

EDITORIAL.

GREVILLEAS.

Attention has previously been called to a leaf disease of Grevilleas believed to be caused by a species of *Phyllosticta*. This disease was originally confined almost entirely to elevations below 2,000 feet and it was hoped that attacks would not spread to estates up-country. More recently reports have been received indicating that this optimism may be ill-founded. Casualties however occur amongst Grevilleas up-country from other causes than *Phyllosticta*, and as the Institute is most anxious to obtain accurate information in regard to the incidence of the disease, it is particularly requested that any estate on which the disease is believed to occur will send in specimens of leaves for examination. Such specimens should preferably consist of freshly fallen leaves obtained by shaking the tree. Examination of such material will enable the Institute to decide whether the disease is really occurring up-country to any marked extent or whether casualties are due to some other cause.

It had been suggested that as an alternative to the Grevillea at lower elevations, the Bead Tree (*Adenanthera pavorina*, Sin. *Mad-eta*) might be employed for shade. The latter tree has been grown in Ceylon for many years and it is believed to be relatively free from liability to disease. We have received one or two reports, however, which suggest that this tree may not be generally suitable. Thus one report states that the wood is hard and does not lop well and that the foliage is normally too dense for high shade. It is also stated that at seeding time and during the dry weather the branches are bare of leaves and that new growth takes a long time to come on. If these comments represent the general behaviour of the tree, it will probably not prove suitable as a substitute for Grevillea and we should be glad to receive further information from others who may have experience of the tree.

CROTALARIAS.

The liability of Tephrosia to eelworm attack has led to a considerable increase in the use of alternative green manure plants, Crotalarias being perhaps the most common substitute. The latter, however, particularly in wetter areas, seem somewhat liable to attack by leaf diseases such for example as that caused by *Ceratophorum setosum* already described in Bulletin No. 13, Annual Report for 1935, pages 31-33. Certain capsid bugs may also cause considerable damage.

The Institute will be glad to obtain further information in regard to the results obtained with *Crotalaria*s in different districts with particular reference to the incidence of diseases and pests, yields of loppings, etc.

MANUAL OF WEEDS.

In the search for ground covers suitable for different areas, a considerable amount of information is gradually accumulating in regard to the suitability or otherwise of many locally occurring weeds. In order that such information may be more readily available and the identification of many of these species facilitated, the Department of Agriculture, with the co-operation of the three Research Institutes, has in course of preparation an illustrated guide to common weeds of economic importance. The manual will consist of a series of coloured plates of the more important weeds with a short non-technical description of the habits of each and notes on their usefulness or otherwise on estates.

The manual when issued will contain 50 such plates and descriptions bound in a loose-leaf binder. A further 50 plates will appear subsequently and be supplied to subscribers. It is hoped that the cost of the publication will not exceed Rs. 3-50.

A sample plate will be issued at an early date to indicate the general scope of the publication.

HELOPELTIS.

Though *Helopeltis* is not a serious pest of tea in Ceylon and is confined to a relatively small area, it constantly recurs in these districts. It may, therefore, be of interest to refer to recent experiments carried out against this pest in South India. In the report for 1937-38 of the Entomologist of the U.P.A.S.I. Experimental Station, full details are given of extensive trials with various sprays and dusts. Amongst the former Fish-oil insecticidal soap, lime-sulphur, H-G. ionised insecticide and bar-soap solutions have all been employed. The general conclusion reached is that the degree of success obtained was not commensurate with the expense involved. The major problem is the mechanical difficulty of effectively reaching the under side of the leaves. In consequence many of the insects remain untouched and the beneficial effects of the spray are of little permanence.

The results obtained with dusts, which included "Helopelticide," Nico-sect and Pyrethrum, were rather more successful. Here again, however, the conclusion reached is that until further improvements in technique can be devised the process is still too expensive to be considered a practical proposition.

In Ceylon *Helopeltis* attacks are chiefly confined to low jâts and the only radical cure that seems likely to bring about any permanent improvement is the gradual replacement of these by other jâts.

THE GIANT SNAIL.

The Giant Snail, *Achatina fulica* Fer., is a well-known Ceylon pest which feeds voraciously on many types of crops. It is therefore of some economic importance. Recently successful results against this pest have been obtained by means of a bait composed of "Meta" and rice bran. "Meta" is the well-known solid fuel frequently used for heating small domestic appliances and is sold in the form of packets of 50 or 100 briquettes each about 2 inches by $\frac{1}{2}$ inch by $\frac{1}{4}$ inch. Chemically it consists of polymerised aldehyde.

The bait is made by mixing "Meta" and bran, the former being used in the proportion of $\frac{1}{2}$ oz. to each pound of bran. The mixture is made into a thick mash by the addition of a little water and either distributed broadcast or placed in small heaps of a desert-spoonful at frequent intervals. The bait has given very successful results in Malaya where trials have been carried out by F. Beeley of the Rubber Research Institute of Malaya. A full report of these is published in *The Journal of the Rubber Research Institute of Malaya*, Vol. 8, January, 1938.

The material is apparently not a virulent poison to man or the ordinary domestic animals but care should be taken to keep it out of the reach of children.

We understand that the cost of "Meta" in Ceylon is about Rs. 2 per pound. Full details can however be obtained from the local agents, Messrs. A. Baur & Co., Ltd.

FIELD EXPERIMENTS.

In the present number will be found a reprint of an article entitled "The Uses of Statistics in Field Experiments with Rubber" by the Director of the Rubber Research Institute of Malaya. Considering the title, some explanation might seem necessary for its inclusion in a Journal confined to Tea. In fact this is not the case and we believe that this paper will be read with much interest by tea planters. The layman often finds some difficulty in appreciating the general principles underlying the design of modern field experiments and the interpretation of the results obtained. Mr. Page's paper explains in very clear language why, in general, single plot experiments cannot be relied on to give information of

value, and illustrates with many straightforward examples the necessity for the more complex comparisons which the scientist now adopts. The fact that the actual examples quoted relate to rubber in no way diminishes the application of the paper to experiments with tea. It seems sometimes to be considered that a scientist chooses these more complex experimental methods out of sheer perversity! A reference to previous articles in the Institute's earlier publications (T. Eden, "The Aim of Field Experiments," *Tea Quarterly*, 1928, Vol. I, pages 36 and 60) and a study of Mr. Page's paper, will perhaps help to remove this illusion and persuade sceptics that the unfortunate scientist has in reality little or no choice in the matter.

TEA MACHINERY

At present brass, zinc and galvanised iron are widely employed in the construction of component parts of tea machinery. All these materials have certain disadvantages however, and it is likely that in the future they will be largely replaced by other metals or alloys. Progress has no doubt been delayed by the higher cost of most of the possible alternatives but we would invite the attention of engineering firms interested in tea machinery to the desirability of greater consideration being given to this question.

Aluminium is gradually finding a greater use for containers, fermentation trays and, as stamped mesh, for dry tea sifters. For components requiring greater strength stainless steel is suitable and would no doubt be widely adopted but for considerations of initial cost.

It is suggested that the nickel-copper alloys, of which Monel metal is an example, might be examined for their suitability in tea manufacture. These now find a wide use in food production plants in many countries. The Institute hopes shortly to have an opportunity for carrying out tests on some of these materials which from their strength and resisting powers to erosion would seem likely to meet the requirements of the tea industry.

TARING OF TEA CHESTS.

Shippers to the London market often wish to bring their tea chests to an even tare. It is suggested a convenient method of doing this would be the use of short lengths of strip iron nailed to the inside of the lid. Such strips, about 1 inch wide and $\frac{1}{8}$ inch thick, can be obtained, cut in standard lengths of definite weight, e.g., $\frac{1}{8}$, 1, 2, 4 ozs., etc., and punched ready for nailing. The cost is about Rs. 15 per cwt. Ordinary tin tacks are the best form of nails. These should be long enough to penetrate the lid and be bent over on the upper side.

To obviate risk of damage to the lining of the chest it may be desirable to protect the strips with paper. This point is receiving attention.

**PUBLICATIONS OF THE INDIAN TEA ASSOCIATION,
SCIENTIFIC DEPARTMENT, TOCKLAI.**

We are advised that the following publications issued by the Tocklai Experimental Station can be obtained on application to the Assistant Secretary, Indian Tea Association, Royal Exchange, Calcutta.

1. Memorandum No. 1, The Occurrence and Treatment of Bark-Eating Caterpillars and Borers. Price Re. 1.
2. Proceedings of the Second Annual Conference between representatives of the planting districts in North-East India and Members of the Staff of the Tocklai Experimental Station. Price 6 Annas.

ROLAND V. NORRIS.