

UC Pest Management Guidelines

AVOCADO ORANGE TORTRIX

Scientific Name: *Argyrotaenia citrana*

(Reviewed: 7/01, updated: 7/01)



IN THIS GUIDELINE:

[DESCRIPTION OF THE PEST](#)

[DAMAGE](#)

[BIOLOGICAL CONTROL](#)

[CULTURAL CONTROL](#)

[ORGANICALLY ACCEPTABLE METHODS](#)

[MONITORING and MANAGEMENT DECISIONS](#)

[PUBLICATION](#)

[GLOSSARY](#)

DESCRIPTION OF THE PEST

Orange tortrix is a problem on avocados grown in coastal areas and is rarely injurious in inland growing areas. Its life cycle and damage are similar to that caused by the other avocado worms ([omnivorous looper](#) and [amorbia](#)).

Adult moths lay eggs that are pale green, flat, and overlapping on the surface of young leaves, green twigs, or green fruit. Individual eggs are flat, oval, and have finely reticulated surfaces. Individual female moths may lay about 200 eggs in several masses. Eggs hatch after 9 days and larvae feed for about 40 days before pupating. [Full-grown larvae](#) are about 0.5 inch (12.5 mm) long and have a straw-colored head and prothoracic plate (the first segment behind the head). The body can either be straw colored or green, dark gray or brown. Orange tortrix larvae are very active and wriggle backwards or sideways when disturbed. They may drop to the ground or remain suspended from the leaf on a silken thread that they can climb again.

Larvae are solitary. They are usually found in young tips of twigs among unfolding leaves that they web together. They may also make nests among buds or blossoms. Larvae feed on plant parts enclosed by webbed leaves. Late in the season, dried blossom petals and pistils are webbed together and fastened to

a leaf or fruit cluster to form a nest.

[Adult moths](#) are brownish or buff with a dark shading across the folded wings. Adult female moths are about 0.4 inch (1 cm) long and have a wing spread of about 0.6 inch (1.5 cm); males are smaller. When the moth is at rest, the folded wings flare out a little at the tip like a bell. Numbers of males and females are about equal. Orange tortrix has four to seven generations per year.

DAMAGE

The most frequent injury caused by orange tortrix occurs on terminal twigs in the outer canopy of the tree. Larvae feed on green bark and often girdle twigs. The injured area may be covered by white exudates from wounds. Large twigs may be girdled at the point of their attachment to larger branches. While not as common as terminal twig feeding, fruit feeding by larvae is much more serious because it reduces yield. The injury is similar to that of the other avocado worms except that orange tortrix may make deeper holes. Orange tortrix will feed near the stem end of fruit and on the stem, causing fruit drop.

During the bloom period, tiny larvae are sometimes found inside the flowers, where they may feed on developing fruit or the calyx. The same larvae may later form a nest of several flower heads and feed on the flower bases or on the stems of flower clusters. Like amorbia, orange tortrix may attack terminal buds after tying together tender terminal leaflets for a nest.

BIOLOGICAL CONTROL

Several parasites and predators attack orange tortrix. The most common parasites are two wasps, *Apanteles aristoteliae* and [Exochus sp.](#) These wasps lay their eggs in tortrix larvae and the parasites develop within. *Apanteles* pupates in white cocoons outside dead larvae. *Exochus* pupates inside larvae and emerges through a round exit hole. [Trichogramma sp.](#) occasionally attacks egg masses.

CULTURAL CONTROL

Reduce avocado worm populations to subeconomic levels by pruning and thinning the orchard to reduce dense foliage and interlacing branches that form a continuous canopy.

ORGANICALLY ACCEPTABLE METHODS

Biological controls, cultural controls, and sprays of *Bacillus thuringiensis* subsp. *kurstaki*.

MONITORING and MANAGEMENT DECISIONS

In coastal areas monitor orange tortrix larvae throughout spring and summer at 7- to 10-day intervals. Look for orange tortrix larvae and evidence of parasitism mainly on the south and east quadrants of trees. There are no established thresholds for treatment. If sprays are needed, use *Bacillus thuringiensis* subsp. *kurstaki* when larvae are small. Spraying with malathion, methomyl or carbaryl often leads to outbreaks of other pests and is not recommended.

TREATMENT

Pesticide (commercial name)	Amount/Acre	P.H.I.+ (days)
--------------------------------	-------------	-------------------

A. BACILLUS THURINGIENSIS ssp. KURSTAKI#		
(various products)	Label rates	0

COMMENTS: Restricted entry interval: 4 hours. Effective when used to control early instars of the worm.

- + Preharvest interval. Do not apply within this many days of harvest.
- # Acceptable for use on organically grown produce.

PRECAUTIONS

PUBLICATION



UC IPM Pest Management Guidelines: Avocado
 UC ANR Publication 3436
 Insects and Mites
 B. A. Faber, UC Cooperative Extension, Santa Barbara/Ventura counties
 P. A. Phillips, UC IPM Program, UC Cooperative Extension, Ventura Co.