

## INTRODUCTION.

The Sweet Potato Pyralid moth, Megastes grandalis Guen. is one of the major limiting factors to the economic production of sweet potatoes in Trinidad and Tobago. Megastes which is a native of South America was first described from Brazil by Guenee (1854). Urich was the first to record it as a pest in Trinidad in 1919. There is no other record of M. grandalis in any of the other West Indian islands. Another species Megastes pucialis Snell. has been recorded by Bondar (1922) in Brazil and by Cleare (1926) in British Guiana. This may be a synonym as a description of its attack is similar. Also specimens which were sent from Trinidad to the U.S. Dept. of Agriculture were determined by Dr. Carl Heinrich as M. pucialis Snell.

No satisfactory method of control has been devised, although a certain amount of work has been done on this subject in Trinidad. That a means of control should be discovered is of considerable importance if Trinidad and Tobago are to produce sufficient sweet potatoes for local consumption. Imports of sweet potatoes have been increasing considerably over the past few years and make up a considerable proportion of fruit and vegetable imports as shown in table 1. (Extracted from Reports for Trinidad & Tobago 1952-55).

TABLE 1.

Imports from other B.W.I. territories in short tons

Year	1951	1952	1953	1954
Sweet Potatoes	1,206	1,178	2,425	3,478
Other Vegetables and fruits	116	1,557	1,157	1,964
TOTAL	1,322	2,735	3,582	5,442

Cultivation of sweet potatoes in Trinidad and Tobago is limited to consumer producers who only utilize small garden

patches for production. Could sufficient control of Megastes be obtained, these cultivations could be extended and a useful addition would be made to the cash crops already grown by the peasant producer. Production of disease-free tubers would in addition, facilitate storage and consequent easing of supplies during the July and August shortage.

Work on the control of Megastes has proceeded spasmodically over the last 35 years. Biological, cultural, and chemical methods have been considered, but no adequate control has yet been achieved. The main points learned from previous work have been extracted below.

Described by Cowland follows as it reveals some of the difficulties in effecting an efficient control.

The main life history of the tubercle on the leaves where they are firstly fixed in the veins of the leaf or on either side of the leaf veins. The eggs are retained and about 1.5 mm in length. They are 1-2 mm in the field, being leaf grown as a result of the tubercle on the leaf. The eggs may be laid singly, two or three together, or several in a row overlapping. Cowland (1914) wrote that the eggs were never laid in clusters and Margary (1944) found that the eggs were laid in clusters on the leaf veins.

The eggs which are 1.5 mm in length, are laid locally on the leaf veins. Cowland and Margary found this although Margary (1944) found that the eggs were laid on the veins of the leaves and that the tubercles did not feed on the leaves but on the veins. The tubercles are completely fixed to the leaf veins and do not move to other parts of the plant where it immediately moves into the veins just above ground level, from where it tunnels downwards along the veins through its entry hole. This provides an infallible mark of infested plants.