

(1) Number of pages 12

(2) Date of repair _____

(3) Initials of the Referencer GP

MADRAS RECORD OFFICE.

Government of Madras.

Revenue DEPARTMENT.

G.O. No.	1032	Press ~~Mis.~~
Dated	24-11-	1886.

Not to be folded or roughly handled

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

READ—the following letter from M. A. LAWSON, Esq., Government Botanist and Director of Cinchona Plantations, Nilgiris, to the Secretary to Government, Revenue Department, dated Ootacamund, 17th November 1886, No. 85:—

With reference to G.O., No. 6488, dated the 28th October 1886, Revenue, I have the honor to forward Mr. Hooper's report on his investigations into the inorganic constituents of cinchona bark.

ENCLOSURE.

From D. HOOPER, Esq., Government Quinologist, to the Government Botanist and Director of Cinchona Plantations, Nilgiris, dated Ootacamund, 17th November 1886.

I have recently been engaged in examining the inorganic constituents of cinchona bark, and, considering the results would be of use to all engaged in cultivating cinchona, I forward you the results of my analyses.

2. The dried bark always contains from 2 to 4 per cent. of ash, the young bark yielding more than old and renewed specimens.

3. I have analysed samples of bark from *Cinchona officinalis* growing in the Dodabetta plantation, and also from *Cinchona succirubra* growing at the lower elevation at Naduvattam; and it will be seen that there is a great similarity in the composition of the ash derived from both these species:—

							C. officinalis.	C. succirubra.
Silica	...	...	...	...	...	...	5.75	5.60
Soluble silica	...	...	...	...	...	...	1.42	4.40
Alumina	...	...	...	...	...	...	2.70	4.24
Iron oxide	...	...	...	...	...	...	2.85	3.21
Lime	...	...	...	...	...	...	32.70	32.80
Magnesia	...	...	...	...	...	...	2.07	2.52
Potash	...	...	...	...	...	...	16.35	12.49
Soda	...	...	...	...	...	...	3.40	2.28
Carbonic acid	...	...	...	...	...	...	27.22	27.77
Sulphuric acid	...	...	...	...	...	...	1.16	1.08
Phosphoric acid	...	...	...	...	...	...	3.93	3.19
Chlorine	...	...	...	...	...	...	.45	.42
							100.00	100.00

4. The chief constituent of the ash is the lime, which forms nearly one-third of the whole. It probably exists in the bark in the form of kinate or oxalate of lime, and when incinerated becomes carbonate of lime. The next element of importance is the potash, which amounts to one-sixth and one-eighth part of the whole ash respectively. The examination shows that both lime and potash must be present in soils where cinchona plants are grown.

ORDER—dated 24th November 1886, No. 1032, Revenue.

Miscellaneous.

Recorded.

(True Extract.)

(Signed) J. F. PRICE,
Ag. Secretary to Government.

To the Director of Government Cinchona Plantations.
„ the Board of Revenue.
„ the Director of Revenue Settlement and Agriculture.
„ the Honorary Secretary, Agri-Horticultural Society, Madras
„ the Chamber of Commerce.
„ Messrs. Arbuthnot and Co.
„ the Editor's Table.

Ed. G. Freeman.

100 Copies.

Original

Govt. of (1886) Madras.

REVENUE.

Issued

Recd.

Encl.

G.O., 24th November 1886, No. 1032.

NOVEMBER.

Inorganic constituents of Cinchona
Bark.

Government Quinologist's report on his investigations into the —, recorded.

From Cotacamund 5
17th November 1886.

The Government Quinologist
To, Cotacamund
The Govt Botanist and Director of
Cinchona Plantations
Sir, Belgius

I have recently been engaged in examining the inorganic constituents of Cinchona bark, and considering the results would be of use to all engaged in cultivating Cinchona, I forward you the results of my analysis.

2. The dried bark always contains from 2 to 4 per cent of ash, the young bark yielding more than old and renewed specimens.

3. I have analysed samples of bark from Cinchona officinalis growing in the Roda Latta Plantation, and also from Cinchona Succubra growing at the

the lower elevation at Saduwatan;
and it will be seen, that there is a
great similarity, in the composition
of the ash derived from both these species.

Collicularia C. Succinabata

Silica	5.75	5.60
Soluble Silica	1.42	4.40
Alumina	2.70	4.24
Iron Oxide	2.55	3.21
Lime	32.70	32.80
Magnesia	2.07	2.52
Potash	16.35	12.49
Soda	3.40	2.28
Carbonic acid	27.22	27.77
Sulphuric acid	1.16	1.08
Phosphoric acid	5.93	5.19
Chlorine	.45	.42
	100.00	100.00

4. The chief constituent of the ash is
the lime, which forms nearly one third of
the whole. It probably exists in the
leaves in the form of bicarbonate, or carbonate
of lime, and when incinerated, becomes
Carbonate

7.
Carbonate of lime. The next element of
importance is the potash, which amounts
to one sixth, and one eighth part, of the
whole ash respectively. The examination
shows, that both lime and potash,
must be present in soils, where
Linchona plants are grown.

I have &c.

J. D. Hooker
Government Zoologist

(True copy)

M. A. Lawson

Govt Botanist and Director

J. D. Hooker
1868

Enclosure to letter
No. 85 dated 17 November
1886 from the Government
Botanist and Director
of Cuscuta Plantation
Nilgiris to the Secretary
to Government, Revenue
Department, Fort St. George.

Mr. Harper's Report
on his investigations
into the Inorganic
Constituents of
Cuscuta Purpurea.

Rev. 9422/86

No. 85
From

Director's Office
Cochin 17th Nov 1886.

M. A. Lawson Esq.
Govt Botanist and Director of
Cuscuta Plantations
Nilgiris

The Secretary to Government
Revenue Department
Fort St. George.

With reference to G. O. No. 6488 dated
the 28th October 1886 - Revenue - I have
the honor to forward Mr. Harper's
Report, on his investigations into the
inorganic Constituents of Cuscuta Purpurea.

I have the honor to be

Sir
Your Most obedient servant
M. A. Lawson
Govt Botanist and Director

Yours
Sd/-

12
Pmt 24/11

G.O. no: 1032 of 24.11.86
Recorded

6260
24.11.
24/11

5th Director of Port of Canton
16 Board of Revenue
25th Dir of Rd & A.
3rd Hong Kong, Agricultural Society
3rd Chamber of Commerce
2nd Inspector, Agriculture & Co.
18th E. J.
100/8
Des-4-12-86

Submitted that this may be
placed on the Editor's Table &
communicated to the Chamber
of Commerce.

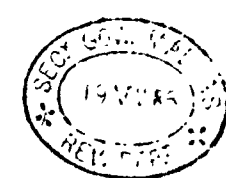
6260
24.11
24.11

Capt. to ...

Revenue Dept.

No 9422

Revenue (1886) Cutcham



From
The Govt. Resident
and Director of
Cutcham Pt.
Nigeria

To
The Secretary to
Government
Revenue Department
Port of George

No. 85

Dated 17/11 }
Recd 19/11 } November 1886

Rev. Mr
Subject

Inorganic constituents
of Cutcham Bark.

Forwarding Mr Hooper's
Report on his investigations
into the — called
for in G.O. No 6488 dated
the 28th October 1886. R.

22/11
P.T.O.