

REJUVENATION OF A COFFEE PLANTATION IN THE BELGIAN CONGO.*

By R. DUPRET.

The rejuvenation of coffee plantations is an important matter at the present time in the Belgian Congo. Two main factors are involved:—

- (1) The necessity of keeping the existing areas planted with coffee, in view of the restriction placed on plantations of coffee in the Congo.
- (2) The necessity of directing attention to intensive culture, to reduce the net cost and the labour required in comparison with the quantity of coffee.

In all projects for the Congo one ought to consider labour requirements not only by the hectare but in terms of the yield of coffee. Thus one might say: 1 hectare of coffee requires one and a half men for extensive culture and two for intensive. Too much stress is laid on the number of hectares and not enough on the number of kilograms yielded. The example of the East Indies in this connexion should serve as a guide.

As a lead towards intensive culture we shall describe here two methods of rejuvenation that tend towards this goal—

- (1) Periodical rejuvenation,
- (2) Perpetual rejuvenation.

Periodical Rejuvenation.—Consists in postponing the rejuvenation of a block of coffee until it shows the first signs of exhaustion. If, after a certain number of years, say ten, it is noticed that certain plantations are not producing enough, holes 2 feet square and 2 feet deep are dug in quincunx pattern between the coffee trees, immediately after the bad harvest. These holes will then be filled one after the other with prunings and weeds. If possible, compost made from pulp, cotton seed, &c., will be added.

The coffee trees, profiting by this aeration and fertilization, will give two or three good harvests. At the beginning of the year following the preparation of the holes they will already be filled with material that will have formed humus. Let us suppose that the holes are dug in 1940, at the beginning of the rainy season. In 1941, the holes will be filled with humus and young coffee trees planted in them. Thereafter, for two years, the old coffee trees are still kept; the young trees are topped and their primaries nipped off if they develop too strongly.

In the third year, i.e., in 1943, after the picking, the old coffee trees are removed and the plantation is entirely composed of new young trees, three years old, selected for big bean, without a stoppage having occurred in production.

Instead of removing the old coffee trees completely one can stump them and thus arrive at the method that we do not recommend so strongly, namely—

Perpetual Rejuvenation.—The old coffee trees, which we will call A, are stumped; the young ones, B, will be three years old and in production. After six years B are stumped; A, stumped three years before, are producing; after nine years, A are stumped, and so on.

* *Agriculture et Elevage au Congo Belge*, 12, p. 130, 1938. Translation by R. E. Moreau, Amani.

This method can be applied on especially good soils. Also, the two methods can be combined; that is to say, one can stump once and replace once; remove old trees, manure the ground, and replant.

The extensive part of the "periodical rejuvenation" lies in the establishment of nurseries of first quality; the making of the holes is largely paid for by the increased production of the old coffee trees, which are the first to profit by it; the filling of holes takes place automatically, actually facilitating maintenance work.

Thus, at the cost of a nursery, one has a completely rejuvenated and improved plantation, and there will have been no stoppage of production.

CHEMICAL NOTES.

In Volume 6, Number 3, of the *New Guinea Argicultural Gazette*, a recipe was given for making soap, which included 6 lb. of clean dripping. Since the publication of this recipe inquiries have been received asking whether coco-nut oil could be substituted for dripping. Coco-nut oil could be substituted for dripping but the results would not be very satisfactory. If coco-nut oil is to be used, a more satisfactory formula would be the following:—

| | | | | | |
|-------------------------|----|----|----|----|---------|
| Coco-nut oil | .. | .. | .. | .. | 282 lb. |
| Caustic Soda (30°Bé.) | .. | .. | .. | .. | 282 lb. |
| Caustic Potash (30°Bé.) | .. | .. | .. | .. | 85 lb. |
| Sodium Silicate | .. | .. | .. | .. | 281 lb. |
| Water | .. | .. | .. | .. | 70 lb. |

Coco-nut oil is used to a very large extent in the manufacture of soaps, but almost always in quite small proportions, as a soap made entirely or predominantly from coco-nut oil is unsatisfactory for most purposes. The glycerides of coco-nut oil are of a rather unusual nature, and yield a soap which, although it possesses very good detergent properties, dissolves too rapidly in water. The maximum proportion of coco-nut oil usually regarded as permissible for a toilet soap is from 10 to 15 per cent. Laundry soaps, and especially rapidly soluble soap-flakes, may contain up to 25 per cent. of coco-nut oil.

Soaps containing exclusively coco-nut oil are chiefly the so-called "marine" or "salt-water" soaps, and will lather in sea water, since coco-nut oil soaps are not salted out by moderate concentrations of salt.

1 ton coco-nut oil equals 8,125 fresh nuts (approximately).

1 ton copra equals 5,000 fresh nuts (approximately).

1 ton coco-nuts equals 1,400 fresh nuts (approximately).

(From "An Outline of Malayan Agriculture".)