

**CITRUS LOOPER /
MEASURING WORM***Ascotis reciprocaria* (Wlk.)**1 PEST PROFILE****1.1 Distribution and status**

This insect is a sporadic pest in most production areas. Infestations can reach serious proportions in Mpumalanga and the Limpopo Province.

1.2 Description

The moth is comparatively large with a wingspan of about 45 mm. Wing and body colour is grey-white with an uneven pattern of dark brown flecks on the fore- and hind wings. It is nocturnal and is seldom seen during the day although can sometimes be seen resting on a vertical wall. The oval eggs are light blue in colour, less than 1 mm long, and are laid in groups of 10-20 in protected areas on the tree such as under loose bark or in bark cracks. They are therefore not readily observed during scouting, unlike those of bollworm. There are five larval stages which progressively increase in length from 2 to 50 mm. The locomotion of all larval stages is characteristic. The rear end of the body is brought forward and tucked up against the forelegs. The prolegs at the end of the abdomen then take hold of the surface and the front part of the body is projected forwards. The movement looks like a measuring action, hence the insect's popular names of citrus looper or measuring worm.

1.3 Infestation sites on tree

The larval stages or instars attack leaves, blossoms and fruitlets. Sometimes they remain within the tree and are not readily seen on the outer canopy.

1.4 Damage**1.4.1 Symptoms****1.4.1.1 Leaves and blossoms**

First instar larvae can cause superficial damage to the top and bottom epidermis of young leaves

as well as eating small holes in such leaves and blossoms. Older larvae make progressively larger holes in plant tissue. However, the damage to foliage is usually not of economic importance.

1.4.1.2 Fruit

As with young leaves and blossoms, the damage to fruit can vary somewhat in appearance. Most severe damage will result in fruit-drop after blossoming. However, small looper larvae tend to wander, damaging several fruit superficially, particularly if these are borne in a bunch. Such damage, although taking the form of an indented scar on the fruit surface, may be insufficient to cause fruit-drop and will become a culling factor in the packhouse. It is important to be able to distinguish between bollworm and looper damage when fruit is culled in order to gauge the efficacy of control during the growing season.

1.4.2 Seasonal occurrence

Citrus looper larvae are usually only a problem during spring and early summer. However, damage can also be done to larger fruit later in the season.

2 MANAGEMENT ASPECTS**2.1 Infestation / damage assessment**

This pest is only a commercial problem on bearing trees.

2.1.1 Inspection

Growers must determine the commencement and extent of citrus looper infestations with the aid of weekly orchard inspection during the danger period, which usually stretches from blossom to December. Unlike bollworm eggs those of citrus looper are not readily visible. Therefore scouting for small larvae is important before an infestation becomes too serious. Inspection must be directed towards noting first signs of larval presence and damage to young leaves, blossoms and fruitlets. Inspection should receive increased attention in production areas, or in particular blocks on a farm, that have a history of infestation by citrus looper.

2.1.2 Treatment threshold

There are no formal infestation criteria on which to base the application of a special treatment for citrus looper control. The progressive, general occurrence of damaged young leaves, blossoms and/or fruit blemish symptoms will indicate the necessity for applying treatment.

2.2 Control options

2.2.1 Biological

Many dipteran and hymenopteran parasitoids, including *Rogas* species, attack the larvae. Natural enemies can make a significant contribution to citrus looper control in a particular season. However, they will not be able to achieve commercial control where larvae are already well established in orchards.

2.2.2 Cultural

There are no cultural options that can be used to suppress or control citrus looper larvae.

2.2.3 Plant protection products

No product has been specifically registered for the control of citrus looper. However, most of the materials registered for the control of bollworm will also suppress citrus looper larvae. This includes Dipel 2X at 12.5 g/hl water. Methomyl 90% WP is registered by air for bollworm. However control of any looper present, when a bollworm aerial spray is carried out, will be poor. This is because looper larvae tend to hide away within foliage or fruit bunches and will not receive a lethal dosage. Also, the main peak of looper larvae occurs later in the season after blossoming. Looper can only be controlled successfully by using a ground-based spray rig.