ac. | G.M. = 886 lb./ac. ; S.E./mean = 69.8 lb./ac. and no. of trials = 15.
Object: Type C—To compare the responses of leguminous crops to alternative levels of Phosphate.

1. **BASAL CONDITIONS:**
   (i) (a) to (c) N.A. (ii) Red and laterite. (iii) to (v) N.A. (vi) July, 1958. (vii) to (ix) N.A. (x) October, 1958.

2. **TREATMENTS:**
   3 levels of $P_2O_5$ as Super: $P_0=0$, $P_1=30$ and $P_2=60$ lb./ac.

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 oilseeds 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) N.A. (b) 1/80 ac. (iv) Yes.

4. **GENERAL:**
   (i) Normal. (ii) N.A. (iii) Grain yield. (iv) (a) 1958—contd. (b) No. (c) N.A. (v) As per treatments. (vi) and (vii) N.A.

5. **RESULTS:**
<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 of grain in lb./ac.</td>
<td>905</td>
<td>1448</td>
<td>1728</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
   G.M. = 1360 lb./ac.; S.E./mean = 186.2 lb./ac. and no. of trials = 5.

---

**Crop:** Green gram (*Kharif*).
**Centre:** 24-Parganas (c.f.).

**Object:** Type C—To compare the responses of leguminous crops to alternative levels of Phosphate.

1. **BASAL CONDITIONS:**
   (i) (a) to (c) N.A. (ii) Alluvial. (iii) to (v) N.A. (vi) June, 1959. (vii) to (ix) N.A. (x) October, 1959.

2. **TREATMENTS** to 4. **GENERAL:**
   Same as in exp. no. 58(SFT) type C above conducted at Midnapore.

5. **RESULTS:**
<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 of grain in lb./ac.</td>
<td>601</td>
<td>625</td>
<td>667</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
   G.M. = 631 lb./ac.; S.E./mean = 8.1 lb./ac. and no. of trials = 6.

---

**Crop:** Lentil.
**Centre:** Burdwan (c.f.).

**Object:** Type C—To compare the responses of leguminous crops to alternative levels of Phosphate.
1. **BASAL CONDITIONS**:
   (i) (a) to (c) N.A.  (ii) Old and new.  (iii) to (v) N.A.  (vi) October to November, 1958.  (vii) to (ix) N.A.  (x) March, 1959.

2. **TREATMENTS**:
   3 levels of $P_2O_5$ as Super: $P_0 = 0$, $P_1 = 30$ and $P_2 = 60$ lb./ac.

3. **DESIGN**:
   (i) and (ii) The district has been divided into four agriculturally homogenous zones and one field assistant posted in each zone. The field assistant conducts the trials in one revenue circle or thana in the zone and the circle/thana is changed once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year, 8 on kharif/cereal, 8 on rabi cereal, 8 on cash crops, 4 on 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) N.A.  (b) 1.80 ac.  (iv) Yes.

4. **GENERAL**:
   (i) Normal.  (ii) N.A.  (iii) Grain yield.  (iv) (a) 1958—contd.  (b) No.  (c) N.A.  (v) As per treatments.  (vi) and (vii) N.A.

5. **RESULTS**:
   Treatment  
   $P_0$  $P_1$  $P_2$  
   Av. yield of grain in lb./ac.  
   346  444  461  
   G.M. = 417 lb./ac., S.E./mean = 30.8 lb./ac. and no. of trials = 4.

**Crop :- Lentil (Rabi).**  
**Centre :- Howrah (c.f.).**  
Ref :- W.B. 59(SFT).  
Type :- 'M'.

Object :- Type $C$—To compare the responses of leguminous crops to alternative levels of Phosphate.

1. **BASAL CONDITIONS**:
   (i) (a) to (c) N.A.  (ii) Alluvial.  (iii) to (v) N.A.  (vi) October to November, 1959.  (vii) to (ix) N.A.  (x) March, 1960.

2. **TREATMENTS to 4. GENERAL**:
   Same as in exp. no. 58(SFT) type C on page 249 conducted at Burdwan.

5. **RESULTS**:
   Treatment  
   $P_0$  $P_1$  $P_2$  
   Av. yield of grain in lb./ac.  
   757  1004  1119  
   G.M. = 960 lb./ac.; S.E./mean = 63.4 lb./ac. and no. of trials = 2.

**Crop :- Lentil.**  
**Centre :- Midnapore (c.f.).**  
Ref :- W.B. 59(SFT).  
Type :- 'M'.

Object :- Type $C$—To compare the responses of leguminous crops to alternative levels of Phosphate.

1. **BASAL CONDITIONS**:
   (i) (a) to (c) N.A.  (ii) Red and saline.  (iii) to (v) N.A.  (vi) October to November, 1959.  (vii) to (ix) N.A.  (x) March, 1960.

2. **TREATMENTS to 4. GENERAL**:
   Same as in exp. no. 58(SFT) type C on page 249 conducted at Burdwan.
5. RESULTS:

<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 of grain in lb./ac.</td>
<td>461</td>
<td>584</td>
<td>642</td>
</tr>
</tbody>
</table>

G.M. = 562 lb./ac., S.E./mean = 5.2 lb./ac. and no. of trials = 2.

---

**Crop:** Lentil (Rabi).  
**Centre:** 24-Parganas (c.f.).  
**Ref:** W.B. 58(SFT).  
**Type:** ‘M’.

Object:— Type C—To compare the responses of leguminous crops to alternative levels of Phosphate.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) Alluvial.  (iii) to (v) N.A.  (vi) October to November, 1958.  (vii) to (ix) N.A.  (x) March, 1959.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 58(SFT) type C on page 249 conducted at Burdwan.

5. RESULTS:

<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 of grain in lb./ac.</td>
<td>403</td>
<td>453</td>
<td>502</td>
</tr>
</tbody>
</table>

G.M. = 453 lb./ac., S.E./mean = 9.9 lb./ac. and no. of trials = 6.

---

**Crop:** Lentil (Rabi).  
**Centre:** 24-Parganas (c.f.).  
**Ref:** W.B. 59(SFT).  
**Type:** ‘M’.

Object:— Type C—To compare the responses of leguminous crops to alternative levels of Phosphate.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) Alluvial.  (iii) to (v) N.A.  (vi) October to November, 1959.  (vii) to (ix) N.A.  (x) March, 1960.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 58(SFT) type C on page 249 conducted at Burdwan.

5. RESULTS:

<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 of grain in lb./ac.</td>
<td>296</td>
<td>337</td>
<td>354</td>
</tr>
</tbody>
</table>

G.M. = 319 lb./ac.; S.E./mean = 12.2 lb./ac. and no. of trials = 5.

---

**Crop:** Sugarcane.  
**Site:** State Agri. Farm, Burdwan.  
**Ref:** W.B. 56(44).  
**Type:** ‘M’.

Object:— To study the effect of N and P on the yield of Sugarcane.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Sandy loam.  (b) Refer soil analysis, Burdwan.  (iii) N.A.  (iv) (a) Ploughing and spading.  (b) Planting in trenches.  (c) 60 mds./ac.  (d) 3' between rows.  (e) N.A.  (v) N.A.  (vi) CO—527 (medium).  (vii) Irrigated.  (viii) 3 to 4 weedings.  (ix) 70".  (x) N.A.
2. TREATMENTS:
All combinations of (1) and (2)
(1) 4 levels of N: N₀ = 0, N₁ = 100, N₂ = 150 and N₃ = 200 lb./ac.
(2) 4 levels of P: P₀ = 0, P₁ = 100, P₂ = 150 and P₃ = 200 lb./ac.
Full dose of N₀ and P₀ of N was applied before planting as basal dressing. 1/2 of N was applied as top dressing 2 months and 3 months after 1st dressing.

3. DESIGN:
(i) Fact. in R.B.D. (ii) (a) 16. (b) N.A. (iv) 4. (iv) (a) 48' × 24'. (b) 42' × 21'. (v) 3' × 1.5'. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) N.A. (iii) Yiel1 of sugarcane. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) Nil. (vi) Crop suffered due to heavy rain in September, 1956. (vii) Plot wise yield data is N.A.

5. RESULTS:
(i) 31.84 tons/ac. (ii) and (iii) N.A. (iv) Av. yield of sugarcane in tons/ac.

<table>
<thead>
<tr>
<th></th>
<th>P₀</th>
<th>P₁</th>
<th>P₂</th>
<th>P₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₀</td>
<td>13.06</td>
<td>16.15</td>
<td>16.51</td>
<td>18.32</td>
<td>16.01</td>
</tr>
<tr>
<td>N₁</td>
<td>35.37</td>
<td>36.28</td>
<td>32.46</td>
<td>36.37</td>
<td>35.12</td>
</tr>
<tr>
<td>N₂</td>
<td>33.38</td>
<td>35.99</td>
<td>38.19</td>
<td>36.82</td>
<td>36.09</td>
</tr>
<tr>
<td>N₃</td>
<td>38.28</td>
<td>40.63</td>
<td>39.55</td>
<td>42.08</td>
<td>40.13</td>
</tr>
</tbody>
</table>

Mean 30.02 32.26 31.68 33.40 31.84
S.E.'s—N.A.

Crop :— Sugarcane.
Site :— State Agri. Farm, Burdwan.
Type :— 'M'.
Ref.—W.B. 57(54).
Object :— To study the effect of N and P and their combinations on the yield of Sugarcane.

1. BASAL CONDITIONS:
(i) (a) Paddy—Sugarcane. (b) Paddy. (b) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Burdwan. (iii) 27 to 30.3.1957. (iv) (a) Ploughing and laddering. (b) Trench method (cutting placed horizontally in trenches 8 to 10' deep). (c) 60 mds./ac. (d) 3' between rows. (e) N.A. (v) Nil. (vi) CO—527 (medium). (vii) Unirrigated. (viii) Weeding, top-dressing and earthing up. (ix) 42.1'. (x) N.A.

2. TREATMENTS to 4. GENERAL:
Sams as in exp. no. 55(44) or pág. 251.

5. RESULTS:
(i) 40.37 tons/ac. (ii) 3.10 tons/ac. (iii) Only main effect of N is highly significant. (iv) Av. yield of sugarcane in tons/ac.

<table>
<thead>
<tr>
<th></th>
<th>P₀</th>
<th>P₁</th>
<th>P₂</th>
<th>P₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₀</td>
<td>32.9</td>
<td>34.7</td>
<td>36.1</td>
<td>32.3</td>
<td>34.0</td>
</tr>
<tr>
<td>N₁</td>
<td>44.5</td>
<td>41.7</td>
<td>41.1</td>
<td>41.8</td>
<td>42.3</td>
</tr>
<tr>
<td>N₂</td>
<td>40.8</td>
<td>44.6</td>
<td>42.6</td>
<td>44.0</td>
<td>43.0</td>
</tr>
<tr>
<td>N₃</td>
<td>41.8</td>
<td>41.7</td>
<td>40.0</td>
<td>45.4</td>
<td>42.2</td>
</tr>
</tbody>
</table>

Mean 40.0 40.7 40.0 40.9 40.4
S.E. of any marginal mean = 0.78 tons/ac.
S.E. of body of table = 1.55 tons/ac.
Crop: Sugarcane.  
Site: State Agri. Farm, Burdwan.  
Ref: W.B. 58(49).  
Type: ‘M’.  

Object: To find out the optimum dose of N and P on the yield of Sugarcane.

1. BASAL CONDITIONS:
   (i) (a) Fallow. (b) and (c) N.A.  (ii) (a) Sandy loam. (b) Refer soil analysis, Burdwan.  (iii) 5 to 12.4 in 1958. (iv) (a) Ploughing and spading. (b) Cuttings placed horizontally in trenches 10" deep. (c) N.A.  (d) 3' between rows. (e) Nil. (f) N.A. (g) CO—527. (h) Irrigated. (i) 3 to 4 weedings. (j) 156.38°. (k) N.A.

2. TREATMENTS:
   Same as in exp. no. 56(44) on page 251.

3. DESIGN:
   (i) Fact. in R.B.D. (ii) (a) 16. (b) N.A. (iii) 4. (iv) (a) 36'×34'. (b) 30'×32'. (v) 3'×1'. (vi) Yes.

4. GENERAL:
   (i) Normal. (ii) N.A. (iii) Yield of sugarcane. (iv) (a) 1956—1958. (b) No. (c) Nil. (v) (a) and (b) N.A. (vi) Crop suffered due to heavy rains during the last part of the month of April. (vii) Nil.

5. RESULTS:
   (i) 16.6 tons/ac. (ii) 6.4 tons/ac. (iii) Only main effect of N is highly significant. (iv) Av. yield of sugarcane in tons/ac.

<table>
<thead>
<tr>
<th></th>
<th>P₀</th>
<th>P₁</th>
<th>P₂</th>
<th>P₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₀</td>
<td>7.9</td>
<td>6.0</td>
<td>9.2</td>
<td>12.7</td>
<td>8.9</td>
</tr>
<tr>
<td>N₁</td>
<td>17.9</td>
<td>19.0</td>
<td>16.3</td>
<td>17.3</td>
<td>17.6</td>
</tr>
<tr>
<td>N₂</td>
<td>19.9</td>
<td>22.4</td>
<td>15.7</td>
<td>15.1</td>
<td>18.3</td>
</tr>
<tr>
<td>N₃</td>
<td>22.2</td>
<td>24.2</td>
<td>23.7</td>
<td>17.0</td>
<td>21.8</td>
</tr>
<tr>
<td>Mean</td>
<td>17.0</td>
<td>17.9</td>
<td>16.2</td>
<td>15.5</td>
<td>16.6</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 1.60 tons/ac.
S.E. of body of table = 3.20 tons/ac.

---

Crop: Sugarcane.  
Site: State Agri. Farm, Burdwan.  
Ref: W.B. 57(42).  
Type: ‘M’.  

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

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) (a) Clay loam. (b) Refer soil analysis, Burdwan. (iii) January, 1957. (iv) (a) N.A. (b) Cuttings placed horizontally in trenches 10" deep. (c) N.A. (d) 3' to 4' between rows. (e) N.A. (f) N.A. (g) CO—527. (h) Unirrigated. (i) 3 weedings and earthing. (j) N.A. (k) January and February, 1958.

2. TREATMENTS:
   Main-plot treatments: 3 sources of N: S₁=C/N, S₂=A/S and S₃=A/C.
   Sub-plot treatments: 3 levels of N: N₀=0, N₁=60 and N₂=120 lb./ac.

3. DESIGN:
   (i) Split-plot. (ii) (a) 3 main-plots/replication and 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 34'×26'. (b) 32'×24'. (v) 1.0'×1.0'. (vi) Yes.
4. GENERAL:
Satisfactory. (ii) N.A. (iii) Sugarcane yield. (iv) (a) 1957—1959. (b) Yes. (c) N.A. (v) to (vii) Nil.

5. RESULTS:
(i) 28.1 tons/ac. (ii) (a) 4.6 tons/ac. (b) 5.4 tons/ac. (iii) Main effect of N alone is highly significant. (iv) Av. yield of sugarcane in tons/ac.

<table>
<thead>
<tr>
<th></th>
<th>S₁</th>
<th>S₂</th>
<th>S₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₀</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>23.5</td>
</tr>
<tr>
<td>N₁</td>
<td>30.6</td>
<td>26.2</td>
<td>30.7</td>
<td>29.2</td>
</tr>
<tr>
<td>N₂</td>
<td>28.9</td>
<td>30.2</td>
<td>35.6</td>
<td>31.6</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. S marginal means = 1.53 tons/ac.
2. N marginal means = 1.80 tons/ac.
3. N means at the same level of S = 3.12 tons/ac.
4. S means at the same level of N = 2.98 tons/ac.

<table>
<thead>
<tr>
<th></th>
<th>S₁</th>
<th>S₂</th>
<th>S₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₀</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>20.0</td>
</tr>
<tr>
<td>N₁</td>
<td>25.5</td>
<td>24.5</td>
<td>24.3</td>
<td>24.8</td>
</tr>
<tr>
<td>N₂</td>
<td>29.6</td>
<td>32.0</td>
<td>24.6</td>
<td>28.7</td>
</tr>
</tbody>
</table>

S.E. of difference of two
1. S marginal means = 1.09 tons/ac.
2. N marginal means = 1.11 tons/ac.
3. N means at the same level of S = 1.92 tons/ac.
4. S means at the same level of N = 1.91 tons/ac.

Crop := Sugarcane.
Site := State Agri. Farm, Burdwan.
Object := To find out the effect of different sources of N on the yield of Sugarcane.

Ref := W.B. 58(41).
Type := ‘M’.

1. BASAL CONDITIONS:
(i) (a) Fallow—Sugarcane. (b) Sugarcane. (c) Nil. (ii) (a) Clay loam. (b) Refer soil analysis, Burdwan.
(iii) 1 to 3.4.1958. (iv) (a) 4 to 5 ploughings, spadings and land preparation. (b) Cuttings placed horizontally in trenches 10” deep. (c) N.A. (d) 4’ between rows. (e) N.A. (v) N.A. (vi) CO—227 (medium). (vii) Irrigated. (viii) 3 weedings and earthing. (ix) N.A. (x) 30.3.1958 to 15.4.1959.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 57(42) on page 253.

3. RESULTS:
(i) 24.5 tons/ac. (ii) (a) 3.27 tons/ac. (b) 3.33 tons/ac. (iii) Main effect of N is highly significant and interaction N×S is significant. (iv) Av. yield of sugarcane in tons/ac.
Crop :- Sugarcane.
Site :- State Agri. Farm, Burdwan.

Object :- To study the effect of different sources of N on the yield of Sugarcane.

1. BASAL CONDITIONS:
   (i) (a) to (c) Nil. (ii) (a) Sandy loam. (b) Refer soil analysis, Burdwan. (iii) 1.3.1959 to 2.3.1959. (iv) (a) 2 ploughings and ladderings. (b) Line sowing. (c) 3' x 6". (d) and (e) N.A. (v) Nil. (vi) CO—527. (vii) Irrigated. (viii) Nil. (ix) 6.5". (x) 1.12 1959 to 27.12.1959.

2. TREATMENTS:
   General:
   Same as in expt. no. 57(42) on page 253.

3. RESULTS:
   (i) 18.75 tons/ac.
   (ii) (a) 3.00 tons/ac. (b) 3.10 tons/ac. (iii) Main effect of S is significant. Main effect of N is highly significant. (iv) Av. yield of sugarcane in tons/ac.
   
<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>Mean</th>
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<tr>
<td>N0</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>14.86</td>
</tr>
<tr>
<td>N1</td>
<td>19.34</td>
<td>22.72</td>
<td>17.13</td>
<td>19.73</td>
</tr>
<tr>
<td>N2</td>
<td>21.05</td>
<td>24.14</td>
<td>19.80</td>
<td>21.66</td>
</tr>
</tbody>
</table>

Mean 20.20 23.43 18.47

S.E. of difference of two
1. S marginal means 1.00 tons/ac.
2. N marginal means 1.03 tons/ac.
3. N means at the same level of S 1.79 tons/ac.
4. S means at the same level of N 1.77 tons/ac.

Crop :- Sugarcane.
Site :- State Agri. Farm, Berhampore.

Object :- To study the effect of different sources of N on the yield of Sugarcane.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Loamy soil. (b) Refer soil analysis, Berhampore. (iii) 10 to 15.5.1959. (iv) (a) 2 ploughings and ladderings. (b) Line sowing. (c) N.A. (d) 3' x 6". (e) N.A. (f) Nil. (g) CO—527. (h) Irrigated. (i) Nil. (j) 57.6". (k) N.A.

2. TREATMENTS:
   Main-plot treatments:
   3 sources of N : S1=C/N, S2=A/S and S3=A/C.

   Sub-plot treatments:
   3 levels of N : N0=0, N1=60 and N2=120 lb./ac.

3. DESIGN:
   (i) Split-plot. (ii) (a) 3 main-plots/replication and 3 sub-plots/main-plot. (b) N.A. (iii) 6. (iv) (a) 32' x 28.5'. (b) 30' x 26.5'. (c) 1.0' x 1.0'. (vii) Yes.

4. GENERAL:
   (i) Fair. (ii) Nil. (iii) Yield of sugarcane. (iv) (a) 1956—contd. (b) Yes. (c) Nil. (v) (a) Burdwan. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 15.00 tons/ac. (ii) (a) 3.10 tons/ac. (b) 2.32 tons/ac. (iii) Main effects of N and interaction S×N are highly significant. (iv) Av. yield of sugarcane in tons/ac.
**Crop**: Sugarcane.
**Centre**: Birbhum (c.f.).

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

1. **BASAL CONDITIONS**:
   (i) (a) to (c) N.A.  (ii) Laterite and red.  (iii) to (x) N.A.

2. **TREATMENTS**:
   0 = Control (no manure)
   n = 60 lb./ac. of N as A/S
   p = 40 lb./ac. of P2O5 as Super.
   np = 60 lb./ac. of N as A/S+40 lb./ac. of P2O5 as Super.
   k = 40 lb./ac. of K2O as Murr. Pot.
   nk = 60 lb./ac. of N as A/S+40 lb./ac. of K2O as Murr. Pot.
   pk = 40 lb./ac. of P2O5 as Super+40 lb./ac. of K2O as Murr. Pot.
   npk = 60 lb./ac. of N as A/S+40 lb./ac. of P2O5 as Super+40 lb./ac. of K2O as Murr. Pot.

3. **DESIGN**:
   (i) and (ii) The district has been divided into four agriculturally homogeneous zones and one field assistant posted in each zone. The field assistant conducts the trials in one Revenue circle or thana in the zone and the circle, thana is charged once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year, 8 on kharif cereal, 8 on 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) N.A.  (b) 1/80 ac.  (iv) Yes.

4. **GENERAL**:
   (i) Normal.  (ii) N.A.  (iii) Grain yield.  (iv) (a) 1938—contd.  (b) No.  (c) N.A.  (v) As per treatments.  (vi) and (vii) Nil.

5. **RESULTS**:
   Effect
   
   
<table>
<thead>
<tr>
<th>Effect</th>
<th>n</th>
<th>p</th>
<th>k</th>
<th>S.E.</th>
<th>np</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. response of sugarcane in tons/ac.</td>
<td>3.40</td>
<td>1.65</td>
<td>-0.47</td>
<td>0.889</td>
<td>0.38</td>
<td>-0.20</td>
<td>0.90</td>
<td>0.34</td>
<td>0.511</td>
</tr>
</tbody>
</table>
   
   Control yield = 24.78 tons/ac. and no. of trials = 4.
Crop: Sugarcane.  
Centre: Howrah (c.f.).

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

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) Alluvial.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 59(SF) type A on page 256 conducted at Birbhum.

5. RESULTS:
   Effect  n  p  k  S.E.  np  nk  pk  npk  S.E.
   Av. response of sugarcane in tons/ac. 5.06 2.44 4.17 1.095 0.89 1.36 0.77 -0.50 0.819

   Control mean = 34.72 tons/ac. and no. of trials = 3.

---

Crop: Sugarcane.  
Centre: Midnapore (c.f.).

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

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) Red and saline. (iii) to (x) N.A.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 59(SF) type A on page 256 conducted at Birbhum.

5. RESULTS:
   Effect  n  p  k  S.E.  np  nk  pk  npk  S.E.
   Av. response of sugarcane in tons/ac. 2.45 4.84 3.68 0.287 2.08 1.90 -2.20 2.63 1.90

   Control mean = 26.57 tons/ac. and no. of trials = 3.

---

Crop: Jute (Kharif).
Site: State Agri. Farm, Cooch Behar.

Object:—To study the effect of different sources of N on the yield of Jute.

1. BASAL CONDITIONS:
   (i) (a) Jute—Wheat. (b) Wheat. (c) As per treatments.  (ii) (a) Silty and fine sandy loam.  (b) Refer soil analysis, Cooch Behar.  (iii) 28.4.1959.  (iv) (a) 4 to 6 ploughings and ladderings.  (b) Broadcast. (c) 10 lb./ac.  (d) 4'x4'.  (e) 1.  (v) Nil.  (vi) D—154. (vii) Unirrigated. (viii) 2 weedings and thinnings. (ix) N.A.  (x) 25.9.1959.

2. TREATMENTS:
   All combinations of (1) and (2)+ one control
   (1) 2 levels of N: N₁=40 and N₂=60 lb./ac.
   (2) 2 sources of N: S₁=A/S and S₂=A/C.

3. DESIGN:
   (i) L. Sq.  (ii) (a) 5.  (b) N.A.  (iii) 5.  (iv) (a) 34'x26'. (b) 32'x24'.  (v) 1'x1'.  (vi) Yes.
4. GENERAL:

(i) Fair. (ii) Nil. (iii) Yield of jute fibre (dry) and sticks. (iv) (a) 1957—contd. (b) Yes. (c) N.A. (v) to (vii) Nil.

5. RESULTS:

(i) 2017 lb./ac. (ii) 123.0 lb./ac. (iii) ‘Control vs. others’ alone is highly significant. (iv) Av. yield of fibre in lb./ac.

\[
\begin{array}{ccc}
\text{Crop: Jute (}Kharif\text{).} \\
\text{Site: State Seed Multiplication Farm, Fulia.} \\
\text{Type: ‘M’.} \\
\text{Ref: W.B. 59(5).} \\
\text{Object: To study the effect of N through different sources on the yield of Jute.} \\
\text{1. BASAL CONDITIONS:} \\
\text{(i) (a) Wheat—Jute. (b) Wheat. (c) As per treatments. (ii) (a) Fine sandy loam. (b) Refer soil analysis, Fulia. (iii) 10.6.19-9. (iv) (a) 4 ploughings and laddering. (b) Broadcasting. (c) 5 lb/ac. (d) 4"x4". (e) 1. (v) Nil. (vi) D—154 (medium). (vii) Unirrigated. (viii) 2 weedings and thinnings. (ix) 30.2°. (x) 26.9.1959.} \\
\text{2. TREATMENTS:} \\
\text{All combinations of (1) and (2)+one control} \\
\text{(1) 2 levels of N: N1=40 and N2=60 lb./ac.} \\
\text{(2) 2 sources of N: S1=A/S and S2=A/C.} \\
\text{3. DESIGN:} \\
\text{(i) L. Sq. (ii) 5. (b) N.A. (iii) 5. (iv) (a) 34’x26’. (b) 32’x24’. (v) 1’x1’. (vi) Yes.} \\
\text{4. GENERAL:} \\
\text{(i) Fair. (ii) Nil. (iii) Yield of dry fibre and sticks. (iv) (a) 1958—contd. (b) Yes. (c) Nil. (v) (a) Cooch Behar. (b) Nil. (vi) and (vii) Nil.} \\
\text{5. RESULTS:} \\
\text{(i) 1766 lb./ac. (ii) 98.3 lb./ac. (iii) Main effect of N and ‘control vs. others’ are highly significant. (iv) Av. yield of fibre in lb./ac.} \\
\end{array}
\]

\[
\begin{array}{ccc}
\text{Control} = 1540 \text{ lb./ac.} \\
\text{S1} & \text{S2} & \text{Mean} \\
\hline
\text{N1} & 1698 & 1809 & 1753 \\
\text{N2} & 1844 & 1937 & 1890 \\
\hline
\text{Mean} & 1771 & 1873 & 1822 \\
\end{array}
\]

S.E. of any marginal mean = 31.1 lb./ac.
S.E. of body of table = 44.0 lb./ac.
Crop :- Jute.  
Site :- State Seed Multiplication Farm, Krishnagar.  
Ref :- W.B. 57(53).  
Type :- 'M'.

Object :-To study the effects of A/S and A/C on the yield of Jute.

1. BASAL CONDITIONS :
(i) (a) Wheat—Jute. (b) Wheat. (c) N.A. (ii) (a) Loam and clay loam. (b) Refer soil analysis, Krishnagar. (iii) N.A. (iv) (a) 5 to 6 ploughings and spadings. (b) Broadcast. (c) to (e) N.A. (v) 100 mds./ac. of cowdung. (vi) Local (capsularis). (vii) Unirrigated. (viii) 4 to 5 weedings and 2 thinnings. (ix) and (x) N.A.

2. TREATMENTS :
All combinations of (1) and (2) +one control
(1) 2 levels of N : N₁ = 40 and N₂ = 60 lb./ac.  
(2) 2 sources of N : S₁ = A/S and S₂ = A/C.

3. DESIGN :
(i) Fact. in R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 34' x 26'. (b) 32' x 24'. (v) 1' x 1'. (vi) Yes.

4. GENERAL :
(i) Normal. (ii) N.A. (iii) Yield of fibre. (iv) (a) and (b) No. (c) Nil. (v) (a) Fulia and Cooch Behar. (b) N.A. (vi) and (vii) Nil.

5. RESULTS :
(i) 1785 lb./ac. (ii) 463.2 lb./ac. (iii) 'Control vs others' alone is highly significant. (iv) Av. yield of fibre in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>S₁</th>
<th>S₂</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N₁</td>
<td>1832</td>
<td>1773</td>
<td>1802</td>
</tr>
<tr>
<td>N₂</td>
<td>2123</td>
<td>2042</td>
<td>2082</td>
</tr>
<tr>
<td>Mean</td>
<td>1977</td>
<td>1907</td>
<td>1942</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 146.4 lb./ac.  
S.E. of body of table = 207.1 lb./ac.

Crop :- Jute.  
Centre :- Howrah (c.f.).  
Ref :- W.B. 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) Alluvial. (iii) to (v) N.A. (vi) April to June, 1959. (vii) to (ix) N.A. (x) September to October, 1959.

2. TREATMENTS :
0 = Control (no manure).  
n₁ = 40 lb./ac. of N as A/S.  
n₂ = 80 lb./ac. of N as A/S.  
n₁' = 40 lb./ac. of N as Urea.  
n₂' = 80 lb./ac. of N as Urea.  
n₁'' = 40 lb./ac. of N as C/A/N.  
n₂'' = 80 lb./ac. of N as C/A/N.
3. DESIGN:
(i) and (ii) The district has been divided into four agriculturally homogeneous zones and one field assistant posted in each zone. The field assistant conducts the trials in one revenue circle or thana in the zone and the circle/thane is changed once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year, 8 on kharif cereal, 8 on 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) N.A. (b) 1/80 ac. (iv) Yes.

4. GENERAL:
(i) Good. (ii) N.A. (iii) Jute yield. (iv) (a) 1959—contd. (b) No. (c) N.A. (v) As per treatments. (vi) and (vii) N.A.

5 RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</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 of jute in lb./ac.</td>
<td>946</td>
<td>1588</td>
<td>1588</td>
<td>1424</td>
<td>1613</td>
<td>1465</td>
<td>1465</td>
</tr>
<tr>
<td>G.M. =</td>
<td>1441 lb./ac., S.E./mean = 46.5 lb./ac. and no. of trials = 2.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

Crop :- Jute.  
Centre :- Midnapore (c.f.).  
Ref :- W.B. 59(SFT).  
Type :- 'M'.

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

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) Red. (iii) to (v) N.A. (vi) April to June, 1959. (vii) to (ix) N.A. (x) September to October, 1959.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 59(SFT) type B on page 259 conducted at Howrah.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</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 of jute in lb./ac.</td>
<td>2427</td>
<td>2880</td>
<td>3045</td>
<td>3168</td>
<td>3291</td>
<td>3045</td>
<td>3415</td>
</tr>
<tr>
<td>G.M. =</td>
<td>3039 lb./ac., S.E./mean = 112.9 lb./ac. and no. of trials = 2.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

Crop :- Jute.  
Centre :- Murshidabad (c.f.).  
Ref :- W.B. 59(SFT).  
Type :- 'M'.

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

1. BASAL CONDITIONS:
Same as in expt. no. 59(SFT) type B on page 259 conducted at Howrah.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</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 of jute in lb./ac.</td>
<td>15445</td>
<td>17765</td>
<td>19592</td>
<td>17768</td>
<td>19296</td>
<td>17288</td>
<td>19395</td>
</tr>
<tr>
<td>G.M. =</td>
<td>18070 lb./ac., S.E./mean = 263.0 lb./ac. and no. of trials = 4.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop :- Jute.
Centre :- Nadia (c.f.).

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

1. BASAL CONDITIONS to 4. GENERAL:
Same as in expt. no. 59(SFT) type B on page 259 conducted at Howrah.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield of jute in lb./ac.</td>
<td>12318</td>
<td>17517</td>
<td>17239</td>
<td>15725</td>
<td>15577</td>
<td>16351</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G.M. = 16068 lb./ac., S.E./mean = 444.5 lb./ac. and no. of trials = 9.</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 :- Jute.
Centre :- 24-Parganas (c.f.).

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

1. BASAL CONDITIONS to 4. GENERAL:
Same as in expt. no. 59(SFT) type B on page 259 conducted at Howrah.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield of jute in lb./ac.</td>
<td>18004</td>
<td>22044</td>
<td>22768</td>
<td>20464</td>
<td>21419</td>
<td>19749</td>
<td>21073</td>
<td></td>
</tr>
<tr>
<td>G.M. = 20789 lb./ac., S.E./mean = 470.7 lb./ac. and no. of trials = 10.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Jute.
Centre :- Midnapore (c.f.).

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

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) Red saline. (iii) to (v) N.A. (vi) April—June, 1959. (vii) to (ix) N.A. (x) September and October, 1959.

2. TREATMENTS:

- 0 = Control (no manure).
- 1 = 40 lb./ac. of N as A/S.
- 2 = 20 lb./ac. of P₂O₅ as Super.
- 3 = 40 lb./ac. of N as A/S + 20 lb./ac. of P₂O₅ as Super.
- 4 = 20 lb./ac. of K₂O as Mur. Pot.
- 5 = 40 lb./ac. of N as A/S + 20 lb./ac. of K₂O as Mur. Pot.
- 6 = 20 lb./ac. of P₂O₅ as Super + 40 lb./ac. of K₂O as Mur. Pot.
- 7 = 40 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/ghana 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 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) N.A. (b) 1/80 ac. (iv) Yes.

4. GENERAL:
(i) Good (ii) N.A. (iii) Fibre yield. (iv) (a) 1959—contd. (d) No. (c) N.A. (v) As per design. (vi) and (vii) N.A.

5. RESULTS:

Effect

<table>
<thead>
<tr>
<th>n</th>
<th>p</th>
<th>k</th>
<th>S.E.</th>
<th>np</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>667</td>
<td>625</td>
<td>99</td>
<td>17.3</td>
<td>107</td>
<td>74</td>
<td>8</td>
<td>346</td>
<td>14.0</td>
</tr>
</tbody>
</table>

Av. response of jute in lb./ac.

Control yield = 9019 lb./ac. and no. of trials = 4.

Crop :- Jute.
Centre :- Murshidabad (c.f.).

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

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) Alluvial. (iii) to (v) N.A. (vi) April—June, 1959. (vii) to (ix) N.A. (x) September and October, 1959.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 59(SFT) type A on page 261 conducted at Midnapore.

5. RESULTS:

Effect

<table>
<thead>
<tr>
<th>n</th>
<th>p</th>
<th>k</th>
<th>S.E.</th>
<th>np</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1292</td>
<td>658</td>
<td>0</td>
<td>9.1</td>
<td>58</td>
<td>107</td>
<td>222</td>
<td>469</td>
<td>7.4</td>
</tr>
</tbody>
</table>

Av. response of jute in lb./ac.

Control yield = 17231 lb./ac. and no. of trials = 4.

Crop :- Jute.
Centre :- Nadia (c.f.).

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

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) Alluvial. (iii) to (v) N.A. (vi) April—June, 1959. (vii) to (ix) N.A. (x) September and October, 1959.

2. TREATMENTS to 4. GENERAL:
Same as in expt. no. 59(SFT) type A on page 261 conducted at Midnapore.

5. RESULTS:

Effect

<table>
<thead>
<tr>
<th>n</th>
<th>p</th>
<th>k</th>
<th>S.E.</th>
<th>np</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2139</td>
<td>757</td>
<td>1103</td>
<td>40.3</td>
<td>41</td>
<td>831</td>
<td>354</td>
<td>1152</td>
<td>40.3</td>
</tr>
</tbody>
</table>

Av. response of jute in lb./ac.

Control yield = 14063 lb./ac. and no. of trials = 5.
Object:— Type A—To study the response of Jute to levels of N, P and K applied individually and in combinations.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) Alluvial. (iii) to (v) N.A. (vi) April—June, 1959. (vii) to (ix) N.A. (x) September and October, 1959.

2. TREATMENTS to 4. GENERAL:

Same as in expt. no. 59(SFT) type A on page 261 conducted at Midnapore.

5. RESULTS:

<table>
<thead>
<tr>
<th>Effect</th>
<th>n</th>
<th>p</th>
<th>k</th>
<th>S.E.</th>
<th>sp</th>
<th>pk</th>
<th>pk</th>
<th>npk</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. response of jute in lb./ac.</td>
<td>4542</td>
<td>1777</td>
<td>1045</td>
<td>54.3</td>
<td>1234</td>
<td>—58</td>
<td>1531</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control yield =</td>
<td>19847 lb./ac. and no. of trials = 6.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Crop:** Jute (Kharif).  
**Centre:** 24-Parganas (c.f.).  
**Ref:** W.B. 59(SFT).  
**Type:** 'M'.

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

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) Alluvial. (iii) to (v) N.A. (vi) April—June, 1959. (vii) to (ix) N.A. (x) September and October, 1959.

2. TREATMENTS to 4. GENERAL:

Same as in expt. no. 59(SFT) type A on page 261 conducted at Midnapore.

5. RESULTS:

<table>
<thead>
<tr>
<th>Effect</th>
<th>n</th>
<th>p</th>
<th>k</th>
<th>S.E.</th>
<th>sp</th>
<th>pk</th>
<th>pk</th>
<th>npk</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. response of jute in lb./ac.</td>
<td>4542</td>
<td>1777</td>
<td>1045</td>
<td>54.3</td>
<td>1234</td>
<td>—58</td>
<td>1531</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control yield =</td>
<td>19847 lb./ac. and no. of trials = 6.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Crop:** Jute (Kharif).  
**Centre:** Burdwan (district, c.f.).  
**Ref:** W.B. 54(19).  
**Type:** 'M'.

Object:— To study the effect of different doses of fertilizers on the yield of Jute in different soil regions.

1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Fallow. (c) Nil. (ii) Light and medium texture soil (alluvial). (iii) Nil. (iv) Local (capsularis). (v) (a) to (c) 3 to 4 ploughings. (b) Broadcast. (c) 30 lb./ac. (d) and (e) N.A. (vi) April—June, 1954. (vii) Unirrigated. (viii) N.A. (ix) 42Y. (x) September—October, 1955.

2. TREATMENTS:

3 manurial treatments: \( M_0 = \) Control (cultivator's practice), \( M_1 = 30 \) lb./ac. of N as A/Sand \( M_2 = 25 \) lb./ac. of \( K_2O \) as Mur. Pot.

Fertilizers were applied as top dressing when plants were 4 weeks old.

3. DESIGN:

(i) and (ii) Selected at random from the list of police stations in the district. 21 expts. in Burdwan and 30 expts. in Hooghly district. Single replication per village. (iii) (a) 0.50 to 0.75 ac. of land divided into 3 equal parts. (b) 2 circular cuts of 6' 7" diameter obtained at random within a sub-plot. (i/60 ac. approximately). (iv) Yes.

4. GENERAL:

(i) Good. (ii) N.A. (iii) Green weight and dry fibre yield. (iv) 1952—1954. (v) and (vi) N.A. (vii) Green weight of plants were recorded separately for the two patches by crop cutting technique. The plants were then combined for retting and dry fibre extracted from fully retted plants. The dry weight of fibre from 2 cuts/plot was then converted to acreage.

5. RESULTS:

(i) 1810 lb./ac. (ii) 369.4 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of fibre in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>( M_0 )</th>
<th>( M_1 )</th>
<th>( M_2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1544</td>
<td>1862</td>
<td>2023</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 51.7 lb./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Crop:** Jute (Kharif).  
**Centre:** Hoogly (district, c.f.).  
**Ref:** W.B. 54(20).  
**Type:** 'M'.

Object:— To study the effect of different doses of fertilizers on the yield of Jute in different soil regions.
1. BASAL CONDITIONS:
   (i) (a) Nil. (b) Fallow. (c) Nil. (ii) Light and medium texture soil. (iii) Nil. (iv) Local (capsularis). (v) (a) 3 to 4 ploughings. (b) Broadcasting. (c) 30 lb./ac. (d) and (e) N.A. (vi) April—June, 1954. (vii) Unirrigated. (viii) Nil. (ix) 47.14'. (x) September—October, 1954.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 54(19) on page 263.

3. RESULTS:
   (i) 165.8 lb./ac. (ii) 230.2 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of fibre in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$M_0$</th>
<th>$M_1$</th>
<th>$M_2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1460</td>
<td>1730</td>
<td>1785</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>32.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Groundnut.
Site :- State Agri. Farm, Berhampore.
Object :- To find out the effect of intercultural operations on the yield of Groundnut.

1. BASAL CONDITIONS:
   (i) (a) Wheat—Groundnut. (b) Wheat. (c) 250 mds./ac. of T.C. (ii) (a) Loamy. (b) Refer soil analysis, Berhampore. (iii) 13.6.1954. (iv) (a) 3 to 4 ploughings and laddering. (b) N.A. (c) 60 lb./ac. (d) 24' x 9'. (e) 2. (v) 150 mds./ac. of cowdung. (vi) Spanish peanut (late). (vii) Unirrigated. (viii) As per treatments. (ix) 36.82'. (x) 12.11.1954.

2. TREATMENTS:
   6 cultural treatments: $C_0$=Control, $C_1$=1 weeding and 1 mulching, $C_2$=2 weedicings and 2 mulchings, $C_3$=3 weedicings and 3 mulchings, $C_4$=1 weeding, 1 mulching and 1 earthing and $C_5$=2 weedicings, 2 mulchings and 2 earthing.

3. DESIGN:
   (i) L. Sq. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 18' x 10'. (b) 16' x 6'. (v) 1' x 2'. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Groundnut yield. (iv) (a) 1953—1955. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 5440 lb./ac. (ii) 862.4 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of groundnut in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>$C_0$</th>
<th>$C_1$</th>
<th>$C_2$</th>
<th>$C_3$</th>
<th>$C_4$</th>
<th>$C_5$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>6045</td>
<td>7036</td>
<td>6860</td>
<td>5084</td>
<td>4988</td>
<td>2625</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>352.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Groundnut.
Site :- State Agri. Farm, Berhampore.
Object :- To find out the effect of intercultural operations on the yield of Groundnut.

1. BASAL CONDITIONS:
   (i) (a) Wheat—Groundnut. (b) Wheat. (c) 250 mds./ac. of T.C. (ii) (a) Loamy. (b) Refer soil analysis, Berhampore. (iii) 8.6.1955. (iv) (a) 3 to 4 ploughings and laddering. (b) N.A. (c) 60 lb./ac. (d) 24' x 9'. (e) 2. (v) 150 mds./ac. of cowdung. (vi) Spanish peanut (late). (vii) Nil. (viii) As per treatments. (ix) 42.6'. (x) 13.11.1955.

Ref :- W.B. 54(37). Type :- 'C'.

Ref :- W.B. 55(14). Type :- 'C'.
2. TREATMENTS:
   Same as in exp. no. 54(37) on page 264.

3. DESIGN:
   (i) L. Sq. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 24'x14'. (b) 22'x12'. (v) 1'x1'. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) N.A. (iii) Groundnut yield. (iv) (a) 1935—1935. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 1237 lb./ac. (ii) 388.5 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of groundnut
   in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>C₀</td>
<td>1246</td>
<td>158.6 lb./ac.</td>
</tr>
<tr>
<td>C₁</td>
<td>1695</td>
<td></td>
</tr>
<tr>
<td>C₂</td>
<td>1069</td>
<td></td>
</tr>
<tr>
<td>C₃</td>
<td>1154</td>
<td></td>
</tr>
<tr>
<td>C₄</td>
<td>1279</td>
<td></td>
</tr>
<tr>
<td>C₅</td>
<td>1098</td>
<td></td>
</tr>
</tbody>
</table>

   Crop :- Groundnut.  Ref :- W.B. 54(55).
   Site :- State Agri. Farm, Berhampore.  Type :- 'C'.

Object :- To find out the best spacing for Groundnut to get maximum yield.

1. BASAL CONDITIONS:
   (i) (a) Mustard—Linseed groundnut. (b) Mustard—Linseed. (c) 150 mds./ac. cowdung. (ii) (a) Loamy.
   (b) Refer soil analysis, Berhampore. (iii) 17.6.1954. (iv) (a) 3 to 4 ploughings and ladderings. (b) N.A.
   (c) 25 to 65 lb./ac. (d) As per treatments. (e) 2 to 3. (v) 150 mds./ac. of cowdung. (vi) K—3 (Koperkonda early).
   (vii) Unirrigated. (viii) 2 weedings, 2 mchings and 3 earthings. (ix) 36.82". (x) 3.11.1954.

2. TREATMENTS:
   8 different spacings: S₁=12"x9", S₂=12"x12", S₃=18"x6", S₄=18"x9", S₅=18"x12", S₆=24"x6", S₇=24"x9" and S₈=24"x12".

3. DESIGN:
   (i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 3. (iv) (a) N.A. (b) 18'x9'. (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Moderate. (ii) Nil. (iii) Groundnut yield. (iv) (a) 1932—1955. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
   (i) 1467 lb./ac. (ii) 226.8 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of groundnut
   in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Av. yield</th>
<th>S.E./mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
<td>1103</td>
<td>130.9 lb./ac.</td>
</tr>
<tr>
<td>S₂</td>
<td>1748</td>
<td></td>
</tr>
<tr>
<td>S₃</td>
<td>1494</td>
<td></td>
</tr>
<tr>
<td>S₄</td>
<td>1221</td>
<td></td>
</tr>
<tr>
<td>S₅</td>
<td>1629</td>
<td></td>
</tr>
<tr>
<td>S₆</td>
<td>1641</td>
<td></td>
</tr>
<tr>
<td>S₇</td>
<td>1523</td>
<td></td>
</tr>
<tr>
<td>S₈</td>
<td>1378</td>
<td></td>
</tr>
</tbody>
</table>

   Site :- State Agri. Farm, Berhampore.  Type :- 'C'.

Object :- To find out the best spacing for Groundnut to get maximum yield.

1. BASAL CONDITIONS:
   (i) (a) Mustard—Linseed followed by groundnut. (b) Mustard—Linseed. (c) 170 mds./ac. of cowdung.
   (ii) (a) Loamy. (b) N.A. (iii) 6.6.1955. (iv) (a) 3 to 4 ploughings and ladderings. (b) N.A. (c) Varies
   according to spacing. (d) As per treatments. (e) 2 to 3. (v) 150 mds./ac. of cowdung. (vi) K—3 (Koperkonda early).
   (vii) Unirrigated. (viii) 2 weedings, 2 mchings and 2 earthings. (ix) 42 60". (x) 5.11.1955.
2. TREATMENTS:
Same as in expt. no. 54(55) on page 265.

3. DESIGN:
(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 3 (iv) (a) 30'×12'. (b) 27×9'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) N.I. (iii) Groundnut yield. (iv) (a) 1952—1955. (b) No. (c) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 303 lb./ac. (ii) 62.9 lb./ac. (iii) Treatment differences are significant. (iv) Av. yield of groundnut in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S5</th>
<th>S6</th>
<th>S7</th>
<th>S8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>312</td>
<td>250</td>
<td>371</td>
<td>307</td>
<td>290</td>
<td>283</td>
<td>366</td>
<td>246</td>
</tr>
</tbody>
</table>

S.E./mean = 36.3 lb./ac.

---

Crop :- Groundnut.
Site :- State Agri. Farm, Berhampore.

Ref :- W.B. 54(54).
Type :- 'C'.

Object :-To find out the most suitable spacing for groundnut to get the maximum yield.

1. BASAL CONDITIONS:
(i) (a) Mustard+Linseed—Groundnut. (b) Mustard—Linseed. (c) 150 mds./ac. of cowdung. (ii) (a) Loamy sand. (b) Refer soil analysis, Berhampore. (iii) 12.6.1954. (iv) (a) 4 ploughings and ladderings. (b) N.A. (c) 20 to 63 lb./ac. (d) As per treatments. (e) 2 to 3. (f) 150 mds./ac. of cowdung. (vi) Spanish peanut (late). (vii) Unirrigated. (viii) 2 weedings and 2 mulchings. (ix) 34.53°. (x) 17.11.1954.

2. TREATMENTS:
Same as in expt. no. 54(15) on page 265.

3. DESIGN:
(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 18'×9'. (v) N.A. (vi) Yes.

4. GENERAL:
Same as in expt. no. 54(55) on page 265.

5. RESULTS:
(i) 1807 lb./ac. (ii) 245.5 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of groundnut in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S5</th>
<th>S6</th>
<th>S7</th>
<th>S8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1490</td>
<td>1613</td>
<td>1601</td>
<td>1759</td>
<td>1800</td>
<td>1772</td>
<td>2228</td>
<td>2193</td>
</tr>
</tbody>
</table>

S.E./mean = 100.6 lb./ac.

---

Crop :- Groundnut.
Site :- State Agri. Farm, Berhampore.

Ref :- W.B. 55(13).
Type :- 'C'.

Object :-To find out the most suitable spacing for groundnut to get the maximum yield.

1. BASAL CONDITIONS:
(i) (a) Mustard+Linseed—Groundnut. (b) Mustard—Linseed. (c) 150 mds./ac. of cowdung. (ii) (a) Loamy soil. (b) Refer soil analysis, Berhampore. (iii) 9.6.1955. (iv) (a) 4 ploughings and ladderings. (b) N.A. (c) 20 to 63 lb./ac. (d) As per treatments. (e) 2 to 3. (f) 150 mds./ac. of cowdung. (vi) Spanish peanut (late). (vii) Unirrigated. (viii) 2 weedings and 2 mulchings. (ix) 51.64°. (x) 20.11.1955.
2. TREATMENTS:
Same as in exp't. no. 54(55) on page 265.

3. DESIGN:
(i) R.B.D. (ii) (a) 8. (b) N.A. (iii) 6. (iv) (a) N.A. (b) 30'x12'. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Yield of umbelled groundnut. (iv) (a) 1952-1955. (b) Nil. (c) N.A. (v) (a) and (b) No. (vi) Yes.

5. RESULTS:
(i) 571 lb./ac. (ii) 128.3 lb./ac. (iii) Treatment differences are not significant. (iv) Av. yield of groundnut in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>S_1</th>
<th>S_2</th>
<th>S_3</th>
<th>S_4</th>
<th>S_5</th>
<th>S_6</th>
<th>S_7</th>
<th>S_8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>577</td>
<td>573</td>
<td>541</td>
<td>497</td>
<td>580</td>
<td>593</td>
<td>594</td>
<td>610</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>52.4 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Til (Kharif).
Site :- State Agri. Farm, Berhampore.
Object :- To find out the best time of sowing for Til.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Berhampore. (iii) As per treatments. (iv) (a) Spacing and 2 to 3 ploughings. (b) Line sowing. (c) 6 to 7 lb./ac. (d) 12'x6'. (e) N.A. (vi) 100 mds./ac. of cowdung. (vii) B-14 (early). (viii) Unirrigated. (ix) 2 to 3 weedings and thinning. (x) 37.30'.

For treatment D_1 to D_4 after 50 days and for D_5 and D_6 after 80 days of sowing.

2. TREATMENTS:
6 dates of sowing : D_1=12th May to 5th June, D_2=27th May to 23rd June, D_3=12th June to 7th July, D_4=27th June to 21st July, D_5=12th July to 5th August and D_6=27th July to 20th August.

3. DESIGN:
(i) R.B.D. (ii) (a) 6. (b) N.A. (iii) 6. (iv) (a) 11.5'x7'. (b) 9.5'x6'. (v) 10.0'x0.5'. (vi) Yes.

4. GENERAL:
(i) Good. (ii) Nil. (iii) Yield of seed. (iv) (a) 1952-1955. (b) N.A. (c) N.A. (v) to (vii) Nil.

5. RESULTS:
(i) 364 lb./ac. (ii) 107.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D_1</th>
<th>D_2</th>
<th>D_3</th>
<th>D_4</th>
<th>D_5</th>
<th>D_6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1203</td>
<td>796</td>
<td>92</td>
<td>38</td>
<td>33</td>
<td>22</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>43.7 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Til (Kharif).
Site :- State Agri. Farm, Berhampore.
Object :- To find out the best time of sowing for Til.

Ref :- W.B. 54(61).
Type :- 'C'.

Ref :- W.B. 55(80).
Type :- 'C'.
1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Sandy loam. (b) Refer soil analysis, Berhampore. (iii) As per treatments. (iv) (a) Spading and 1 to 2 ploughings. (b) Line sowing. (c) 6 lb./ac. (d) 12" x 6". (e) N.A. (v) 80 to 100 mds./ac. of cowdung. (vi) B-14 (late). (vii) Unirrigated. (viii) 2 weedings and thinning. (ix) 40.10". (a) For treatments D1 to D4 after 90 days and for D5 and D6 after 80 days of sowing.

2. TREATMENTS to 4. GENERAL:
   Same as in expt. no. 54(61) on page 267.

3. RESULTS:
   (i) 394 lb./ac. (ii) 237.0 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
<th>D5</th>
<th>D6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>790</td>
<td>814</td>
<td>415</td>
<td>223</td>
<td>64</td>
<td>56</td>
</tr>
</tbody>
</table>

   S.E./mean = 96.8 lb./ac.

   **Crop:** Til (Kharif).
   **Site:** State Agri. Farm, Berhampore.
   **Object:** To find out the best seed-rate for Til.

4. GENERAL:
   (i) Good. (ii) Nil. (iii) Yield of seed. (iv) (a) 1953-1955. (b) Yes. (c) N.A. (v) to (vii) Nil.

5. RESULTS:
   (i) 288 lb./ac. (ii) 40.4 lb./ac. (iii) Treatment differences are highly significant. (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>R1</th>
<th>R2</th>
<th>R3</th>
<th>R4</th>
<th>R5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>301</td>
<td>322</td>
<td>376</td>
<td>331</td>
<td>111</td>
</tr>
</tbody>
</table>

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

   **Crop:** Til (Kharif).
   **Site:** State Agri. Farm, Berhampore.
   **Object:** To find out the best seed-rate for Til.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Sandy loam (riverine). (b) Refer soil analysis, Berhampore. (iii) 15 to 20.6.1954. (iv) (a) Spadings and 2 to 3 ploughings. (b) Line sowing. (c) As per treatments. (d) 12" x 6". (e) Nil. (v) 100 mds./ac. of cowdung. (vi) B-14 (late). (vii) Unirrigated. (viii) 1 weeding and 2 thinnings. (ix) 46.47". (x) Last week of September, 1955.
2. TREATMENTS:
Same as in expt. no. 54(63) on page 268.

3. DESIGN:
(i) L. Sq.  (ii) (a) 5.  (b) N.A.  (iii) 5.  (iv) (a) 22'×11'.  (b) 20'×10'.  (v) 1.0'×0.5'.  (vi) Yes.

4. GENERAL:
(i) Normal.  (ii) N.A.  (iii) Yield of seed.  (iv) (a) 1953—1955.  (b) Yes.  (c) N.A.  (v) to (vii) Nil.

5. RESULTS:
(i) 123 lb./ac.  (ii) 61.0 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of seed
in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>R1</th>
<th>R2</th>
<th>R3</th>
<th>R4</th>
<th>R5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>89</td>
<td>139</td>
<td>176</td>
<td>107</td>
<td>103</td>
</tr>
</tbody>
</table>

S.E./mean = 27.3 lb./ac.

Crop :- Linseed (Rabi).

Site :- State Agri. Farm, Berhampore.

Object :- To find out the optimum seed-rate for Linseed.

1. BASAL CONDITIONS:
(i) (a) Nil.  (b) and (c) N.A.  (ii) (a) Sandy loam (riverine). (b) Refer soil analysis, Berhampore. (iii) 25.10.1954.  (iv) (a) Spading and 3 ploughings. (b) Line sowing. (c) As per treatments. (d) 12"×6". (e) N.A.  (f) 100 mds./ac. of cowdung. (g) B-37 (late). (h) Unirrigated. (i) 1 to 2 weedings and 2 thinnings. (x) 4.75". (x) 10 to 15.3.1955.

2. TREATMENTS:
6 seed rates: R1=8, R2=10, R3=12, R4=14, R5=16 and R6=18 lb./ac.

3. DESIGN:
(i) R.B.D.  (ii) (a) 6.  (b) N.A.  (iii) 6.  (iv) (a) 22'×16'.  (b) 20'×15'.  (v) 1'×0.5'.  (vi) Yes.

4. GENERAL:
(i) Normal.  (ii) Nil.  (iii) Yield of seed.  (iv) (a) 1952—1955.  (b) Yes.  (c) Nil.  (v) to (vii) Nil.

5. RESULTS:
(i) 1092 lb./ac.  (ii) 132.1 lb./ac.  (iii) Treatment differences are not significant.  (iv) Av. yield of seed
in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>R1</th>
<th>R2</th>
<th>R3</th>
<th>R4</th>
<th>R5</th>
<th>R6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>977</td>
<td>1113</td>
<td>1134</td>
<td>1123</td>
<td>1108</td>
<td>1095</td>
</tr>
</tbody>
</table>

S.E./mean = 53.9 lb./ac.

Crop :- Linseed (Rabi).

Site :- State Agri. Farm, Berhampore.

Object :- To find out the optimum seed-rate for Linseed.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A.  (ii) (a) Sandy loam (riverine). (b) Refer soil analysis, Berhampore. (iii) Last week of
October, 1955.  (iv) (a) 1 ploughing and 2 harrowings. (b) Line sowing. (c) As per treatments.  (d) 12"×6".
(e) Nil.  (f) 80 to 100 mds./ac. of cowdung. (g) B-37 (late). (h) Unirrigated. (i) 2 weedings and
thinning. (x) Last week of March, 1956.
2. TREATMENTS:
Same as in expt. no. 54(62) on page 269.

3. DESIGN:
(i) R.B.D.  (ii) (a) 6.  (b) N.A.  (iii) 4.  (iv) (a) 23'x11'.  (b) 23'x9.5'.  (v) 0.75' both sides lengthwise.
(vi) Yes.

4. GENERAL:
(i) Fair.  (ii) Nil.  (iii) Yield of grain.  (iv) (a) 1952—1955.  (b) Yes.  (c) N.A.  (v) to (vii) Nil.

5. RESULTS:
(i) 1296 lb./ac.  (ii) 154.5 lb./ac.  (iii) Treatment differences are significant. (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>R₁</th>
<th>R₂</th>
<th>R₃</th>
<th>R₄</th>
<th>R₅</th>
<th>R₆</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>1030</td>
<td>1428</td>
<td>1440</td>
<td>1297</td>
<td>1381</td>
<td>1159</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 77.2 lb./ac.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Crop:** Toria *(Kharif)*

**Site:** State Agri. Farm, Malda.

**Ref.:** W.B. 58(26).

**Type:** -M'

Object: — To find the out effect of N alone and in combination with P on the yield of Toria.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A.  (ii) (a) Alluvial (clay).  (b) Refer soil analysis, Malda.  (iii) 15 to 20.10.1958.  (iv) (a) 3 to 4 ploughings and spading.  (b) Line sowing.  (c) 4 to 5 lb./ac.  (d) 12'x6'.  (e) N A.  (v) 150 mds./ac. of cowdung.  (vi) B-34 (late).  (vii) Unirrigated.  (viii) 2 to 3 weedings and 2 thinnings.  (ix) 48'.

2. TREATMENTS:
All combinations of (1) and (2)
(1) 4 levels of N as A/S: N₀=0, N₁=20, N₂=40 and N₃=60 lb./ac.
(2) 3 levels of P₂O₅ as Super : P₀=0, P₁=30 and P₂=60 lb./ac.

3. DESIGN:
(i) Fact. in R.B.D.  (ii) (a) 12.  (b) N.A.  (iii) 4.  (iv) (a) 17'x12'.  (b) 15'x11'.  (v) 1'x0.5'.  (vi) Yes.

4. GENERAL:
(i) Good.  (ii) N.A.  (iii) Yield of grain.  (iv) (a) 1958—1962.  (b) Yes.  (c) N.A.  (v) to (vii) Nil.

5. RESULTS:
(i) 512 lb./ac.  (ii) 131.1 lb./ac.  (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>P₀</td>
<td>497</td>
<td>546</td>
<td>509</td>
<td>485</td>
</tr>
<tr>
<td>P₁</td>
<td>443</td>
<td>400</td>
<td>578</td>
<td>504</td>
</tr>
<tr>
<td>P₂</td>
<td>460</td>
<td>581</td>
<td>554</td>
<td>586</td>
</tr>
</tbody>
</table>

| Mean | 467 | 509 | 547 | 525 | 512 |

<table>
<thead>
<tr>
<th>S.E. of N marginal mean</th>
<th>38.7 lb./ac.</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.E. of P marginal mean</td>
<td>33.7 lb./ac.</td>
</tr>
<tr>
<td>S.E. of body of table</td>
<td>67.0 lb./ac.</td>
</tr>
</tbody>
</table>
Crop: Toria (Kharif).
Site: State Agri. Farm, Malda.

Object: To find out the effect of N alone and in combination with P on the yield of Potato.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Alluvial (loam). (b) Refer soil analysis, Malda. (iii) 22 to 28.10.1959. (iv) (a) 3 to 4 ploughings, 3 spadings and harrowings. (b) Line scowing. (d) 4 to 5 lb./ac. (d) 12' x 6". (e) N.A. (v) N.A. (vi) B-54 (late). (vii) Irrigated. (viii) Weeding and thinning. (ix) N.A. (x) Last week of January, 1960.

2. TREATMENTS:
2. GENERAL:
   Same as in exp. no. 58(26) on page 270.

5. RESULTS:
   (i) 1412 lb./ac. (ii) 145.2 lb./ac. (iii) Main effect of N 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>N3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>P0</td>
<td>1089</td>
<td>1380</td>
<td>1422</td>
<td>1583</td>
<td>1368</td>
</tr>
<tr>
<td>P1</td>
<td>1234</td>
<td>1312</td>
<td>1514</td>
<td>1703</td>
<td>1441</td>
</tr>
<tr>
<td>P2</td>
<td>1284</td>
<td>1373</td>
<td>1507</td>
<td>1548</td>
<td>1428</td>
</tr>
<tr>
<td>Mean</td>
<td>1202</td>
<td>1355</td>
<td>1481</td>
<td>1611</td>
<td>1412</td>
</tr>
</tbody>
</table>

S.E. of N marginal mean = 41.9 lb./ac.
S.E. of P marginal mean = 36.3 lb./ac.
S.E. of body of table = 72.6 lb./ac.

Crop: Mustard (Rabi).
Site: State Agri. Farm, Kalyani.

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

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Loam and sandy loam. (b) Refer soil analysis, Kalyani. (iii) 2.11.1957. (iv) (a) 3 to 4 ploughings and 2 spadings. (b) Line sowings. (c) to (e) N.A. (v) N.A. (vi) Tori-7. (vii) Unirrigated. (viii) 2 weedicings. (ix) N.A. (x) 15.1.1958.

2. TREATMENTS:
   All combinations of (1) and (2)
   (1) 3 levels of N as A/S: N0=0, N1=40 and N2=60 lb./ac.
   (2) 2 levels of P2O5 as Super: P0=0 and P1=60 lb./ac.

3. DESIGN:
   (i) Fact. in R.B.D. (ii) (a) 6. (b) N.A. (iii) 4. (iv) (a) 38' x 19'. (b) 36' x 17'. (v) 1' x 1'. (vi) Yes.

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

5. RESULTS:
   (i) 209 lb./ac. (ii) 41.0 lb./ac. (iii) Main effects of N and P are highly significant and N x P interaction is significant. (iv) Av. yield of grain in lb./ac.
Object:— To study the effects of N and P on the yield of Mustard.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A.  (ii) Loam and sandy loam.  (b) Refer soil analysis, Kalyani.  (iii) 15.11.1958.  (iv) (a) 4 to 5 ploughings.  (b) Broadcast.  (c) As per per treatments.  (d) and (e) N.A.  (v) 80 to 100 mds./ac. -of cowdung.  (vi) Rai—5.  (vii) Unirrigated.  (viii) 2 weedings and 1 thinning.  (ix) N.A.  (x) 7.3.1959.

2. TREATMENTS to 4. GENERAL:
   Same as in exp. no. 57,55) on page 271.

5. RESULTS:
   (i) 743 lb./ac.  (ii) 275.3 lb./ac.  (iii) Only main effect of N is significant.  (iv) Av. yield of seed in lb./ac.

<table>
<thead>
<tr>
<th>N</th>
<th>N1</th>
<th>N2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1</td>
<td>373</td>
<td>996</td>
<td>781</td>
</tr>
<tr>
<td>N1</td>
<td>580</td>
<td>884</td>
<td>845</td>
</tr>
<tr>
<td>Mean</td>
<td>476</td>
<td>940</td>
<td>813</td>
</tr>
</tbody>
</table>

S.E. of N marginal mean = 97.3 lb./ac.
S.E. of P marginal mean = 79.4 lb./ac.
S.E. of body of table = 137.6 lb./ac.

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) to (v) N.A.  (vi) October to November, 1959.  (vii) to (ix) N.A.  (x) March, 1960.
2. TREATMENTS:

0 = Control (no manure).

n = 20 lb./ac. of N as A/S.

p = 20 lb./ac. of P$_2$O$_5$ as Super.

np = 20 lb./ac. of N as A/S + 20 lb./ac. of P$_2$O$_5$ as Super.

k = 20 lb./ac. of K$_2$O as Mur. Pot.

nk = 20 lb./ac. of N as A/S + 20 lb./ac. of K$_2$O as Mur. Pot.

pk = 20 lb./ac. of P$_2$O$_5$ as Super + 20 lb./ac. of K$_2$O as Mur. Pot.

npk = 20 lb./ac. of N as A/S + 20 lb./ac. of P$_2$O$_5$ as Super + 20 lb./ac. of K$_2$O as Mur. Pot.

3. DESIGN:

(i) and (ii) The district has been divided into four agriculturally homogenous zones and one field assistant posted in each zone. The field assistant conducts the trials in one Revenue circle or thana in the zone and the circle/theta is changed once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year, 8 on kharif cereal, 8 on 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) N.A. (b) 1/80 ac. (iv) Yes.

4. GENERAL:

(i) Normal. (ii) N.A. (iii) Grain yield. (iv) (a) 1959—contd. (b) No. (c) N.A. (v) As per treatments. (vi) and (vii) N.A.

5. RESULTS:

Effect

<table>
<thead>
<tr>
<th>Crop</th>
<th>Mustard (Rabi)</th>
<th>Centre: Nadia (c.f.)</th>
<th>Ref: W.B. 59(SFT)</th>
<th>Type: 'M'</th>
</tr>
</thead>
</table>

Av. response of mustard in lb./ac.:

<table>
<thead>
<tr>
<th>n</th>
<th>p</th>
<th>k</th>
<th>S.E.</th>
<th>np</th>
<th>nk</th>
<th>pk</th>
<th>npk</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>74</td>
<td>16</td>
<td>58</td>
<td>15.6</td>
<td>-25</td>
<td>25</td>
<td>16</td>
<td>25</td>
<td>11.5</td>
</tr>
</tbody>
</table>

Control yield = 263 lb./ac. and no. of trials = 8.

1. BASAL CONDITIONS:

(i) (a) to (c) N.A. (ii) Alluvial. (iii) to (v) N.A. (vi) October to November, 1959. (vii) to (ix) N.A. (x) March, 1960.

2. TREATMENTS:

0 = Control (no manure).

n$_1$ = 20 lb./ac. of N as A/S.

n$_2$ = 40 lb./ac. of N as A/S.

n'$_1$ = 20 lb./ac. of N as Urea.

n'$_2$ = 40 lb./ac. of N as Urea.

n''$_1$ = 20 lb./ac. of N as C/A/N.

n''$_2$ = 40 lb./ac. of N as C/A/N.

3. DESIGN:

(i) and (ii) The district has been divided into four agriculturally homogeneous zones and one field assistant posted in each zone. The field assistant conducts the trials in one Revenue circle or thana in the zone and the circle/theta is changed once in two years within the same zone. Each field assistant is required to conduct 31 trials in a year, 8 on kharif cereal, 8 on 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) N.A. (b) 1/80 ac. (iv) Yes.
4. GENERAL:
(i) Normal. (ii) N.A. (iii) Grain yield. (iv) (a) 1959—contd. (b) No. (c) N.A. (v) As per treatments, (vi) and (vii) N.A.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>n₁</th>
<th>n₂</th>
<th>n₁'</th>
<th>n₂'</th>
<th>n₁''</th>
<th>n₂''</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield of grain in lb./ac.</td>
<td>296</td>
<td>370</td>
<td>403</td>
<td>395</td>
<td>411</td>
<td>329</td>
<td>379</td>
</tr>
</tbody>
</table>

G.M. = 369 lb./ac., S.E./mean = 17.5 lb./ac. and no. of trials = 9.

---

**Crop**: Mustard (*Rabi*).
**Centre**: 24 Parganas (c.f.).

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

1. BASAL CONDITIONS to 4. GENERAL:
Same as in exp. no. 59(SFT) type B on page 273 conducted at Nadia.

5. RESULTS:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>0</th>
<th>n₁</th>
<th>n₂</th>
<th>n₁'</th>
<th>n₂'</th>
<th>n₁''</th>
<th>n₂''</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield of grain in lb./ac.</td>
<td>288</td>
<td>329</td>
<td>362</td>
<td>329</td>
<td>329</td>
<td>346</td>
<td>321</td>
</tr>
</tbody>
</table>

G.M. = 329 lb./ac., S.E./mean = 26.8 lb./ac. and no. of trials = 3.

---

**Crop**: Cotton and Paddy (*Kharif*).
**Site**: State Agri. College Farm, Tollyganj.

Object:—To study the effect of mixed cropping of Cotton with Paddy.

1. BASAL CONDITIONS:
(i) (a) Nil. (b) Groundnut. (c) 75 mds./ac. of F.Y.M. (ii) (a) Light loam. (b) Refer soil analysis, Tollyganj. (iii) Paddy: 31.5.1954 and Cotton: 16.6.1954. (iv) (a) 4 to 5 ploughings with ladders. (b) Line sowing of cotton and broadcast for paddy. (c) N.A. (d) As per treatments. (e) N.A. (v) 75 mds./ac. of F.Y.M. (vi) Cotton: D—5 (late) and Paddy: *Duar* (early). (vii) Unirrigated. (viii) 2 weedings, 2 mulchings with hand hoe and 1 earthing. (ix) 57.25°. (a) Paddy: 4.9.1954 and Cotton: November to March, 1955.

2. TREATMENTS:
5 treatments: T₁=Cotton alone with 3' x 2' spacing, T₂=Cotton alone with 24' x 1' spacing, T₃= *Aus* paddy broadcast followed by gram, T₄= *Aus* paddy with 3' x 2' spacing of cotton and T₅= *Aus* paddy with 5' x 2' spacing of cotton.

3. DESIGN:
(i) L. Sq. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) and (b) 30' x 24'. (v) Nil. (vi) Yes.

4. GENERAL:
(i) Normal. Paddy lodging at maturity in early September. (ii) Jassid in early stages of growth, stem (beetles) borers when plants are about 1' to 2' long. Leaf insects (leaf-rollers) almost at all stages of growth and development from August to October. Black arm and anthracnose disease, 5% water soluble DDT sprayed at fortnightly interval. Seed treatment with Agrosen G.N. and concentrated sulphuric acid. (iii) Yield of paddy and cotton. (iv) (a) 1953—1954. (b) No. (c) Nil. (v) (a) Berhampore, Chandernagore and Burdwan. (b) Nil. (vi) Gram failed due to severe drought during late phases of the growth and development. (vii) The raw data and analysis are not available.

5. RESULTS:
(i) to (iii) N.A. (iv) Av. yield of grain of paddy and cotton in lb./ac.
Object:—To find out whether mixed cropping of Cotton with Paddy would be profitable.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Tollyganj. (iii) N.A. (iv) (a) Ploughing and laddering. (b) Line sowing for cotton and broadcast for paddy. (c) N.A. (d) 3’ X 2’ for cotton. (e) N.A. (v) N.A. (vi) Cotton : D—5 and Paddy : N.A. (vii) Unirrigated. (viii) Thinning and laddering. (x) and (x) N.A.

2. TREATMENTS:
   3 treatments:  
   T1 = Cotton alone, T2 = Paddy alone and T3 = Cotton with a spacing of 3’ X 2’ sown mixed with paddy.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 40’ X 20’. (b) 38’ X 18’. (v) 1’ X 1’. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) N.A. (iii) Yield of grain and kapas. (iv) (a) 1955—1956. (b) No. (c) Nil. (v) (a) Berhampore. (b) Nil. (vi) and (vii) Nil.

5. RESULTS:
   (i) 578 Rs./ac. (ii) 97.81 Rs./ac. (iii) Treatment differences are significant. (iv) Av. money value of produce in Rs./ac.

Crop :- Cotton and Paddy (Kharif),
Ref :- W.B. 55(54).
Site :- State Agri. College Farm, Tollyganj.
Type :- ‘X’.

Object:—To find out whether mixed cropping of Cotton with Paddy would be profitable.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Tollyganj. (iii) N.A. (iv) (a) 3 to 4 ploughings. (b) Line sowing for cotton and broadcast for paddy. (c) N.A. (d) 3’ X 2’ for cotton. (e) N.A. (v) N.A. (vi) Cotton : D—5 and Paddy : N.A. (vii) Unirrigated. (viii) Weeding and thinning. (ix) and (x) N.A.

2. TREATMENTS:
   Same as in expt. no. 55(89) above.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 44’ X 26’. (b) 42’ X 24’. (v) 1’ X 1’. (vi) Yes.

4. GENERAL:
   (i) Fair. (ii) N.A. (iii) Yield of grain and kapas. (iv) (a) 1955—1956. (b) No. (c) Nil. (v) (a) Berhampore. (b) Nil. (vi) and (vii) Nil.
5. RESULTS:
(i) 64.6 Rs./ac. (ii) 74.19 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. money value of produce in Rs./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. value</td>
<td>647</td>
<td>408</td>
<td>884</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>30.29 Rs./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop: Cotton and Paddy (Kharif) and Gram (Rabi). Ref: W.B. 55(90).
Site: State Agri. Farm, Berhampore. Type: 'X'.

Object: To find out whether mixed cropping of Cotton with Paddy would be profitable.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Berhampore. (iii) N.A. (iv) (a) Ploughing and laddering. (b) Broadcast for paddy and line sowing for cotton. (c) N.A. (d) 3' x 2' for cotton. (e) N.A. (f) N.A. (g) N.A. (h) Cotton D—5, Paddy and Gram: N.A. (i) Unirrigated. (j) Thinning and weeding. (k) and (l) N.A.

2. TREATMENTS:
3 treatments: T1 = Cotton alone, T2 = Paddy in kharif followed by Gram in rabi and T3 = Cotton with a spacing of 3' x 2' sown mixed with Paddy.

3. DESIGN:
(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) . (iv) (a) 44' x 26'. (b) 42' x 24'. (v) 1' x 1'. (vi) Yes.

4. GENERAL:
(i) Normal. (ii) N.A. (iii) Yield of grain and kapas. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) (a) Tollyganj. (b) Nil. (vi) Nil. (vii) The money value in T3 is based on the yield of Paddy in kharif and Gram in rabi.

5. RESULTS:
(i) 512 Rs./ac. (ii) 88.16 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. money value of produce in Rs./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. value</td>
<td>262</td>
<td>730</td>
<td>544</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>44.08 Rs./ac.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop: Cotton and Paddy (Kharif) and Gram (Rabi). Ref: W.B. 56(53).
Site: State Agri. Farm, Berhampore. Type: 'X'.

Object: To find out whether mixed cropping of Cotton with Paddy would be profitable.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Berhampore. (iii) N.A. (iv) (a) Ploughing and laddering. (b) Broadcast for paddy and line sowing for cotton. (c) N.A. (d) 3' x 2' for cotton. (e) N.A. (f) N.A. (g) N.A. (h) Cotton D—5, Paddy and Gram: N.A. (i) Unirrigated. (ii) Weeding and thinning. (iii) and (iv) N.A.

2. TREATMENTS:
Same as in expt. no. 55(90) above.

3. DESIGN:
(i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 4. (iv) (a) 62' x 32'. (b) 60' x 30'. (v) 1' x 1'. (vi) Yes.
4. GENERAL:
(i) Not good. (ii) N.A. (iii) Yield of grain and kapas. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) (a) Tollyganj. (b) Nil. (vi) Nil. (vii) The money value in T₂ is based on the yield of Paddy in kharif and Gram in rabi.

5. RESULTS:
(i) 281 Rs./ac. (ii) 40.50 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. money value of produce in Rs./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>T₄</th>
<th>T₅</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. value</td>
<td>215</td>
<td>316</td>
<td>312</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

: E./mean = 20.25 Rs./ac.

_Crop :- Cotton and Paddy (Kharif) and Gram (Rabi). Ref :- W.B. 57(67).
Site :- State Agri. Farm, Berhampore. Type :- ‘X’._

Object :— To find out whether mixed cropping of Cotton with Paddy would be profitable.

1. BASAL CONDITIONS :
(i) (a) to (c) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Berhampore. (iii) N.A. (iv) (a) 3 to 4 ploughings and laddering. (b) Broadcast for paddy and line sowing for cotton. (c) N.A. (d) 3’×2’ for cotton. (e) N.A. (v) N.A. (vi) Cotton : H—14 and D—5. Paddy and gram : N.A. (vii) Unirrigated. (viii) Weeding and thinning. (ix) and (x) N.A.

2. TREATMENTS:
5 treatments: T₁=Cotton D—5 alone, T₂=Paddy in kharif followed by gram in rabi, T₃=Cotton D—5 with a spacing of 3’×2’ sown mixed with paddy, T₄=Cotton H—14 alone and T₅=Cotton H—14 with a spacing of 3’×2’ sown mixed with paddy.

3. DESIGN:
(i) R.B.D. (ii) (a) 5. (b) N.A. (iii) 5. (iv) (a) 62’×32’. (b) 60’×30’. (v) 1’×1’. (vi) Yes.

4. GENERAL:
(i) Good. (ii) N.A. (iii) Yield of grain and kapas. (iv) (a) 1955—1957. (b) No. (c) Nil. (v) and (vi) Nil. (vii) The money value in T₂ is based on the yield of paddy in kharif and gram in rabi.

5. RESULTS:
(i) 746 Rs./ac. (ii) 124.23 Rs./ac. (iii) Treatment differences are highly significant. (iv) Av. money value of produce in Rs./ac.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>T₁</th>
<th>T₂</th>
<th>T₃</th>
<th>T₄</th>
<th>T₅</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. value</td>
<td>860</td>
<td>343</td>
<td>902</td>
<td>714</td>
<td>853</td>
</tr>
</tbody>
</table>

S.E./mean = 55.56 Rs./ac.

_Crop :- Banana. Ref :- W.B. 58(40).
Site :- State Agri. Farm, Chinsurah. Type :- ‘M’._

Object :— To study the effect of N alone and in combination with P on the yield of Banana.

BASAL CONDITIONS:
(i) (a) to (c)N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Chinsurah. (iii) By suckers. (iv) Champa. v) 10.11.1957. (vi) 3 to 4 months. (vii) 80 to 100 mds./ac. of F.Y.M. (viii) 2 to 3 ploughings, stackings and spading. (ix) Nil. (x) Unirrigated. (xi) 45.20”. (xii) N.A.
2. TREATMENTS:

All combinations of (1) and (2):

(1) 4 levels of N as A1S: N₀=0, N₁=4, N₂=8 and N₃=12 ozs./plant.
(2) 2 levels of P₂O₅ as Super: P₀=0 and P₁=4 ozs./plant.

Manures were applied after plantation.

3. DESIGN:

(i) Fact. in R.B.D. (ii) (a) 8. (b) 0.24 ac. (iii) 4. (iv) 4 rows of 5 plants each (green) and 2 rows of 3 plants each (net). (v) 2 rows of 2 plant. (vi) Yes.

4. GENERAL:

(i) Good. (ii) N.A. (iii) Yield of banana. (iv) (a) 1958—contd. (b) and (c) N.A. (v) (a) No. (b) Nil. (vi) N.A. (vii) Nil.

5. RESULTS:

(i) 23.03 lb./plant. (ii) 2.29 lb./plant. (iii) Main effect of N alone is highly significant. (iv) Av. yield of banana in lb./plant.

<table>
<thead>
<tr>
<th></th>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>P₀</td>
<td>20.76</td>
<td>21.81</td>
<td>24.05</td>
<td>24.14</td>
<td>22.69</td>
</tr>
<tr>
<td>P₁</td>
<td>20.10</td>
<td>23.10</td>
<td>24.79</td>
<td>25.49</td>
<td>23.37</td>
</tr>
<tr>
<td>Mean</td>
<td>20.43</td>
<td>22.45</td>
<td>24.42</td>
<td>24.82</td>
<td>23.03</td>
</tr>
</tbody>
</table>

S.E. of N marginal mean = 0.81 lb./plant.
S.E. of P marginal mean = 0.57 lb./plant.
S.E. of body of table = 1.15 lb./plant.

---

Crop :- Banana. 
Site :- State Agric. Farm, Chinsurah. 
Ref :- W.B. 59(52). 
Type :- 'M'.

Object :- To find out the optimum level of N and ascertain the response of P at different levels of N for perennial plantation.

1. BASAL CONDITIONS:

(i) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Chinsurah. (iii) By sucker. (iv) Champa. (v) 10.11.1957/N.A. (vi) 3 to 4 months. (vii) 10 tons/ac. of T.C. (viii) Ploughing, spading, desuckering and staking. (ix) Nil. (x) Unirrigated. (xi) 78.43°. (x) N.A.

2. TREATMENTS and 3. DESIGN:

Same as in expt. no. 58(40) on page 277.

4. GENERAL:

(i) Good. (ii) N.A. (iii) Yield of banana. (iv) (a) 1957—contd. (b) N.A. (v) (a) and (b) Nil. (vi) N.A. (vii) Nil.

5. RESULTS:

(i) 23.52 lb./plant. (ii) 2.99 lb./plant. (iii) None of the effects is significant. (iv) Av. yield of banana in lb./plant.

<table>
<thead>
<tr>
<th></th>
<th>N₀</th>
<th>N₁</th>
<th>N₂</th>
<th>N₃</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>P₀</td>
<td>22.33</td>
<td>24.05</td>
<td>24.50</td>
<td>22.63</td>
<td>23.38</td>
</tr>
<tr>
<td>P₁</td>
<td>19.68</td>
<td>25.50</td>
<td>23.95</td>
<td>25.55</td>
<td>23.67</td>
</tr>
<tr>
<td>Mean</td>
<td>21.00</td>
<td>24.78</td>
<td>24.22</td>
<td>24.09</td>
<td>23.5</td>
</tr>
</tbody>
</table>
Object:—To study the effect of application of K and P in combinations with N both from inorganic and organic sources on the yield of Banana.

1. BASAL CONDITIONS:
   (i) Paddy and sugarcane were sown previously but the land remained fallow for two years before the experiment. (ii) (a) Clay soil, new alluvium. (b) Refer soil analysis, Chinsurah. (iii) By suckers. (iv) Champa (local medium). (v) 20.6.1955 Spacing 8'×8' in pits of 3' depth of 3' diameter. (vi) 3 months. (vii) 20 tons/ac. of T.C. at 32 lb./pit on 16.6.1955. (viii) Spading, pulverising and desukering on occasion. (ix) Nil. (x) Irrigated. (xi) 68.11°. (xii) 22.8.1956 to 21.11.1956.

2. TREATMENTS:
   12 manurial treatments: M₅ = Control, M₁ = 4 ozs. of N as mustard or groundnut cake, M₂ = 4 ozs. of N as A/S, M₃ = M₁ + M₂, M₄ = 2 M₁, M₅ = 2 M₂, M₆ = M₁ + M₂ + K₂O as Pot. Sul, to make up a total of 8 ozs., M₇ = 2 M₁ + 8 ozs. of K₂O as pot. sul., M₈ = M₁ + M₂ + P₂O₅ as Super to make up a total of 8 ozs., M₉ = 2 M₁ + 8 ozs. of P₂O₅ as Super, M₁₀ = M₁ + M₂ + K₂O as Pot. Sul. to make up a total of 8 ozs. and P₂O₅ as Super to make up a total of 8 ozs. and M₁₁ = 8 ozs. of N as A/S + 8 ozs. of K₂O as Pot. Sul. + 8 ozs. of P₂O₅ as Super.

Fertilizers were applied in two equal doses just before and after the monsoon and were applied per plant.

3. DESIGN:
   (i) R.B.D. (ii) 12. (iii) 4. (iv) 2 rows of 4 plants each. (v) 1 row around the plot. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Height, girth, no. of suckers leaves length and breadth of lomina, size of flower and yield of banana. (iv) (a) 1955—contd. (b) No. (v) and (vi) Nil. (vii) A great number of plants were damaged by the severe storm and flood during September—October 1956 and as a result data on yield were recorded in some cases to a very few plants/plot.

5. RESULTS:
   (i) 20.79 lb./plant. (ii) 1.54 lb./plant. (iii) Treatment differences are not significant. (iv) Av. yield of banana in lb./plant.

<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>M₉</th>
<th>M₁₀</th>
<th>M₁₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.E./means</td>
<td>0.77</td>
<td>lb./plant.</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Crop:—Banana.  Site:—State Agri. Farm, Chinsurah.

Ref:—W.B. 56(38).  Type:—'M'.
2. TREATMENTS:
Same as in expt. no. 55(51) on page 279.

3. DESIGN:
(i) R.B.D. (ii) 12. (b) 1.70 ac. (iii) 4. (iv) 4 rows of 6 plants each (gross)- and 2 rows of 4 plants (net). (v) I guard row around. (vi) Yes.

4. GENERAL:
(i) Fair. (ii) N.A. (iii) Height, girth and yield of banana. (iv) (a) 1955—contd. (b) N.A. (v) (a) No. (b) Nil. (vi) Heavy rain during September—October. (vii) N.A.

5. RESULTS:
Yield of banana

<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>M₉</th>
<th>M₁₀</th>
<th>M₁₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.E./mean</td>
<td>0.67 lb./plant</td>
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<td></td>
</tr>
</tbody>
</table>

Height measurement

<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>M₉</th>
<th>M₁₀</th>
<th>M₁₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>90.79</td>
<td>94.54</td>
<td>95.44</td>
<td>96.31</td>
<td>98.30</td>
<td>97.56</td>
<td>97.23</td>
<td>98.98</td>
<td>96.77</td>
<td>98.16</td>
<td>97.10</td>
<td>97.16</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>1.56 inches/plant</td>
<td></td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

Girth measurement

<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>M₉</th>
<th>M₁₀</th>
<th>M₁₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>21.87</td>
<td>22.70</td>
<td>22.80</td>
<td>23.06</td>
<td>23.47</td>
<td>23.15</td>
<td>23.24</td>
<td>23.50</td>
<td>23.24</td>
<td>22.98</td>
<td>24.05</td>
<td></td>
</tr>
<tr>
<td>S.E./mean</td>
<td>0.30 inches/plant</td>
<td></td>
<td></td>
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</tbody>
</table>

CROP: Banana.  
SITE: State Agri. Farm, Chinsurah.  
Ref: W.B. 57(41).  
Type: 'M'.

Object:—To study the effect of application of K and P in combination with N both from organic and inorganic sources on the yield of Banana.

1. BASAL CONDITIONS:
(i) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Chinsurah. (iii) By suckers. (iv) Champa. (v) 26.1955, plant suckers, 8'x8' spacing. (vi) 3 to 4 months. (vii) N.A. (viii) Weeding, staking and removed excess suckers. (ix) Nil. (x) Unirrigated. (xi) 46.17°. (xii) N.A.

2. TREATMENTS:
Same as in expt. no. 55(51) on page 279.

3. DESIGN:
(i) R.B.D. (ii) 12. (b) 1.70 ac. (iii) 4. (iv) 4 rows of 6 plants (gross) and 2 rows of 4 plants (net). (v) 1 guard row around. (vi) Yes.

4. GENERAL:
(i) Fair. (ii) N.A. (iii) Height, girth and yield of banana. (iv) (a) 1955—cond. (b) N.A. (v) (a) No. (b) Nil. (vi) N.A. (vii) Nil.
5. RESULTS:

Yield of banana

(i) 22.89 lb./plant. (ii) 2.62 lb./plant. (iii) Treatment differences are highly significant. (iv) Av. yield of banana in lb./plant.

<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>M9</th>
<th>M10</th>
<th>M11</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.E./mean</td>
<td>= 1.31 lb./plant.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Height measurement

(i) 113.91 inches/plant. (ii) 6.49 inches/plant. (iii) Treatment differences are not significant. (iv) Av. height in inches/plant.

<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>M9</th>
<th>M10</th>
<th>M11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. height</td>
<td>106.87</td>
<td>107.84</td>
<td>106.41</td>
<td>112.65</td>
<td>115.19</td>
<td>118.15</td>
<td>115.45</td>
<td>116.51</td>
<td>112.86</td>
<td>117.45</td>
<td>116.50</td>
<td>120.70</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 3.25 inches/plant.</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Girth measurement

(i) 27.45 inches/plant. (ii) 2.63 inches/plant. (iii) Treatment differences are significant. (iv) Av. girth in inches/plant.

<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>M9</th>
<th>M10</th>
<th>M11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. girth</td>
<td>24.66</td>
<td>25.70</td>
<td>24.23</td>
<td>.019</td>
<td>26.80</td>
<td>27.29</td>
<td>29.24</td>
<td>26.69</td>
<td>29.16</td>
<td>28.02</td>
<td>28.84</td>
<td>28.54</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>= 1.31 inches/plant.</td>
<td></td>
<td></td>
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</tbody>
</table>

Crop :- Banana.  
Site :- State Agri. Farm, Chinsurah.  
Ref :- W.B. 58(33).  
Type :- 'M'.

Object :- To study the effect of application of K and P in combination with N both from organic and inorganic sources on the yield of Banana.

1. BASAL CONDITIONS:

(i) N.A.  (ii) (a) Clay loam. (b) Refer soil analysis, Chinsurah. (iii) By suckers. (iv) Champa. (v) 20.6.1955, Planting suckers, 8" x 8" spacing. (vi) 3 to 4 months. (vii) N.A. (viii) Spading, staking and removal of suckers. (ix) Nil. (x) Unirrigated. (xi) 45.20°. (xii) N.A.

2. TREATMENTS:

Same as in exp. no. 55(51) on page 279.

3. DESIGN:

(i) R.B.D. (ii) (a) 12. (b) 1.70 ac. (iii) 4. (iv) (a) 4 rows of 6 plants (gross) and 2 rows of 4 plants (net). (v) N.A.  (vi) Yes.

4. GENERAL:

(i) Good. (ii) N.A. (iii) Height, girth and yield of banana. (iv) (a) 1955—contd. (b) N.A. (v) (a) N.A. (b) Nil. (vi) N.A. (vii) Nil.

5. RESULTS:

Yield of banana

(i) 19.90 lb./plant. (ii) 1.24 lb./plant. (iii) Treatment differences are highly significant. (iv) Av. yield of banana in lb./plant.

<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>M9</th>
<th>M10</th>
<th>M11</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.E./mean</td>
<td>= 0.62 lb./plant.</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Height measurement
(i) 116.74 inches/plant. (ii) 1.20 inches/plant. (iii) Treatment differences are highly significant. (iv) Av. height in inches/plant.

<table>
<thead>
<tr>
<th>Treatment</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>M_7</th>
<th>M_8</th>
<th>M_9</th>
<th>M_10</th>
<th>M_11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. height</td>
<td>103.33</td>
<td>115.90</td>
<td>119.17</td>
<td>115.96</td>
<td>111.71</td>
<td>116.90</td>
<td>112.77</td>
<td>120.42</td>
<td>118.16</td>
<td>121.20</td>
<td>119.40</td>
<td>115.96</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>0.60 inches/plant.</td>
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</tbody>
</table>

Girth measurement
(i) 27.32 inches/plant. (ii) 5.13 inches/plant. (iii) Treatment differences are highly significant. (iv) Av. girth in inches/plant.

<table>
<thead>
<tr>
<th>Treatment</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>M_7</th>
<th>M_8</th>
<th>M_9</th>
<th>M_10</th>
<th>M_11</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.E./mean</td>
<td>2.56 inches/plant.</td>
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</tbody>
</table>

Crop: Banana.
Site: State Agri. Farm, Chinsurah.

Object:—To study the effect of application of K and P in combination with N both from organic and inorganic sources on the yield of Banana.

1. BASAL CONDITIONS:
(i) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Chinsurah. (iii) By suckers. (iv) Champa. (v) 20.6/1955. Suckers placed, 1.5' deep and 1.5' in diameter. (vi) 3 months. (vii) 25 tons/ac. of T.C. (viii) Ploughing, spading and staking etc. (ix) Nil. (a) Unirrigated. (x) 78.43°. (xi) N.A.

2. TREATMENTS:
Same as in expt. no. 55(51) on page 279.

3. DESIGN:
(i) R.B.D. (ii) (a) 12. (b) N.A. (iii) 4. (iv) 4 rows of 6 plants (gross) and 2 rows of 4 plants (net). (v) 8' x 8' around each plot. (vi) Yes.

4. GENERAL:
(i) Good. (ii) N.A. (iii) Yield of banana. (iv) (a) 1955—contd. (b) N.A. (v) (a) No. (b) Nil. (vi) N.A. (vii) Nil.

5. RESULTS:
(i) 23.85 lb./plant. (ii) 1.88 lb./plant. (iii) Treatment differences are not significant. (iv) Av. yield of banana in lb./plant.

<table>
<thead>
<tr>
<th>Treatment</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>M_7</th>
<th>M_8</th>
<th>M_9</th>
<th>M_10</th>
<th>M_11</th>
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</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>22.62</td>
<td>24.82</td>
<td>25.50</td>
<td>22.87</td>
<td>25.77</td>
<td>23.35</td>
<td>23.00</td>
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<td>24.07</td>
<td>22.45</td>
<td>23.75</td>
<td>24.47</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>0.94 lb./plant.</td>
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</tbody>
</table>

Crop: Banana.

Object:—To find out the optimum spacing for dwarf variety of Banana.

Ref:—W.B. 59(33).
Type:—'M'.

Ref:—W.B. 54(42).
Type:—'C'.
1. BASAL CONDITIONS:
(i) N.A.  (ii) (a) Sandy loam.  (b) Refer soil analysis, Krishnagar.  (iii) By suckers.  (iv) N.A.  (v) 20.7.1950.  Suckers placed in pits of 1.5' depth and 1.5' diameter.  (vi) 2 to 3 months.  (vii) 8 oz./plant of N (1/2 organic+1/2 inorganic).  T.C. mixed with soil and applied at the onset of monsoon.  A/S given in 4 equal doses starting with onset of monsoon and at an interval of a month.  (viii) 2 spadings.  (ix) Nil.  (x) Irrigated.  (xi) 42.25'.  (xii) N.A.

2. TREATMENTS:
2 spacings: \( S_1 = 8' \times 8' \) and \( S_2 = 6' \times 6' \).

3. DESIGN:
(i) Paired plot.  (ii) (a) 2.  (b) N.A.  (iii) 6.  (iv) 9 plants for \( S_1 \) and 16 plants for \( S_2 \).  (v) N.A.  (vi) Yes.

4. GENERAL:
(i) Good.  (ii) Spraying D.D.T. (wettable) 4 times at an interval of fortnight to avoid incidence of beetle.  (iii) Height, girth, leaf count and yield of banana.  (iv) (a) 1950—1954.  (b) N.A.  (v) to (vii) Nil.

5. RESULTS:
\[
\begin{array}{c|c|c}
\text{Treatment} & \text{Av. yield} & \text{S.E./mean} \\
\hline
S_1 & 169.50 & \\
S_2 & 296.86 & = 2.99 lb./plot.
\end{array}
\]

Crop :- Banana.  Site :- State Agri. Farm, Chinsurah.  Object :- To find out the optimum spacing and desuckering practices on the yield of Banana.

Ref :- W.B. 57(39).  Type :- 'G'.

1. BASAL CONDITIONS:
(i) N.A.  (ii) (a) Clay loam.  (b) Refer soil analysis, Chinsurah.  (iii) By suckers.  (iv) Champa.  (v) 22.5.1956; as per treatments.  (vi) 3 to 4 months.  (vii) 80 mds./ac. of cowdung.  (viii) Spading, staking and harrowing.  (ix) Nil.  (x) Irrigated.  (xi) 46.17'.  (xii) N.A.

2. TREATMENTS:
All combinations of (1) and (2)
(1) 3 spacings: \( S_1 = 7' \times 7' \), \( S_2 = 9' \times 9' \) and \( S_3 = 10' \times 10' \).
(2) 2 suckering practices: \( C_1 \) — 1 sucker only allowed when mother plant shoots and \( C_2 \) — 1st sucker allowed to grow when the mother plant is 6 months old and the second sucker when the plant shoots.

3. DESIGN:
(i) Fact. in R.B.D.  (ii) (a) 6.  (b) 378' \times 63'.  (iii) 4.  (iv) Single row of 6 plants.  (v) 1 border row is kept.  (vi) Yes.

4. GENERAL:
(i) Good.  (ii) N.A.  (iii) Height, girth, leaf count and yield of banana.  (iv) (a) 1956—contd. (expt. failed in 1956),  (b) N.A.  (v) (a) No.  (b) Nil.  (vi) Heavy rain during the growth.  (vii) Nil.

5. RESULTS:
(i) 26.2 lb./plant.  (ii) 5.90 lb./plant.  (iii) None of the effects is significant.  (iv) Av. yield of banana in lb./plant.
Crop: Banana.  
Site: State Agri. Farm, Chinsurah.

Object: To find out the optimum spacing and desuckering practices on the yield of Banana.

1. BASAL CONDITIONS:
   (i) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Chinsurah. (iii) By sucker. (iv) Champa. (v) 22.5.1956. (vi) 3 to 4 months. (vii) N.A. (vii) Spading, ploughing and laddering. (ix) Nil. (xi) N.A.

2. TREATMENTS and 3. DESIGN:
   Same as in exp. no. 57,39) on page 233.

4. GENERAL:
   (i) and (ii) N.A. (iii) Yield of banana. (iv) (a) 1956—contd. (b) N.A. (v) (a) No. (b) Nil. (vi) N.A. (vii) Nil.

5. RESULTS:
   (i) 24.06 lb./plant. (ii) 2.63 lb./plant. (iii) Main effects of S and C are highly significant. (iv) Av. yield of banana in lb./plant.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>25.8</td>
<td>26.7</td>
<td>31.1</td>
<td>27.9</td>
</tr>
<tr>
<td>S2</td>
<td>22.8</td>
<td>24.2</td>
<td>26.5</td>
<td>24.5</td>
</tr>
<tr>
<td>Mean</td>
<td>24.3</td>
<td>25.5</td>
<td>28.8</td>
<td>26.2</td>
</tr>
</tbody>
</table>

S.E. of S marginal mean = 2.09 lb./plant.  
S.E. of C marginal mean = 1.70 lb./plant.  
S.E. of body of table = 2.95 lb./plant.

---

Crop: Banana.  
Site: State Agri. Farm, Chinsurah.

Object: To find out the optimum spacing and desuckering practices for perennial plantation.

1. BASAL CONDITIONS:
   (i) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Chinsurah. (iii) By sucker. (iv) Champa. (v) 22.5.1956. Suckers placed in 1.5' deep and 1' to 1.5' in diameter. (vi) 2 to 3 months. (vii) N.A. (vii) Spading, ploughing and staking. (ix) Nil. (v) Unirrigated. (xi) 78 43'. (xii) N.A.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>25.8</td>
<td>26.7</td>
<td>31.1</td>
<td>27.9</td>
</tr>
<tr>
<td>S2</td>
<td>19.06</td>
<td>21.20</td>
<td>23.37</td>
<td>21.54</td>
</tr>
<tr>
<td>Mean</td>
<td>22.44</td>
<td>23.54</td>
<td>26.21</td>
<td>24.06</td>
</tr>
</tbody>
</table>

S.E. of S marginal mean = 0.93 lb./plant.  
S.E. of C marginal mean = 0.76 lb./plant.  
S.E. of body of table = 1.32 lb./plant.

---

Crop: Banana.  
Site: State Agri. Farm, Chinsurah.

Object: To find out the optimum spacing and desuckering practices on the yield of Banana.

1. BASAL CONDITIONS:
   (i) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Chinsurah. (iii) By sucker. (iv) Champa. (v) 22.5.1956. Suckers placed in 1.5' deep and 1' to 1.5' in diameter. (vi) 2 to 3 months. (vii) N.A. (vii) Spading, ploughing and staking. (ix) Nil. (v) Unirrigated. (xi) 78 43'. (xii) N.A.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>25.8</td>
<td>26.7</td>
<td>31.1</td>
<td>27.9</td>
</tr>
<tr>
<td>S2</td>
<td>22.8</td>
<td>24.2</td>
<td>26.5</td>
<td>24.5</td>
</tr>
<tr>
<td>Mean</td>
<td>24.3</td>
<td>25.5</td>
<td>28.8</td>
<td>26.2</td>
</tr>
</tbody>
</table>

S.E. of S marginal mean = 2.09 lb./plant.  
S.E. of C marginal mean = 1.70 lb./plant.  
S.E. of body of table = 2.95 lb./plant.

---

Crop: Banana.  
Site: State Agri. Farm, Chinsurah.

Object: To find out the optimum spacing and desuckering practices for perennial plantation.

1. BASAL CONDITIONS:
   (i) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Chinsurah. (iii) By sucker. (iv) Champa. (v) 22.5.1956. Suckers placed in 1.5' deep and 1' to 1.5' in diameter. (vi) 2 to 3 months. (vii) N.A. (vii) Spading, ploughing and staking. (ix) Nil. (v) Unirrigated. (xi) 78 43'. (xii) N.A.
2. TREATMENTS:
Same as in exp. no. 57(39) on page 283.

3. DESIGN:
(i) R.B.D. (ii) 6. (b) 378' x 63'. (iii) 4. (iv) 63' x 63'. 81 plants for S1, 49 plants for S2 and 36 plants for S3. (v) N.A. (vi) Yes.

4. GENERAL:
(i) Good. (ii) N.A. (iii) Yield of banana. (iv) (a) 1957— contd. (b) N.A. (v) (a) N.A. (b) Nil. (vi) N.A. (vii) Nil.

5. RESULTS:
(i) 28.32 lb./plant. (ii) 3.70 lb./plant. (iii) Main effect of S only is significant. (iv) Av. yield of banana in lb./plant.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>26.30</td>
<td>27.45</td>
<td>30.47</td>
<td>28.07</td>
</tr>
<tr>
<td>C2</td>
<td>24.07</td>
<td>30.17</td>
<td>31.41</td>
<td>28.56</td>
</tr>
<tr>
<td>Mean</td>
<td>25.18</td>
<td>28.81</td>
<td>30.96</td>
<td>28.32</td>
</tr>
</tbody>
</table>

S.E. of S marginal mean = 1.31 lb./plant.
S.E. of C marginal mean = 1.07 lb./plant.
S.E. of body of table = 1.85 lb./plant.

Crop :- Banana.
Site :- State Agri. Farm, Chinsurah.
Ref :- W.B. 58(34).
Type :- 'C'.

Object:— To find out the optimum spacing and desuckering practices on the yield of Banana.

1. BASAL CONDITIONS:
(i) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Chinsurah. (iii) By suckers. (iv) Kabuli (Dwarf). (v) 25.3.1957. (vi) 3 to 4 months. (vii) N.A. (viii) Laddering, spading and harrowing. (ix) N.A. (x) Irrigated. (xi) 45.20'. (xii) N.A.

2. TREATMENTS:
All combinations of (1) and (2)
(1) 3 spacings : S1=5'3" x 5'3", S2=6' x 6' and S3=7' x 7'.
(2) 2 suckering practices : C1=1 sucker only allowed when mother plant shoots and C2=1st sucker allowed to grow when the mother plant is 6 months old and the second sucker when the plant shoots.

3. DESIGN:
(i) Fact in R.B.D. (ii) 6. (b) 84' x 126'. (iii) 4. (iv) 2 rows of 3 plants. (v) 1 guard row around each plot and 1 border row around the block. (vi) Yes.

4. GENERAL:
(i) Good. (ii) N.A. (iii) Height, girth, leaf count and yield of banana. (iv) (a) 1957— contd. (b) N.A. (v) (a) No. (b) Nil. (vi) (vii) N.A.

5. RESULTS:
(i) 23.10 lb./plant. (ii) 2.40 lb./plant. (iii) Main effect of S alone is significant. (iv) Av. yield of banana in lb./plant.
**Crop :- Banana.**  
**Site :- State Agri. Farm, Chinsurah.**  
**Ref :- W.B. 59(50).**  
**Type :- ‘C’.**

Object :- To find out the optimum spacing and desuckering practices for perennial plantation.

1. **BASAL CONDITIONS :**
   (i) N.A.  (ii) (a) Clay loam. (b) Refer soil analysis, Chinsurah. (iii) By sucker. (iv) *Kabuli.*  
   (v) 25 3.1957: N.A.  
   (vi) 3 to 4 months. (vii) N.A.  
   (viii) Ploughing, spading and staking. (ix) N.A.  (x) Irrigated. (xi) 78.43°. (xii) N.A.

2. **TREATMENTS :**
   Same as in expt. no. 58(34) on page 285.

3. **DESIGN :**
   (i) Fact. in R.B.D. (ii) (a) 6. (b) 84' x 126'. (iii) 4. (iv) (a) 42' x 42'; 2 rows of 3 plants. (v) N.A.  
   (vi) Yes.

4. **GENERAL :**
   (i) Good. (ii) N.A. (iii) Yield of banana. (iv) (a) 1957—contd. (b) N.A.  
   (v) (a) No. (b) Nil, (vi) Yes. (vii) Nil.

5. **RESULTS :**
   (i) 23.76 lb./plant. (ii) 2.28 lb./plant. (iii) None of the effects is significant. (iv) Av. yield of banana in lb./plant.

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>22.65</td>
<td>23.00</td>
<td>23.53</td>
<td>23.06</td>
</tr>
<tr>
<td>C2</td>
<td>23.58</td>
<td>24.28</td>
<td>25.50</td>
<td>24.45</td>
</tr>
<tr>
<td>Mean</td>
<td>23.11</td>
<td>23.64</td>
<td>24.52</td>
<td>23.76</td>
</tr>
</tbody>
</table>

S.E. of S marginal mean = 0.81 lb./plant.  
S.E. of C marginal mean = 0.66 lb./plant.  
S.E. of body of table = 1.14 lb./plant.

---

**Crop :- Banana.**  
**Site :- State Agri. Farm, Chinsurah.**  
**Ref :- W.B. 59(54).**  
**Type :- ‘C’.**

Object :- To determine the optimum period for which a plantation should be kept for Banana.
1. BASAL CONDITIONS:
   (i) N.A. (ii) (a) Clay loam. (b) Refer soil analysis, Chinsurah. (iii) By suckers. (iv) *Champa*. (v) 12.12.1956 ; N.A. (vi) 3 to 4 months. (vii) N.A. (viii) Ploughing, spading and staking. (ix) Nil. (x) Irrigated. (xi) 78.43°. (xii) N.A.

2. TREATMENTS:
   3 cultural treatments: C1=Plantation ratooned for 3 years; uprooted and replanted and ratooned for 3 years; again uprooted and replanted for 3 years, so as to complete 3 plantings of 3 years duration each in a period of 10 years, C2=Plantation ratooned for 5 years; uprooted and replanted and ratooned for 5 years so as to complete 2 plantings of 5 years duration each in a period of 10 years and C3=Plantation ratooned for a period of 10 years.

3. DESIGN:
   (i) R.B.D. (ii) (a) 3. (b) N.A. (iii) 6. (iv) (a) 60'x40' (4 rows of 6 plants). (v) N.A. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) N.A. (iii) Yield of banana. (iv) (a) 1957—contd. (b) Nil. (v) (a) No. (b) Nil. (vi) N.A. (vii) Experiments for 1957 and 1958 are not available.

5. RESULTS:
   (i) 20.3 lb./plant for (1st ratoon) and 35.5 lb./plant for (2nd ratoon). (ii) 3.07 lb./plant for (1st ratoon) and N.A. for (2nd ratoon). (iii) Treatment differences are not significant. (iv) Av. yield of banana in lb./plant.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield (1st ratoon)</td>
<td>20.5</td>
<td>20.6</td>
<td>19.8</td>
</tr>
<tr>
<td>Av. yield (2nd ratoon)</td>
<td>34.5</td>
<td>36.3</td>
<td>35.8</td>
</tr>
</tbody>
</table>

S.E./mean for (1st ratoon) = 1.25 lb./plant and for (2nd ratoon) = N.A.

---

_Crop:_ Banana.  
_Site:_ State Agri. Farm, Chinsurah.  
_Ref:_ W.B. 54(16).  
_Type:_ '1'.

Object:—To study how far irrigation improves yield and quality of Banana.

1. BASAL CONDITIONS:
   (i) N.A. (ii) (a) Clay soil and new alluvium. (b) Refer soil analysis, Chinsurah. (iii) By suckers. (iv) *Martaman* (local medium). (v) 28.10.1954 ; 8'x8' in pits of 3' deep and 3' in diameter. (vi) 3 months. (vii) 64 lb./pit of T.C. mixed thoroughly with soil before planting, 1.25 lb./plant of A/S and 1.5 lb./plant of P2O5 as Super as surface dressing. (viii) Spading and desuckering. (ix) Nil. (x) Irrigated as per treatments. (xi) 41.78°. (xii) No harvest—1st year of expt.

2. TREATMENTS:
   4 irrigational treatments: I5=Control (no irrigation), I1=Irrigation at an interval of 1 month (i.e. in November, December, January, February, March, April and May), I2=Irrigation at an interval of 2 months (i.e. in November, January, March and May) and I3=Irrigation at an interval of 3 months (i.e. November, February and May). Plots were flooded at an uniform rate by the help of tube well.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) N.A. (iii) 6. (iv) 24 plants (gross) and 8 plants (net). (v) A border of one line of plants round the whole experimental area. (vi) Yes.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Height, girth, no. of leaves, suckers length and breadth of lamina. (iv) (a) 1954—contd. (b) N.A. (v) to (vii) Nil.

5. RESULTS:
   Height measurement
   (i) 56.00 inches/plant. (ii) 1.93 inches/plant. (iii) Treatment differences are highly significant. (iv) Av. height in inches/plant.
Crop :- Banana.  
Site :- State Agri. Farm, Chinsurah.  

Object :- To study how far irrigation improves yield and quality of Banana.

1. BASAL CONDITIONS:
   (i) N.A.  
   (ii) (a) Clay soil, new alluvium. (b) Refer soil analysis, Chinsurah. (iii) By suckers. (iv) Martaman.  
   (v) 28.10.1954. (vi) 3 months. (vii) N.A. (viii) Spading and desuckering. (ix) Nil. (x) As per treatments. (xi) 68.1 l.  
   (xii) N.A.

2. TREATMENTS and 3. DESIGN:
Same as in exp. no. 54(16) on page 287.

4. GENERAL:
   (i) Satisfactory. (ii) Nil. (iii) Yield of banana and other biometric observations. (iv) (a) 1954—contd. (b) Nil. (v) to (vii) Nil.

5. RESULTS:
(i) 23.49 lb./plant. (ii) 2.51 lb./plant. (iii) Treatment differences are not significant. (iv) Av yield of banana in lb./plant.

Treatment | I₀ | I₁ | I₂ | I₃ | Av. yield | S.E./mean = 1.02 lb./plant.
---|---|---|---|---|---|---
Av. yield | 24.55 | 23.64 | 22.93 | 22.53 |

Crop :- Banana.  
Site :- State Agri. Farm, Chinsurah.  

Object :- To study how far irrigation improves the yield and quality of Banana.

1. BASAL CONDITIONS:
   (i) N.A.  
   (ii) (a) Heavy clay loam. (b) Refer soil analysis, Chinsurah. (iii) By suckers. (i) Martaman.  
   (v) 28.10.1954. (vi) 3 to 4 months. (vii) N.A. (viii) Spading, 4 to 5 ploughings and 2 ladders. (ix) Nil.  
   (x) As per treatments. (xi) 74.78. (xii) N.A.
2. TREATMENTS:
Same as in expt. no. 54(16) on page 287.

3. DESIGN:
(i) R.B.D. (ii) (a) 4. (b) 0.85 ac. (iii) 6. (iv) 4 rows of 6 plants (gross) and 2 rows of 4 plants (net). (v) One row around. (vi) Yes.

4. GENERAL:

5. RESULTS:
(i) 23.52 lb./plant. (ii) 2.56 lb./plant. (iii) Treatment differences are not significant. (iv) Av. yield of banana in lb./plant.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>I_0</th>
<th>I_1</th>
<th>I_2</th>
<th>I_3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>22.95</td>
<td>23.68</td>
<td>24.88</td>
<td>22.57</td>
</tr>
</tbody>
</table>

S.E./mean = 1.04 lb./plant.

Crop: Banana.  Ref: W.B. 54(15).
Site: State Agri. Farm, Chinsurah.  Type: '1'.

Object: To study how far irrigation improves yield and quality of Banana.

1. BASAL CONDITIONS:
(i) Paddy, sugarcane cultivated in the past but land remained fallow for two years before this experiment. (ii) (a) Clay, new alluvium. (b) Refer soil analysis, Chinsurah. (iii) By suckers. (iv) Kabuli (local medium). (v) 13.11.1954; 6' x 6' in pits of 3' depth and 3' diameter. (vi) 3 months old. (vii) 25 tons of T.C. was applied on 7.1.1955, at 64 lb./pit and this was thoroughly mixed with s.oil before planting. (viii) Spading and desuckering. (ix) Nil. (x) As per treatments. (xi) 41.78. (xii) No harvest in first year.

2. TREATMENTS and 3. DESIGN:
Same as in expt. no. 54(16) on page 287.

4. GENERAL:
(i) Satisfactory. (ii) Nil. (iii) Height, girth, number of leaves and suckers/plant. (iv) (a) 1954—contd. (b) Nil. (v) and (vi) Nil. (vii) The lack of uniform response to irrigation in growth may be attributed to rainfall received from Dec., 1954 to Dec., 1955.

5. RESULTS:
Height measurement
(i) 35.87 inches/plant. (ii) 0.83 inches/plant. (iii) Treatment differences are highly significant. (iv) Av. height in inches/plant.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>I_0</th>
<th>I_1</th>
<th>I_2</th>
<th>I_3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. height</td>
<td>32.93</td>
<td>37.97</td>
<td>36.40</td>
<td>36.18</td>
</tr>
</tbody>
</table>

S.E./mean = 0.34 inches/plant.

Girth measurement
(i) 15.85 inches/plant. (ii) 0.32 inches/plant. (iii) Treatment differences are highly significant. (iv) Av. girth in inches/plant.
<table>
<thead>
<tr>
<th>Treatment</th>
<th>I₀</th>
<th>I₁</th>
<th>I₂</th>
<th>I₃</th>
<th>I₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. girth</td>
<td>14.73</td>
<td>16.83</td>
<td>16.08</td>
<td>15.77</td>
<td></td>
</tr>
</tbody>
</table>

S.E./mean = 0.13 inches/plant.

No. of leaves

(i) 8.22 leaves/plant.  (ii) 0.13 leaves/plant.  (iii) Treatment differences are highly significant.  (iv) Av. no. of leaves/plant.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>I₀</th>
<th>I₁</th>
<th>I₂</th>
<th>I₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. no. of leaves</td>
<td>7.88</td>
<td>8.70</td>
<td>8.18</td>
<td>8.14</td>
</tr>
</tbody>
</table>

S.E./mean = 0.05 leaves/plant.

**Crop :- Banana.**

**Site :- State Agri. Farm, Chinsurah.**

**Object :-** To study the effect of irrigation on the yield and quality of Banana.

**1. BASAL CONDITIONS:**

(i) N.A.  (ii) Clay, new alluvium.  (b) Refer soil analysis, Chinsurah.  (iii) By suckers.  (iv) Kabuli.

(v) 13.11.1954.  (vi) 3 months.  (vii) 25 tons of T.C. applied at 64 lb./pit. on 26 to 29.4.1956.  10 ozs./pit of A/S, 1.5 lb./ac. of Super and 8 ozs./pit of Potash on 30.4.1956 as surface dressing.  (viii) Spading and desuckering (ix) Nil.  (x) As per treatments.  (xi) 68.11".

**2. TREATMENTS and 3. DESIGN :**

Same as in exppt. no. 54(16) on page 287.

**4. GENERAL:**

(i) Satisfactory.  (ii) Slight attack by beetle—Gammexane dusted.  Panama disease on a small no. of plants.  (iii) Yield of banana and other biometric observations.  (iv) 1954—contd  (b) Nil.  (v) to (vii) Nil.

**5. RESULTS :**

(i) 30.83 lb./plant.  (ii) 4.17 lb./plant.  (iii) Treatment differences are not significant.  (iv) Av. yield of banana in lb./plant.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>I₀</th>
<th>I₁</th>
<th>I₂</th>
<th>I₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>29.15</td>
<td>29.71</td>
<td>31.42</td>
<td>33.06</td>
</tr>
</tbody>
</table>

S.E./mean = 1.70 lb./plant.

---

**Crop :- Banana.**

**Site :- State Agri. Farm, Chinsurah.**

**Ref :- W.B. 56(37).**

**Type :- 'T'.**

**Object :-** To study how far irrigation improves the yield and quality of Banana.

**1. BASAL CONDITIONS :**

(i) N.A.  (ii) (a) Heavy clay loam.  (b) Refer soil analysis, Chinsurah.  (iii) By sucker.  (iv) Kabuli.

(v) 13.11.1954.  (vi) 3 to 4 months.  (vii) N.A.  (viii) Spading, ploughing, laddering and staking.  (ix) Nil.  (x) As per treatments.  (xi) 74.78".  (xii) Nil.

**2. TREATMENTS :**

Same as in exppt. no. 54(16) on page 289.

**3. DESIGN :**

(i) R.B.D.  (ii) (a) 4.  (b) 0.50 ac.  (iii) 6.  (iv) 4 rows of 6 plants (gross) and 2 rows of 4 plants (net).  (v) Single border row kept around.  (vi) Yes.
4. GENERAL:
   (i) Good. (ii) Nil. (iii) Heavy rain during September—October. (iv) Nil.

5. RESULTS:
   (i) 32.98 lb./plant. (ii) 2.95 lb./plant. (iii) Treatment differences are not significant. (iv) Av. yield of banana in lb./plot.
   
   Treatment | I₀ | I₁ | I₂ | I₃ | Av. yield
   ----------|----|----|----|----|----------
   1         | 33.53 | 31.80 | 32.62 | 33.79 |
   2         | 32.84 | 32.54 | 33.22 | 32.84 |
   3         | 33.79 | 33.49 | 34.21 | 33.81 |

   S.E./mean = 1.20 lb./plant.

---

Crop :- Banana.
Site :- State Agri. Farm, Chinsurah.
Ref :- W.B. 57(40).
Type :- '1'.

Object :- To study how far irrigation improves the yield and quality of Banana.

1. BASAL CONDITIONS:
   (i) N.A. (ii) Clay loam. Refer soil analysis, Chinsurah. (iii) By suckers. (iv) Kabuli. (v) 13.11.1954. (vi) Spading, 2 to 3 ploughings, laddering and staking. (vii) Nil. (viii) As per treatments. (ix) 46.17°. (xii) N.A.

2. TREATMENTS:
   Same as in expt. no. 54(16) on page 287.

3. DESIGN:
   (i) R.B.D. (ii) (a) 4. (b) 0.50 ac. (iii) 6. (iv) 4 rows of 6 plants (gross) and 2 rows of 4 plants (net). (v) Single border row kept around. (vi) Yes.

4. GENERAL:
   (i) Good. (ii) Nil. (iii) Yield of banana. (iv) 1954—contd. (b) N.A. (v) (a) and (b) Nil. (vi) and (vii) N.A.

5. RESULTS:
   (i) 24.19 lb./plant. (ii) 2.60 lb./plant. (iii) Treatment differences are not significant. (iv) Av. yield of banana in lb./plant.
   
   Treatment | I₀ | I₁ | I₂ | I₃ | Av. yield
   ----------|----|----|----|----|----------
   1         | 22.83 | 26.33 | 24.25 | 23.33 |

   S.E./mean = 1.06 lb./plant.

---

Crop :- Banana.
Site :- State Agri. Farm, Chinsurah.
Ref :- W.B. 58(32).
Type :- '1'.

Object :- To study how far irrigation improves the yield and quality of Banana.

1. BASAL CONDITIONS:
   (i) N.A. (ii) Clay loam. Refer soil analysis, Chinsurah. (iii) By suckers. (iv) Kabuli. (v) 13.11.1954. (vi) Spading, staking and weeding etc. (vii) Nil. (viii) As per treatments. (ix) 45.20°. (x) N.A.

2. TREATMENTS:
   Same as in expt. no. 54(16) on page 287.
3. DESIGN:
   (i) R.B.D.  (ii) (a) 4.  (b) 0.50 ac.  (iii) 6.  (iv) 4 rows of 6 plants (gross) and 2 rows of 4 plants (net).  (v) Single border row kept around.  (vi) Yes.

4. GENERAL:
   (i) Good.  (ii) N.A.  (iii) Yield of banana.  (iv) (a) 1954—contd.  (b) Nil.  (v) (a) No.  (b) No.  (vi) and  (vii) N.A.

5. RESULTS:
   (i) 30.12 lb./plant.  (ii) 2.05 lb./plant.  (iii) Treatment differences are significant.  (iv) Av. yield of banana in lb./plant.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>I₀</th>
<th>I₁</th>
<th>I₂</th>
<th>I₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. yield</td>
<td>27.24</td>
<td>34.06</td>
<td>30.24</td>
<td>28.95</td>
</tr>
<tr>
<td>S.E./mean</td>
<td>0.84 lb./plant</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crop :- Banana.  
Site :- State Agrl. Farm, Chinsurah.  
Object :- To study how far irrigation improves yield and quality of Banana.

1. BASAL CONDITIONS:
   (i) N.A.  (ii) (a) Clay loam.  (b) Refer soil analysis, Chinsurah.  (iii) By suckers.  (iv) Kabuli.  (v) 13.11.1954. Sucker placed in 1.5' deep and 1.5' in diameter.  (vi) 2 to 3 months.  (vii) N.A.  (viii) Ploughing, spading and staking.  (ix) Nil.  (x) As per treatments.  (xi) 78.43'.  (xii) N.A.

2. TREATMENTS:
   Same as in ext. no. 54(16) on page 287.

3. DESIGN:
   (i) R.B.D.  (ii) (a) 4.  (b) 0.12 ac.  (iii) 6.  (iv) 4 rows of 6 plants (gross) and 2 rows of 4 plants (net).  (v) 6' × 6'.  (vi) Yes.

4. GENERAL:
   (i) Normal.  (ii) N.A.  (iii) Yield of banana.  (iv) (a) 1954—1959.  (b) N.A.  (v) (a) No.  (b) Nil.  (vi) and  (vii) Nil.

5. RESULTS:
   (i) 24.62 lb./plant.  (ii) 1.64 lb./plant.  (iii) Treatment differences are not significant.  (iv) Av. yield of banana in lb./plant.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>I₀</th>
<th>I₁</th>
<th>I₂</th>
<th>I₃</th>
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<tr>
<td>Av. yield</td>
<td>24.11</td>
<td>25.01</td>
<td>23.53</td>
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<tr>
<td>S.E./mean</td>
<td>0.67 lb./plant</td>
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ADDENDUM

Crop :- Paddy (Aman).
Centre :- Joypur, (Bankura, c.f.).
Ref :- W.B. 55(97).
Type :- 'M'.

Object :- To study the effect of application of N and P alone and in combination on the yield of Paddy.

1. BASAL CONDITIONS :
   (i) (a) to (c) N.A. (ii) (a) Sandy loam. (iii) and (iv) N.A. (v) (a) Ploughing, spading and land preparation. (b) Transplanting. (c) N.A. (d) 9°×9°. (e) 2 to 3. (vi) Middle of July, 1955. (vii) N.A. (viii) Weeding and thinning. (ix) N.A. (x) Last week of December, 1955.

2. TREATMENTS :
   All combinations of (1) and (2)
   (1) 5 levels of N as A/S : N₀=0, N₁=15, N₂=30, N₃=45 and N₄=60 lb./ac.
   (2) 5 levels of P₂O₅ as Super : P₀=0, P₁=20, P₂=40, P₃=60 and P₄=80 lb./ac.
   Super applied before transplanting and A/S was top-dressed 3 to 4 weeks after transplantation.

3. DESIGN :
   (i) Fact. in R.B.D.; 25 plots/block with 4 replications. (ii) N.A. (iii) (a) 36′×18′. (b) 34′×16′. (iv) Yes.

4. GENERAL
   (i) and (ii) N.A. (iii) Yield of grain. (iv) (a) 1953-1955. (b) Yes. (c) N.A. (v) Several other centres. (vi) N.A. (vii) Nil.

5. RESULTS :
   (i) 2649 lb./ac. (ii) 314.6 lb./ac. (iii) Only N effect is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>P₀</th>
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<th>P₂</th>
<th>P₃</th>
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<td>2931</td>
<td>3006</td>
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<td>2547</td>
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</table>

S.E. of any marginal mean = 70.3 lb./ac.
S.E. of body of table = 157.3 lb./ac.

---

Crop :- Paddy (Aman).
Centre :- Mandia (Bankura, c.f.).
Ref :- W.B. 55(98).
Type :- 'M'.

Object :- To study the effect of application of N and P alone and in combination on the yield of Paddy.

1. BASAL CONDITIONS :
   (i) (a) to (c) N.A. (ii) Loamy sand and N.A. (iii) and (iv) N.A. (v) (a) 2 to 3 ploughings and land preparation. (b) Transplanting. (c) N.A. (d) 9°×9°. (e) 2 to 3. (vi) Last week of July, 1955. (vii) Irrigated. (viii) 1 to 2 weedings and thinning. (ix) 35.08°. (x) Middle of December, 1955.
2. TREATMENTS:
All combinations of (1) and (2)
(1) 5 levels of $P_2O_5$: $P_0 = 0$, $P_1 = 20$, $P_2 = 40$, $P_3 = 60$ and $P_4 = 80$ lb./ac.
(2) 5 levels of $N$: $N_0 = 0$, $N_1 = 15$, $N_2 = 30$, $N_3 = 45$ and $N_4 = 60$ lb./ac.
Super was ploughed in before transplanting and A/S was top-dressed 4 weeks after transplanting by broadcast.

3. DESIGN:
(i) Fact. in R.B.D.; 25 plots/block with 4 replications. (ii) N.A. (iii) (a) $22' \times 33'$. (b) $20' \times 31'$. (iv) Yes.

4. GENERAL:
(i) and (ii) N.A. (iii) Yield of grain. (iv) (a) 1954-1956. (b) Yes. (c) N.A. (v) Several other centres. (vi) N.A. (vii) Nil.

5. RESULTS:
(i) 1767 lb./ac. (ii) 271.4 lb./ac. (iii) P effect and interaction N x P are significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>$P_0$</th>
<th>$P_1$</th>
<th>$P_2$</th>
<th>$P_3$</th>
<th>$P_4$</th>
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<td>1875</td>
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<td>1720</td>
<td>1807</td>
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<td>1737</td>
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<td>1571</td>
<td>1736</td>
<td>1911</td>
<td>1762</td>
<td>1898</td>
<td>1776</td>
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<tr>
<td>$N_3$</td>
<td>1795</td>
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<td>1791</td>
<td>1891</td>
<td>1891</td>
<td>1842</td>
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<tr>
<td>$N_4$</td>
<td>1753</td>
<td>1749</td>
<td>1836</td>
<td>1684</td>
<td>1689</td>
<td>1742</td>
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</table>

Mean 1651 1741 1785 1833 1823 1767

S.E. of any marginal mean = 45.0 lb./ac.
S.E. of body of table = 100.7 lb./ac.

Crop: Paddy (Aman).
Centre: Mandia (Bankura, c.f.).
Ref: W.B. 56(58).
Type: ‘M’.

Object:—To study the effect of application of N and P alone in combination on the yield of Paddy.

1. BASAL CONDITIONS:
(i) (a) to (c) N.A. (ii) (a) Loamy sand and N.A. (iii) N.A. (iv) Bhassamanik (medium). (v) (a) 2 ploughings, laddering and land preparation. (b) Transplanting. (c) N.A. (d) 9' x 9'. (e) 2 to 3. (vi) 15 to 20.7.1956. (vii) Irrigated. (viii) 2 to 3 weedings and local cultural operation. (ix) 35.78. (x) Middle of December, 1956.

2. TREATMENTS:
Same as in expt. no. 55(97) on page 293.

3. DESIGN:
(i) Fact. in R.B.D.; 25 plots/block and 4 replications. (ii) N.A. (iii) (a) $22' \times 33'$. (b) $20' \times 31'$. (iv) Yes.

4. GENERAL:
(i) Good. (ii) N.A. (iii) Yield of grain. (iv) (a) 1954-1956. (b) Yes. (c) N.A. (v) and (vi) N.A. (vii) Nil.

5. RESULTS:
(i) 1989 lb./ac. (ii) 271.4 lb./ac. (iii) None of the effects is significant. (iv) Av. yield of grain in lb./ac.
Crop :- Paddy (Aman).

Centre :- Cooch Behar, Sadar (Cooch Behar, c.f.).

Ref :- W.B. 55(101).

Object :- To study the effect of application of N and P alone and in combination on the yield of Paddy.

1. BASAL CONDITIONS :
   (i) (a) to (c) N.A. (ii) Fine sandy loam and N.A. (iii) and (iv) N.A. (v) (a) 2 to 3 ploughings and land preparation. (b) Transplanting. (c) to (e) N.A. (vi) Last week of July to 1st week of August, 1955. (vii) Unirrigated. (viii) 1 to 2 weedings and local cultural operation. (ix) 86.82". (x) 15.12.1955 to 7.1.1956.

2. TREATMENTS:
   All combinations of (1) and (2)
   (1) 5 levels of P2O5 : P0=0, P1=20, P2=40, P3=60 and P4=80 lb./ac.
   (2) 5 levels of N : N0=0, N1=15, N2=30, N3=45 and N4=60 lb./ac.
   P2O5 as Super was ploughed in at the time of land preparation before transplanting and N as A/S was top-dressed 4 to 5 weeks after transplantation.

3. DESIGN :
   (i) Fact. in R.B.D.; 25 plots/block and 4 replications. (ii) N.A. (iii) (a) 38' x 22'. (b) 36' x 20'. (iv) Yes.

4. GENERAL:
   (i) and (ii) N.A. (iii) Yield of grain. (iv) (a) 1954—1955. (b) and (c) N.A. (v) Several other centres (vi) N.A. (vii) Nil.

5. RESULTS:
   (i) 1641 lb./ac. (ii) 237.2 lb./ac. (iii) Only N effect is highly significant. (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>P0</th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
<th>P4</th>
<th>Mean</th>
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<td>1703</td>
<td>1668</td>
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<td>1715</td>
<td>1672</td>
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<td>1650</td>
<td>1655</td>
<td>1738</td>
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<td>1641</td>
</tr>
</tbody>
</table>

S.E. of any marginal mean = 53.0 lb./ac.
S.E. of body of table = 118.6 lb./ac.
Crop := Paddy (Aman).

Centre := Laksbya, Mahisasal Tamluk (Midnapore). Type := 'M'.

Object := To study the effect of application of N and P alone and in combination on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) to (c) N.A. (ii) Loam & N.A. (iii) N.A. (iv) Ploughing (v) (a) N.A. (b) Transplanting. (c) to (e) N.A. (vi) Last week of July to 1st week of August 1955. (vii) N.A. (viii) Weeding and thinning. (ix) 55.36° (x) Last week of December, 1955.

2. TREATMENTS:
   Same as in expt. no. 55(97) on page 293.

3. DESIGN:
   (i) Fact. in R.B.D.; 25 plots/block and 4 replications. (ii) N.A. (iii) (a) 38’ x 22’. (b) 36’ x 20’. (iv) Yes.

4. GENERAL:
   (i) Normal. (ii) N.A. (iii) Yield of grain. (iv) (a) 1953—1955. (b) Yes. (c) N.A. (v) Several other centres. (vi) N.A. (vii) Nil.

5. RESULTS:
   (i) 1968 lb./ac. (ii) 276.4 lb./ac. (iii) N effect is highly significant. P effect is significant. (iv) Av. yield of grain in lb./ac.

\[
\begin{align*}
\text{P}_0 & \quad \text{P}_1 & \quad \text{P}_2 & \quad \text{P}_3 & \quad \text{P}_4 & \quad \text{Mean} \\
\hline
N_0 & 1108 & 1369 & 1507 & 1439 & 1503 & 1385 \\
N_1 & 1328 & 1997 & 1939 & 1987 & 1905 & 1831 \\
N_2 & 2222 & 2081 & 2081 & 2298 & 2090 & 2154 \\
N_3 & 2190 & 2600 & 2318 & 2423 & 2471 & 2400 \\
N_4 & 2094 & 2302 & 2135 & 1950 & 1876 & 2071 \\
\hline
\text{Mean} & 1788 & 2070 & 1996 & 2019 & 1969 & 1968 \\
\end{align*}
\]

S.E. of any marginal mean = 61.8 lb./ac.
S.E. of body of table = 138.2 lb./ac.

---

Crop := Paddy (Aman).

Centre := Hatgobindapur, Plassay (Nadia). Type := 'M'.

Object := To study the effect of application of N and P alone and in combination on the yield of Paddy.

1. BASAL CONDITIONS:
   (i) (a) to (q) N.A. (ii) (a) Loam. (iii) N.A. (iv) Local. (v) (a) Ploughing and 2 ladderings etc. (b) Transplanting. (c) to (e) N.A. (vi) N.A. (vii) Irrigated. (viii) 1 to 3 weedings. (ix) 28.51’. (x) N.A.

2. TREATMENTS:
   Same as in expt. no. 55(97) on page 293.

3. DESIGN:
   (i) Fact. in R.B.D.; 25 plots/block and 4 replications. (ii) N.A. (iii) (a) 38’ x 20’. (b) 36’ x 18’. (iv) Yes.

4. GENERAL:
   (i) and (ii) N.A. (iii) Yield of grain. (iv) (a) 1953—1955. (b) and (c) N.A. (v) Several other centres (vi) N.A. (vii) Nil.
5. RESULTS:

(i) 1962 lb./ac.  (ii) 285.9 lb./ac.  (iii) Only N effect is highly significant.  (iv) Av. yield of grain in lb./ac.

<table>
<thead>
<tr>
<th></th>
<th>P₀</th>
<th>P₁</th>
<th>P₂</th>
<th>P₃</th>
<th>P₄</th>
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<td>1912</td>
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<td>1962</td>
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S.E. of any marginal mean = 64.0 lb./ac.
S.E. of body of table = 143.0 lb./ac.