

FULLER'S ROSE BEETLE

Pantomorus cervinus (Boheman)

1 PEST PROFILE

1.1 Distribution and status

Fuller's rose beetle (or weevil) is found in most citrus production areas of southern Africa. Although larval stages feed on roots and the adults cause some foliar damage the primary reason for this insect being a pest is because it is a phytosanitary pest for exports to some Asian countries. This insect has different scientific names in different parts of the world and may also be known as *Naupactus godmanni*, *N. cervinus*, *Asynonychus cervinus*, *A. godmanni* and previously as *Aramigus fulleri* from which the common name originated.

1.2 Description

Although Fuller's rose beetle (FRB) is a weevil, it does not have a long protruding snout as some weevils do. There are no males in the species. The adult female is usually brown or brownish-grey in colour and 9 mm in length. The head is trapezoidal in shape from above with the width at the front of the head slightly narrower than at the back of the head. The thorax is almost square with slightly curved sides and the width of the front of the abdomen is approximately the same as the widest part of the thorax. There is a characteristic cream-coloured longitudinal streak on each side of the weevil that straddles the gap between the thorax and abdomen.

The adults have fused wings and cannot fly so must therefore crawl up into the tree from the ground. For this reason the beetles will also take a long time to disperse to new orchards. The adults are nocturnal and rest in concealed locations during daylight hours. The larval stages feed on citrus roots in the soil. Eggs are laid in yellow egg masses below the calyces of fruit and newly hatched larvae are c-shaped and yellow in colour. These drop to the ground soon after hatching.

1.3 Infestation sites on tree

Eggs are found beneath fruit calyces. Adults feed on foliage during the night. Larvae feed on

the roots.

1.4 Damage

1.4.1 Symptoms

Visible damage caused by the adults is the notching of leaves where the beetles feed on the leaf edge. Egg masses can also be visible under the calyces of fruit. Larvae can girdle lateral roots and high populations can result in tree decline.

1.4.2 Seasonal occurrence

The adults are long lived and approximately two generations occur per year so adults can be found at almost any time of the year. Oviposition on fruit is most common in summer and autumn. A degree-day model was developed by Lakin and Morse (1989) who showed that when using a lower developmental threshold of 10.2°C, 99% of eggs would have hatched after 351.4 degree days.

2 MANAGEMENT ASPECTS

2.1 Infestation/Damage assessment

Infestations are usually not a concern on non-bearing trees. However, there have been instances where recently top-worked trees have had severe foliage damage and the pest was controlled with Meothrin at the dosage registered for citrus thrips.

2.1.1 Inspection

Inspection of foliage for typical leaf notching will give an indication of whether FRB or a similar weevil is present. Beating of the foliage over a tray may dislodge resting beetles which can then be identified. Fruit can be inspected under the calyx for egg masses. **None of the other weevils on citrus lay eggs under the calyx.**

2.1.2 Treatment threshold

For fruit that is destined for sensitive countries there is almost no tolerance for FRB eggs so the beetles must be excluded from the trees for at least 360 degree days before harvest. On trees with fruit for other markets where this pest is not

a problem or on non-bearing trees it is usually not necessary to apply any treatments.

2.2 Control options

2.2.1 Biological

Little is known about egg parasitoids of FRB in southern Africa. Fungal pathogens will reduce larval populations in the soil to some degree. However, as there is almost no tolerance for the eggs of FRB, biological control does not play an important role above ground.

2.2.2 Cultural

Weeds below trees must be kept under control so that the only means by which the beetles can enter the trees is by walking up the trunk. Trunk barriers are therefore the means by which this pest is controlled. The most effective are the Antbar 1,2,3 band which uses polybutene on a cling wrap and fibre foundation. See ANTS in this chapter for more details.

2.2.3 Chemical

No chemical control options are registered on citrus in South Africa but in Australia trunk band sprays with lambda-cyhalothrin are used.