

Codling Moth

COMMON NAME: Codling moth

SCIENTIFIC NAME: Carpocapsa (Laspeyresia)
pomonella

DESCRIPTION:

- Adult - Grayish-brown moth with irregular golden-brown lines on the forewings and paler, fringed hindwings. Wing spread of about 1/2 to 3/4 inch. Usually found flying at dusk or early evening.
- Larvae - Pinkish-white caterpillar about 1/2 to 1 inch long with a brown head.
- Pupae - Found in a silken cocoon located in bark crevices, orchard debris, in fallen fruit, or other protected place.
- Eggs - Single, flat, white eggs are found on the upper surfaces of leaves, on twigs, fruit spurs, or developing fruit. They hatch in 8 to 15 days.

PLANTS USUALLY AFFECTED:

Apples, pears, quince, and walnuts.

TIME OF YEAR:

From early spring to fall. In Yavapai County, codling moths produce three generations per year. The moths lay large numbers of eggs starting when air temperatures exceed 65°F for two or more consecutive days. They do not move about when the weather is too cold, wet, or windy. Start looking for them in April or May. The other two generations should appear in six-week cycles in about early July and mid-August.



Codling moths spend the winter in the worm stage in cocoons that they spin under bark scales on tree trunks, under other shelter about the base of trees, on the ground, or in picking boxes that are stored for the winter.

In April and May, the majority of the overwintering worms change into pupae and then emerge as moths.

Historical records in the Sedona area show that the first peak moth flight occurs from May 12 to May 26. The second generation occurs late June to early July; the third generation occurs in mid-August.

PROBLEMS CAUSED:

The overwintering larvae pupate when the weather starts warming up and then the newly emerged adults lay their eggs on the developing fruit blossoms. Upon hatching (8 to 15 days later), the larvae enter the fruit (usually by way of the calyx cup at the blossom end, but they can enter anywhere) and tunnel directly to the center of the fruit. They devour portions of the fruit and seeds and then tunnel their way back out, leaving behind masses of brown excrement; they feed in the fruit for 21 to 30 days. The fully grown larvae then travel to the tree bark (or other hiding place) to pupate and start the whole cycle all over again. The last generation of the season will overwinter in the larval stage in a protected place.

PEST IDENTIFICATION:

Look for buds and/or fruit with small holes in them or early drop of immature fruit. Check trees and surrounding debris for adults, pupae, larvae, or eggs. Ripened fruit that is cut open will reveal the tell-tale entry and exit tunnels and excrement.

CULTURAL CONTROLS:

Cultivate healthy trees. Remove and immediately destroy infested fruit. Clean up the area of any debris that could be used as a hiding place for developing pests. Remove trees where codling moths are not being controlled.

Orchards in California and Japan have successfully controlled codling moth on Granny Smith apples by bagging. When the fruit is the size of golf-balls, remove any infested fruit and thin each cluster to one fruit. Cover the fruit with a brown paper bag or a cloth bag with string tie. This will prevent codling moths from laying their eggs on the developing fruit.

MECHANICAL CONTROLS, BARRIERS, AND TRAPS:

Hang pheromone traps (one per tree) high in the trees when the trees begin to bloom. The traps will physically decrease the pest population 10 to 20%, as well as act as a "warning system" to use with a timed spraying program. Put sticky bands, corrugated cardboard or burlap around the trunk of the tree to trap larvae (check frequently). Carefully scrape off loose bark. Use a hard spray of water or a soap (like Ivory) and water solution (1 to 2 tablespoons per gallon of water) to wash the trees and dislodge the pest. Immediately destroy any insects you find.

REPELLENTS:

Try "bug juice" made from adults or larvae. Nasturtiums planted at the base of the tree may repel the pests and in any case don't do any harm.

NATURAL CONTROLS:

Encourage birds, (especially woodpeckers), bats, toads, and lizards to hang around and hopefully they will dine on your pest population. Trichogramma wasps parasitize the eggs. Don't destroy the parasitized eggs if you happen upon them.

ORGANIC CONTROLS:

Spray with a clay product such as Surround, when fruit is small and before the insects arrive.

CHEMICAL CONTROLS:

Chemicals are not recommended for backyard growers. They can kill bees that are needed for pollination; multiple applications are required; and they are only effective if applied at peak moth flight times.

No endorsement of named products is intended, nor is criticism implied of similar products that are not mentioned. Pesticides are poisonous. Always read and carefully follow all label instructions for safety, use, and disposal given on the container label.

Updated August 1, 2007
<http://cals.arizona.edu/yavapai>

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