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MADRAS RECORD OFFICE.

Government of Madras.

Revenue DEPARTMENT.

G.O. No.

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Dated

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MISCELLANEOUS.

RESOLUTION—No. 4014Mis.

The Annual Report on the Government Cinchona Cultivation and Cinchona Factory in Bengal for the year 1892-93.

The corresponding report for the year 1891-92.

2. The policy of replacing the red bark trees which yield the cinchona febrifuge, by the *ledgeriana* and hybrid varieties, which yield quinine, was steadily adhered to. Two hundred thousand trees of the former kind were uprooted and not renewed, and 184,110 seedlings of the latter were put out in the plantation. The number of cinchona plants, including the nursery stock, at the Government plantations on the 1st April 1893 was 4,331,651. The crop of the year amounted to 304,390 lbs. of dry bark, of which 90,170 lbs. were of the kind known as *succirubra*, or red bark, 118,210 lbs. of the *ledgeriana*, 78,310 lbs. of hybrid, 15,900 lbs. of *verde* and *morada*, and 1,800 lbs. of *officinalis*. With the exception of 1,280½ lbs. of bark supplied on indent or sold to the public, the whole of this crop was as usual made over to the factory.

3. The outturn of the factory was 5,242 lbs. of sulphate of quinine and 3,481 lbs. of cinchona febrifuge, against 4,586 lbs. and 4,190 lbs. respectively in 1891-92. The proportion of the outturn of quinine to cinchona febrifuge is steadily on the increase every year, and there seems to be little doubt that in course of time the factory will be called upon to produce the former drug exclusively. The following statement compares the issues of the year with those of the preceding year:—

	1891-92.			1892-93.		
	Sulphate of quinine.	Cinchona febrifuge.	Total.	Sulphate of quinine.	Cinchona febrifuge.	Total.
	lbs. oz.	lbs. oz.	lbs. oz.	lbs. oz.	lbs. oz.	lbs. oz.
To Medical Depot, Calcutta	1,022 0	1,013 0	2,035 0	1,150 0	500 0	1,650 0
" " Mian Meer	712 0	842 0	1,554 0	1,270 0	500 0	1,770 0
" " Inspector-General of Civil Hospitals, Bengal.	3 8	306 4	309 12		200 8	200 8
" " Inspector-General of Jails, Bengal, for jails, &c.	20 4	80 0	100 4	6 12	52 4	59 0
" " Inspector-General of Jails, Bengal, for making into pice packets in Hazari- bagh and Alipur Jails.				475 0		475 0
" " Surgeon-General with the Government of India.					2 0	2 0
" " Commissariat Department for Port Blair Sold to Government officers				50 0		50 0
" Ditto ditto and to general public.	1,952 14		1,952 14	2,558 13½		2,558 13½
Given as samples		2,457 12	2,457 12		2,390 14	2,390 14
	3 2½	26 12	29 14½	7 10½	1 6	9 0½
Total ..	3,713 12½	4,725 12	8,439 8½	5,518 3½	3,647 0	9,165 3½

Dr. King explains that the quantity shown in the above statement as issued to the Inspector-General of Civil Hospitals, Bengal, during 1892-93 does not take into account 137 lbs. of quinine and 97 lbs. of cinchona febrifuge issued to dispensaries under District and Local Boards. These issues, which are paid for in cash, are, it is stated, included in the gross sales to public officers. Dr. King further explains, with reference to the enquiry made in last year's Resolution, that the medical depôt at Bombay now takes its supply of the drugs from the Nilgiri Factory under the Government of Madras.

4. The revenue derived from the sale of sulphate of quinine, cinchona febrifuge, cinchona bark, and other products of the plantations, reached the sum of Rs. 1,17,767-15-6 against Rs. 1,09,321-12-9 in the previous year :—

	1892-93.			1891-92.		
	Rs.	A.	P.	Rs.	A.	P.
By sale of febrifuge, sulphate of quinine, &c. ...	65,454	5	6	60,713	7	3
By credit from the medical depôts and the Commissariat Department ...	43,305	0	0	44,363	5	6
By credit from the Inspector-General of Civil Hospitals, Bengal ...	2,005	0	0	3,118	8	0
By credit from the Inspector-General of Jails, Bengal ...	6,933	10	0	1,126	8	0
By credit from the Surgeon-General with the Government of India ...	20	0	0			
Total ...	1,17,767	15	6	1,09,321	12	9

The net profit on the working of the estates amounts to Rs. 3,170-14-3, against Rs. 7,962-12-8 in 1891-92. This result may be considered quite sufficient, when it is remembered that in starting the cinchona plantations in this country, the Government, so far from aiming at a profit, desired only to secure for the people without loss to itself a cheap remedy for fever.

5. The scheme for the sale of pice-packets of quinine to the public, chiefly through the medium of the Postal Department, to which reference was made in last year's Resolution, was brought into operation during the year under review, and 475 lbs. were issued, to the Inspector-General of Jails, Bengal, to be made up into packets by convict labour. Dr. King remarks with justifiable satisfaction that "after thirty years of effort the end has now been attained which the Government set before itself when the growth of the medical cinchonas was begun in British India."

5. The thanks of Government are again due to Dr. King and Mr. Gammie for their efficient management of the Department during the year.

By order of the Lieutenant-Governor of Bengal,

J. A. BOURDILLON,

Offg. Secretary to the Government of Bengal.

ANNUAL REPORT ON THE GOVERNMENT CINCHONA PLANTATION AND FACTORY IN BENGAL FOR THE YEAR 1892-93.

No. 27C, dated Royal Botanic Garden, Sibpur, the 14th July 1893.

From—BRIGADE-SURGEON LIEUTENANT-COLONEL GEORGE KING, M.B., LL.D., C.I.E., F.R.S., Superintendent, Royal Botanic Garden, Calcutta, and of Cinchona Cultivation in Bengal,

To—The Secretary to the Government of Bengal, Financial Department.

I HAVE the honour to forward herewith the annual report of the Cinchona Plantations and Factory for the year 1892-93.

Thirty-first Annual Report of the Government Cinchona Plantation and Factory in British Sikkim, being that for the year 1892-93, by BRIGADE-SURGEON LIEUTENANT-COLONEL G. KING, M.B., LL.D., C.I.E., F.R.S., Superintendent of the Royal Botanic Garden, Calcutta, and of Cinchona Cultivation in Bengal.

1. *Weather and general.*—The weather for the year under review presented no feature very worthy of remark. The rainfall on the plantation was 131.5 inches, being about 5 inches above the average. The fall was well distributed over the rainy season, and it was on no occasion so excessive within the limits of the cinchona reserve as to cause any landslips. But at the head of the valley, beyond the boundary of the plantation, there was a very heavy down-pour on one morning in June, which caused numerous landslips; and the fallen trees brought down by these into the Rungjo stream swept away two of the largest bridges. The health of the population of the cinchona valley was fairly good, and no epidemic disease prevailed during the year.

2. *Changes in the Plantation.*—During the year, 466,430 cinchona trees of various sorts were uprooted. This is an unusually large number for a single year. Many of them were, however, small and feeble plants which had been spared during the clearings of previous years with the view of giving them a chance of improving a little prior to up-rootal. The resulting bark crop therefore was small compared to the number of trees removed. The uprooted trees consisted of 200,000 red (or febrifuge-producing) barks, and of 266,430 of yellow (or quinine-producing) barks of various sorts. To compensate for these removals, there were planted out, during the year, 180,710 seedlings of yellow barks (*C. Ledgeriana*) and 3,400 of the sort known as *Hybrid*. The result of these changes is that, on the 1st April, the plantation contained a grand total of all sorts (including nursery stock) of 4,331,651 plants. No red barks whatever were propagated during the year, and the entire number of this sort now left on the plantation is reduced to a little over a million. This steady diminution of the red barks is in accordance with the policy of increasing only the kinds of trees from which quinine, unmixed with the inferior alkaloids, can be most easily extracted.

3. *The year's crop.*—This consisted of 304,390 pounds, of which about 90,000 pounds were red bark, collected almost in equal proportions from the Mungpoo and Sittong divisions. The remainder consisted of yellow bark, of which about 67,000 pounds were taken from the new plantation of Rungjung in Bhotan, and the rest from the plantations of Mungpoo and Sittong. The entire crop was, as usual, made over to the factory, with the exception of 1,280½ pounds supplied to the medical depôts and sold to the public.

4. *Plantation expenditure.*—The total budget allotment for the year was Rs. 67,888. As a matter of convenience the whole of the cost of the European establishment is debited by the Accountant-General to the plantation budget. The result of this is that the cost of production of the bark is unduly increased. As a matter of fact, the time of Messrs. Gammie, senior and junior, is spent as much in the factory as in the plantation, and it would be a fairer distribution

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if the expenditure on their salaries were half charged to the plantation and half to the factory. The expenditure debited by the Accountant-General to the plantation (including the Messrs. Gammie's salaries) is as follows:—

	Rs.	A.	P.
Salaries of European establishment (including all salaries except that of Dr. King, Superintendent, Botanic Gardens, Calcutta), coolie labour, and office establishment	60,681	0	8
Keep of animals for plantations	900	0	0
Contingencies, including service postage stamps, &c.	5,925	2	11
Travelling allowance	293	12	0
Stores from England	845	3	9
Total	68,650	3	4

In return for this expenditure, 304,300 pounds of dry bark were taken as a crop for the year.

5. *Factory.*—The expenditure debited to the factory during the year was Rs. 36,696-12-5. This includes a considerable expenditure on alterations to the factory plant which were undertaken to secure economy of working in future. These are charges which would really be debitable to capital, were there a capital account. But there never has been a capital account for the factory, every charge for machinery and buildings having been hitherto treated as working expenditure and set against the outturn of the factory for the year. There was also an unusually large amount spent on the purchase of a stock of oil which it was necessary to buy in just as the financial year was ending. The bark actually worked up in the factory during the year was 85,580 pounds of red bark, from which 3,481½ pounds of cinchona febrifuge were produced; and 240,666 pounds of yellow bark, from which 5,242½ pounds of quinine were obtained. A large proportion of the bark thus used was the production of previous years, which was borne on the stock at an average value of annas 3 per pound. The total factory outturn of 8,723 pounds shows a decrease on that of 1891-92 of 53 pounds, and an increase of that of 1890-91 of 682 pounds.

6. *Sales of manufactured product.*—During the year quinine took the lead, no less than 5,518 pounds 3½ ounces having been disposed of; while of cinchona febrifuge, only 3,647 pounds were issued. The total quantity disposed of, viz., 9,165 pounds 3½ ounces, is the highest of any year since 1882-83; and the notable feature is the increase in the proportion of quinine to cinchona febrifuge. This is of course owing to the recent great diminution in price of quinine. And there appears to be little doubt that the proportion of quinine issued will go on increasing, and that, in a very few years hence, the plantation will be called on to produce that drug exclusively, and in much larger quantity than at present. The quantity issued to the Medical depôt at Calcutta was 1,150 pounds, as against 1,022 pounds supplied during the previous year. The indent for the Meean Meer Depôt was for 1,270 pounds, while during the previous year only 712 pounds were taken. Each of these depôts took 500 pounds of cinchona febrifuge, which, as against the supplies for 1891-92, shows a falling off of no less than 513 pounds for Calcutta and 342 pounds for Meean Meer. The Bombay Depôt indented for no supplies either of quinine or febrifuge. It is understood that Bombay now supplies itself from the cinchona factory of the Madras Government on the Nilgiri Hills. The total issues for the year under review and of those for 1891-92 are as follows:—

Details of the distribution of Cinchona Febrifuge and Sulphate of Quinine during the financial years 1891 and 1892-93.

	1891-92.	1892-93.
To Medical Depôt, Calcutta—		
Cinchona febrifuge	lbs. oz.	lbs. oz.
Sulphate of quinine	1,013 0	500 0
To Medical Depôt, Mian Meer—	1,022 0	1,150 0
Cinchona febrifuge		
Sulphate of quinine	842 0	500 0
	712 0	1,270 0

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	1891-92.	1892-23.
	lbs. oz.	lbs. oz.
To Inspector-General of Civil Hospitals, Bengal (for district medical officers, Bengal)—		
Cinchona febrifuge	306 4	200 8
Sulphate of quinine	3 8	
To Inspector-General of Jails, Bengal (for jails and lock-ups in Bengal)—		
Cinchona febrifuge	80 0	52 4
Sulphate of quinine	20 4	6 12
To Inspector-General of Jails, Bengal (for making into pice packets in Hazaribagh and Alipore Jails)—		
Sulphate of quinine		475 0
To Surgeon-General with the Government of India—		
Cinchona febrifuge		2 0
To Commissariat Department for Port Blair—		
Sulphate of quinine		50 0
Sold to Government officers—		
Sulphate of quinine	1,952 14	2,558 13½
Sold to Government officers and to the general public—		
Cinchona febrifuge	2,457 12	2,390 14
Given as samples—		
Cinchona febrifuge	26 12	1 6
Sulphate of quinine	3 2½	7 10½
Total	8,439 8½	9,165 3½
Cinchona febrifuge	4,725 12	3,647 0
Sulphate of quinine	3,713 12½	5,518 3½

In the above statement the total amount shown as issued to dispensaries and Government institutions, on indents signed by the Inspector-General of Civil Hospitals for Bengal, is 200½ lbs. of cinchona febrifuge. This, however, does not represent the total issues in the Province of Bengal during the year; for besides these issues on indent, 137½ lbs. of quinine and 96½ lbs. of cinchona febrifuge were also issued to dispensaries under local Boards, and were paid for in cash. These latter issues are included in the gross sales to public officers, which are shown in the above table. As it may be of interest to trace the quantities issued to the various dispensaries throughout India during the year, I have thrown the information into a return which forms Appendix I of this report.

7. *Stock account.*—The amount of dry bark in stock in the factory godowns on the 31st March 1893 was 428,080½ lbs. of all sorts, the bulk of which is quinine-yielding bark, rather less than 40,000 lbs., being red or febrifuge-yielding bark. In addition to these there is a quantity of manufactured product and a supply of chemicals. The stocks at the end of the last year and at the end of 1891-92 are shown in the following table:—

Stock on 31st March 1892.		Stock on 31st March 1893.	
	Rs. A. P.		Rs. A. P.
Chemicals and stores	2,000 0 0	Chemicals and stores	2,000 0 0
Cinchona febrifuge, 1,217 lbs. 8 oz., at Rs. 8 per lb.	9,740 0 0	Cinchona febrifuge, 1,052 lbs., at Rs. 8 per lb.	8,416 0 0
Sulphate of quinine, 2,655½ lbs., at Rs. 13 per lb.	34,521 8 0	Sulphate of quinine, 2,379 lbs., 8½ oz., at Rs. 13 per lb.	30,933 8 0
Cinchona bark, 451,217 lbs., valued at an average of annas 3 per lb.	84,603 3 0	Cinchona bark, 428,080½ lbs., valued at an average of annas 3 per lb.	80,265 1 6
Total	1,30,864 11 0	Total	1,21,614 9 6

8. Collecting these figures, we obtain the financial results for the year, which are shown in the subjoined balance sheet:—

BALANCE SHEET.							
Dr.		Rs. A. P.		Cr.		Rs. A. P.	
To value of stock on 31st March 1892	...	1,80,864	11 0	By cash receipts from sale of sulphate of quinine, cinchona febrifuge, and cinchona seed and bark, &c.	...	65,454	5 6
To cash received from the Treasury during 1892-93 for expenditure on the plantations, viz., Kungbee, Mungpoo, Sittong, and Kungjung	...	67,804	15 7	By credit from medical depôts for cinchona febrifuge, viz.—			
To stores from England for plantations	...	845	3 9	Calcutta	Rs. A. P.	5,000	0 0
To cash received from the Treasury during 1892-93 for expenditure on factory	...	32,694	3 9	Mian Mir	...	5,000	0 0
To stores from England for factory	...	4,002	8 8			10,000	0 0
Surplus on the year's working	...	3,170	14 3	By credit from the Surgeon-General with the Government of India for cinchona febrifuge supplied to the Extra Assistant Superintendent in charge, No. 2 party, Eastern Bengal, Chittagong	...	20	0 0
				By credit from medical depôts for sulphate of quinine, viz.—			
				Calcutta	Rs. A. P.	15,381	4 0
				Mian Mir	...	16,986	4 0
						32,367	8 0
				By credit from Commissariat Department for sulphate of quinine supplied to the Commissariat Store and Shipping Officer Calcutta, for Port Blair	...	800	0 0
				By credit from Inspector-General of Civil Hospitals, Bengal, for cinchona febrifuge supplied to the medical officers of Bengal	...	2,005	0 0
				By credit from Inspector-General of Jails, Bengal, for cinchona febrifuge, sulphate of quinine, supplied to jails and lock-ups in Bengal, viz.—			
				For cinchona febrifuge	Rs. A. P.	523	8 0
				For sulphate of quinine	...	108	0 0
						630	8 0
				By credit from Inspector-General of Jails, Bengal, for sulphate of quinine supplied to Hazaribagh and Alipore Jails for making into pice packets	...	6,353	2 0
				By credit from medical depôts, Calcutta, for cinchona bark	...	137	8 0
				By value of stock on 31st March 1893	...	1,21,614	9 6
Total	...	2,39,382	9 0	Total	...	2,39,382	9 0

9. The result of the year's working is therefore a surplus of Rs. 3,170-14-3, which, as making money is not the object for which the plantation is maintained, may, I trust, be considered sufficient. As I have explained in previous annual reports, the entire total capital expenditure on the plantation from its beginning has been covered several times over by the profits made during the early years of the manufacture of cinchona febrifuge, and by the savings effected by the

substitution in Government hospitals and dispensaries of that drug for quinine, (see Government Resolution, Financial Department, Miscellaneous, dated 26th March 1888). The factory has never had a capital account, as the total expenditure of each year on machinery, as well as on working expenses, has been calculated in the cost price of each year's outturn. Government are therefore in possession of a plantation and factory, the whole cost of which has years ago been refunded to them. Mr. Gammie, who is in charge of the factory, is continuous in his efforts to improve the method of manufacture and to cheapen its cost; and it is hoped that the good effects in these respects of the alterations in the machinery made during the past year may become apparent during the current year.

10. *Sale of quinine at post-offices.*—The chief event of the year has been the organization of the system by which quinine, made up in doses of five grains, is offered for sale at most of the post-offices within the Province of Bengal. Each dose is made up in a neat closed paper envelope, and is sold for one pice. Each packet carries the royal arms as a guarantee of genuineness, together with brief instructions in the vernacular. To encourage the post-office officials to push the sale of these packets, a small commission is allowed, and considerable facility is offered for replenishing of stocks by post-masters; the parcel-rates for transmission, however, bear rather heavily on the scheme, and I trust some means of lightening them may soon be found. When the scheme was suggested last year, it very soon became obvious that one of the first conditions of success would be to find some means of making up the packets by which adulteration and loss from pilfering and careless weighment might be reduced to a minimum. It was therefore decided by Government to make this matter over to the Jail Department. The quinine is therefore made over from the factory to that department in bulk, and by prison labour it is subdivided into pice packets, 1,400 of which go to each avoirdupois pound. The Jail Department distributes these packets to the post-masters and collects the proceeds of the sales at the various post-offices. A dose of pure quinine is by this means put within the reach of any person within the province who has a pice to buy it with. Thus at last, after thirty years of effort, has the end been attained which the Government set before itself when the growth of the medical cinchonas was begun in British India. That end was thus expressed in an early Government resolution on the subject:—"To put the only medicine that is of any use in the cure of the commonest and most fatal of Indian diseases within the reach of the poorest." Of the provinces usually supplied with quinine from the Mungpoo Factory, Bengal is the only one into which this pice-packet system has as yet been introduced. It is believed that, should the various provinces under the Government of India adopt the system, large demands may have to be undertaken. To meet such, Government have, in addition to the land reserved in the neighbourhood of Mungpoo, a reserve on the Bhootan frontier in Engo Valley, in which ground has not yet been broken.

11. *Firewood Plantation.*—About twenty acres were added to the firewood plantation during the year; and from the older parts of it a considerable number of small trees were taken for building purposes.

12. The sum of Rs. 2,174-10 collected during the year from settlers with the cinchona reserve for rents and grazing dues, was paid into the Darjeeling Treasury as land revenue from Government estates. This sum is, however, not taken credit for in the plantation accounts.

13. I was on furlough in England during seven months of the year under review; and during my absence, Mr. J. A. Gammie, Deputy Superintendent, acted for me. On my return he resumed his ordinary duties. Mr. G. A. Gammie was absent for four months on a botanical collecting tour in the interior of Sikkim, the results of which tour have been communicated to Government in a separate report: for three months Mr. G. Gammie also acted for Mr. Kennedy in charge of the Lloyd Botanic Garden, Darjeeling. The other assistants on the plantation and the clerks in the office worked during the whole year, and conducted their duties to the satisfaction both of Mr. J. Gammie and myself.

14. The usual returns in the form of nine appendices to this report are submitted herewith.

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APPENDIX A.

Table showing the number and distribution of Cinchona plants in the Government Cinchona Plantations, Sikkim, on 1st April 1893.

MUNGPOO DIVISION.

	PLANTATIONS.			NURSERY.				
	Number in permanent plantation on 1st April 1892.	Number of plants uprooted during the year 1892-93.	Planted during the year 1892-93.	Number in permanent plantation on 1st April 1893.	Number of stock plants for propagation on 1st April 1893.	Number of seedlings and rooted cuttings in nursery beds for permanent plantation.	Number of rooted plants in seed and cutting beds.	Total nursery stock on 1st April 1893.
Cinchona Hybrid	843,360	60,000	3,400	886,760	4,000	10,000	...	14,000
" Succirubra	550,000	150,000	...	400,000	...	...	...	...
" Calisaya Ledgeriana	1,220,420	50,000	144,800	1,315,220	...	160,000	...	100,000
" Verde and Morada	92,300	28,300	...	64,000	...	...	...	...
" Officinalis	6,000	2,200	...	3,800	...	...	...	...
" Hard Carthagens	1	...	...	1	...	...	...	...
Total	2,812,081	290,500	148,200	2,669,781	4,000	170,000	...	174,000

SITTONG DIVISION.

Cinchona Hybrid	211,840	1,900	...	210,000	...	...	...	...
" Succirubra	670,000	50,000	...	620,000	...	...	...	...
" Calisaya Ledgeriana	198,990	18,300	35,910	215,910	...	70,000	...	70,000
" Verde and Morada	...	...	...	...	...	...	...	...
Total	1,080,830	70,200	35,910	1,045,910	...	70,000	...	70,000

RUNGJUNG DIVISION.

Cinchona Hybrid	9,160	100,000	...	9,160	...	...	...	...
" Calisaya Ledgeriana	457,900	5,000	...	357,800	...	...	...	...
" Verde and Morada	10,000	...	...	5,000	...	...	...	...
Total	476,960	105,000	...	371,960	...	...	...	...

APPENDIX B.

Table showing the actual details of the year's planting, 1892-93.

	Hybrid.	Calisaya Ledgeriana.	Total.
Mungpoo Division	3,400	144,800	148,200
Sittong "	...	35,910	35,910
Rungjung "	...	...	...
Total	3,400	180,710	184,110

APPENDIX C.

Table showing the total number of Cinchona trees of all sorts standing in the Permanent Plantations on 1st April 1893.

	Red Cinchona, Succirubra.	Yellow Cinchona, Calisaya Ledgeriana.	Yellow Cinchona, Calisaya Verde and Morada.	Hybrid, unnamed variety.	Other kinds.	Total of all sorts.
Mungpoo Division	400,000	1,315,220	64,000	886,760	3,801	2,669,781
Sittong "	620,000	215,910	...	210,000	...	1,045,910
Rungjung "	...	357,800	5,000	9,160	...	371,960
Total	1,020,000	1,888,930	69,000	11,05,920	3,801	4,087,651

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APPENDIX D.

Account of dry Cinchona Bark collected during season 1892-93.

	Root bark.	Stem bark.	Branch bark.	Total.	
	lbs.	lbs.	lbs.	lbs.	lbs.
Succirubra—					
Mungpoo	17,380	15,550	10,110	43,040	
Labdah	660	480	570	1,710	
Sittong	14,630	13,260	17,630	45,420	
Total Succirubra	32,670	29,290	28,310	90,170	90,170
Ledgeriana—					
Mungpoo	8,030	6,700	4,830	19,560	
Labdah	9,800	6,190	8,770	24,760	
Sittong	3,970	1,890	2,600	8,460	
Rungjung	38,130	16,910	10,350	65,430	
Total Ledgeriana	59,930	31,730	26,550	118,210	118,210
Hybrid—					
Mungpoo	14,390	11,870	9,160	35,420	
Labdah	8,500	4,920	12,450	25,870	
Sittong	520	220	400	1,140	
Rungbee	4,070	4,680	7,130	15,880	
Total Hybrid	27,480	21,690	29,140	78,310	78,310
Verde and Morada—					
Mungpoo	2,370	2,430	1,460	6,260	
Labdah	3,030	2,400	2,590	8,020	
Rungjung	810	450	360	1,620	
Total Verde and Morada	6,210	5,280	4,410	15,900	15,900
Officinalis—					
Labdah	760	290	750	1,800	
Total Officinalis	760	290	750	1,800	1,800
GRAND TOTAL OF ALL SORTS	127,050	88,280	89,060	304,390	304,390

APPENDIX E.

Cinchona bark account for 1892-93.

	lbs.	oz.
Balance in store on 1st April 1892	451,217	0
Outturn of bark collected during the year 1892-93	304,390	0
Total	755,607	0
Issued to Medical Depot, Calcutta.	550	0
Sold to Government officers and to the general public	727	14
Issued as samples, &c.	2	10
Issued to Quinologist for manufacture of cinchona febrifuge and sulphate of quinine	326,246	0
Total	327,526	8
Balance in store on 31st March 1893	428,080	8

At Mungpoo. At Botanical Garden.

	lbs.	lbs. oz.
Succirubra bark	38,998	18 8
Calisaya Ledgeriana	161,064	151 0
Officinalis	4,340	...
Hybrid	197,285	...
Verde and Morada	36,224	...
Total	427,911	169 8

APPENDIX F.

Table showing the produce of the Government Cinchona Plantations in British Sikkim since their beginning.

MUNGPOO DIVISION.				lbs.
Dry bark collected by pruning and thinning during				
Ditto	ditto	ditto	1869-70	2,400
Ditto	ditto	ditto	1870-71	12,500
Ditto	ditto	ditto	1871-72	39,000
Ditto	ditto	ditto	1872-73	NIL
Ditto	ditto	ditto	1873-74	16,000
Ditto	ditto	ditto	1874-75	39,405
Crop of				
1875-76	...	...	...	211,331
1876-77	...	...	...	207,781
1877-78	...	...	...	344,225
1878-79	...	...	...	261,659
1879-80	...	...	...	345,740
1880-81	...	...	...	348,560
1881-82	...	...	...	298,780
1882-83	...	...	...	358,100
1883-84	...	...	...	253,270
1884-85	...	...	...	300,125
1885-86	...	...	...	152,460
1886-87	...	...	...	146,979
1887-88	...	...	...	217,780
1888-89	...	...	...	293,750
1889-90	...	...	...	222,025
1890-91	...	...	...	199,670
1891-92	...	...	...	182,440
1892-93	...	...	...	182,320
Total				4,636,900

SITONG DIVISION.				lbs.
Dry bark collected by pruning and thinning during				
Ditto	ditto	ditto	1879-80	15,850
Ditto	ditto	ditto	1880-81	28,965
Ditto	ditto	ditto	1881-82	42,790
Ditto	ditto	ditto	1882-83	38,880
Ditto	ditto	ditto	1883-84	51,890
Ditto	ditto	ditto	1884-85	39,076
Ditto	ditto	ditto	1885-86	52,950
Ditto	ditto	ditto	1886-87	78,652
Ditto	ditto	ditto	1887-88	72,630
Ditto	ditto	ditto	1888-89	67,740
Ditto	ditto	ditto	1889-90	50,180
Ditto	ditto	ditto	1890-91	57,440
Ditto	ditto	ditto	1891-92	65,780
Ditto	ditto	ditto	1892-93	55,020
Total				717,843

RUNGJUNG DIVISION.				lbs.
Dry bark collected by thinning during				
Ditto	ditto	...	1888-89	11,610
Ditto	ditto	...	1889-90	32,500
Ditto	ditto	...	1890-91	36,862
Ditto	ditto	...	1891-92	37,340
Ditto	ditto	...	1892-93	67,050
Total				185,362

APPENDIX G.

Table showing the amount of Cinchona Febrifuge, Crystalline Febrifuge, and Sulphate of Quinine produced from the commencement to 31st March 1893, and the stock at the latter date.

	lbs.	oz.		lbs.	oz.
Manufactured in 1874-75	...	43 10	Supplied to Medical Depot, Calcutta, viz.—	...	33,033 3
Ditto 1875-76	...	1,910 6	Cinchona febrifuge	...	24 8
Ditto 1876-77	...	3,750 12	Crystalline "	...	4,079 8
Ditto 1877-78	...	5,163 0	Sulphate of quinine	...	15,600 0
Ditto 1878-79	...	7,007 0	Supplied to Medical Depot, Bombay, viz.—	...	874 0
Ditto 1879-80	...	9,434 13	Cinchona febrifuge	...	...
Ditto 1880-81	...	9,296 0	Crystalline "	...	...
Ditto 1881-82	...	8,010 0	Sulphate of quinine	...	5,730 0
Ditto 1882-83, viz.—	...	10,363 4	Supplied to Medical Depot, Madras, viz.—	...	20 0
Cinchona febrifuge	...	300 0	Cinchona febrifuge	...	400 0
Crystalline "	...	...	Crystalline "	...	1,312 0
Manufactured in 1883-84, viz.—	...	8,464 0	Sulphate of quinine	...	2,932 0
Cinchona febrifuge	...	250 0	Supplied to Medical Depot, Meen Meer, viz.—	...	30 0
Crystalline "	...	...	Cinchona febrifuge	...	...
Manufactured in 1884-85, viz.—	...	6,079 0	Crystalline "	...	...
Cinchona febrifuge	...	385 0	Sulphate of quinine	...	150 0
Crystalline "	...	...	Supplied to Straits Settlements	...	...
Manufactured in 1885-86, viz.—	...	4,625 0	Supplied to Colonial Government, Mau-	...	...
Cinchona febrifuge	...	118 0	ritius	...	...
Crystalline "	...	...	Supplied to Commissariat Department	...	...
Manufactured in 1886-87, viz.—	...	6,611 0	for Port Blair, viz.—	...	80 0
Cinchona febrifuge	...	149 0	Cinchona febrifuge	...	125 0
Crystalline "	...	...	Sulphate of quinine	...	...
Manufactured in 1887-88, viz.—	...	6,916 0	Supplied to Surgeon-General with the	...	2 0
Cinchona febrifuge	...	1 0	Government of India, viz.—	...	...
Crystalline "	...	331 8	Cinchona febrifuge	...	...
Sulphate of quinine	...	...	Supplied to Inspector-General of Civil	...	...
Manufactured in 1888-89, viz.—	...	6,384 0	Hospitals, Bengal (for district medical	...	6,063 4
Cinchona febrifuge	...	2,191 0	officers of Bengal), viz.—	...	103 4
Sulphate of quinine	...	...	Cinchona febrifuge	...	3 8
Manufactured in 1889-90, viz.—	...	6,578 0	Crystalline "	...	...
Cinchona febrifuge	...	1,833 2	Sulphate of quinine	...	...
Sulphate of quinine	...	...	Supplied to Inspector-General of Jails,	...	...
Manufactured in 1890-91, viz.—	...	4,031 0	Bengal (for jails and lock-ups in	...	892 12
Cinchona febrifuge	...	4,010 0	Bengal), viz.—	...	58 8
Sulphate of quinine	...	...	Cinchona febrifuge	...	31 1
Manufactured in 1891-92, viz.—	...	4,190 0	Crystalline "	...	...
Cinchona febrifuge	...	4,636 0	Sulphate of quinine	...	...
Sulphate of quinine	...	...	Supplied to Inspector-General of Jails,	...	...
Manufactured in 1892-93, viz.—	...	3,481 8	Bengal (for making pie packets in	...	475 0
Cinchona febrifuge	...	5,242 4	Hazaribagh and Alipore jails), viz.—	...	...
Sulphate of quinine	...	...	Sulphate of quinine	...	...
			Sold to Government officers for cash,	...	...
			viz.—	...	6,823 10 1
			Sulphate of quinine	...	...
			Sold for cash, viz.—	...	48,347 10
			Cinchona febrifuge	...	936 8
			Crystalline "	...	...
			Samples, viz.—	...	164 8
			Cinchona febrifuge	...	10 4
			Crystalline "	...	20 9 1
			Sulphate of quinine	...	...
			Stock in hand on 31st March 1893, viz.—	...	1,052 0
			Cinchona febrifuge	...	2,379 8 1
			Sulphate of quinine	...	...
			Total	...	131,799 3
Total	...	131,799 3			

APPENDIX H.

Cash Income for 1892-93.

	Rs.	A.	P.
Cash received from sale of cinchona febrifuge and paid into the Bank of Bengal and into other treasuries in Bengal and Assam	23,967	8	0
Cash received from sale of sulphate of quinine and paid into the Bank of Bengal and into other treasuries in Bengal and Assam	41,289	4	0
Cash received from sale of cinchona bark, &c., and paid into the Bank of Bengal	197	9	6
Credit for cinchona febrifuge supplied to the medical depôts, viz.—			
Calcutta	...	...	...
Meen Meer	...	...	...
	5,000	0	0
	5,000	0	0
	10,000	0	0

(10)

APPENDIX II—concluded.

Credit for cinchona febrifuge supplied to Surgeon-General with the Government of India (for Extra Assistant Superintendent in charge No. 2 party, Eastern Bengal, Chittagong)	Rs.	A.	P.
Credit for sulphate of quinine supplied to the medical depôts, viz.—	20	0	0
Calcutta	Rs.	A.	P.
Meean Meer	15,381	4	0
	16,986	4	0
Credit for sulphate of quinine supplied to Commissariat Department for Port Blair	32,367	8	0
Credit for cinchona febrifuge supplied to Inspector-General of Civil Hospitals, Bengal (for district medical officers of Bengal)	800	0	0
Credit for cinchona febrifuge supplied to Inspector-General of Jails, Bengal (for jails and lock-ups in Bengal)	2,005	0	0
Credit for sulphate of quinine supplied to Inspector-General of Jails, Bengal (for jails and lock-ups in Bengal)	522	8	0
Credit for cinchona bark supplied to the Inspector-General of Jails, Bengal (for making pice packets in Hazaribagh and Alipore Jails)	108	0	0
Credit for cinchona bark supplied to medical depôts, Calcutta	6,353	2	0
	137	8	0
Total credit in India	Rs.	1,17,767	15 6

APPENDIX I.

Cinchona febrifuge sold to dispensaries in the various Provinces during the year 1892-93.

To dispensaries in Bengal	lbs.	oz.
Ditto in Bombay	96	12
Ditto in Madras	24	8
Ditto in Burma	0	4
Ditto in North-Western Provinces and Oudh	7	0
Ditto in Assam	88	12
Ditto in Punjab	65	0
Ditto in Central Provinces	176	0
Ditto in Native States	115	12
Ditto in Straits Settlements	323	8
	25	0
Total	922	8

Sulphate of quinine sold to dispensaries in the various provinces during the year 1892-93.

To dispensaries in Bengal	lbs.	oz.
Ditto in Bombay	137	10
Ditto in Madras	5	8
Ditto in Burma	2	4
Ditto in North-Western Provinces and Oudh	10	4
Ditto in Assam	201	14
Ditto in Punjab	130	13
Ditto in Central Provinces	653	8
Ditto in Native States	164	4
	484	13
Total	1,790	15

G. KING, M.B., Brigade-Surgeon, Lt.-Col.,
Superintendent, Royal Botanic Garden, Calcutta,
and of Cinchona Cultivation in Berhal.

B. D'S.—Reg. No. 2564J—463—21-8-93.

FINANCIAL DEPARTMENT.

MISCELLANEOUS.

No. 4018Mis.

CALCUTTA, THE 18TH AUGUST 1893.

FROM J. A. BOURDILLON, Esq.,

Offg. Secretary to the Government of Bengal,

TO THE SECRETARY TO THE GOVERNMENT OF MADRAS.

SIR,

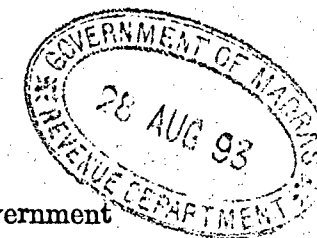
I AM directed to forward, for the information of the Government of Madras, a copy of the report on the working of the Government Cinchona Plantation and Factory in Bengal during 1892-93, together with a copy of the Resolution recorded by the Lieutenant-Governor thereon.

I have the honour to be,

SIR,

Your most obedient servant,

J. A. Bourdillon
Offg. Secretary to the Government of Bengal.



H. P.—Reg. No. 32390—48—21-8-93.

1893

REVENUE DEPARTMENT.

Enclosure No.

Current No.

(1893)

REVENUE DEPARTMENT.

ABSTRACT.

Current Number. 6382.

From

The Government of Bengal,
Financial Department.



Order misc No. 3245 of 4th September
3/9/93

Communicated
to the Govt. Botanist &
Director of the Govt. Cin-
chona Plantations.

Rm
30 Aug
31 Aug

Dated 18 Aug

Received 28

Enclosures 2

Mis. No. 4018.

SUBJECT.

Forwarding for information
a copy of the report on the working
of the Govt. Cinchona Plantation
and Factory in Bengal during
1892-93.

Leads
To the Govt. Botanist &
Director of the Govt. Cin-
chona Plantations.

P. T. O.

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