I N T R O D U C T I O N.

The Froghopper - Aeneolamia varia saccharina, Distant (Homoptera : Cercopidae), formerly known as Tomaspis saccharina, Distant, is by far the worst pest of sugar cane (Saccharum officinarum L.) in Trinidad. Damage is principally caused by the adult Froghoppers sucking the leaves of the plants, which then develop large necrotic areas, a condition known as "blight". This blight may be so severe that it reduces yields of plant cane but generally the effect of froghopper attacks is most marked on ratoon cane. The frequent replanting of cane is costly and since it has hitherto proved impossible to eliminate the pest, which has alternative host plants in the form of many grass species, profitable sugar crops can only be grown if control measures are regularly carried out. While permitting ratooning these control measures, which mainly comprise the direct application of insecticides, are still very expensive and not fully effective, the latter point being exemplified by the fact that Caroni Ltd., who produced 75,686 tons of sugar in 1958/59 or 41.1% of the crop in Trinidad, spent £250,000 on the control of froghopper during the same period. Pickles (1937), reckons that froghopper may be regarded as the second worst insect pest in the world, he states ... "the froghopper is responsible in certain years for the loss of a greater proportion of a single country's production of a particular commodity than any other insect, with the exception of the Cotton Boll Weevil, Anthonomus grandis." Consequently it is important that research aimed at finding cheaper and more effective control measures should continue.

The damage done by this pest at the college farms during the past few years has also been considerable and hence it was felt appropriate that further research work should be carried out on its control and incidence, in view of the fact

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that sugar cane has been and will in future be the main cash crop on the commercial New Farm.

These studies included in this report have been divided into three parts :

Part I. An up-to-date critical review of the literature on Aeneolamia varia saccharina, Dist. with particular reference to its chemical control.

Part II. An analysis and discussion of a number of field experiments carried out during the 1960 froghopper season. These included :

(a) A stool dusting insecticidal trial using the most effective and up-to-date insecticides. This experiment was replicated on a field scale.

(b) An assessment of the incidence of froghopper in pasture grasses close to sugar cane.

Part III. An analysis and discussion of a number of field experiments carried out during the 1961 froghopper season and including :

(a) A follow-on of the insecticidal trial of the previous year with particular attention being paid to size of sample and cultural operations before the application of the insecticides.

(b) Further studies on the assessment of froghopper in pasture grasses.

It should be noted that the insecticides used in these studies have already been used on an extensive scale on estates; however the college farms have not got a long history of intensive insecticidal control and therefore froghopper susceptibilities might be different.

Briefly, it might be said that the primary object of this work is to find better means of controlling the pest on the college farms, and results will naturally apply strictly to the

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conditions of these farms, but it is hoped that they will be found applicable to other parts of Trinidad.