

CEYLON.



SESSIONAL PAPER VII.—1936.

Report and Accounts of
the Coconut Research
Scheme for 1935.

APRIL, 1936.

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COCONUT RESEARCH SCHEME.

ANNUAL REPORT OF THE BOARD OF MANAGEMENT FOR THE YEAR 1935.

(In terms of Section 8 (2) of Ordinance No. 29 of 1928.)

BOARD OF MANAGEMENT.

On January 1, 1935, the Board of Management consisted of the following members:—

Chairman, The Director of Agriculture, (Dr. W. Youngman, D.Sc., Ph.D.).
The Deputy Financial Secretary, (Mr. C. H. Collins, C.C.S.).
The Chairman of the Low-country Products Association of Ceylon, (Mr. R. Sri Pathmanathan).

| | |
|---|---|
| Members of the State Council, nominated by His Excellency the Governor : | Mr. F. A. Obeyesekere, M.S.C. Mr. J. L. Kotalawala, M.S.C. |
| Representatives of the Low-country Products Association of Ceylon : | Sir Marcus Fernando Gate Mudaliyar A. E. Rajepakse, M.S.C. |
| Representatives of the Planters' Association of Ceylon : | Mr. A. Ekanayake. Mr. A. W. Warburton-Gray, J.P., U.P.M. |
| Representing the Smallholders, nominated by His Excellency the Governor : | Mr. G. Pandittesekera, J.P., U.P.M. (Vacant) |

Since August 7, 1935, on the retirement of Dr. W. Youngman, Director of Agriculture, Dr. J. C. Hutson, Acting Director of Agriculture, has acted as Chairman. Mr. L. W. A. de Soysa became an *ex officio* member of the Board upon succeeding Mr. R. Sri Pathmanathan as Chairman of the Low-country Products Association.

The following members were renominated to serve on the Board for a further period of three years: Messrs. J. L. Kotalawala and F. A. Obeyesekere, representing the State Council, in January and November, respectively; Gate Mudaliyar A. E. Rajepakse, representing the Low-country Products Association, in January; Mr. G. Pandittesekera, representing the Smallholders, in January.

The following ceased to be members of the Board having been absent from three consecutive meetings: Mr. E. F. Kannangara, representing the Smallholders, in January; Sir Marcus Fernando, representing the Low-country Products Association of Ceylon, in September; Gate Mudaliyar A. E. Rajepakse, also representing the Low-country Products Association of Ceylon, in September.

Mr. D. D. Karunaratne was nominated by His Excellency the Governor in September to serve on the Board of Management for a period of three years as a Smallholder's Representative in the place of Mr. E. F. Kannangara. Mr. Wace de Silva was nominated by the Low-country Products Association of Ceylon in December in the place of Sir Marcus Fernando. Gate Mudaliyar A. E. Rajepakse was renominated by the Low-country Products Association of Ceylon to serve on the Board for a period of three years from December.

It is with great regret that the death of Sir Marcus Fernando is recorded. Sir Marcus was a valued member of the Board of Management and of the Building Committee of the Coconut Research Scheme from the time it was started. His death occurred in England towards the end of the year.

Four meetings of the Board of Management were held during the year, on March 13, June 7, September 27, and December 13, respectively.

STAFF.

Mr. R. Child, Technological Chemist, was in charge of the Research Station as Chief Technical Officer until October 12, when he left the Island on leave. Until his return to the service of the Scheme in August, 1936, Mr. W. V. D. Pieris, Geneticist, has been appointed to act as Officiating Chief Technical Officer.

Mr. W. V. D. Pieris returned from study leave in England at the end of June. During his absence the work of the Genetical Department was carried on by Mr. C. L. de Zylva, Technical Assistant to the Geneticist.

Mr. S. Ramanathan, Technical Assistant to the Technological Chemist, has carried on the work of the Technological Chemist from October 13.

Mr. P. J. Nonis has held the post of Estate Superintendent throughout the year.

The secretarial and accounting work has been carried out as usual at Bandirippuwa estate under the supervision of the Chief Technical Officer until October 13, and since then, under the supervision of the Officiating Chief Technical Officer.

TECHNICAL WORK.

1. *Technological Chemist.*—(i.) Much of the work in Technological Chemistry has again been concerned with soap. The publication of the Scheme's first bulletin on soap was made at an opportune moment, when considerable interest was being taken in the local soap industry. The bulletin was well received both locally and abroad and favourably reviewed in the leading trade journals. The main suggestions made therein, besides those concerning legislative measures, such as tariff increase on foreign soaps and standardization of quality, were the provision of a demonstration factory and the making available of technical advice.

Advisory work has been mainly concerned with soap. Fifteen samples of locally manufactured soap were received for analysis. Detailed reports with recommendations for improvement were sent in every instance.

(ii.) A complete chemical examination of Margosa oil, made from the seed of *Azadirachta indica*, was carried out in the laboratory. This oil is said to possess antiseptic properties and is used by many manufacturers, both in India and Ceylon, as a soap-making material in combination with coconut oil. The antiseptic properties are attributed to the presence of organic sulphur compounds in the oil. A paper embodying the results of the chemical examination will be published shortly.

(iii.) At the request of the Low-country Products Association, work was carried out in conjunction with the Rubber Research Scheme on the possibility of using powdered coconut shell in combination with rubber to form flooring and similar materials. Work on the same lines has been done with bleached coir fibre dust. It is hoped that reports on these investigations will be published shortly.

(iv.) An experiment was carried out on the extraction of lauric acid from coconut oil and it was found that by means of the methods adopted it was possible to recover almost the theoretical amount of lauric acid from a given quantity of coconut oil. A sample of this acid was sent to the Rubber Research Scheme to be used as a substitute for stearic acid in vulcanization.

(v.) The studies on the development of the nut, commenced in 1934 in conjunction with the Soil Chemist, have been carried on during 1935. The work will be continued by the Technical Assistant to the Technological Chemist during the latter's leave in England.

(vi.) The Technological Chemist has designed an experiment to be carried out during his absence by his assistant, with a view to ascertaining whether there is any difference in the oil content of copra produced in the various districts of Ceylon, and whether there is any seasonal change in oil content of copra within districts. Superintendents of twelve estates situated in the various districts have very kindly consented to co-operate with the Scheme in carrying out this experiment.

Analytical details of all the investigations mentioned above and other investigations to be mentioned later in connection with the Soil Chemist's Department will be published in the technical reports of the officers concerned.

(vii.) Advisory work has included the examination of some fifteen samples of poonac, nine samples of coconut oil, five samples of copra, besides, samples of desiccated coconut, coir dust, &c.

2. *Geneticist.*—(i.) The detailed yield recording on the block known as Genetical Block B on Bandirippuwa estate, commenced in August, 1931, has been continued. The results obtained so far show that with the improvement of cultural conditions the variability in yield between palms displays a tendency to decrease. Further the analysis of the figures indicates that the yield characters of palms remain

relatively constant, in the sense that palms that exhibited characters of high yield in 1931, at the commencement of the records, continue to be superior to palms that were poor yielders in 1931. These records should also be useful in time in working out the association of yield with climatic conditions, chiefly rainfall.

(ii.) It was stated in last year's report that a high correlation had been observed between weight of husked nuts and weight of copra. Further, it was observed that there was a simple numerical relation between the two variables, namely, the weight of husked nuts and weight of copra. A series of experiments was carried out in order to test this relation, under various conditions of copra drying, and it was found that as a safe estimate it could be considered that the weight of copra was approximately 32 per cent. of the weight of the original husked nuts. The details of these experiments are given in a paper entitled "Studies on the Coconut Palm II. On the Relation between the Weight of Husked Nuts and the Weight of Copra", which was published in the *Tropical Agriculturist*, Vol. LXXXV., No. 4, October, 1935.

(iii.) A series of germination experiments was carried out with coconuts and the following tentative results have been obtained:—

- (a) Nuts planted flat give rise to better seedlings than nuts planted upright.
- (b) There is no virtue in the orientation of nuts in the nursery by the method of flotation in water.
- (c) Germination is hastened when mature nuts are placed in the nursery and, therefore, it is a disadvantage to store seed nuts for any length of time before planting.

Further experiments on germination have been carried out in order to find out the relative merits for seed purposes of nuts picked at different times of the year, and also in connection with the study of coconut varieties. The results of these experiments are not yet available for analysis.

(iv.) Yield-recording investigations on privately-owned estates have been continued, and the results obtained indicate that the original standards adopted in the selection of mother palms were sound. Palms displaying very high yield, equivalent to as much as six or seven cadies of copra per acre of fifty-five palms per annum, have been isolated and it is hoped, that, in the near future, it will be possible to study the daughter generations of these palms.

(v.) Attempts to secure a suitable piece of jungle land for experimental work with coconut varieties and selected strains, which were commenced in 1931, have not yet been successful. The study of varieties and high yielding strains in connection with the inheritance of yield characters is, perhaps, the most important branch of the genetical work on the palm; and it is being held up owing to the lack of a suitable jungle area. Further attempts are being made to secure a portion of Crown jungle at not too great a distance from Bandirippuwa estate and it is hoped that these will meet with success.

It must be mentioned that through the courtesy of a large landowner has been possible to open up five acres of jungle belonging to him and to Bandirippuwa with selected seed nuts. This has provided a useful start for the investigation on the inheritance of yield characters mentioned above.

(vi.) The demand for selected seedlings and seed nuts has increased considerably both from local and Indian growers, and, in fact, the demand is now exceeding the supply. There are some one hundred and eighty mother palms marked down on Bandirippuwa estate, out of which forty-six have been proved as a result of four years yield-recording. A limited number of nuts from these palms are available for sale during the planting seasons.

Until the Scheme has its own Seed Farm planted up with nuts of selected strains, it will not be possible to meet the heavy demand for seed nuts and seedlings, which is increasing every year.

Soil Chemist.—(i.) An year's detailed yield-recording of the plots of the seasonal experiment was completed in August. Manures were applied in November. The experiment, the object of which is to determine the response of coconuts to nitrogen, potash, and phosphoric acid at three levels separately and jointly, was included to include a comparison of nitrogen applied in three qualities, namely, sulphate of ammonia, calcium cyanamide, and groundnut cake.

Soil samples were taken from each plot before manuring and will be analysed to establish any possible correlations between analytical data and response to manuring.

A Field Assistant was appointed in July, 1935.

(ii.) Experiments to study the possibilities of compost-making with coconut fronds using a modification of the Indore Process was not a success. The compost pits were found to serve as breeding grounds for the coconut black beetle. The rate of composting was also slow and was confirmed by the low pentosan/lignin ratio of the material.

(iii.) In order to work out the details of analytical methods in soil survey work, a complete analysis of a soil profile collected during the previous year was carried out.

(iv.) A questionnaire on Green Manuring and Cover Crops was issued, preliminary answers connected with the subject. In all except a few instances replies were promptly sent in by Estate Superintendents.

(v.) There has been a considerable amount of advisory correspondence relating mostly to manuring for the depression, green manuring, and composts, and analysis of samples submitted for report and advice. The latter included several samples of poonac and sediment poonac submitted by the Technological Chemist, compost manure, goat manure, and ammoniacal gas liquor.

(vi.) Visits were paid to twenty-four estates in the course of the year, mostly in connection with advisory work.

(vii.) Since the departure of Dr. Child on leave, the work of the Technological Chemist's laboratory has been supervised by the Soil Chemist.

4. *Lectures.*—A number of popular lectures have been given by officers during the year. Two papers on "Cover Crops" and on "Composts in Relation to Coconut Cultivation", prepared by the Soil Chemist were read at the Chilaw Planters' Association and the Kurunegala Planters' Association on June 15 and July 13, respectively. A third paper entitled "Some Considerations on the Economic Cultivation and Manuring of Coconuts", prepared by the Soil Chemist in collaboration with the Chief Technical Officer, was read at a meeting of the Low-country Products Association on July 19. At a later meeting of the Low-country Products Association on August 16 the Geneticist read a paper "On the Breeding of Coconuts". Roneo copies of these papers are available at the office of the Scheme at Bandipuwuwa estate. An address on "Vitamins" was given by the Chief Technical Officer to the Ceylon Natural History Society on September 10.

5. *Meteorological Observations.*—67 inches of rain fell on 126 days of the year as compared with 100.08 inches on 149 days of the previous year. The drought during the early part of the year was very severe, only 0.17 inches of rain falling during the six weeks beginning January 1. But conditions improved later and the second half of the year was more satisfactory than the corresponding period in the previous year.

6. *Library.*—On December 31, 1935, the library contained 244 books and 221 bound volumes, the corresponding figures at the end of the previous year being 203 and 149, respectively. A set of back numbers of the Tropical Agriculturist from 1881-1888 was bought during the year. Another important addition to the library has been an almost complete set of the Malayan Agricultural Journal purchased from the Department of Agriculture of the Malay States. Acknowledgment is made to the Library Committee of the Ceylon Department of Agriculture for many odd numbers of important journals and a fairly complete run of "Soil Science" volumes 1-12.

Sixty-one current periodicals, including those loaned by members of the Technical Staff, were received during the year. Acknowledgment is made to all Directors of Departments and Institutes for journals and reports that are supplied free of charge.

This opportunity is taken of inviting all those who are interested in the cultivation of coconuts and other subjects cognate to the industry to make use of the library and reading room, which are open during week days from 8 A.M. to 4 P.M. and on Saturdays from 8 A.M. to 12 noon.

7. *Papers prepared for Publication during 1935.*—

- (1) R. Child: "Ceylon Tea Seed Oil". *Tropical Agriculturist*, Vol. LXXXIV., No. 2, February, 1935.
- (2) W. V. D. Pieris: "Studies on the Coconut Palm II. On the Relation between the Weight of Husked Nuts and the Weight of Copra". *Tropical Agriculturist*, Vol. LXXXV., No. 4, October, 1935.
- (3) M. L. M. Salgado: "Manurial Value of Coconut Husk Ash" (to be published).

8. *Meetings.*—The three Senior Officers of the Scheme continue to be honorary members of the Chilaw and Kurunegala Planters' Associations and they have attended the meetings of these bodies whenever possible. The Chief Technical Officer was elected an honorary member of the Matale Planters' Association during the year. He has also served on the Standing Committee for Industrial Research and Development, on the Committee on Research Facilities in Ceylon, and as an *ex officio* member of the Central Board of Agriculture.

The Chief Technical Officer has also attended three meetings of the Board of management as Secretary, two meetings of the Central Board of Agriculture, two Meetings of the Committee on Research Facilities, two meetings of the Standing Committee on Industrial Research and Development, one meeting of the Tariffs Advisory Committee, the Bi-annual Conference of the Tea Research Institute; and he was present at the opening by His Excellency the Governor of the new Factory and Laboratories of the Rubber Research Scheme, accompanied by the Soil Chemist.

The Officiating Chief Technical Officer acted as Secretary at the fourth meeting of the Board of Management held in December, and also attended a meeting convened by the Director of Commercial Intelligence to consider Ceylon's participation in the forthcoming Adelaide Centennial Celebrations.

THE ESTATE.

Since the area under experiments is now equal to approximately one-fifth of the total acreage of Bandirippuwa estate, and since this area will continue to increase, it has been thought advisable to consider the estate as being under two types of management, namely, normal estate management more or less comparable with the management of coconut estates in general, and Research Management under which special expenditure is incurred in connection with experimentation. The statements made hereunder regarding the portion of the estate under normal estate management should be of use to practical planters on problems connected with the economic cultivation of coconuts, since that portion is managed under strict estate conditions. The portion under experiments is not to be considered as a source of income to the Scheme.

The crops harvested in 1935 were as follows:—

| | Nuts from Blocks under Estate Management. | Nuts from Blocks under Research Management. | Total Number, of Nuts. |
|-------------|---|---|------------------------------|
| 1st Crop .. | 55,914 | 21,811 | 76,825 |
| 2nd Crop .. | 92,598 | 29,428 | 122,026 |
| 3rd Crop .. | 88,455 | 28,421 | 116,876 |
| 4th Crop .. | 74,398 | 25,568 | 99,966 |
| 5th Crop .. | 55,641 | 10,507 | 66,148 |
| 6th Crop .. | 48,691 | 11,167 | 59,858 |
| | <hr/> 414,797 | <hr/> 126,902 | <hr/> 541,699 |

The average yield per acre for the whole estate was 3,564 nuts and per palm 55.8 nuts. The corresponding figures for previous years were:—

| Year. | Number of Nuts. | Per Acre. | Per Palm. |
|---------|-----------------|-----------|-----------|
| 1931 .. | 583,155 | 3,887 | 59.3 |
| 1932 .. | 447,191 | 2,981 | 45.4 |
| 1933 .. | 632,106 | 4,143 | 64.2 |
| 1934 .. | 575,755 | 3,774 | 58.5 |

The estate expenses for the year totalled Rs. 5,329·96, working out at Rs. 12·85 per 1,000 nuts. The research expenses on the estate for the year amounted to Rs. 3,155·02.

The revenue from the estate is divided into two parts as follows:—

| <i>Revenue from Estate Management.</i> | | <i>Revenue from Research Management.</i> | |
|--|------------------|---|-----------------|
| | Rs. c. | | Rs. c. |
| From 6th crop, 1934 .. | 1,665 1 | From 6th crop, 1934, copra from experiments .. | 542 91 |
| From crops 1-5, 1935 .. | 10,199 52 | From crops 1-5, 1935, copra from experiments .. | 2,737 94 |
| From 6th crop, 1934, copra from rejections .. | 15 46 | From sale of seed nuts and seedlings .. | 479 31 |
| From crops 1-5, 1935, copra from rejections .. | 210 60 | | |
| From sale of leaf butts and sundries .. | 227 32 | | |
| | <u>12,317 91</u> | | <u>3,760 16</u> |

Total Revenue Rs. 16,078·07.

The income per 1,000 nuts harvested from the portion under Estate Management was, therefore, Rs. 29·70, and the net income for the year (revenue less expenditure) was Rs. 6,987·95 or Rs. 16·85 per 1,000 nuts.

The net income from the portion under Research Management was Rs. 605·14.

The total net income from the estate was thus Rs. 7,593·09.

BUILDINGS AND ROADS.

The roads on the estate have been improved and extended considerably, and it is now possible for visitors to make a complete inspection by car of the estate, including portions of the estate under manurial experiments and the various buildings.

A new copra kiln has been erected close to the old one for the purpose of dealing with the nuts produced on the different experimental plots. The platform on this kiln has been divided up by means of movable wooden partitions into sections so that the nuts from individual plots can be cured separately without any danger of mixing.

GENERAL.

The Board commends to Estate Proprietors and Superintendents the desirability of getting rid of dead palms on their estates.

FINANCE.

The audited Statement of Accounts will be found attached.

J. C. HUTSON,
Acting Director of Agriculture, and
Acting Chairman, Board of Management
Coconut Research Scheme.

January 16, 1936.

Audit Office,
Colombo, January 30, 1936.

THE CHAIRMAN, Board of Management, Coconut Research Scheme, Peradeniya.

SIR.—I HAVE the honour to report that the audit of the accounts of the Coconut Research Scheme for the year 1935, has been completed and have pleasure in forwarding the following documents duly certified:—

- (a) Statement of Receipts and Payments for the year 1935.
- (b) Balance Sheet as at December 31, 1935.

I.—RECEIPTS.

2. The total revenue received during the year amounted to Rs. 96,966·07. It exceeded the estimate of Rs. 93,010 by Rs. 3,956·07, but fell below the revenue of the previous year by Rs. 13,502·30.
3. *Cess Collections.*—The total receipts on account of Cess Collections during the year amounted to Rs. 47,555·22 as compared with Rs. 66,326·57 received during the previous year. The receipts in 1935 include the collections made during December, 1934, viz., Rs. 3,780·43, but do not include the collections made during December, 1935, viz., Rs. 2,368·05, which were credited to revenue on January 16, 1936. The amount received on this account has been compared and found to agree with the corresponding figure in the Treasury Books.
4. *Grants: Rs. 30,000.*—This amount represents the annual grant received from Government under section 6 (i.) (b) of Ordinance No. 29 of 1928, for the financial year 1934-1935.
5. *Interest.*—A sum of Rs. 2,294·47 was recovered during the year as interest as compared with Rs. 3,045·41 recovered during 1934. The shortfall is due to reduced rates of interest allowed by the banks.
6. *Income from Estate.*—The income from the estate during the year was Rs. 16,078·07 as compared with Rs. 10,048·14 during the previous year. The increase is due to the rise in the market prices of coconuts. The crop returns for the year were examined and it was seen that the proceeds of sale of the nuts have been brought to account.
7. *Electricity Charges.*—A sum of Rs. 800·34 has been recovered during the year in respect of the electric current supplied to the Senior and Junior Staff of the Scheme as against Rs. 898·46 during the previous year.
8. *Sundry Receipts.*—During the year a sum of Rs. 237·97 was received on this account as against Rs. 149·79 received in the previous year.

II.—DISBURSEMENTS.

3. The details of expenditure are shown in the Statement of Disbursements. The whole of this expenditure was checked with supporting vouchers. The total expenditure during the year exclusive of capital expenditure, passages, and repayment of the Government Loan amounted to Rs. 70,821·40. This includes a sum of Rs. 14,274·56 being the amount transferred to Cash Reserve Account for depreciation on account of buildings, laboratory, equipment, furniture, gas plant, and accumulators. The expenditure in the previous year, exclusive of capital expenditure, etc., amounted to Rs. 89,502·29.
10. The following outstanding liabilities in respect of expenditure during 1935 are not included in these accounts:—

| | Rs. | c. |
|---|-------|----|
| 1. Cost of audit | 358 | 28 |
| 2. Messrs. Brown & Co., for goods supplied and repairs to Power House | 200 | 87 |
| 3. Messrs. Avery, Ltd., for laboratory equipment | 1,200 | 0 |
| 4. Messrs. Shell Co., for goods supplied | 69 | 16 |
| 5. The Superintendent, Marandawila estate, for seeds supplied | 20 | 5 |

III.—BALANCE SHEET.

Liabilities.

11. *Passage Fund.*—The balance on December 31, 1934, was Rs. 5,750. During the year a sum of Rs. 1,764·14, was paid thus reducing the balance to Rs. 3,985·86 on December 31, 1935.

12. *Provident Fund: Rs. 10,478.31.*—The balance on December 31, 1934, was Rs. 7,095.50. The contributions made by the officers during the year amounted to Rs. 1,554.21. The Board's contribution amounted to Rs. 1,828.63, of which Rs. 1,547.59 represented the bonus equal to the sum contributed by the members during 1934 and Rs. 281.84 the interest on the balance of the fund for 1934.

13. *Cash Reserve for Depreciation: Rs. 42,701.56.*—The balance on December 31, 1934, was Rs. 28,427, and a sum of Rs. 14,274.56 has been transferred from the revenue to this account. This amount has been arrived at as follows:—

| | Rs. c. |
|--|-----------|
| Buildings at 5 per cent. on Rs. 157,789.12 | 7,889 46 |
| Laboratory structures at 5 per cent. on Rs. 58,028.33 | 2,901 42 |
| Laboratory equipment at 10 per cent. on Rs. 18,089.07 | 1,808 91 |
| Gas plant at 10 per cent. on Rs. 2,783.84 | 278 38 |
| Furniture for bungalows at 10 per cent. on Rs. 3,373.24 | 337 32 |
| Office furniture and equipment at 10 per cent. on Rs. 1,254.59 | 125 46 |
| Accumulators at 12½ per cent. on Rs. 7,468.94 | 933 61 |
| | 14,274 56 |

14. *Development Reserve Account: Rs. 464,768.81.*—This represents the amount spent on capital expenditure.

15. *Surplus Account.*—The excess of expenditure over income for the year is Rs. 60,969.05 and this amount is deducted from the balance of Rs. 122,806.46 on December 31, 1934, thus reducing the surplus to Rs. 61,837.41 as at December 31, 1935.

Assets.

16. *Land Acquisition: Rs. 187,554.68.*—This is the balance carried forward from the previous year. No expenditure was incurred during the year on this account.

17. *Buildings.*—The balance on December 31, 1934, was Rs. 173,496.39 and a sum of Rs. 1,123.42 has been spent during the year making a total of Rs. 174,619.81.

18. *Laboratory.*—The balance on December 31, 1934, was Rs. 81,537.04. A sum of Rs. 3,656.97 has been spent during the year making a total of Rs. 85,194.01.

19. *Gas Plant: Rs. 3,436.83.*—This is the balance brought forward from the previous year. No expenditure was incurred on this account during the year.

20. *Furniture for Bungalows: Rs. 4,164.49.*—This is the balance carried forward from the previous year. No expenditure was incurred during the year under review.

21. *Office Furniture and Equipment: Rs. 1,500.17.*—This is the balance carried forward from the previous year. No expenditure was incurred during the year.

22. *Accumulators: Rs. 8,298.82.*—This is the balance carried forward from the previous year. No expenditure was incurred during the year under review on this account.

23. *Cash Account.*—Receipts in support of the amounts lying in fixed deposits were inspected. The balance in current account was verified by reference to the Bank Certificate. The balance in hand on January 23, 1936, was verified.

IV.—GENERAL.

24. *Repayment of Government Loan.*—Of the loan of Rs. 100,000 obtained on September 15, 1932, a sum of Rs. 80,000 was outstanding on December 31, 1935. During the year with the sanction of the Board the balance loan was repaid.

COCONUT RESEARCH SCHEME.

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25. The accounts were received quarterly and were examined in this office. The books and accounts kept at the office of the Coconut Research Scheme at Bandrippuwa were inspected on two occasions during the year. The books were checked and the cash balance verified. A verification of the labour gang and a test check of the inventory articles were also made at these inspections.

I am, Sir,
Your obedient Servant,

O. E. GOONETILLEKE,
Auditor-General.

COCONUT RESEARCH SCHEME.

Statement of Receipts and Payments for the Year 1935.

| RECEIPTS. | Rs. c. | Rs. c. | PAYMENTS. | Rs. c. | Rs. c. |
|--|------------|------------|---|------------|------------|
| <i>Revenue Account:</i> | | | <i>Expenditure Account:</i> | | |
| Balance brought forward from 1934 | 122,106 46 | | A. Capital Account: | | |
| Government's annual grant under section 6(1) (b) of Ordinance No. 29 of 1924 | 30,000 0 | | (1) Buildings | 1,123 42 | |
| Cash collections | 47,555 22 | | (2) Equipment of laboratory | 3,656 07 | |
| Interest | 2,204 47 | | B. Personal Emoluments: | | |
| Income from Bandrippuwa estate | 10,075 7 | | Salaries: Senior staff | 23,926 23 | |
| Charges to staff for electricity | 800 34 | | Junior staff | 10,897 51 | |
| Sundry receipts | 237 97 | | Provident Fund contribution for 1934 and interest | 1,828 03 | |
| | | 210,072 53 | C. Other Charges: | | |
| <i>Advance Account:</i> | | | (1) Travelling expenses: Staff | 1,997 11 | |
| Repayment of loan by Soil Chemist | | 700 0 | Board Members | 411 50 | |
| <i>Deposit Account:</i> | | | D. Office: | | |
| Balance brought forward from 1934 | 41,272 50 | | (1) Stationery | 537 59 | |
| Provident Fund (reserve account) | 3,382 84 | | (2) Postages | 373 52 | |
| Depreciation reserve account | 14,274 56 | | (3) Printing and advertising | 423 33 | |
| | | 58,929 90 | (4) Incidental expenses | 573 20 | |
| | | | (5) Legal expenses | 10 50 | |
| | | | (6) Telephone | 444 50 | |
| | | | E. Laboratory: | | |
| | | | (1) Upkeep, chemicals, &c. | 2,990 23 | |
| | | | (2) Books and periodicals | 2,332 27 | |
| | | | F. Buildings: | | |
| | | | (1) Upkeep of buildings | 851 07 | |
| | | | (2) Insurance | 450 25 | |
| | | | (3) Running expenses of electric plant | 1,744 3 | |
| | | | G. Estate: | | |
| | | | (1) General charges | 1,626 89 | |
| | | | (2) Upkeep | 1,292 66 | |
| | | | (3) Cultivation | 219 96 | |
| | | | (4) Collection | 488 04 | |
| | | | H. Research Account: | | |
| | | | (1) General and nursery | 727 96 | |
| | | | (2) Manurial experiments | 2,329 34 | |
| | | | I. Government Loan: | | |
| | | | (1) Repayment of Government loan | 80,000 0 | |
| | | | (2) Interest on above loan | 2,733 33 | |
| | | | J. Private Account: | | |
| | | | Passages to England | 1,704 14 | |
| | | | K. Reserve for depreciation | 14,274 56 | |
| | | | | 159,690 26 | |
| | | | Balance on December 31, 1935: | | |
| | | | In fixed deposit | 100,000 0 | |
| | | | In current account | 18,771 74 | |
| | | | Cash in hand | 231 43 | |
| | | | | 119,003 17 | |
| | | 278,702 43 | | | 278,702 43 |

Witness and signed in presence of:
O. E. GOONETILLEKE,
Auditor-General.

Bank Office,
Colombo, January 30, 1936.

J. C. HUTSON,
Acting Chairman, Board of Management, Coconut Research Scheme.

Peradeniya, January 31, 1936.

CEYLON SESSIONAL PAPERS, 1936.

COCONUT RESEARCH SCHEME.

Balance Sheet as at December 31, 1935.

| LIABILITIES. | | ASSETS. | |
|--|------------|------------|------------|
| | Rs. c. | Rs. c. | Rs. c. |
| <i>Passport Fund Reserve Account :</i> | | | |
| As per balance sheet, December 31, 1934 | 5,750 0 | | |
| Less passage to England—Chief Technical Officer and his wife | 1,764 14 | | |
| | | 3,985 86 | |
| <i>Provident Fund Account :</i> | | | |
| As per balance sheet, December 31, 1934 | 7,095 50 | | |
| Receipts in 1935 | 3,382 84 | | |
| | | 10,478 34 | |
| <i>Cash Reserve for Depreciation :</i> | | | |
| As per balance sheet, December 31, 1934 | 28,427 0 | | |
| Addition in 1935 | 14,274 56 | | |
| | | 42,701 56 | |
| <i>Development Reserve Account :</i> | | | |
| Capital expenditure | | 464,768 81 | |
| <i>Surplus Account :</i> | | | |
| Excess of income over expenditure up to December 31, 1934 | 122,606 46 | | |
| Excess of expenditure over income for the year ended December 31, 1935 | 60,969 5 | | |
| | | 61,837 41 | |
| | | | 583,771 98 |
| | | | |
| | | | 187,554 83 |
| | | | 174,619 81 |
| | | | 85,194 1 |
| | | | 8,426 43 |
| | | | 4,154 48 |
| | | | 1,500 17 |
| | | | 8,296 32 |
| | | | 100,000 0 |
| | | | 18,771 74 |
| | | | 231 43 |
| | | | 119,003 17 |
| | | | 583,771 98 |

Peradeniya, January 31, 1936.

J. C. HUTSON,
Acting Chairman, Board of Management, Coconut Research Scheme.

I hereby certify that the accounts of the Coconut Research Scheme have been audited and that in my opinion the above Balance Sheet correctly sets forth the position of affairs as shown by the books at December 31, 1935.

Audit Office,
Colombo, January 30, 1936.O. E. GOONETILLEKE,
Auditor-General.