

MADRAS RECORD OFFICE.

Government of Madras.

Revenue DEPARTMENT.

G.O. No.	627	Press Mis.
¹⁶⁰⁻⁴¹ Dated	6-3-	18 68.

Not to be folded or roughly handled

Proceedings of the Madras Government, Revenue Department,

10th March 1868.

No. 110. Received of Mr. J. BROUGHTON, Esq., Q. C., Advocate to Government, to the Secretary to Government, Revenue Department, Fort St. George, dated Ootacamund, 27th February 1868--

Memorandum of the cultivation of jalap in India.

1. The following facts connected with the cultivation of jalap in this country appear to me to possess sufficient interest to be brought under the notice of Government, in order that they may be recorded.

2. In November 1866, I being then in England and about to proceed to India, I was informed by Mr. H. H. H. that he had taken charge of some tubers of the jalap plant, *Physalis Peruvia*, which he had been ordered to think of for successful growth on the mountain ranges of Southern India. I of course gladly undertook the commission, and arrived in Madras, procured some tubers for the gardens of the Anti-Herpetological Society. These tubers were planted in the Government Botanic Gardens, Ootacamund, in January 1867.

3. The tubers planted at Madras grew at first, but in spite of the care bestowed upon them the plants were unable to stand the hot and arid climate, and gradually died. Those planted at Ootacamund, being placed under the able charge of Mr. Benson, Deputy Superintendent of the Gardens, grew with extraordinary luxuriance, and produced a profusion of beautiful blossoms, some of which ripened into seeds. After a few months the attention bestowed on the cultivation was rewarded by the plant producing a fine cluster of tubers. In December 1867, a cluster was discovered and I found the largest tuber weighed 1790 grammes.

4. To prepare the medicine by drying the sliced tuber in the sun, and reducing it to a powder. Of this I made a chemical examination, comparing it with a good specimen of commercial jalap, which I obtained for the purpose from Mr. H. H. H. The active medicinal principle of jalap consists in its peculiar resin, and the comparative amounts of this substance can be thus stated:

<i>Indian grown jalap.</i>	<i>Specimen of commercial jalap.</i>
Tuber No. 1. 11.0 per cent.	11.0 per cent.
Do. " 2. 10.6 " do.	
Do. " 3. 11.2 " do.	

Other Chemists have found the following amounts of resin in various specimens of commercial jalap:

11.0 per cent.	Gerber.
12.0 " do.	Henry.
9.6 " do.	Do.
12.03 " do.	Benson and Marquart.
13.53 " do.	Do. " do.
8.90 " do.	Edwards.
17.56 " do.	Guilbert.

Though the above results were satisfactory, and left little doubt as to the quality of the medicine, I felt an experimental proof of its efficacy would render the investigation more complete. Dr. Donaldson, Senior Civil Surgeon, Ootacamund, has had the kindness to make some trials of the medicine, and it appears from his

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results, part of which I have the honor to enclose, and which are fairly comparable with Mexico and Jalapa.

5. Mr. Hambury has lately communicated to me a report of his observations concerning the latter drug, and I beg to permit me to enclose to you a copy of his Memoir.* He says: "The cultivation of this, however, it is expected that the cultivation of Jalapa should be attempted in some other country to which it may be introduced by the natives, and the following are—

I. The present supply is precarious and fluctuating.
II. The drug is often of bad quality even when genuine, owing to the rude method in which the roots are dried, and the partiality to the more common root of the ordinary Sweet Potatoe.

III. The present mixture of other roots with the Jalapa of commerce. The cultivation of Jalapa is a necessary measure to be taken to secure the drug. It is a plant which is cultivated with the native population of the country, and in sufficient quantity to be noticeable in the market."

6. I believe the whole of the above comments can be readily fulfilled in this country. The plant appears likely to be cultivated with almost the same success as the ordinary Sweet Potatoe.

7. I learn that the average annual consumption of the present Jalapa by the Government Medical Stores is 500 pounds. In consequence of the low quality of Extractum Jalapæ is also consumed. The cost of the present quantity of the British market is about £5,000 per annum. I feel convinced that this amount could be readily produced in this country, and as a valuable article of export could be added to the commerce of the Presidency. In this opinion I am supported by the opinion of Mr. Hambury.

8. Mr. Barock has been good enough to furnish me with a Memoir on the cultivation of the plant, which I beg leave to enclose.

9. I may also perhaps be permitted to remark that my own share in the above work is only that of collaborator.

MEMORANDUM BY MR. BAROCK.

1. The cultivation of the Jalapa plant appears to be a very simple one. A tuber, of a reddish-brown color, and of a size of about 10 to 15 inches in length, is planted in the soil, and in a few days the young plant will appear. The plant is a very hardy one, and will grow in any soil, and in any climate. The plant is a very hardy one, and will grow in any soil, and in any climate. The plant is a very hardy one, and will grow in any soil, and in any climate.

2. The climate of Oahu is well suited to the cultivation of the Jalapa plant. The climate is not too hot, and not too cold, and the soil is not too dry, and not too wet. The climate is well suited to the cultivation of the Jalapa plant. The climate is not too hot, and not too cold, and the soil is not too dry, and not too wet. The climate is well suited to the cultivation of the Jalapa plant.

3. A large quantity of the Jalapa plant can be produced in this country. The plant is a very hardy one, and will grow in any soil, and in any climate. The plant is a very hardy one, and will grow in any soil, and in any climate. The plant is a very hardy one, and will grow in any soil, and in any climate.

28th December 1867.

Signed G. BAROCK.

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MEMORANDUM BY DR. DONALDSON.

THE JALAPA TUBER.

21st December 1867.—A half-dozen tubers of single Jalapa yesterday evening, which were left to grow unmolested with grating pan, in a glass house, rather yellow feeded.

22nd.—The tubers were given, which moved the tubers freely, but with very little growth, and of a very dry and of a very dry color.

23rd.—The tubers of the drug were given, which moved the tubers freely, but with very little growth, and of a very dry and of a very dry color.

ON THE CULTIVATION OF JALAPA.

By David H. H. H.

The cultivation of Jalapa is a very simple one. A tuber, of a reddish-brown color, and of a size of about 10 to 15 inches in length, is planted in the soil, and in a few days the young plant will appear. The plant is a very hardy one, and will grow in any soil, and in any climate. The plant is a very hardy one, and will grow in any soil, and in any climate.

1. The present supply of Jalapa is precarious and fluctuating.

2. The drug is often of bad quality even when genuine, owing to the rude method in which the tubers are dried, and frequently to their having been collected while too young and small.

3. The frequent admixture of other roots with the Jalapa of commerce.

The cultivation of Jalapa to be successful must result in producing the drug of a quality and quantity to be noticeable in the market. Experience alone can determine whether all or only some of these desiderata can be attained.

Let us now consider what is the climate and what the soil, of the region in which the Jalapa plant, *Euphorbia Peruv.* Benth., naturally thrives, and what the method actually pursued for the raising and preparing the drug for the market. On these subjects the most graphic information that I have met with, is contained in a letter addressed by Dr. Seale, a German traveller and botanist, to Dr. D. F. L. von Schlechtendal; it bears date Mexico, 26th October 1824, and was published in the periodical called *Linnæa* the following year. On this letter, the following is a translation—

Before I leave Chicomilco* I must communicate to you the most interesting facts which I have observed on the occurrence of *Euphorbia Jalapa*, as well as what I have learnt respecting the collection of the root and its preparation for the market. In my last letter, I sent you a large number of flowering specimens, and added a short description of the plant, so that this letter I may here omit.

The Jalapa plant, whose tuberous root furnishes the almost indispensable medicine called Jalapa, does not grow in the immediate vicinity of Jalapa, but several thousand feet higher on the eastern slopes of the Mexican Andes, especially about Cuernavaca and the neighboring valleys, and also, as I hear, about San Salvador, on the eastern slope of the Cofre de Perote. The mean altitude at which the plant occurs, may be stated as about 4,000 feet. In this region, it rains almost the whole year through. During summer the clouds are commonly succeeded by violent showers in the afternoon; in winter and spring the rain does not cease, but these rains lie for days and weeks with but few clear intervals, on the mountains as well as on their declivities. The plant prefers shade, and is found only in woods where it climbs over trees and bushes. The flowers appear in August and September. The root is dug up during the whole year, but probably that is possible which is collected before the young shoots appear, that is to say in March and April. The tubers are sometimes elongated, sometimes round, and always terminate in a point. In the fresh state they are whitish, almost inodorous and full of a viscid juice which is very acrid and tasteless. When collected, the larger tubers are cut through, but the smaller ones are not. As drying them in the sun would probably be impracticable, they

* Chicomilco is a small town in the State of Mexico, about 10 miles from Mexico, and is the principal place of the Jalapa plant.

There are doubtless other localities in India, as for instance certain regions of the Himalaya, in which the culture of the Jalap plant might advantageously be attempted, but until a supply of the seeds is obtained, it will probably be wise to restrict experiments to one spot.

It is not, however, to be supposed that no attempts to cultivate Jalap have hitherto been made, though it may be safely asserted that none have resulted in obtaining for the market a large supply of the drug. In Mexico, as Schade relates, the Indians were commencing in 1824 to cultivate the plant in their gardens, and I have been informed by a London Druggist that some of the Jalap now found in the market is derived from cultivated plants. The late Mr. Ryley states that he sent plants obtained from the Royal Horticultural Society and from Dr. Baillon, of Homburg, to the Himalayas, where he hoped they would soon be established.* In 1864 I forwarded to Mr. N. Wilson, Curator of the Botanic Garden at Bath, Jamaica, a Jalap plant of which he wrote me in October 1865, that it was growing luxuriantly at an elevation of 2,000 feet, and that he had no doubt the plant could be cultivated on the mountains of Jamaica as an article of commerce.

The culture of *Eragonium Purga*, Benth., is also being attempted in the south of France by Professor Dr. J. H. Planchon, of Montpellier, and by M. Gustave Thuret, of Antibes, but the summer climate of those localities is so much drier than that of the region in which the Jalap plant is indigenous, that success is doubtful. Tubers have also been sent to Madeira.

There is one other point in connection with this subject upon which we seem to require information, and that is the age at which the Jalap tubers can be collected to most advantage. It is well known that the Jalap of commerce consists of tubers of all sizes, between those weighing a few grains up to such as weigh several ounces; and that the larger and those which are internally most compact, dry and resinous are preferred.

The adoption of a better method of drying the tubers than that at present pursued will also deserve attention. It is probable that this object will be accomplished by slicing the tubers while fresh, and drying them with the gentle heat of a stove.

* Mr. Wilson's letter is dated 18th June 1864.
† *Journal of the Botanical Society of France*, 1862, p. 117, and p. 118.
‡ The Jalap plant was introduced into the Government Garden at Howrah in 1861, but it is now, however, assured that there is no longer any trace of it, and that the plant does not now exist in the Howrah garden.

No. 141. ORDER THEREON, 10th March 1868, No. 627.

Miscellaneous.

1. Recorded.

2. A specimen of dry Jalap from roots grown in the Government Chinchona Gardens has been sent to Mr. Hanbury, with a view to ascertaining its quality and value in the European market.

3. A copy of Mr. Broughton's Memorandum will be submitted to the Secretary of the Council, together with Mr. Melver's letter, 15th February 1868, No. 14.

4. The Council in Council thinks it desirable that the plant should be tried at Coonoor and Kotagerry and also at Bangalore, and desires Mr. Melver to make arrangements for carrying out the wishes of Government.

(True Extract.)

(Signed) W. HUDLESTON,
Secretary to Government.

To the Government Quinologist.

To the Director of Revenue.

To the Consulting Conservator of Forests.

To the Secretary of the Government Chinchona Plantations.

To the Inspector-General, Indian Medical Department.

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now in the New York Library, New York

Dear Mr. Broughton

27.

Quarried in a foot from
a small mound on the outside of the garden
of the Salap plant, which I wish a
hope may embrace all that you wish
it.

My wife & myself joined in
wishing you all the happiness
of the season with many returns
of it

28.

of State
in England,
Mr. McVoy
the 15th Dec 68

Yours sincerely
J. B. Batecock

25 - Xmas day

