IDENTIFYING HEVEA CLONES *

REMARKABLE NEW METHOD DESCRIBED BY DR. BOBILIOFF

IN a preliminary communication to *De Bergcultures* (of 27 December 1930) Dr. Bobilioff describes what appears to be an entirely new and very important and remarkable chemical method of distinguishing between Hevea clones.

At present, he points out, a Hevea clone is identified by a subjective examination of the external morphological characters. This method has the advantage that in many instances a great number of buddings can be identified in a short time. It is, however, confined—at the moment—to normally grown buddings in a certain stage of development, and it demands as well as certain aptitude for this sort of work.

In the new "Chemical Method of Identification", on the other hand, the clones are distinguished by a definite chemical reaction of the latex. So far this method has been carried out only in experiments, and Dr. Bobilioff refrains at present from discussing how far it may have practical value.

His discovery is that the latex from each clone gives a definite chemical reaction and that this reaction is fairly constant in all individuals of a clone. One advantage of this chemical method of identification is that the identification is independent of the age of the plants, that is to say the latex from individuals of the same clone but of different ages will give the same reaction. Therefore it is possible to identify with clearness older test gardens.

In applying the method a few drops of latex are taken from young or half grown leaves by cutting through the leafstalk where it is attached to the branch. The drops that appear on the cut surface of the stalk are collected on a porcelain plate, preferably one with depressions. In each depression the latex from one tree of the clone that is being examined is collected. Three to five leafstalks will give sufficient latex for the reaction. To this small quantity of latex is added a reagent concerning which no particulars are given except that it is (1) a new discovery, (2) a colourless solution, and (3) the mixture of latex and reagent is white. In a short time, from half a minute to a few minutes, the latex begins to colour, and this colour increases in intensity.

The time of colouring, the nuances of colour, the intensity of the colour are different in different clones, so that it is possible to distinguish clones from each other.

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As an example Dr. Bobilioff takes three clones, namely BD 2, AV 256, and Tjir 1. After adding the reagent, the reaction occurs in about the same time for these clones. After one to two minutes the latex of these clones had assumed a rose colour, which in BD 2, and AV 256 is the same, but a careful examination indicates that in Tjir 1 a weak blue nuance appears to be present. It is in the second stage of the reaction that clear differences between these clones appear. The colour of Tjir 1 is pronouncedly blue, that of AV 256 is red and that of BD 2 is purple. These differences can be seen clearly in the third stage, that is from six to ten minutes. In these three clones the colour of the reaction can be used as a distinguishing character, while the intensity of the reaction and its time differ little.

There are, however, clones that can be distinguished merely by the intensity of the reaction, where, for example, the reaction is very weak and appears only after a long time. In the latex of AV 209 it is only after 45 minutes that a weak coloration begins to be apparent.

The method has been applied to a great number of clones in the experiment garden of the experiment station at Buitenzorg (Java) and also on several estates in West Java, where corresponding results were obtained.