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C O N T E N T S .

1. Report on the Production and Manufacture of Sugar in certain districts of Bengal and the North-Western Provinces. By Major W.B. Birch. 1880. X9(F68):2.262.M8 B0 1-31 pp.
2. Report of the Agricultural Branch of the Department of Land Records and Agriculture, Bengal, 1903-1904. J.262y D4 32-51 pp.
3. Report of the Agricultural Department, Bihar and Orissa, 1913-1914. J.253y E4 52-69 pp.
4. Annual Report on the working of the Department of Agriculture, Burma, 1920-1921. J.438y F1 70-83 pp.
5. do 1921-1922. J.438y F2 84-98 pp.
6. Report on the Operations of the Department of Agriculture, Madras Presidency, 1914-1915. J.21y E5 99-131 pp.
7. do 1921-1922. J.21y F2 132-150 pp.
8. Administration Report of the Cinchona Department, Madras Presidency, 1923-1924. X9(F56;J64U).21y F4 151-160 pp.

REPORT

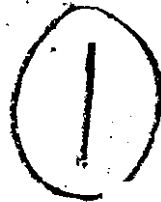
BY

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OFFICIATING FIRST ASSISTANT, FORT BLAIR,

ON SPECIAL DUTY,

On the Production & Manufacture of Sugar



CERTAIN DISTRICTS OF BENGAL AND THE NORTH-WEST PROVINCES.

CALCUTTA:

PRINTED AT THE HOME, REVENUE & AGRICULTURAL DEPARTMENT PRESS.

1880.

X9(F68):2-262.M8

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CONTENTS.

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	PAGES.
1. INTRODUCTORY REMARKS	1—4
2. THE GROWTH OF THE SUGARCANE (CHAPTER I.)	5—18
3. THE EXPRESSION OF THE CANE-JUICE (CHAPTER II.)	19—23
4. THE PREPARATION OF RAW SUGARS (CHAPTER III.)	24—34
5. THE REFINING PROCESSES (CHAPTER IV.)	35—45
6. GENERAL REMARKS AND CONCLUSIONS... .. (CHAPTER V.)	46—50

INDEX TO CONTENTS.

INTRODUCTORY REMARKS.

Para.

1. Division of the subject.
2. No true refining by Natives.
3. Reasons for division.
4. Indiscriminate use of the word "sugar."
5. North-Western Provinces Native names and systems of manufacture.
Bengal ditto ditto.
6. What sugar really is, and how obtained.
7. Influence of heat on sugar.
8. Other causes of loss in manufacture.

CHAPTER I.

The growth of the sugarcane.

9. Area of sugarcane cultivation in India.
10. Prospects of cultivation at Port Blair inferred.
• Situation.
Moisture.
Its advantages in production.

PART I.

Preparation of the land.

11. To what districts report confined.
12. North-West Provinces.
Soil preparation.
Rotation of crops.
13. Ditto in Azimgurh District.
14. Manure.
15. Irrigation.
16. Bengal.
Area and rotation of crops.
Ploughings.
17. Port Blair lands.

PART II.

The seed and its planting.

18. The seed.
19. Outturn of canes.
20. Varieties of cane now used.
21. North-West Provinces canes.
22. Bengal canes.
Value of outturn.
23. Food and other canes.
North-Western Provinces—Time of planting.
Method.
Quantity of seed.
Sowing.

Para.

24. Sowing in Bengal.
25. Mauritius planting.
26. Hoeing and irrigation of plant, North-Western Provinces.
27. Ditto in Bengal.
28. Absence of further culture.
29. Planting at Port Blair.

PART III.

The outturn of cane.

30. Recapitulation of defects in systems.
31. Average outturn in canes.
32. Time of cutting, North-Western Provinces.
33. Ditto, Bengal.
34. Possible absence of (or remedy for) above defects at Port Blair.
35. Penang canes.
36. "Ratooning" or "Khoonteari."
37. Its practice at Port Blair.

CHAPTER II.

Expression of the cane juice.

38. Quantity expressed.
39. Beheca Mills.
40. Their influence and objects.
41. Pressing cane, North-Western Provinces.
42. Pressing in Bengal.
43. Amount of juice obtained.
Inferences therefrom.
44. Proportions of dry sugar and molasses respectively.
45. Disadvantages of Native kolhus or mills.
46. Crushing by water-power, Meerut Company.
47. Native first product of boiling.
48. Native agriculture and its possible improvement.

CHAPTER III.

Preparation of raw sugars.

49. Heat as an agent.
50. Boiling to goor and "rab."
51. Use of lime.
52. Clayed process.
53. Formation of uncrystallizable matter.
54. Results of defective preparation of goor and rab.
Presence of acids and ferments.
Presence of saline compounds.
55. Injury to Andaman raw sugars from above causes.
56. Form of export adopted.

Para.

- 57. Muscovado.
- 58. Clayed sugars.
- 59. Indian sugars.
Form of pan.
- 60. A "battony" of five pans.
- 61. Improvements in boiling.
- 62. Quantity of rab or goor obtained.
- 63. Native forms of export.
- 65. Prices of rab and goor.
- 66. Outturn of raw sugars.
- 67. General remarks on raw sugars.
- 68. Government intervention at Port Blair.
- 69. Considerations urged against refining.
- 70. In preparation of raw sugars only.
Courses possible.
- 72. Superior sugars.
Messrs. Thomson and Mylne's centrifugal experiments.
- 73. Results thus attainable.
Centrifugals.
Small centrifugals.
Centrifugal with and without concretor.
Centrifugal with capstan.
- 74. Cost incurred.
- 75. Preliminary review of suggestions of possible courses.

CHAPTER IV.

The refining processes.

- 76. Objects of refining.
- 77. European method and objects.
- 78. Native processes of refining in North-Western Provinces.
- 79. Shakur.
- 80. Still a raw product only.
- 81. Semi-refined Native sugars, North-Western Provinces.
Native processes.
- 82. Bengal Native sugars.
Refining by Natives in Bengal.
- 83. Contrast with turbine.

Para.

- 84. Results of Native processes.
 - 85. European methods.
 - 86. Small centrifugal alone.
 - 87. English refineries at Rosa and Cossipore.
 - 88. Methods of treatment.
 - 89. Rosa.
 - 90. Cossipore.
 - 92. First stage of European refining.
 - 93. Second stage.
 - 94. Third stage.
 - 95. Fourth stage.
 - 96. Fifth stage.
 - 97. Revivification of charcoal.
 - 98. Cost of machinery and plant.
- CHAPTER V.
- General remarks and conclusions.*
- 99. Compilation of this Report.
Valuable assistance received.
 - 100. Increase of area of cane.
 - 101. Local consumption of sugar and goor.
 - 102. Present area of cane unequal to supply large works.
 - 103. Basis of recommendations.
 - 104. Temporary reduction in rents of land.
 - 105. Improved seed.
 - 106. Introduction of Beheea Mills.
 - 107. Prizes.
Communications with Indian markets.
Reduced export freights.
 - 108. Purchase of local produce.
Purchase of centrifugals.
 - 109. If development left to Natives.
 - 110. If undertaken by Government.
 - 111. Beheea Mills and centrifugals or small Penang machines.
 - 112. Larger centrifugal with capstan.
"Concretor" with or without centrifugals.
 - 113. Establishment of local European refinery.

APPENDIX A.

Area under main crops in each agricultural division (average of five years ending 1920-21).

(Figures in thousands of acres, i.e., 000 being omitted.)

Crops	I division.	II division.	III division.	IV division.	V division.	VI division.	VII division.	VIII division.
Rice (<i>Oryza sativa</i>)	3,523	1,303	386	1,863	1,405	1,036	1,472	293
Cholam (<i>Sorghum vulgare</i>)	319	1,064	2,081	151	291	541	...	699
Cumbu (<i>Pennisetum typhoideum</i>)	218	388	398	487	354	461	...	845
Ragi (<i>Eleusine coracana</i>)	679	119	225	496	138	267	...	517
Korra (<i>Setaria italica</i>) ... ..	...	...	1,165	...	...	...	...	...
Other cereals	333	642	279	388	269	570	86	386
Pulses	635	338	744	199	100	365	72	640
Gingelly (<i> Sesamum indicum</i>)	375	...	...	...	54	112	...	65
Groundnut (<i>Arachis hypogaea</i>) ... ..	...	...	354	591	168	82	...	187
Coconut (<i>Cocos nucifera</i>) ... ..	...	...	...	...	...	...	331	...
Castor (<i>Ricinus communis</i>) ... ..	...	123	199	...	...	...	...	...
Chillies (<i> Capsicum, sp.</i>) ... ..	...	126	...	...	...	...	...	...
Pepper (<i>Piper nigrum</i>) ... ..	...	...	...	...	...	...	71	...
Sugarcane (<i>Saccharum officinarum</i>)	47	...	...	...	...	...	...	...
Cotton (<i>Gossypium, sp.</i>) ... ..	...	242	1,116	...	55	720	...	322
Indigo (<i>Indigofera tinctoria</i>) ... ..	...	95	...	56	...	...	...	...
Tobacco (<i>Nicotiana tabacum</i>) ... ..	...	66	...	...	...	...	...	87
Arecanut (<i>Areca catechu</i>) ... ..	...	...	...	...	...	...	88	...
Plantains (<i>Musa sapientum</i>) ... ..	...	...	...	...	...	...	43	...
Other crops	780	450	349	406	199	364	243	249
Total	6,959	4,956	7,246	4,635	3,083	4,518	2,408	4,190

Government of Madras

DEVELOPMENT DEPARTMENT

G.O. No. 366, 10th March 1925

Administration Report—Cinchona Department, 1923-24—Reviewed.

READ—the following paper :—

Letter from A. Wilson, Esq., M.A., B.Sc., Deputy Director of Agriculture (Cinchona), to the Secretary to Government, Development Department, dated Ootacamund, the 12th February 1925, No. 7.

I have the honour to forward herewith a copy of the Administration Report of this department for 1923-24 and to state that a copy of the same with the necessary enclosures has been sent to the Superintendent, Government Press, Madras, for printing the required number of copies.

ENCLOSURES.

ADMINISTRATION REPORT OF THE GOVERNMENT, CINCHONA DEPARTMENT FOR 1923-24.

GENERAL REMARKS.

In recent years emphasis has been laid on the necessity of increasing the supplies of Indian grown cinchona bark for the quantity on the Madras Government Plantations is strictly limited and there is little prospect of the Malaria problem being resolutely tackled until large quantities of cheap quinine are at hand. Unlike many planting products it is wellnigh hopeless to expect the cinchona tree to yield a remunerative return save on very high grade land and while criticism is often levied against the policy of growing the State requirements of bark on State plantation it is forgotten that few planters in these days care to risk their capital in cultivating such an exacting plant as cinchona when tea, coffee and similar plants can be grown with certain promise of a return. Now cheap quinine—which is of paramount necessity in India—implies cheap bark from which to extract the alkaloid and cheap bark can only be obtained by cultivating large and extensive areas. To those who are interested in the problem of checking India's greatest scourge—Malaria—it must come of interest to learn that the question of opening large plantations of cinchona in the Anamalai Hills received the active support of a special committee at Delhi. The area was visited by His Excellency Lord Willingdon in December 1923 and in the following February, Sir Arthur Knapp, the Member of Council in charge of Cinchona, made a detailed inspection of the ground, when opportunity was taken to explain the method of inaugurating the proposed plantation. The acreage of the land amounts to 22,000 acres which when planted up will yield a large quantity of quinine for Malaria propoganda, and in the next report it is hoped that a record of the actual commencement of planting will find a place.

During the year only about 1½ lakhs of rupees of bark was on offer from private plantations and as most of this came from areas uprooted for the purpose of growing tea, the opening of the new plantations referred to above cannot any longer be delayed.

In South India there is only one private plantation, namely, Oosimalai, which is solely devoted to cinchona growing but no considerable stock has yet been harvested. The area is planted with high grade seed and the bark which has so far been harvested is of very encouraging quality. As it has been represented that Government deliberately discouraged the growing of cinchona bark, it is as well to state that only in recent years has bark been imported from Java when the supplies from private estates and the relatively small area of the Government plantation have been insufficient for the Quinine Factory. During the past 30 years bark to the value of 34 lakhs has been purchased from private planters in South India, and for 20 years at least payment has been made at the rate prevailing in the London market with a bonus for quality. The commanding position which Java holds in the production of cinchona bark is due to the suitability of the soil, rainfall, and perhaps more particularly to the fact that that Island holds large tracts of land at that elevation on which cinchona ledgeriana of high grade can be grown with marked success. In South India however other than Anamalais there is no easily accessible land known to the writer which holds out any promise of success which will challenge the results of the Dutch.

Noteworthy in the year is the success which the standardized preparation of cinchona febrifuge—to which the name “Malarene” has been given—has obtained. Trials were made in various hospitals in the Presidency, under the control of the Surgeon-General and the report of that officer indicates that for certain forms of Malaria, this drug is most efficacious. In some districts so surprisingly good have the results been that “Malarene” has all but ousted quinine from pride of place. Efforts are being directed to augment the production of “Malarene” which is fortunately obtainable from cinchona bark more easily grown than the quinine yielding species—ledgeriana.

POINTS OF INTEREST IN THE YEAR'S WORK.

(a) *Cinchona plantations*.—The rain fall on the Government plantations was as follows:—

Dodabetta 42.36 inches, Naduvattam 120.04 inches, and Hooker 108.22. Between Dodabetta and Naduvattam there is perhaps not more than 16 miles in a straight line but while the former recorded a rainfall over 12 inches below the average, the precipitation at Naduvattam was the highest for 14 years. Up to October the rainfall was 117 inches but in the succeeding six months only some 3 inches fell. This period of drought makes it necessary to grow cinchona under shade which is reduced by means of the pruning saw as the cinchona attains maturity. Grevillia is the principal tree used for shade but *Alnus Nepalensis* is being experimented with for it grows excellently at Naduvattam. As far as funds are available, deep forking was done and on the areas of old grass land over 30,000 bushel baskets of cattle manure were spread. Over 1,000 bags of ash from the factory furnaces were applied to block 1900 while on a portion of block 1918 where the trees are not too robust basic slag was lightly forked in. It is proposed to continue experiments in manuring. The amount harvested from the plantations during the year was as follows:—

Dodabetta 39,468 lb. and Naduvattam 218,239 lb. the produce of over 86 acres, leaving an area under a full compliment of cinchona of 1,397 acres. As a check against the recorded number of acres, a tree count will be made and if considered necessary the entire area will be surveyed. The table below gives the figures showing the area of the plantations as at the beginning and the end of the year.

Plantation.	Division.	Acreage on 1st April 1923.	Uprooted in 1923-24.	Acreage on 31st March 1924.
Dodabetta	Dodabetta	229.0	13.0	216.0
	Kukal	17.6	0.6	17.0
Naduvattam	Naduvattam	409.67	22.51	387.16
	Hooker	827.25	50.2	777.05
	Total ..	1,483.52	86.3	1,397.2

Quinine Factory.—On account of short supplies of bark only four digesters out of six were working and the products were quinine sulphate 22,496 lb. quinine, bisulphate 6,905 lb., quinine hydrochloride 220 lb.; quinine bi-hydrochloride 240 lb., cinchona Febrifuge (Matarene) 17,432 lb. making in all, a total of 47,293 lb. It was a new departure to make quinine bi-sulphate on a large scale and the salt produced was of excellent quality. The quality of the bark used was of an average of 3.39 per cent quinine sulphate against 3.61 per cent in the past year and this low figure makes the production of a pure white salt a matter of great difficulty. Necessary replacements such as new enamelled boiling pans were erected in position and steps were taken to renew other factory equipment which has deteriorated. Towards the end of the year a fire occurred in the grinding room and this accounted for a loss of Rs. 2,605. Recommendations have been made which when carried into effect will assist in making the factory more fire proof than it can be under present conditions. For the British Empire Exhibition the Manufacturing Chemist prepared an interesting series of quinine products.

Financial results.—The financial working of the department for the year can be gauged from the balance sheet submitted with the report and certified by the Government Auditors, Messrs. Fraser & Ross. Accurate detailed costing presents many difficulties in a chemical factory but it was felt that the flat rate of cost of manufacture formerly adopted for cinchona febrifuge of one rupee per pound was too low and in the year two rupees per pound has been shown. This has assisted in reducing the recorded cost of production of quinine sulphate which in the year was Rs. 13.07. The profit for the year's working was Rs. 2,52,519 which is very satisfactory as it represents a higher percentage on the turnover than last year even though the profit of that year was Rs. 3,55,446. The fall in profit is due mainly to the fall in price in the market rate and also to a smaller quantity of quinine sulphate sold. The Auditors' report attached hereto is self-explanatory and no attempt need be made here to refer to the points raised by them.

Staff.—No member of the superior staff was on leave during the year, but various alterations felt to be made after the retirement of Mr. E. Collins at the end of last year. To the charge of the Naduvattam Cinchona Plantations Mr. W. H. P. Collins was transferred from Dodabetta Cinchona Plantation and in his place Mr. C. M. Packiam Pillai was posted. Mr. C. Chinnaswami Nayudu was promoted as Head Overseer, Hooker division. In the head office the post of a storekeeper was abolished owing to retrenchment.

OOTACAMUND,
3rd March 1925.

A. WILSON,
Deputy Director of Agriculture, Cinchona.

APPENDIX A.

Table showing the number of acres of cinchona cultivation according to age of acreage in the Government Cinchona Plantations, the Nilgiris, on 1st April 1924.

Particulars.	Plantations.					Name of species of plants.	Nurseries.		
	Age of acreage.	Number of acres in the permanent plantations on the 31st March 1923.	Number of acres uprooted or coppiced in 1923-24.	Number of acres planted in 1923-24.	Number of acres in the permanent plantations on 31st March 1924.		Number of seedlings and rooted cuttings in the nursery beds for the permanent plantations.	Number of rooted plants in seeds and cutting beds.	Total nursery stock on 1st April 1924.
Dodabetta plantations.	0-5	29.04	..	..	9.50	C Offieianalis..	50,000	50,000	100,000
	6-10	76.47	..	..	96.01		..	..	..
	11-15	9.13	..	..	9.13		..	..	..
	16 & over	114.36	13	..	101.36		..	..	..
	Total	229.00	13	..		216.00	50,000	50,000	100,000
Kukul division	6-10	17.60	6	..	9	Ledge Hybrid Alums	..	..	..
	11-15	..	..	..	8		..	..	..
	Total	17.60	6	..		17
Naduvattam plantations.	0-5	140.00	..	..	40.00	Ledge Hybrid Alums	50,000	450,000	500,000
	6-10	46.00	..	..	146.00		5,000	..	5,000
	11-15	77.42	1.73	..	69.49		..	60,000	60,000
	16 & over	146.25	20.78	..	131.67		..	..	..
	Total	409.67	22.51	..		387.16	55,000	510,000
Hooker division	0-5	505.00	..	..	400.60	Ledge Hybrid Alums	230,700	..	230,700
	6-10	55.50	12.00	..	148.50		200,000	..	200,000
	11-15	..	..	..	..		17,000	..	17,000
	16 & over	266.75	38.2	..	228.55		..	..	..
Total ..	..	827.25	50.2	..	777.05	447,700	..	447,700	
Grand total ..	..	1,483.52	86.3	..	1,387.2	552,700	560,000	1,112,700	

APPENDIX B.

Statement showing the details of sales and issues of factory products for the year 1923-24.

Particulars.	Quinine sulphate.	Cinchona febrifuge.	Quinine hydrochloride.	Quinine bi-hydrochloride.	Cinchona bark.	Quinine sulphate Tablets.
	LB. OZ.	LB. OZ.	LB. OZ.	LB. OZ.	LB. OZ.	LB. OZ.
Medical Stores Depot, Madras	1,000 0	558 0	120 0	60 0	..	..
Penitentiary Jail	2,060 0	..	..	..	..	..
Government Hospitals	786 0	483 0	21 8	7 0	14 0	170 1 1/2
Local Fund Dispensaries	872 0	416 8	15 0	..	97 8	1 3/8
Municipal Dispensaries	520 8	178 0	7 8	..	112 0	..
Medical Stores Depot, Bombay	2,020 0	100 0	70 0	148 12	250 0	..
Yervada Jail, Bombay	800 0	..	..	..	..	..
Burma	..	4,000 0	..	..	..	..
Central Provinces	1,000 0	300 0	15 0	..	..	..
United Provinces	1,960 8	2,491 14	4 0	..	..	..
Baluchistan	220 0	170 0	..	..	..	..
Alipore Jail	..	2,000 0	..	..	..	..
<i>Indian States.</i>						
Hyderabad State	600 0	300 0	..	..	..	..
Mysore	697 12	600 0	..	..	..	..
Baroda	1,403 0	108 0	..	..	..	..
Travancore	1,000 0	..	..	..	..	..
Cochin	100 0	..	..	..	..	..
Gwalior	250 0	502 0	..	..	..	..
Coorg	80 0	102 0	..	..	..	..
Bombay, Baroda and Central India Railway	..	73 6	..	..	50 0	..
Sales to Public	..	280 0	..	..	..	..
* Unassigned	55 0	18 6	0 8	..	1 8	1 8
Total ..	15,424 12	12,681 4	253 8	215 12	525 0	173 1 1/2

* These represent issues against claims for short delivery admitted by the Superintendent

CINCHONA DEPARTMENT, OOTACAMUND.

Report on the accounts to 31st March 1924.

ASSETS.

Buildings—Factory.—A sum of Rs. 500 has been written off on account of the portion destroyed by fire, as estimated by the Deputy Director, Cinchona Department.

Machinery—Factory.—Similarly a sum of Rs. 1,806 being the depreciated value of the grinding machines destroyed has also been written off.

Both these figures have been debited direct to capital account and not passed through profit and loss account.

Plantations.—The amounts spent on the plantations have been allocated to blocks developed and blocks in development according to the particulars furnished by the Superintendents in charge, and a valuation on a bark basis is shown at the foot of each account for purposes of comparison.

In the case of Naduvattam plantations, the Superintendent in his report on the working of 1923-24 points out that block No. 1898 has been harvested, in so far that all trees have been cut down to ground level; this block has been coppiced. He estimates the bark on the tree stumps to be 50,229 lb. and on this estimate the bark yield on block No. 1898 is 89,568 lb. short of the original estimate on which the plantation was valued. The shortage makes the original valuation too high by Rs. 12,763-8-11 and we have shown this shortage in the balance sheet as a deferred revenue loss to be written off over a period of years. We suggest that it should be written off over the next five years. As each block is finally harvested any shortage or excess should be treated in this way, so that no one year should unduly gain or lose by the mistakes of the original values placed on the blocks.

We have written off no portion of this loss to the current year, as no bark harvested this year has been taken into production, and so that the present suggested write-off over five years may be considered.

The figure must be brought into the account as it is necessary to reduce the value of the plantation, but the accounts are so framed that anything which reduces the value of the plantation at the same time must increase the cost of production of bark of the year unless treated as we suggest above.

Depreciation at 8 per cent on buildings and at 7 per cent on plant and machinery has been charged to the respective accounts by credit to depreciation reserve accounts.

We have written off depreciation at the rates specified against each of the following :—

- Furniture at 7 per cent.
- Live-stock at 20 per cent.
- Carts and vehicles at 10 per cent.

In the case of live-stock, we have also written off a sum of Rs. 300 being the value of bulls which died during the year less depreciation to end of last year.

We have seen the stock-ledgers and verified their balances with the inventories taken as on 31st March 1924 by the Superintendents in charge of the plantations for the plantations, stores, stock and by the Manufacturing Chemist for the factory stores stock, bark and chemicals, etc., lying at the factory, and by the Deputy Director, Cinchona Department, for packing materials. All valuations are at cost.

Laboratory equipment and loose tools balances represent the stock on hand at 31st March 1924, as per inventories taken on that date.

Manufactured products - were valued at cost of production. The total outturn of the products are as per details below :—

Quinine sulphate—

	LB.	OZ.	LB.	OZ.
Stock as on 1st April 1923 . . . . .	..	..	22,777	2
Manufactured during the year . . . . .	..	..	22,496	1
			45,273	3
<i>Less</i> —Sent to Darbar Physician, Trivandrum, on 21st July 1923 on account of shortage admitted by Deputy Director	40	0		
Packets issued to Superintendent, Dodabetta.	0	4½		
Shortages in bulk consignments received from Chemist at Deputy Director's Office	83	8		
			128	12½
Carried forward			45,149	6½

<i>Quinine sulphate—cont.</i>	LB.	OZ.	LB.	OZ.
Brought forward			45,149	6½
Less—Consignments to Penitentiary	15,141	0		
Consignments in transit to Penitentiary	2,100	0		
			17,241	0
Stock at Deputy Director's Office as on 31st March 1924			27,908	6½
 <i>Quinine hydrochloride—</i>				
Stock as on 1st April 1923			2,172	9
Manufactured during the year, but not despatched to Head Office			220	0
			2,392	9
at the factory	220	0		
Stock at Deputy Director's office as on 31st March 1924	2,172	0		
	2,392	9		
 <i>Quinine bihydrochloride—</i>				
Stock as on 1st April 1923			101	0
Manufactured during the year			240	12
			341	12
Consignments to Penitentiary	341	12		
 <i>Quinine sulphate tablets—</i>				
Stock as on 1st April 1923			235	3
Manufactured during the year .. .. .			..	..
			235	3
Consignments to Penitentiary	120	0		
Consignments in transit to Penitentiary	80	0		
Loss due to dryage	0	11		
			200	11
Excess reported by Penitentiary			34	8
			0	4½
			34	12½
Stock at Deputy Director's office	34	8		
Stock at Penitentiary due to excess shown as on 31st March 1924	0	4½		
	34	12½		
 <i>Quinine bisulphate—</i>				
Manufactured during the year			6,780	9
Stock at Deputy Director's office as on 31st March 1924	6,780	9		
 <i>Quinine bisulphate tablets—</i>				
Manufactured during the year			125	0
Stock at Deputy Director's office as on 31st March 1924	125	0		
 <i>Cinchona febrifuge—</i>				
Stock as on 1st April 1923			7,945	15
Work in progress, 1922-23			3,000	0
Manufactured during the year			14,388	0
Carried forward			25,333	15

	LB.	OS.	LB.	OS.
Brought forward			25,333	15
<i>Less—</i> Consignments to Penitentiary—				
During the year	18,124	8		
Shortage in transit		7		8
Issued for Malarial test		14		0
			18,146	0
Stock at Deputy Director's office as on 31st March 1924			7,187	15
<i>Cinchona febrifuge tablets—</i>				
Manufactured during the year			54	0
Stock at Deputy Director's Office as on 31st March 1924		54		0
<i>Details of stock at Penitentiary—</i>				
<i>Quinine sulphate—</i>				
Stock as on 1st April 1923			4,369	12
Receipts from the Cinchona Department			15,141	0
			19,510	12
<i>Less—</i> Issues	13,309	12		
Issues for pice packets	2,060	0		
Dryage in breaking bulk		13		4
Shortages accepted by Deputy Director, Cinchona.		41		12
			15,424	12
Stock as on 31st March 1924			4,086	0
<i>Quinine hydrochloride—</i>				
Stock as on 1st April 1923			563	8
<i>Less—</i> Issues	253	0		
Dryage in breaking bulk		0		8
			310	0
Stock as on 31st March 1924				
<i>Quinine bihydrochloride—</i>				
Stock as on 1st April 1923				
Receipts from the Cinchona Department			341	12
			341	12
<i>Less—</i> Issues				215
				126
Stock as on 1st April 1924			Lb.	126
<i>Quinine sulphate tablets—</i>				
Stock as on 1st April 1923				53
Receipts from the Cinchona Department	120	0		
Excess found thereon		0		4½
			120	4½
			173	5½
<i>Less—</i> Issues	171	9½		
Dryage in breaking bulk		1		8
			173	1½
Stock as on 1st April 1924				0
<i>Cinchona febrifuge—</i>				
Stock as on 1st April 1923			2,468	4
Receipts from Cinchona Department			18,124	8
			20,592	12
Carried forward				
<i>Less—</i> Issues	12,662	14		
Dryage in breaking bulk		8		4
Shortage accepted by Cinchona Department		14		2
Shortage at Penitentiary		1		0
			12,681	4
Stock as on 1st April 1924			Lb.	7,911
				8

Superintendent, Penitentiary—Rs. 5,976-9-0.—We have reconciled the Accountant-General's statements of credits with the sales at the Penitentiary and the balance shewn is as per table below—

	RS.	A.	P.	RS.	A.	P.
Quinine supplied in 1922-23—credit not yet given to this department by the Accountant-General ..	2,286	6	0			
Quinine supplied in 1923-24—credit not yet given to this department by the Accountant-General ..	6,993	8	0			
					9,279	14 0
<i>Loss</i> —Credits given by the Accountant-General in 1922-23—quinine not yet supplied ..		75	2 0			
Credits given by Accountant-General in 1923-24—quinine not yet supplied ..	3,228	3	0			
					3,303	5 0
					5,976	9 0

Advances—Rs. 8,260-4-3 made up of—

Advances to the sundry estates for the purchase of bark ..	7,167	0	0
Advance to Superintendent, Naduvattam, for purchase of Bulls ..	1,052	8	0
Walker & Sons, Colombo ..	40	12	8
	8,260	4	8

The Rs. 40-12-8 is a mistake made in paying Walker & Sons twice and will be adjusted against future supplies or refunded in cash.

LIABILITIES.

Accountant-General—Rs. 2,76,352-3-3.—We have reconciled the receipts and payments of the Cinchona Department with the monthly statements received from the Accountant-General. The balance includes the value of Europe stores imported of Rs. 4,233-4-0, exchange at 1/14.

Provision for expenses.—Interest was charged on all opening balances of assets at the rate fixed by the Auditor-General and has been credited to reserve by charge to profit and loss account. Statement attached showing calculation.

Rent of land and buildings.—Rents were credited at the same rates as last year by charge to plantations account in the case of land and to profit and loss account in the case of rent of buildings.

Profit and Loss account.—Since all the items shewn in Sundry Debtors in last year have been fully recovered during this year, we have transferred the bad and doubtful debts reserve amount of Rs. 1,464-4-0 to profit and loss Account. A sum of Rs. 1,692-12-0 has been collected towards old outstandings (i.e., prior to 1920) and shown as miscellaneous receipts in the profit and loss account. These old outstandings were not shewn as outstandings in the accounts at 31st March 1923.

Cinchona febrifuge has been valued at Rs. 2 per pound in place of Rs. 1 per pound in the previous year to conform to the valuation used by the Bengal Cinchona Department as suggested by the Deputy Director of Agriculture, Cinchona Department.

Although the total profits of the year are considerably less than those of last year, the percentage of profit in the sales has increased and the decrease can be reconciled.

Subject to the foregoing remarks, we certify that we have obtained all the information and explanations we have required and that the balance sheet signed by us as relative hereto, in our opinion exhibits a true and correct view of the state of the affairs of the Cinchona Department, Ootacamund, according to the best of our information and the explanations given to us and as shewn by the books of the Cinchona Department.

MADRAS,
24th November 1924.

FRASER & ROSS,
Commercial Accountants and Auditors to the Government of Madras.

CINCHONA DEPARTMENT, OOTACAMUND.
Schedule of Fixed Assets on which interest is payable.

No. 866, DEVELOPMENT, 10TH MARCH 1925

	Direction.		Dodabetta Plantation.		Naduvattam and Hooker Plantations.		Factory.	
	Expenditure up to 1916-17.	Subsequent to 1916-17.	Expenditure up to 1916-17.	Subsequent to 1916-17.	Expenditure up to 1916-17.	Subsequent to 1916-17.	Expenditure up to 1916-17.	Subsequent to 1916-17.
	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Buildings	10,000 0 0	..	17,000 0 0	..	28,500 0 0	..	41,639 0 0	88,861 0 0
Machinery and plant .. .. .	..	..	365 0 0	..	..	1,518 0 0	20,000 0 0	84,000 0 0
Live-stock and carts .. .. .	..	..	..	..	..	..	..	..
Laboratory equipment .. .. .	..	..	..	..	..	..	1,126 0 0	2,142 0 0
Office furniture	602 0 0	22 0 0	145 0 0	..	120 0 0	..	424 0 0	224 0 0
Tools and stores .. .. .	..	..	..	824 0 0	..	3,270 0 0	3,989 0 0	2,896 0 0
Plantations .. .. .	..	..	75,276 0 0	..	4,04,184 0 0	..	..	..
	10,602 0 0	22 0 0	82,786 0 0	824 0 0	4,32,804 0 0	4,788 0 0	66,158 0 0	1,27,622 0 0
Interest at 3-3252 per cent	353 4 0	..	3,085 9 0	..	14,391 8 0	..	2,200 8 0	..
Interest at 5-69 per cent .. .. .	..	1 4 0	..	48 14 0	..	272 7 0	..	7,241 11 0
	854 8 0	..	8,132 7 0	..	14,663 15 0	..	9,442 8 0	..

866, Dev.-3

CINCHONA DEPARTMENT—OOTACAMUND.

Production account, Naduvattam factory, for the year ending 31st March 1924.

	RS.	A. P.	RS.	A. P.		RS.	A. P.	RS.	A. P.
To stock on 1st April 1923—					By products taken to trading account—				
Bark	3,34,782	15 2			As per cost sheet—				
Chemicals	48,011	4 5			Quinine sulphate, 22,496 lb. at Rs. 12-0-7-7	2,98,350	11 5		
Tools and stores	5,864	11 6			Quinine hydrochloride, 220 lb. at Rs. 17-12-1-7	3,908	15 9		
Work-in-progress	2,250	0 0			Quinine bi-hydrochloride, 240½ lb. at Rs. 18-4-9-5	4,405	9 5		
			3,85,908	15 1	Quinine bi-sulphate and tablets lb. 6,905-9 at Rupees 12-7-8-7	86,195	9 11		
„ purchases—					Cinchona febrifuge, 17,388 lb. at Rs. 2	34,776	0 0		
Bark from public	1,40,153	0 0			Cinchona febrifuge tablets, 54 lb. at Rs. 3	108	0 0		
Bark from plantations	87,850	11 10			„ Bark consignment to Penitentiary	87	8 0		
Chemicals	42,125	0 9			„ value of bark destroyed by fire	299	8 7		
Tools and stores	174	5 9			„ work-in-progress—				
			2,70,308	9 4	Quinine sulphate, 360 lb. as per chemist's valuation	5,805	0 0		
„ expenses—					Cinchona febrifuge, 2,000 lb. at Rs. 12 as per chemist's valuation	1,760	0 0		
„ Fuel estimated value of wood 1,116½—lots at Rs. 8 from plantations	3,349	0 0			„ stock on 31st March 1924—				
Wages for cutting	1,486	8 0			Bark	2,48,877	7 7		
			4,835	8 0	Chemicals	31,373	15 8		
Feed and upkeep of bulls .. .. .	.....		7,809	7 4	Tools and stores	6,039	1 3		
Wages—Artificers	7,012	14 2						2,80,789	8 1
Coolies and airdars	2,296	8 9							
			9,309	1 11					
Salaries—Superintendent	9,240	5 0							
Office	1,643	1 0							
			10,883	6 0					
Travelling allowance .. .. .	.....		96	12 0					
Contingencies—									
Repairs to buildings	755	6 10							
Repairs to machinery	10,132	10 5							
Factory petty expenses	332	6 9							
Petty office expenses	18	10 0							
Laboratory charges	471	5 8							
			11,710	7 8					
„ depreciation—									
On buildings	2,400	0 0							
On machinery	7,280	0 0							
On office furniture, etc.	398	10 10							
			10,078	10 10					
Total ..			7,10,924	7 2	Total ..			7,10,924	7 2

No. 366, DEVELOPMENT, 10TH MARCH 1925

CINCHONA DEPARTMENT, OOTACAMUND.
Trading Account for the year ending 31st March 1924.

	RS.	A.	P.	RS.	A.	P.		RS.	A.	P.	RS.	A.	P.			
To stock on 1st April 1923—							By sales—									
Quinine sulphate	8,56,585	8	0				Quinine sulphate	4,18,911	4	0						
Quinine hydrochloride	48,807	5	0				Quinine hydrochloride	9,039	8	0						
Quinine bi-hydrochloride	1,862	3	0				Quinine bi-hydrochloride	8,248	4	0						
Quinine tablets	3,786	3	0				Quinine sulphate tablets	4,907	8	6						
Cinchona febrifuge	10,414	8	0				Cinchona febrifuge	1,01,698	8	0						
Packing materials	1,785	8	6													
Transmission charges	291	10	2													
				4,23,582	8	8	Sundry sales					5,87,114	11	6		
Cost as per Production Account—							Stock as at 31st March 1924—						296	9	0	
Quinine sulphate	2,98,350	11	5				At the Factory—							3,906	15	9
Quinine hydrochloride	8,906	15	9				Quinine hydrochloride, 220 lb. at Rs. 17-12-1-7									
Quinine bi-hydrochloride	4,406	9	5				In transit—									
Quinine bi-sulphate and tablets	86,195	9	11				Quinine sulphate, 2,100 lb. at Rs. 13-0-7-7	27,384	8	6						
Cinchona febrifuge	34,776	0	0				Quinine sulphate tablets, 80 lb. at Rs. 13-0-7-7	1,043	3	4				28,427	6	10
Cinchona febrifuge tablets	108	0	0													
				4,22,742	14	6	At Deputy Director's office—									
Packing materials purchased				5,587	5	8	Quinine sulphate, lb. 27,908- $\frac{1}{2}$ at Rs. 13-0-7-7	3,68,928	8	0						
Distribution charges by Penitentiary				4,325	0	0	Quinine hydrochloride, lb. 2,172-9 at Rs. 17-12-5	38,755	5	0						
Carriage outwards				234	7	0	Quinine bi-sulphate and tablets, lb. 6,905-9 at Rs. 12-7-8-7	86,195	9	11						
Gross profit transferred to Profit and Loss Account				2,95,280	11	7	Quinine sulphate tablets, lb. 34-12 $\frac{1}{2}$ at Rs. 13-0-7-7	453	8	9						
							Cinchona febrifuge, lb. 7,187-15 at Rs. 2	14,875	14	0						
							Cinchona febrifuge tablets, 54 lb at Rs. 2	108	0	0				5,02,816	18	8
							At the Penitentiary --									
							Quinine sulphate, 4,086 lb. at Rs. 13-0-7-7	53,281	12	10						
							Quinine hydrochloride, 310 lb. at Rs. 17-12-5	5,529	15	2						
							Quinine bi-hydrochloride, 126 lb. at Rs. 18-4-9-5	2,305	11	9						
							Quinine sulphate tablets, 4 oz. at Rs. 13-0-7-7	3	4	2						
							Cinchona febrifuge, lb. 7,911-8 at Rs. 2	15,823	0	0						
							Cinchona red bark	4	8	0						
														76,948	4	11
							Packing materials							1,192	1	9
Total ..	11,51,702	15	5				Total ..	11,51,702	15	5						

CINCHONA DEPARTMENT, OOTACAMUND.

Profit and Loss Account for the year ending 31st March 1924.

	RS.	A.	P.	RS.	A.	P.		RS.	A.	P.
To Direction Expenses—										
Deputy Director's salary	14,459	11	0							
Office establishment	4,778	14	0							
Travelling allowance	2,276	8	0							
				21,515	1	0				
„ Rent and taxes	1,778	12	9							
„ Postages and telegrams	480	6	6							
„ Office expenses	309	2	8							
				2,518	5	11				
„ Interest on Fixed Assets—										
Dodabetta Plantation	3,182	7	0							
Naduvattam Plantation	14,663	15	0							
Factory	9,442	8	0							
Direction	354	8	0							
				27,598	1	0				
„ Audit fee reserve for 1923-24				2,500	0	0				
„ Depreciation—										
On buildings at 8 per cent on Rs. 10,000	800	0	0							
On furniture at 7 per cent on Rs. 624	44	15	9							
				844	15	9				
„ Net profit transferred, to Balance Sheet				2,52,519	4	4				
				3,06,990	12	0				
Total ..				3,06,990	12	0				
								2,95,280	11	7
								3,560	6	6
								5,102	7	11
								1,812	6	0
								1,784	12	0
								Total .. 3,06,990 12 0		

CINCHONA DEPARTMENT, OOTACAMUND.

Plantation account, Dodabetta and Kukul, for the year ending 31st March 1924.

	RS. A. P.	RS. A. P.	RS. A. P.		RS. A. P.	RS. A. P.	RS. A. P.
To Value of plantations as on 1st April 1923—	....	....	75,276 0 2	By Sale of bark to factory—	....	....	15,421 15 8
Forest land, 146.45 acres .. ..	....	....		89,468 lb. = 147,583 units, cost per unit, say, Re. 0-1-8.06.	....	....	48 14 0
Acquired land, 100.30 acres .. ..	....	....		.. Value of fuel supplied .. ..	....	....
.. Expenses—				.. Value of plantations as on 31st March 1924—			
Wages—				Value at the beginning .. ..	....	75,276 0 2	
Blocks in development .. ..	....	2,769 9 6		Add—Total expenditure as per contra.	....	14,809 5 8	
Blocks developed .. ..	....	2,351 13 0	5,121 6 6				
.. Salaries—				Less—Maintenance wages	2,351 13 0	90,085 5 5	
Superintendent	1,948 4 0			Harvesting wages	949 3 0		
Office	1,961 0 0			Proportionate overhead charges.	4,898 11 6	8,194 11 6	
.. General wages	1,000 14 6						
.. Travelling allowance	227 4 0			Less—Value of acreage harvested—			
.. Feed and upkeep of bulls	2,128 4 6			Dodabetta, 39,268 lb./3,000 = 13.08 acres at Rs. 470-12-2.	6,119 14 3	81,890 9 11	
.. House coolies	707 12 0			Kukul, 200 lb./3,000 = 1/3 acre at Rs. 470-12-2.	31 6 2	6,151 4 4	75,739 5 3
.. Repairs to buildings	637 3 9						
.. Sundry expenses	180 1 0			.. Value of plantation on bark basis as on 31st March 1924—			
Total Overhead charges .. ..	....	8,738 11 9		Bark on trees 301,525 lb. at 3 1/2 per cent = 1,055,287 units at Re. 0-1-6 per unit.	....	98,942 8 0	
Divided as between blocks developed and in development in the proportion of acreage as 14 : 11.							
.. Blocks in development .. ..	....	3,845 0 3	8,738 11 9				
.. Blocks developed .. ..	....	4,893 11 6	949 3 0				
.. Harvesting wages .. ..	....	....	532 5 10				
.. Depreciation on buildings, etc. .. ..	....	....	292 8 0				
.. Rent of land .. ..	....	....			
			<u>91,310 3 3</u>				<u>91,210 3 3</u>

CINCHONA DEPARTMENT, OOTACAMUND.

Plantation Account, Naduvattam and Hooker for the year ending 31st March 1924.

	RS. A. P.	RS. A. P.	RS. A. P.		RS. A. P.	RS. A. P.	RS. A. P.
To Value of plantations as on 1st April 1923, 1,818 acres.			404,184 9 6	By Sale of bark to factory—			
„ Expenses—				Naduvattam, 87,578 lb. = 173,135 units.			
Wages—				Hooker, 150,661 lb. = 301,322 units.			
Block in development		25,596 1 6		218,239 lb. = 436,457 units.			
Blocks developed		7,027 7 11	32,623 9 5	Cost per unit, say, Re. 0-1-6-8.			70,790 0 2
Salaries—				„ Shortage of bark in block 1,898 treated as deferred revenue loss.			12,763 8 11
Superintendent	3,805 0 0			„ Lopping yield in development blocks			1,638 12 0
Office	3,678 6 0			„ Value of fuel supplied to factory			3,349 0 0
General wages	3,789 3 2			„ Value of plantations as on 31st March 1924.—			
Travelling allowance	453 3 0			Value at the beginning	4,04,184 9 6		
Feed and upkeep of bulls	1,560 11 1			Add—Total expenditure as per contra.	53,092 11 7		
House coolies	1,878 0 11				4,57,277 5 1		
Repairs to building	931 11 8			Less—Maintenance wages	7,027 7 11		
Sundry expenses	72 0 3			Harvesting charges	4,241 10 9		
Cartage	63 14 4			Proportionate overhead charges.	7,489 9 7		
Total Overhead charges		16,227 7 5			18,758 12 3		
Divided as between blocks developed and in development in the proportion of acreage as 6 : 7.					4,88,518 8 10		
Blocks in development		8,737 13 10		Less—Value of acreage harvested—			
Blocks developed		7,489 9 7	16,227 7 5	Naduvattam, 87,578 lb./3,000 = 22.5 acres at Rs. 464-9-2.3 per acre.	10,452 14 9		
„ Harvesting wages			4,241 10 9	Hooker, 1,50,661 lb./3,000 = 50.2 acres at Rs. 794-1-5.5 per acre.	39,863 7 6		
„ Depreciation on buildings, etc.			2,427 13 8	Lopping yield in develop- ment blocks.	1,638 12 0	51,955 2 3	
„ Rent of land			2,636 0 0			3,86,563 6 7	
			4,62,841 2 9	Less—Shortage in the yield of bark from block 1898 harvested during the year.		12,763 8 11	3,73,799 13 6
				„ Value of plantation on bark basis as on 31st March 1924—			
				Naduvattam 548,236 lb. at 3½ per cent = 1,918,826 units at Re. 0-1-6 per unit.		1,79,639 15 0	
				Hooker, 1,072,000 lb. at 3½ per cent = 3,752,000 units at Re. 0-1-6 per unit.		3,51,760 0 0	
				Total ..		5,31,589 15 0	4,62,841 2 9

No. 366, DEVELOPMENT, 10TH MARCH 1925

CINCHONA DEPARTMENT, OOTACAMUND.

BARK PRODUCTION ACCOUNTS.

Dodabetta and Kukul plantations for the year ending 31st March 1924.

	RS.	A.	P.	RS.	A.	P.
To value of acreage harvested—						
Dodabetta—						
39,268 lb./3,000 = 13.08 acres at Rs. 470-12-2 per acre					6,119	14
Kukul—						
200 lb./3,000 = 1/15 acre at Rs. 470-12-2 per acre					31	6
To Maintenance charges—						
Dodabetta	2,254	1	0			
Kukul	97	12	0			
					2,351	18
To Harvesting wages					949	8
„ Proportionate overhead charges					4,893	11
„ Charges other than those capitalized—						
Depreciation on buildings, etc.	832	5	10			
Rent of land	292	8	0			
					1,124	18
					15,470	18
By value of bark taken—						
Dodabetta .. 39,268 lb. = 146,609 units.						
Kukul .. 200 lb. = 924 „						
39,468 lb. = 147,533 „						
at Rs. 0-1-8 per unit					15,421	15
By value of fuel supplied					48	14
					15,470	13

Naduvattam, Hooker, Moyar and Wood Estates plantations for the year ending 31st March 1924.

	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.
To value of acreage harvested—									
Naduvattam—									
67,578 lb./3,000 = 22.5 acres at Rs. 464-9-2.3 per acre					10,452	14		9	
Hooker—									
150,661 lb./3,000 = 50.2 acres at Rs. 794-1-5.5 per acre					39,863	7		6	
To Maintenance charges—									
Naduvattam	5,026	8	9						
Hooker	2,000	15	2						
					7,027	7		11	
To Harvesting wages					4,241	10		9	
„ Proportionate overhead charges					7,489	9		7	
„ Charges other than those capitalized—									
Depreciation on buildings, etc.	2,427	13	8						
Rent of land	2,636	0	0						
					5,063	13		8	
					74,139	0		2	
By value of bark taken—									
Naduvattam. 67,578 lb. = 173,135 units.									
Hooker .. 150,661 lb. = 549,602 „									
218,239 lbs. = 722,737 „									
at Rs. 0-1-6.8 per unit							70,790	0	2
By value of fuel supplied							3,349	0	0
					74,139	0	2	74,139	0

CINCHONA DEPARTMENT, OOTACAMUND.

Cost Account.

Quinine produced in 1923-24.

	RS.	A.	P.	RS.	A.	P.
Quinine sulphate—						
Total charges as per production account				4,30,134	15	1
Less—Recoveries—						
Cinchona febrifuge, manufactured, 17,442 lb. at Rs. 2	34,884	0	0			
Work in progress—cinchona febrifuge, 2,000 lb., estimated value, at as. 14 per lb.	1,750	0	0			
Work in progress—quinine sulphate, 360 lb., estimated value	5,305	0	0			
Cost of chemicals, etc., used for the manufacture of 220 lb. quinine hydrochloride at Rs. 3 per lb.	660	0	0			
Cost of chemicals used for the manufacture of 240½ lb quinine bihydrochloride at Rs. 4 per lb.	963	0	0			
Estimated value of chemicals, etc., used for the manufacture of quinine bisulphate, lb. 6,905-9, at Rs. 2 per lb.	13,810	0	0			
Sale of bark	37	8	0			
Bark destroyed by fire	299	8	7			
				<u>57,709</u>	<u>0</u>	<u>7</u>
Net charges				<u>3,72,425</u>	<u>14</u>	<u>6</u>
 Manufactured 28,560 lb. quinine sulphate, cost per lb., say, Rs. 13-0-7.7.						
Quinine hydrochloride—						
Cost of 249 lb. quinine sulphate used at Rs. 13-0-7.7	3,246	15	9			
Add—Value of chemicals used	660	0	0			
Total cost of 220 lb. quinine hydrochloride, cost per lb., say, Rs. 17-12-1.7				<u>3,906</u>	<u>15</u>	<u>9</u>
 Quinine bihydrochloride—						
Cost of 254 lb. quinine sulphate used at Rs. 13-0-7.7.	3,442	9	5			
Add—Value of chemicals used	963	0	0			
Total cost of 240½ lb. quinine bihydrochloride, cost per lb., say, Rs. 18-4-9.5				<u>4,405</u>	<u>9</u>	<u>5</u>
 Quinine bisulphate and tablets—						
Cost of 5,551 lb. quinine sulphate used at Rs. 13-0-7.7	72,385	9	11			
Add—Chemicals, etc., estimated at Rs. 2 per lb. of manufacture	13,810	0	0			
Total cost of lb. 3,905-9 of quinine bisulphate and bisulphate tablets, cost per lb., say, Rs. 12-7-8.7.				<u>86,195</u>	<u>9</u>	<u>11</u>

CINCHONA DEPARTMENT, OOTACAMUND.

SCHEDULE A.

	RS.	A.	P.	RS.
<i>Buildings—</i>				
<i>Dodabetta—</i>				
As per balance sheet as at 31st March 1923	17,000	0	0	
Less—Depreciation to date	1,449	0	0	
	<hr/>			15,551 00
<i>Naduvattam—</i>				
As per balance sheet as at 31st March 1923	28,500	0	0	
Less—Depreciation to date	2,423	0	0	
	<hr/>			26,077 00
<i>Factory—</i>				
As per balance sheet as at 31st March 1923	80,000	0	0	
Less—Estimated value of structure destroyed by fire	500	0	0	
	<hr/>			
	79,500	0	0	
Less—Depreciation to date	6,798	0	0	
	<hr/>			72,702 00
<i>Direction office—</i>				
As per balance sheet as at 31st March 1923	10,000	0	0	
Less—Depreciation to date	850	0	0	
	<hr/>			9,150 00
	<hr/>			<u>1,23,480 00</u>

SCHEDULE B.

<i>Plant and machinery—</i>				
<i>Factory—</i>				
As per balance sheet as at 31st March 1923	1,04,000	0	0	
Less—Depreciated value of machinery destroyed by fire	1,806	0	0	
	<hr/>			
	1,02,194	0	0	
Less—Depreciation to date	19,763	0	0	
	<hr/>			82,431 00
	<hr/>			<u>82,431 00</u>

SCHEDULE C.

<i>Office furniture—</i>				
<i>Dodabetta—</i>				
As per balance sheet as at 31st March 1923	156	0	0	
Add—Additions during the year	14	8	0	
	<hr/>			
	170	8	0	
Less—Depreciation to date	23	8	0	
	<hr/>			147 00
<i>Naduvattam—</i>				
As per balance sheet as at 31st March 1923	129	0	0	
Add—Additions during the year	66	8	0	
	<hr/>			
	195	8	0	
Less—Depreciation to date	22	0	6	
	<hr/>			173 7 6

	RS. A. P.	RS. A. P.
Factory—		
As per balance sheet as at 31st March 1923	677 12 0	
Add—Additions during the year	238 2 0	
	915 14 0	
Less—Depreciation to date	89 5 0	
		826 9 0
Direction office—		
As per balance sheet as at 31st March 1923	624 2 0	
Less—Depreciation to date	87 2 0	
		537 0 0
		1,684 0 6

SCHEDULE D.

Capital—Madras Government—		
As per balance sheet as at 31st March 1923		11,57,540 10 0
Add—Profits, 1922-23		3,55,486 3 2
		15,13,026 13 2
Less—Value of buildings, machinery, etc., destroyed by fire		2,605 8 7
		15,10,421 4 7
Add—Withdrawals, etc.		3,03,000 14 2
Value of Europe stores		4,233 4 0
		18,17,655 6 9
Less—Remittances, etc.		6,83,586 5 5
		12,34,069 1 4

Order—No. 366, Development, dated 10th March 1925.

Recorded.

2. The progressive diminution of the supply of bark from private plantations has created a situation which necessitates the increase of the area under Government plantation in order to obviate the danger of undue dependence on imported bark, the price of which may, in the absence of an adequate home-grown reserve, be raised to a prohibitive level. The Government have therefore decided to proceed with a scheme which has been long under consideration for the opening of a new cinchona plantation in a tract of land in the Anamalais which, the Government are advised, is in every respect suitable. The area available comprises some 20,000 acres, of which it is proposed to bring under cultivation 2,300 acres within a period of ten years. Arrangements have been made for the preliminary clearance of jungle to be taken in hand at once and it is hoped to begin plantation during the course of the current year.

3. The noteworthy points of the year under review were the new departure in the manufacture of quinine bisulphate on a large scale and the success of the cinchona febrifuge, now named 'Malarene,' which has been proved to be efficacious for certain forms of malaria and which is obtainable from a bark now easily grown than other species.

4. On the financial side, the profits of the year were Rs. 2,52,519 against Rs. 3,55,486 in 1922-23. This decrease is due partly to a curtailment of sales but mainly to a reduction in the price of quinine, a cheap supply of which is of more importance than any other consideration. The production and manufacturing side of the department will shortly be placed on a commercial basis. Proposals are under the consideration of the Government for a reorganization of the present system of sale.

(By order of the Governor in Council)

G. T. H. EMMACKEN,
Secretary to Government.

To the Deputy Director of Agriculture (Cinchona).
 „ Board of Revenue (all departments).
 „ Law (General) and Law (Education) Departments.
 „ Finance Department.
 „ Local Self-Government Department.
 „ Surgeon-General.
 „ Inspector-General of Prisons.
 „ Accountant-General.
 „ Postmaster-General, Madras.
 „ Agent to the Governor-General, Madras States.
 „ Assistant Quartermaster-General, 9th (Secunderabad) Division (with C.L.).
 Copy to the Honorary Secretary, Agri-Horticultural Society.
 „ Chamber of Commerce, Madras.
 „ Director, Botanical Survey, Calcutta.

Editors' Table.