

somewhat from those plants previously described. The long green stems are subject to a bruising, which crushes and liberates the strands. The mucilage which binds these together is washed away. There are many methods in use for accomplishing this, and as before stated, inducements are held out for their improvement, which no doubt, will be done.

As we have stated above, New Zealand flax grows in our hill-country, especially on the Uva side, as freely as do aloes. With reference to the latter—in which Mauritius does a considerable trade—it may be well to quote the following portion of the papers published the other day in the Government Gazette merely premising that *Fourcroya gigantea* is one of the ordinary aloes for merely known as the *Agave fetida* :—

Answers to queries respecting machines in use at Mauritius for extracting fibres from leaves of *Fourcroya gigantea*.

(1) The machine in general use in this Colony is a drum of 2 ft. in diameter by 1 ft. in width, upon which are bolted blades in 2-inch L. steel, and which revolves at a great speed, the blades passing close to a guide in cast iron ("servante"). The machine is called a "gratte" scraper. It is manufactured in the Colony by all engineers' shops, but chiefly by the "Forgers et Fonderies de Maurice."

(2) The weight of the drum is about 4 cwt., the cost, including the driving pulley and bolts (exclusive of framework, masonry, and setting), is about R250 per "gratte."

(3) This gratte has been in general use in Mauritius for the last six years.

(4) The machine is worked by steam or by water power.

(5) The registered horse-power to drive one gratte is 3 h.p.

(6) One gratte is served by two men who stand on each side of the gratte, and who work alternately. One of them must be left-handed. One carrier will bring in sufficient leaves from the yard to the gratte, and another man will suffice to remove the wet fibre produced by two grattes and to carry this fibre to the weighing machines and thence to the clearing pits.

(7) The output of wet fibre for each machine per hour is on an average, 42½ kilog., that is taking eight hours' work per day, which is as much as the men can do, the work being very fatiguing.

(8) The output per day of eight hours is per machine (gratte) 340 kil. wet supplying on an average 97 kil. of dry fibre (or 28½ per cent of the wet fibre).

(9) The average cost in labour, fuel, &c., in clearing a ton of dry fibre, packing and transporting to the place of shipment is R150.

If to the above we add other charges, viz., collecting leaves, carting, mill management, interest on capital, &c., say about R75.

The total average cost of one ton of fibre ready for shipment is R225.

A. VANDERMEERSCH,

Acting Surveyor-General, Mauritius

Feb. 17th, 1890.

### THE KOLA NUT.

[We commend the following extract from "Naval and Military Notes," in the Journal of the United Service Institution for August 15th, to the attention of our planting readers.—Ed. T.A.]

The "Revue du Service de l'Intendance" for June, 1894, contain an interesting note, by Dr. Gustave le Bon, on the properties of the kola nut, well worth the study of soldiers and travellers. The nut grows along a belt of Central Africa extending from the west coast up to the head waters of the Nile, and its extraordinary qualities in conferring endurance and practical immunity from thirst have been long known to the natives of those parts, but have only recently become known to Europeans.

Interesting details as to the degrees of resistance to hardship and power of prolonged labour developed by its use will be found in the report of the British Consul at Bahja for 1890, from which Dr. le Bon

quotes the following instance: "A sack of sugar weighing 200 lb. rejected as too heavy by the young Brazilian porters, was picked up with ease by an aged African accustomed to the use of the nut, and carried by him for 12 miles in the day." Further very remarkable information is also to be obtained in the monograph of Professor Heckel, of the School of Medicine at Marseilles, on the African kolas, a work of 400 pages, published in Paris, 1893. Experiments made in Europe hitherto have given divergent, and frequently unsatisfactory results, owing mainly to the fact that the only nuts available commercially for the purpose reach us in a dried condition, and the natives, trading on the ignorance of the buyers, adulterate their consignments with so-called "false" kola nuts, which possess no special properties whatever. Another cause of difficulty arises from the ignorance of European chemical experts as to the real nature of the chemical basis of the nut. Broadly speaking caffeine and theobromine are its essential characteristics, and the restorative qualities of caffeine being well known, it has been assumed that this is the active principle of the stuff. Dr. le Bon shows that this is not the case. According to his experiments, neither caffeine nor theobromine alone gives the required results, a mixture of the two, in the proportion by weight of five of the former to one of the latter, are required for the purpose, and these give results at least equal to those of the fresh nut.

M. Heckel started a Company to manufacture kola biscuits of sugar and flour, but the Company has since gone into liquidation, and Dr. le Bon states that he is not surprised, as these biscuits had "an gout detestable." It appears that these are the biscuits used by Messrs. Conway and MacCormic in the Kharakorum, and also recommended in the "Travellers' Guide," published under the auspices of the Geographical Society.

Dr. le Bon's advice is to import fresh nuts, properly selected, direct from the West Coast, and suggests that no difficulty exists to this proceeding; he has done so himself, and obtained his nuts at a cost of 3 francs per kilo, using, as sole precaution, a packing of moist leaves. Our own experiments have been made with the ordinary dried nut of commerce, or with the various alcoholic extracts of the nut to be obtained from any chemist. Like Dr. le Bon, we have found considerable irregularity in the results, but in the great majority of cases the nut has thoroughly satisfied our anticipations, having enabled us to accomplish marches over mountainous ground, and without food or water, which were absolutely beyond our unaided physical capacity. As it was suggested by friends in the A.M.S. that these results were merely due to the aid of imagination, prolonged experiments were carried out on horses and ponies, and these animals responded to the stimulus more markedly than human beings. As matters now stand, we should prefer the fresh nut if available, but in its absence would much rather rely on the ordinary nuts and preparations to be obtained at the Army and Navy Stores, than on any other concentrated food preparations with which we are acquainted, and we have tried most of them. Arrangements are now being made for a consignment of these nuts, fresh, and selected by experts on the spot, and we shall be glad to afford every aid in our power to officers interested in the matter.

### NYASALAND (B. C. AFRICA).

The London Times of Sept. 15th has a long account of the country now being visited by Mr. J. H. Carson and also later probably by Mr. E. Woodhouse, from which we quote as follows:—

The whole of British Central Africa, with the exception of the land immediately adjoining Lake Nyasa, the Shire River, and Lake Shirwa, consists of highlands, or mountainous masses, intersected by rivers and watercourses, and studded with villages. The highlands are practically undulating plateaus, broken by mounds, hills, and lofty peaks. Most of this hilly