

# Codling Moth

**Codling moth, the infamous “worm” in the apple, is tough to manage in the home orchard.** Soon after hatching, caterpillars bore into apples, pears, or walnuts, and feed, leaving reddish-brown droppings (frass). Early-maturing fruit varieties are less likely to suffer damage. Use an integrated pest management (IPM) approach that combines several of the methods described below. Trees heavily infested every year may require carefully timed sprays.

## Reduce codling moths with sanitation practices.

- ◆ Remove infested fruit from trees as soon as you see them. Look for worm entry points (“stings”) marked by tiny mounds of red-brown frass.
- ◆ Rake up and destroy dropped fruit, especially in May and June.
- ◆ Consider banding trunks with corrugated cardboard to catch pupating codling moths in May and August. Details in the *Pest Notes: Codling Moth*.

## Consider hanging out traps to reduce moth numbers.

- ◆ Traps help but do not completely control the pest.
- ◆ Traps are mostly effective where trees are isolated from other infested trees.
- ◆ Pheromone traps capture males so they don’t mate with females. Use 2 to 4 traps/tree hung as high as possible. Check weekly, remove dead moths, change sticky bottoms regularly.
- ◆ Homemade bait traps using a milk jug with a cider vinegar, molasses, ammonia, and water mixture may also be effective. Details in *Pest Notes*.

## Bagging protects fruit without chemical sprays, even with severe infestations.

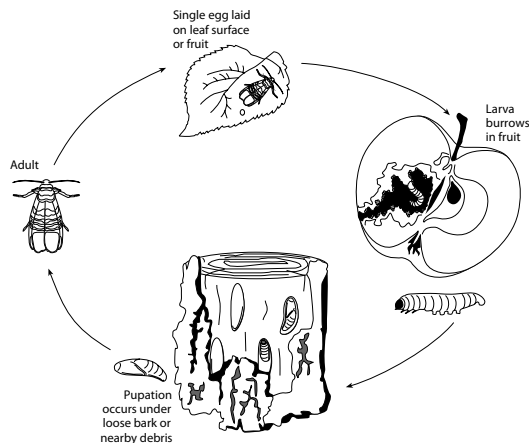
- ◆ Bag when fruit is ½ to 1 inch in diameter (4 to 6 weeks after bloom).
- ◆ Cut a 2-inch slit in the bottom of a standard (#2) lunch bag.
- ◆ Thin fruit to one per cluster and slip it through the slit and staple bag shut.
- ◆ Remove bags just as fruit are ripening.
- ◆ Bag only the number of fruit you want to protect.



Use low-toxicity insecticides where infestations are severe.

- ◆ Insecticides are not effective unless sprays are precisely timed to kill caterpillars just as they hatch.
- ◆ See *Pest Notes: Codling Moth* to find out how to time sprays precisely using pheromone traps. A less precise method is to spray as soon as you see “stings” (see above).
- ◆ Spinosad is a low-toxicity pesticide that can be made more effective by adding 1% summer oil.
- ◆ Insecticidal oils alone suffocate eggs before they hatch, but only give partial control.
- ◆ Carbaryl is effective when properly timed, but is toxic to natural enemies, honey bees, and other nontargets and can cause water quality problems.
- ◆ Combining low-toxicity insecticides with nonchemical methods is the most environmentally sound approach when insecticides are needed.

See *Pest Notes: Codling Moth* at [www.ipm.ucdavis.edu](http://www.ipm.ucdavis.edu) for complete instructions on carrying out these practices.



Be sure to read product labels carefully and follow all instructions on proper use, storage, and disposal of pesticides.

For more information about managing pests, contact your **University of California Cooperative Extension office** listed under the county government pages of your phone book or the UC IPM Web site at [www.ipm.ucdavis.edu](http://www.ipm.ucdavis.edu).



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