Sugar Research Australia™

Information Sheet

IS15002

Island sugarcane planthopper

Eumetopina flavipes Muir (Hemiptera: Delphacidae)

Introduction

The island sugarcane planthopper (Figure 1) is a pest that has caused significant damage to the sugarcane crops in Papua New Guinea where it is the carrier of Ramu Stunt disease. In situations where the Ramu Stunt virus is not present, the insect can cause minor damage when it reaches high populations.

Figure 1: Island sugarcane planthopper adults and nymphs can be detected by unrolling the leaf whorl – PNG.

Symptoms

This pest lays eggs under the leaf epidermis, which causes local leaf discolouration (Figure 2). The insect on its own (virus free populations) may cause plant stress, yellowing of whorl and spindle deformation, especially in susceptible varieties. If the insect transmits the causal agent of Ramu Stunt, then symptoms of severe stunting, trashy appearance, leaf stripes and mottling and stool death will be evident in the sugarcane plant (Figure 3).

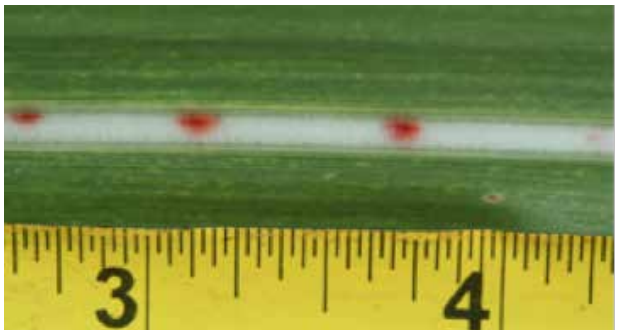

Figure 2: Island sugarcane planthopper eggs in the leaf midrib and surrounding discolouration.

Figure 3: Pale, grassy stunted shoots seen in variety Q85S-7102, infected with Ramu stunt – PNG.

Hosts

The island sugarcane planthopper attacks predominantly species that are relatives to sugarcane (*Saccharum officinarum*) and related species (*Saccharum* species).

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Distribution

While the island sugarcane planthopper has not been recorded in commercial sugarcane crops in Australia, it is present in northern parts of Australia including the Torres Strait Islands and northern tip of Cape York, and neighbouring countries including Papua New Guinea and Indonesia. The population of island sugarcane planthopper on the Torres Stait islands and Cape York does not seem to harbour the virus causing Ramu Stunt disease.

Yield loss

Virus free populations of the island sugarcane planthopper are unlikely to have any significant economic impact on sugarcane crops, unless under heavy infestations, which may lead to plant stress.

Where the insect is carrying the causal agent of Ramu Stunt disease, the economic impact will depend on the resistance level of the variety. Infected stools of susceptible varieties show severe stunting and eventually die. Root systems are also stunted and eventually die as the disease progresses. Ratoon failure is common in susceptible varieties.

Ramu stunt almost destroyed the sugarcane industry in 1986 in Papua New Guinea where a 60% reduction in productivity was recorded in one highly susceptible variety that made up 90% of the plantation (see photos on the right).

Control

While no research has been undertaken on chemicals that will effectively control island sugarcane planthoppers, it is possible that pyrethroids and neonicotinoid-based insecticides, which are used against sugarcane moth borers, may be used as a means of control.

The most important and effective method of control is to limit movement of infested plant material. Preventing the movement of infested sugarcane from the Torres Strait, Cape York and neighbouring countries into commercial sugarcane areas is the first line of defense.