

The Codling Moth

By Arthur L. Antonelli, Extension Entomologist
WSU Puyallup

The codling moth, *Cydia (laspeyresia) pomonella* (Fig. 1), is the most important pest on apples in Washington. This moth larva feeds on apple, pear, English walnut, quince, crab apple, hawthorn, and wild apple. Flowering quince and apple are prime host plants in the backyard. Codling moths occasionally attack stone fruits

The larva eats its way into the center of the apple and feeds on the seeds and core. Later it tunnels back out and leaves the fruit (Fig. 2). It most often enters through the calyx end. Sometimes it enters where two fruits touch or where a leaf touches a fruit.

Stings are shallow blemishes on the surface of the fruit, usually caused when a newly hatched larva takes a few bites and then dies from various causes, including the effects of an insecticide.

Female codling moths lay their eggs singly on the foliage or fruit. The egg is a pearly white oval. The newly hatched larva is semitransparent, white with a shiny black head, and about 1/16 inch long. The full-grown larva spins a silken cocoon under bark or other suitable shelter. The pupa is about 1/2 inch long and varies in color from yellow to brown, depending on age.

Adult moths vary in size, with a wing expanse of 3/4 inch or less. The wings are brownish gray with dark bands. Near the tip of each forewing, there is a dark brown spot, which contains two irregular coppery lines.

Life Cycle

Codling moths overwinter as mature larvae in waterproof cocoons under the bark or in the ground at the base of the tree. In April or May, they change into light brown pupae. This stage may last four to six weeks.

Moths of the spring brood reach a peak of activity during May or June in most localities and live for about two weeks. Temperatures influence the extent of egg production and the development of first-generation larvae (worms), and are important in determining seasonal codling moth activity. However, larval injury depends mostly upon the initial infestation. The greater the population of overwintering larvae that lay eggs, the greater the chances for early fruit damage.

Eggs of the first generation usually take twelve to fourteen days to hatch because of cool weather. First-generation larvae enter the fruit over a period of five to six weeks. The pupal period lasts from ten to fourteen days, and the first-generation adult moths appear in mid to late July and may be present until cool weather in northern areas.

Eggs of the second generation hatch after six to seven days, but could hatch as early as four days during warm, dry weather periods. Second-generation larvae appear in mid to late summer, depending on locality, and attack the fruit for about six weeks. The second-generation worms leave the fruit and go into winter quarters during August and September, or later.

Prevention

Populations can be somewhat suppressed with sanitation. Do not leave fallen apples on the ground, particularly if codling moth infestations are suspected. Use these apples immediately (eliminating parts that are infested) or take them to the dump. Another aid to prevention is a suppression technique called banding.

Banding is the placement of burlap sacks or cardboard strips around the trunk of the tree. Mature larvae migrate down the tree to find cover to spin their cocoons. They will enter these bands. Bands can be put up near the end of May. For the next four months, the bands can be removed periodically and the cocoons physically destroyed.

Management

If populations are bad enough, insecticides may have to be used. Current recommendations can be obtained from your local WSU Cooperative Extension office. Current management information can be found at WSU Hortsense webpage (pep.wsu.edu/hortsense/).

Spray recommended registered materials about ten days after full petal fall. Repeat three or four times every ten to fourteen days for good results.



Fig. 1. An adult codling moth.
By J.F. Brunner.



Fig. 2. Codling moth larva and tunnel in fruit. By R.D. Akre.