THE REMOVAL OF COFFEE MUCILAGE BY MEANS OF CAUSTIC SODA.

SEVERAL alkaline compounds are known to remove the mucilage from pulped coffee beans. During the last year the Department of Agriculture, Stock and Fisheries has conducted experiments, first on a small scale in the laboratory and later with bulk lots of pulped coffee in the field, to determine whether it is practicable to use caustic soda (sodium hydroxide) to remove mucilage chemically as an alternative to the normal process of fermentation.

In these experiments it was found that the concentration of the caustic soda solution was less important than the total quantity of the chemical used. One pound of caustic soda was sufficient to remove the mucilage from 200 lb. of freshly pulped beans in about fifteen minutes, provided the mixture was suitably agitated. A greater quantity of caustic soda did not accelerate the process and it was obvious that the excess alkali was not used. Smaller quantities of the chemical did not remove the mucilage completely and at the same time inhibited natural micro-biological fermentation.

For practical use of this technique by the planter, the pulped cherry should be just covered with a solution containing 1 lb. of caustic soda for each 200 lb. of pulped coffee (equal to approximately 400 lb. of cherry) and the mass agitated for fifteen minutes with wooden paddles. By this time all the mucilage should have been loosened. The end point can be etermined in the usual way by rubbing the beans between the fingers. They should, of course, feel sandy rather than slimy. Thorough washing must follow.

A point which arises is the possible effect of the use of caustic soda on quality. In laboratory experiments the beans were hand pulped and each sample was then divided into two portions. Before processing, one portion had 10 per cent. of the beans nicked right through the parchment into the cotyledons to simulate pulper damage. The duplicates were processed with caustic soda without further treatment, and samples from the same batch of cherry were fermented by normal methods. Trade testers were unable to find any difference between the samples produced by any of these methods. These results have been fully confirmed with larger samples pulped in the ordinary way with a normal incidence of pulper damage. It thus seems that there is no adverse effect on quality when this technique is used.

The main value of caustic soda demucilaging might be to assist the handling of a flush crop when the amount of cherry coming in is too great for the normal capacity of the fermenting vats. Provided adequate water is available for washing coffee after demucilaging, there seems to be no reason why the technique should not be used in plantation practice. Over a long period the caustic soda might have a slight deleterious action on the concrete vats normally used for fermentation, but, provided the right strength is used, the effect should be very slight.