A GENERAL SURVEY OF THE POSITION IN REGARD TO TEA REHABILITATION AND REPLANTING

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One of the functions which I have been assigned at this symposium is to survey the present position regarding the replanting of tea with vegetatively-propagated clonal material under a scheme which is shortly to be brought into force by Government for the rehabilitation of the tea industry. To do so effectively, I should outline briefly the stages of this new development over the past 20 years.

Historical

Following on the pioneering work of Dr. F. R. Tubbs, former Plant Physiologist of the Tea Research Institute on the vegetative propagation of tea which he first described at the Tea Research Institute Conference of 1939, steady progress was made with the study of the subject despite set-backs caused by the lack of staff during the War years and the concentration of work on the control of blister blight subsequently. It was, therefore, only at the 11th biennial Conference in 1955 that Mr. G. B. Portsmouth, who succeeded Dr. Tubbs, advocated that vegetatively propagated clonal material should be used for the new planting of tea and the replanting of worn out and uneconomic areas of the crop. Studies on promising clones selected earlier had indicated that yields of the order of 2000 lb. per acre per annum could be expected from them provided suitable agronomic measures were adopted.

At this Conference representatives of the industry made a request that Government, as in the case of the rubber industry, should encourage the replanting of tea by earmarking a proportion of the export duty on tea for this purpose.

Shortly afterwards, at the request of the Government, the Planters' Association in consultation with the Low-country Products Association made certain proposals for the introduction of a Tea Replanting Subsidy Scheme on the lines of the existing Rubber Replanting Subsidy Scheme. Based on these suggestions, the Ministry of Agriculture prepared a comprehensive 5-year programme for the rehabilitation of the tea industry and obtained the approval of Government for the scheme. The necessary legislation has been enacted, and replanting under the scheme will commence early next year. It is with a view to considering the technical as well as administrative aspects of the scheme that this symposium has been organised and all tea interests concerned invited to make their contribution to the discussions.

It has been urged by some that the symposium is somewhat premature, but it will be agreed that by pooling our knowledge, experience and ideas on this subject, we will be better able to make a success of the scheme than if we were to launch out on it haphazardly and based on our individual limited experiences. There are

many questions and problems of a technical and administrative nature which remain to be clarified, and this symposium will give the planting community as well as proprietary and agency interests an opportunity to ask questions thereon and obtain replies thereto.

Vegetative Propagation

To deal now with the technical aspects of the scheme. In order to ensure success it is necessary that both aspects involved, namely, the rehabilitation of uneconomic tea land and its replanting with vegetatively propagated material will have to receive attention. As regards the techniques of the vegetative propagation of tea, much additional information has been obtained by the Institute during the past two years and this is incorporated in the leaflet by Dr. Visser and Mr. F. H. Kehl which has already been issued to participants of the symposium. If the instructions specified in this publication are carefully followed, successful results with the vegetative propagation of cuttings in the nursery and on their transfer to the field may reasonably be expected.

There are, of course, a number of other issues relating to this aspect of the scheme which have to be considered. In the first instance it may be asked whether we have an adequate number of clones of high-yielding, good-quality material at present and whether planting material of such clones will be available in sufficient quantities. Dr. Visser will deal with these questions in his paper, but it would appear that there are at least 35 clones of average or above average quality which are available for our purpose. This number would steadily increase as the scheme advances. In regard to the adequacy of clonal material, Appendix I* circulated among invitees will indicate that there is available on a number of estates a fair quantity of planting material, in excess of their needs, for sale to others participating in the Scheme. In addition, a substantial amount will be forthcoming from our own clonal areas at St. Coombs. Some notes on the performance of these clones are furnished in Appendix II*

Owing to the wide range of elevation and climatic conditions under which our tea is grown, planting material which is suitable for the up-country tea districts may not necessarily be suited for low-country areas or even for Uva. For this reason the Institute has already established two V.P. proving units in the Uva and Kalutara districts, and proposes to establish three other such units in the Ratnapura, Galle and Kandy districts respectively. These units will primarily be clonal proving stations, but would also be centres at which trials on the manuring, spacing, etc. of clonal varieties will be carried out, and from which planting material will be issued to estates in the areas concerned. Meanwhile, the Institute will readily collaborate with any private estate undertaking work of this nature, as at Enselwatte estate, Deniyaya, so that we may obtain as quickly as possible at least the essential information in regard to suitable clones for the area.

The question of the *quality* of clonal teas grown in different districts has not, so far, received adequate attention mainly because of the need for testing out such teas systematically for at least a year before a correct assessment of their quality characteristics could be made, and of the difficulties involved therein. But with the establishment of our district V.P. proving stations, which would be sited close to factories, and the installation in the latter of suitable small-scale manufacturing units designed for the testing of clonal material, this aspect of the work can be expected to make steady headway.

Another important matter which needs to be considered is that of advisory assistance to estates on nursery selection and management, and in regard to the

*See pages 237 – 241.

incidence of eelworms in fields to be replanted. This would involve the analytical examination of soil samples for pH (reaction), texture and eelworm content, and occasional visits to the site. It would necessitate, therefore, the appointment of additional staff to be trained to provide the necessary services.

Finally, there is the question of the collaboration of the tea tasters with the Institute in assessing the characteristics of the very large numbers of samples of clonal teas. While acknowledging our indebtedness to them for their close co-operation with the Institute in the past, we hesitate to take undue advantage of their services in the future. The obvious alternative would be the appointment, as at the Research Institute at Tocklai, North India, of an official tea taster to the Institute. It is to be hoped that a small fraction of the funds from the cess to be imposed for the replanting scheme would be diverted towards the efficient organisation of these V.P. stations, the installation of small-scale manufacturing units in the neighbouring factories, and the appointment of the advisory staff for the purposes in view. This proposal will no doubt commend itself to the Tea Controller.

Before passing on to the question of replanting proper, reference should be made to a subject which has not hitherto received much attention, namely, the effect of very heavy dressings of fertilizer which these potentially high-yielding clones would need, if yields are to be maintained at a high level, on the quality of the leaf. This problem will receive the attention of the Institute at an early date. At our symposium today we are privileged to have the benefit of the views of our well-known authority on these matters, Mr. T. Kane.

Rehabilitation and Replanting

And now to the consideration of questions on replanting proper. The principles of the rehabilitation of old and uneconomic tea lands will be dealt with by Mr. Tolhurst, and our experiences with the rehabilitation and replanting of such land will be outlined by Mr. Pethiyagoda, Superintendent of St. Coombs. The latter are somewhat contrasting: in one area of tea in a fairly protected location the results have been most encouraging; in the other, which is badly exposed to wind, the results were disappointing until a couple of years ago. This area is now coming on quite well.

A number of estates have kindly sent replies to our questionnaire on their experiences with V.P. These replies reveal that a good proportion of the 450 acres which are reported to be planted with clonal tea is on land which was previously under rubber, jungle, or mana, and that the results are very satisfactory so far.

Only about a quarter of the total acreage (approximately 100 acres) of our vegetatively propagated tea has been planted in sizable blocks of land previously under the crop, and the great majority of these areas are young. Most of the V.P. plants produced, which must have been adequate for hundreds of acres of tea have, hitherto, been used for filling vacancies. Consequently, yield data for clonal performance in old tea lands are meagre, but what little we have is very encouraging.

While there is good evidence to indicate that vegetatively propagated clonal material yields appreciably more than seedling tea under similar conditions of climate, soil, aspect and elevation on old rubber and new land, it must be conceded that there is but little evidence of how the two types of material would compare when planted on old tea land subjected to rehabilitation. On fundamental grounds, however, there should be little doubt that the superiority of vegetatively propagated material would be established even under these conditions, provided adequate attention is given to manuring and soil fertility maintenance.

The rehabilitation and replanting of tea land infested with meadow eelworm will need special consideration, and only further experiment will indicate what measures should best be adopted to keep the pest in check in such areas. Some new ideas on this subject will, however, be presented by Dr. Visser.

There are matters relating to the replanting of old tea land with clonal tea on which there is a diversity of opinion and practice. Some of these, like the need for and the period of rehabilitation with Guatemala grass for soil regeneration and disease control, will be discussed by Messrs. Tolhurst, Pethiyagoda and Visser. Others, such as the optimum planting distances, methods of planting, etc. are referred to in Appendix III* which is a summary of the replies received to our questionnaire to Superintendents of estates on replanting methods. To all those who have kindly replied to our two questionnaires on vegetative propagation and replanting I tender the thanks of the Institute for having collaborated with us in giving to the tea planting industry as a whole, the benefit of their experiences.

The Economic and Administrative Aspects of Replanting

And now to the other equally important aspect of our deliberations to-day, namely the economic and administrative problems connected with the replanting scheme. The former will be dealt with by Mr. G. K. Newton who, with his wide experience of tea planting over many years, is best fitted to analyse the economics of the Scheme. The administrative details will be discussed by the Tea Controller, Mr. B. Mahadeva. There is no doubt that many questions will be posed on such matters as the interchangeability of tea with rubber and other crops under the scheme, the use to which land unsuitable for replanting with tea should be put, etc. These will receive consideration at the later stages of our discussions, but I would urge that lands unsuitable for replanting with tea should be put under fuel or Guatemala grass and not be allowed to lie fallow and denuded of the little soil they possess.

Pertinent to the discussion on the details of the replanting scheme will be the question of the use of clonal seed, if such were available in the Island, in regard to which Mr. F. H. Kehl, from his recent experiences overseas, will have something useful to say. It would, in this connexion, be of interest to the tea industry to learn that proposals are in hand for appointing a Plant Breeder to the Institute to initiate the work on tea seed breeding and related problems.

Conclusion

Gentlemen, before concluding I must thank the representatives of District Associations for having kindly consented to give brief reports of the position in regard to vegetative propagation and replanting in their respective areas. I have no doubt that the information they furnish will be of great value to the tea planting industry which is about to embark on one of the most important measures it has been called upon to undertake for many years. I will end on a note of optimism. In anticipation of this Symposium I had written to Dr. Tubbs advising him that a scheme for the replanting of old and uneconomic tea with V.P. material was to be started shortly. I quote his reply: "I might say what pleasure it gave me to read your very kind sentence in the 4th paragraph of your letter dated 11th October. Good luck to you all in the work, because I am certain that given good fortune the replanting with the clones you now have available could work an improvement far beyond even our present dreams." Gentlemen, I need say no more for the present.

*See pages 247–250.