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**VARIOUS**

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# BULLETIN OF THE IMPERIAL INSTITUTE

A QUARTERLY RECORD OF PROGRESS IN  
TROPICAL AGRICULTURE AND INDUSTRIES  
AND THE COMMERCIAL UTILISATION OF  
THE NATURAL RESOURCES OF THE  
COLONIES AND INDIA

*Private*

EDITED BY THE DIRECTOR AND PREPARED  
BY THE SCIENTIFIC AND TECHNICAL  
STAFF OF THE IMPERIAL INSTITUTE  
AND BY OTHER CONTRIBUTORS



VOL. XI NO. 3

LONDON  
JOHN MURRAY, ALBEMARLE STREET, W.

1913





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## REPORTS OF RECENT INVESTIGATIONS AT THE IMPERIAL INSTITUTE

*The following summaries have been prepared from a selection of the Reports made by the Director of the Imperial Institute to the Colonial, Indian, and other Governments concerned.*

### THE QUALITY OF PARA RUBBER FROM VARIOUS SOURCES

In the following pages an account is given of the results of the examination at the Imperial Institute of a number of samples of Para rubber from Ceylon, India, Southern Nigeria, British Guiana, and Papua.

#### CEYLON

In previous numbers of this BULLETIN (1911, 9, 300, 406; 1912, 10, 496) reference has been made to tapping experiments carried out in Ceylon with the object of ascertaining the most suitable interval between successive tappings. Seven samples of the rubber obtained in the course of these experiments were received at the Imperial Institute for examination. Each sample consisted of a number of biscuits and represented the rubber prepared from a row of trees tapped at intervals of one, two, three, up to seven days respectively.

The samples exhibited good physical properties on the whole, but a few of the biscuits were rather weak. The results of the chemical analyses are shown in the following table :

*Percentage Composition of Dry Washed Rubber*

	Caoutchouc.	Resin.	Protein.	Ash.
No. 1	95.7	1.7	2.3	0.3
No. 2	95.4	2.5	1.9	0.2
No. 3	96.1	1.7	2.0	0.2
No. 4	96.3	1.8	1.7	0.2
No. 5	96.0	2.0	1.8	0.2
No. 6	96.3	2.0	1.5	0.2
No. 7	96.3	1.8	1.7	0.2

It will be seen that all the samples were of very good quality, so far as composition is concerned, and it is of interest that the rubber obtained by tapping at intervals of three to seven days contained a little more caoutchouc than the rubber obtained by tapping every day or every other day.

For an account of other samples of Para rubber produced in the course of tapping experiments in Ceylon, see this BULLETIN (1912, 10, 380).

## INDIA

Six samples of Para rubber produced in the Mergui District, Burma, were received for examination in July 1912. The samples were as follows :

*No. 1. "Scrap Crêpe."*—Thick crêpe rubber of dark brown colour, well prepared, and containing only a small quantity of vegetable impurity. The physical properties of the rubber were very good.

*No. 2. "Dark Crêpe."*—Rather thick crêpe rubber, very similar to the preceding specimen, but a little darker and not quite so clean. The physical properties of the rubber were very good.

*No. 3. "Smoked Crêpe No. 1."*—Thin reddish-brown crêpe rubber, possessing a distinct smoky odour. The rubber was clean and well prepared, and its physical properties were satisfactory.

*No. 4. "Smoked Crêpe No. 2."*—Thin crêpe rubber varying in colour from light to dark brown and having a smoky odour. The rubber was fairly clean, and its physical properties were satisfactory.

*No. 5. "Pale Crêpe."*—Thin pale crêpe rubber, clean and

well prepared. The rubber exhibited very good physical properties.

No. 6. "Crêpe."—Thin pale crêpe rubber, clean and well prepared, but rather darker than the preceding specimen of "pale crêpe."

The results of chemical analyses and the valuations of the samples are shown in the following table :

	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.
	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
Loss on washing (moisture and impurities)	0·8	1·6	0·4	0·4	nil.	0·2
Composition of dry washed rubber :						
Caoutchouc . . . .	92·1	92·0	92·8	90·0	94·3	93·6
Resin . . . . .	2·8	2·5	3·6	3·1	3·2	3·1
Protein . . . . .	3·3	3·8	3·1	2·9	2·2	3·0
Ash . . . . .	1·8	1·7	0·5	4·0	0·1	0·3
Value in London, with fine hard Para at 3s. 4d. per lb.)	3s. 2d.	3s. 2d.	3s. 3d.	3s. 3d.	3s. 4d.	3s. 3½d.

It will be seen that the samples showed some variation in composition. In general the percentages of resin and protein were a little higher than is usual in the best plantation Para, and in three cases, viz. Nos. 1, 2, and 4, the amount of ash was excessive. The two best specimens, Nos. 5 and 6, contained 94·3 and 93·6 per cent. of caoutchouc respectively in the dry material, and were of very good quality.

SOUTHERN NIGERIA

Two samples of Para rubber grown at Sapele, Central Province, Southern Nigeria, were received in May 1912 and January 1913 respectively. Previous samples obtained during tapping experiments at Ebute Metta and at Orugbo were dealt with in this BULLETIN (1910, 8, 342).

No. 1.—This consisted of two rough biscuits of dark brown rubber with a strong smoky odour. The rubber was clean and well prepared, but contained some specks of solid impurity; the physical properties of the rubber were satisfactory.

No. 2.—This sample consisted of a large thin biscuit of brown rubber, which was very well prepared, although a