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EDITORIAL NOTES.

Insect Pests.

THE use of methods of soil culture and agricultural hygiene in the control of insect pests is rather neglected in this Territory, whereas in old-established agricultural communities it is rightly considered an essential part of good farming. The shortage and high prices of imported foods have led to a rapid expansion in the cultivation of crops which produce food for native labour, such as taro, sweet potato and maize, and it is with quickly maturing crops such as these that clean methods of agriculture are so important. General neglect of such methods may be expected to increase the incidence of insect pests.

Among the most important cultural and hygienic measures are destruction of the remains of harvested crops and volunteer plants, cultivation of soil to destroy insect eggs, pupae, &c., use of clean seed, proper planting and cultivation of the crop, rotation of crops, planting at the best time of year, clean harvesting and use of seed-beds. All these practices are applicable, wholly or in part, to food crops in this Territory. The best way to illustrate their use is to use a few well-known insect pests as examples.

The larvae of the sweet potato weevil, *Cylas formicarius,* bore into the tubers and runners of the sweet potato, later pupating in the borings, and the adults feed on exposed tubers, leaves and runners. If this pest is prevalent in an area, clean farming methods are essential for its control. It is best to plant the crop as far as possible from the site of the previous sweet-potato crop, and only weevil-free tubers and cuttings should be used. If there is doubt about freedom of tubers from infestation, they can be fumigated with paradichlorbenzene before planting. As the weevil freely attacks exposed tubers, those of the growing crop should be kept well covered with soil, or deep rooting varieties can be grown. The potatoes should be harvested as they ripen, and any infested ones destroyed. When harvesting is completed, all runners and debris should be destroyed, so that all stages of the pest remaining in them may be killed. After the storehouse has been emptied of stored tubers, it should be thoroughly cleaned out, and all debris burnt.

Correct preparation of the soil by hoeing, and keeping down of weeds during the early stages of growth, are very desirable measures, because, by ensuring a more vigorous growth, they make the plants more resistant to damage by the weevil. Crop rotation is a system which works in two ways. By maintaining the fertility of the soil, it produces stronger plants, and by providing a break between one crop of sweet potatoes and the next, it greatly checks multiplication of insect pests.

The principles underlying the cultural and hygienic methods mentioned above are applicable, generally, more particularly to the management of non-permanent crops. A knowledge of the life history and habits of each pest will indicate just what steps must be taken for its control, but it will be found that the standard practices of clean farming are a sound basis for all such control measures.

It is realized that local exigencies sometimes interfere with the carrying out of activities dictated by scientific knowledge, but, on the other hand, it is evident that slipshod methods have been followed because they have been "good enough" to produce sufficient food for a labour line, even though there has been considerable loss due to insect attack. It must be realized, however, that under this system costs of production are unduly high, and that, as war conditions bring about more extensive and more frequent plantings of food crops, the trouble will be exaggerated.

Maize is a crop which, in every part of the Territory, is very badly damaged by attacks of the corn borer, *Pyrausta damoalis,* and the corn ear worm, *Heliothis obsoleta.* The usual experience when a crop is inspected is to find stems and cobs riddled by the larvae of these pests, and such attacks undoubtedly reduce the yield and produce many damaged ears. One has yet to see any serious attempt to control such infestations. Some planters operate on the system of continued plantings of maize, which provide a supply of fresh cobs throughout the year, and also ensure that insect pests will be able to reproduce continually, unchecked by any shortage of food. Volunteer plants, and isolated plants grown by plantation labourers, are also commonly seen in plantation food gardens, acting as a carry-over for pests during the period between the growing of the main crops. Such plants are usually extremely badly infested by insects, and should certainly not be allowed to exist. Volunteer tobacco plants are frequently seen where this crop is grown, and in this case the harm done is particularly severe and unnecessary, because usually only one crop of tobacco is grown each year, so that there is the opportunity to have a complete clean-up after each crop, with a lapse of several months before the next is planted. Volunteer plants bridge the gap, and greatly increase the chances of infestation of the new crop.

These remarks should indicate that there is considerable room for improvement in the culture of food crops, and that better methods would lead to more economical production. At a time like the present there is more than the normal need for efforts in this direction. The Entomological Branch of the Department of Agriculture may always be called on for any advice and help it is able to give.