

Sugarcane weevil borer

Rhabdoscelus obscurus (Boisduval)

Introduction

The sugarcane weevil borer is an introduced insect from Papua New Guinea. It is a pest of sugarcane in production districts from Plane Creek to Mossman. The worst damage is found on lighter soils from Tully to Cairns. This pest species is more common where Green Cane Trash Blanketing (GCTB) is practiced. Productivity losses are generally due to both decreased amount of juice in the stalk and reduced sugar contents, with losses of up to 2.00 units CCS in cases of high infestation. Secondary infections by fungal diseases such as red rot (*Glomerella tucumanensis*) cause additional losses.

The sugarcane weevil borer is also a common pest in palms in North Queensland, both in landscaping and natural palm colonies. It is a different species to banana weevil borer, *Cosmopolites sordidus* (Germar), which is common in banana plantations.

Description

The adult weevil is dark coloured and about 12-15 mm long. The larvae are legless and creamy in colour with an oval red-brown head. The abdomen bells out before coming to a point. Pupae are wrapped in tightly bound fibre cocoons.

Biology

Adult weevils are attracted to fermented or damaged cane. Whilst the adults do not cause damage, females can survive for up to six months laying an average of one egg each day. Eggs are laid into small cavities chewed into the rind by females or into damaged areas on the cane stalk, such as growth splits, rat bites, harvester or wind damage.

Eggs usually hatch five days after being laid and the larva then feeds on the soft tissue within the internodes of the cane stalk (Photo 1). Usually, only the lowest internodes are damaged. As they tunnel about they pack the tunnel behind with chewed fibre and waste. The larva feeds for about 12 weeks before pupating in a fibrous cocoon (Photo 2). The pupal stage lasts about nine days and after emerging from the cocoon the adult spends about another twelve days inside the cane stalk before exiting the stalk through a small exit hole (Photo 3). The cycle then repeats.



Photo 1: Larva.



Photo 2: Pupa.



Photo 3: Sugarcane weevil borer adult.

Management

Manage harvest residues

Billets, whole stalks and cane attached to tops that are left after harvest provide ideal harbourage for weevil borers to breed. This allows a spring population of borers to breed and re-infest young cane in February and March. Harvesting practices that help to reduce borer numbers include:

- Adjusting the harvester fan speed to minimise billet loss.
- Using a shredder topper to break up any cane attached to tops.
- Ensure harvester is cutting clean and low to avoid damaged stalks being left behind and to avoid shattering of stools.

Reduce stalk damage and lodging

Any stalk damage provides an easy access point for the adult female to lay her eggs. Rat damage particularly can lead to high infestation levels. Lodged cane is also more susceptible to borer attack.

Variety selection

Varieties may vary greatly in their susceptibility to attack by sugarcane weevil borer. Varieties with hard rinds, with higher fibre content and that are free trashing are more tolerant to weevil borers.

Varieties that are prone to growth cracks and ‘piping’ suffer more damage, as it is easier for the female to lay her eggs.



Photo 4: Sugarcane weevil borer damage.

Monitoring

Weevil borer activity can be monitored by placing traps made up from three – four split billets wrapped in black plastic in suspect blocks. Weevil numbers are assessed and the billets renewed in the traps either weekly or biweekly. Pheromone traps may also be useful in monitoring populations and suppressing breeding if used early in the season (October to December). The trap is a 20 cm diameter pot with plastic bag inserted to hold water with pheromone lures and cane pieces held together in a plastic container suspended over the water from a square of wire mesh. An advantage of these traps is that they can be placed near the edge of cane blocks, making them easier to check. Monitoring can be useful to assess the risk for seed cane plots, as weevil borers can be spread easily in planting material. Chemical control may be warranted where there is a high probability of high levels of borers.

Chemical control

Regent® 200SC (200 g/L fipronil) is registered for the control of Sugarcane Weevil Borer. Chemical control is only warranted when very high levels of weevil borer are present. Cane is sprayed when it has reached the first millable internode stage during December to February. Both sides of the stool need to be treated with good coverage to stalks to a height of 40 cm, and to soil and trash to 10 cm of either side of the stool. Refer to the Regent® 200SC label and Material Safety Data Sheet (MSDS) for details of rates, conditions of use and protective equipment.

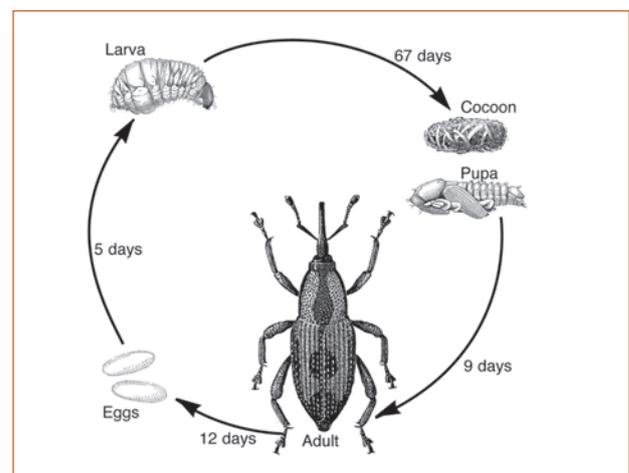


Figure 1: Sugarcane weevil borer lifecycle.