

Discussion.

He did not think he need enlarge on the subject of recruited labour after what Dr. Park Ross had said. The recruiter after all was the servant of the planters.

There was one important point which had been raised, as to whether the Inspector of Natives, when he came on to properties, could not take up some of the smaller questions and deal with them. These were probably desertions, disobedience, and things of that nature. Those questions had been put to the Government and were covered in the case of the coal areas. The inspectors were able to take them up and if the Sugar Industry had a similar set of regulations and the Government were prepared to pass them, provision would be made in those regulations for such cases.

Mr. Fynn referred to Mr. Townsend's remarks in connection with Native complaints; that the Inspectors accepted all the Natives said. He had had individual cases where the Natives complaints were proved to be perfectly true, but he was glad to say

this was not a general thing. There were many cases where he had found the complaints were not genuine.

The Chairman said he would like first to thank Dr. Park-Ross on behalf of the members for his valued and amusing paper, but he would not let the adjectives stop there; he would go on and say instructive and of all-absorbing interest to them all. He also wished to thank Mr. Wheelwright for opening the discussion and for assisting them to realise more fully perhaps than in the past the necessity for the better treatment in many respects of their Natives. He asked Mr. Wheelwright if he would let the General Secretary have a number of copies of the regulations that applied on the coal mines, so that they could have them considered by the Executive Council and probably arrange a conference at an early date when this matter could be discussed with the Native Affairs Department.

He also thanked Mr. Fynn for his presence and assistance.

THE INTRODUCTION OF NEW CANE VARIETIES.

(Paper by H. H. STOREY, B.A., Government Mycologist, Durban.)

An explanation of my views on cane importation is I think called for from me, by reason of my request to the Sugar Association to provide a quarantine greenhouse at somewhat heavy expense. I therefore propose very shortly to state my position. I wish however in the beginning to remind you that the Entomological Division of the Department of Agriculture is responsible for the control of plant importations. The reason why I am speaking to you upon this subject is that the dangers which are most to be feared lie in disease of the type which come under my investigation; that the precautions which I propose would afford protection against insect-pests in any case; and that the general scheme has been approved by the Division of Entomology.

An energetic policy of importation of new varieties is a natural corollary to the adoption of mosaic disease control measures. The need for new varieties is somewhat hidden by the ascendancy of Uba. But the need for a second string, for use in case of a failure of Uba, is admitted by all; that Uba may come to be replaced by a more easily milling cane is a view of many adherents. Already we have had indications of such possibilities; the success in certain lands here of the Argentine canes, although

mosaic-diseased; and the striking results obtained with the new Coimbatore seedlings in Northern India.

It would, I contend, be folly to neglect recent developments in other countries, and there is a strong case for importation, provided it can be carried out without undue risk to the established industry. This risk is however very considerable. The world-wide distribution of many serious diseases is due in the main to inadequately controlled importation. Devastating epidemics have been caused by it. Indeed North, Pathologist to the Colonial Sugar Refineries of Australia, recommends absolute prohibition. He is able however to suggest an alternative in the case of his own country in the raising of seedling canes, which probably is not a possible development here.

One has therefore to steer a medium course between those who would introduce nothing for fear of ruining Uba, and those who are irritated by the irksome restriction upon their attempts to improve on present conditions. While importation involves always a risk, yet that risk can be reduced to a minimum by taking adequate precautions. But with so much at stake there is justification for the **most elaborate precautions**, and I have no sympathy with the man who would import on a wholesale scale.

Now Cane Varieties.

The principles which should guide a policy of importation are as follows:—

1.—The setts should be supplied by a scientific institution, and should be certified by that institution as apparently disease-free. The better the standing of that institution the greater the safeguard. Thus arises the apparent paradox that it is frequently safer to import from a country where many diseases are known, than from one which recognises few. For generally the larger the number of described diseases the more efficient is the pathological service, and the less likely is it to send diseased cuttings through failure to recognise the disease.

2.—Import a very small number of setts only, say, half a dozen at most.

3.—Subject these setts to exhaustive inspection, fumigation and disinfection on arrival. This process will serve to eliminate many insect pests and certain fungal disease, but will be without influence upon many important diseases.

4.—Grow these setts for an adequate period in a position where it will be impossible for any disease or insect-pest which they may be carrying to pass from them to any other cane.

5.—Grow the plants under the observation of a trained Entomologist and Mycologist. The greatest risk arises from undescribed diseases and diseases not readily recognised as such. An example of this occurred, as I believe, in the 1914 importation of Argentine canes. In spite of frequent inspection of the young cane, the presence of mosaic disease, a disease practically unrecognised at that time, was not detected. The greatest hope of avoiding an error of this kind is scientific workers to watch the growth of the canes from day to day. Monthly inspections are insufficient. I regard this as the most important of the five conditions.

I have advanced the view that the best way to meet these requirements is to have an insect-proof greenhouse at the Natal Herbarium. I admit that (as has been suggested) imported canes might be grown without risk in the open in some locality distant from the cane belt e.g. Capetown. But if that plan were adopted, the important requirement of scientific supervision would be lost. The wire-gauze of a properly constructed greenhouse would provide an adequate barrier against the escape of insects (either newly imported or carriers of disease), while the advantage of having the canes actually grown at the office of the Entomologist and myself cannot be over estimated. The canes would be grown in this house for about two years before issue to the Experiment Station for trial and rapid propagation.

In the meantime it has been agreed between the Association and the Department of Agriculture that no importation of new varieties shall take place until the greenhouse has been established. It is important that this information be widely disseminated, so that no one introducing cane in ignorance of this decision may be put to expense to no purpose. Finally I must utter the most urgent warning

against what I may call for politeness unofficial importations. I refer to this subject because I have encountered certainly one case where an introduction of cane has occurred within the last few years without there being any record of it upon the files of either the Department or the Sugar Association. Any individual who smuggles cane setts into the country jeopardises the whole future of the industry.

DISCUSSION ON THE PAPER.

Mr. Townsend asked whether, if all the canes that are infected with mosaic were eradicated and a period of years elapsed before re-introducing those canes, they would still be affected.

Mr. Storey replied that if all the diseased canes were now completely eradicated the infective principle would disappear from the country. If those same varieties of cane were introduced and grown in a quarantine greenhouse and then issued they would not be mosaic diseased, and he hoped they would remain free, and there was every prospect that they would remain free, but they would be liable to contact the disease if they came in contact with diseased canes.

Mr. Mahon said he had a suggestion to make. In his travels he had found soft green canes in Eshowe, Maritzburg, Sea View, and other similar places. If the necessary authority was given for the eradication of all these canes, he suggested it might be put through the Police so that all these small places could be brought to light.

Mr. Storey replied that that was a point which he had considered very carefully. In his paper the previous day he had remarked that they had already located 490 Indian owners of cane. Most of those 490 Indians owned a stool or two in their back yards. His Department had located these and they would continue to locate them. He had been promised the services of two Field Inspectors. He already had one at work on this problem. Of course they would co-operate with the Police but so far the small experience he had had of the Police was that if the Inspectors were to say here is a man with cane the Police would assist in making him get rid of it, but he did not think they were very good at finding the cane and he would have to do that through his Department. In that way he relied upon the very careful inspections of the country that would be carried out, and upon each individual planter who knew of any cane to inform him of it.

Capt. Greig pointed out another little danger. He thought that probably on many farms there were stools of this cane that they knew nothing about at all. Mr. Townsend, said Capt. Greig, murmurs he has not. Well he thought he had not, but recently he had occasion to go down to a back portion of his farm and he had found four stools of cane that had evidently been planted by some Indians near the side of the river. It was soft Cheribon and looked very well. He had it dug out. He had no idea that