

cricket injury. (2) The comparative effects of Aldrin and Pentachlorobenzene on mole crickets when used:

INTRODUCTION

Much of the effort of the modern agriculturist is directed towards the development of improved systems of production which can supply more adequately the increasing world demands for food and basic raw materials. One of the most important limiting factors in production is the many natural enemies which attack crops.

Soil inhabiting insects are destructive pests of crops and their control has engaged the attention of research workers for many years. Limited progress was achieved prior to the discovery of the insecticidal properties of certain chlorinated hydrocarbon substances in 1939. Numerous chemicals are now available and these have been shown to control successfully several soil inhabiting insects in temperate countries. Two of the more striking examples of such control are that of wireworms (*Agriotes* Spp) and two species of corn root worm (*Diabrotica* Spp).

The effective use of modern insecticides as demonstrated in temperate regions is of great interest to the tropical Agriculturist. Heavy losses due to insect damage occur annually in tropical environments where climatic conditions permit continual reproduction of many insect pests.

Among insects attacking maize in Trinidad the mole cricket (*Scapteriscus vicinus*) is one of the most destructive. Fennah (1947) describes the West Indian mole cricket as a minor pest which can be serious on light soils which facilitate its underground movement habit of life. The insect feeds on a wide range of seedling plants and on the underground parts of larger plants. Young plants are nipped off at ground level and dragged down into the soil, which provides a characteristic recognition feature of damage caused by this insect.

This experiment is a preliminary attempt to obtain information on: (1) The extent of damage caused to maize by mole

cricket injury, (2) The comparative effects of Aldrin and Benzenehexachloride (B.H.C.) in controlling mole crickets when used: REVIEW OF LITERATURE.

- (a) at different rates of application
- (b) with different methods of placement in relation to the seed.

It should be emphasised that in no case is chemical control a substitute for good cultural practice. Proper cultivation and selection of the most suitable crop variety, good manurial treatment and the hygienic disposal of crop residues after harvest are important factors in good farming practice. Failure to grow maize in a suitable crop rotation can result in greatly decreased yields, caused by the build up of insect pests or diseases. This is well exemplified by the corn root worm infestation in areas of the U.S.A. where maize is cultivated intensively.

When normal preventative methods of insect control are ineffective, (or impractical) it is necessary to resort to the use of mechanical or chemical methods of control. Mechanical methods used to combat soil insects include soil sterilization by means of heat and flooding. The former is only suitable for use in glasshouses and nurseries. Flooding of the land is possible on that land where an abundant supply of water is available. Partial control of sugar cane borer has been obtained in British Guiana by inundating cane fields for a period of time between harvest and planting of the succeeding crop. Chemical control of insects is applicable to most types of crop culture and with the use of modern machinery may be practised economically.

Gough (1945) lists the following essential requirements for a good soil insecticide:

- (1) The substance should be toxic to insects but non-toxic to soil micro-flora and crops.
- (2) The material should be easy to apply and non-toxic to humans.
- (3) The cost of the insecticide should be low in relation to