



Codling Moth



Codling moth is a small moth with grey/brown wings whose caterpillars bore into the fruits of apple and pear trees during the summer and is the major cause of maggot damage to apples. It also attacks pears and occasionally plums, damsons and quince. In some seasons it may be very abundant and cause severe damage, yet in others it may be relatively uncommon. Adults occur from mid May to the end of August but are usually most abundant from mid-June to mid-July. Eggs are laid on developing fruitlets and on foliage and hatch out about 10-14 days later.

DAMAGE

At first, an invading larva forms a small cavity just below the fruit skin and after feeding for a few days burrows down to the core, leaving a conspicuous, red-ringed entry hole in the side or near the eye, characteristically blocked by frass (brown coloured droppings). On cutting an affected fruit open, the

small pinkish caterpillar approximately 18-20mm long with a brown head may be seen amongst the internal damage.

After about four weeks, the full grown larvae vacate the fruit which may or may not have dropped to the ground, and spin cocoons in loose bark, in cracks in tree trunks and supporting stakes etc. Under favorable conditions, those spinning up by the end of July may pupate and produce a partial second generation of adults in August and early September.

CONTROL

Non Chemical Control

Codling Moth Traps (available from Ken Muir) use the 'pheromone' scent of the female moth to attract and catch male moths (without attracting beneficial insects). This greatly reduces egg-laying and therefore the number of maggots. Traps should be installed soon after the middle of May. If spring weather is exceptionally warm, or in sheltered urban gardens, it may be advantageous to have the traps installed by early May. One trap will protect up to five average size trees for an entire season within a range of 15m (50ft) of the trap. A pheromone trap on its own cannot completely control codling moth, but will reduce the damage. We suggest for greater protection against this troublesome pest it is advisable to use the trap as a monitor and use it conjunction with a spray program (See 'Chemical Controls' on page 2).



Natural Predators known as nematodes can be used against this pest. Nematodes are microscopic worm-like creatures that attack by entering the bodies of the caterpillars infecting them with a fatal bacterial disease that stops the larvae feeding, quickly killing them and breaking the pest's lifecycle. These nematodes are applied during September and October to the trunk and main branches plus to an area of soil equal to the tree cover above. Three applications at weekly intervals should be made to ensure that all hatchlings are caught. Nemasay's 'Grow Your Own Pest Control' treats up to 16 trees, however although this method is effective, it must be noted that in areas where apples and pears are widely grown it will not prevent the moths flying in from nearby gardens.

Companion Planting - Planting lavender or chives under your apple and pear trees is said to help deter codling moths.

Chemical Control

Codling moth caterpillars can only be controlled on apple and pear trees with insecticides before they enter the fruits, but it is difficult to be exact about timing as some years hatching may be earlier or later, due to weather conditions. It is therefore advisable to use a Codling Moth Trap to monitor and accurately determine the best time to use insecticide treatments by counting the number of trapped males every week and following the instructions that come with the trap. Once the best time for using an insecticide is determined spray with Deltamethrin (Bayer 'Provado Ultimate Fruit & Vegetable Bug Killer' or Bayer 'Sprayday Greenfly Killer') or Lambda Cyhalothrin (Westland 'Resolva Bug Killer') with a second application about three weeks later according to the manufacturers' instructions. Continue to inspect the traps regularly and apply repeat spray applications if further catches are made.

It is not normally worthwhile spraying quince or walnut trees as codling moth damage is rarely significant in these fruits.

Other Preventative Measures

Collection and destruction of infested fruits before the caterpillars escape will reduce the number of maggots carried over from one season to the next. However, this is of little use if the pest is allowed to go unchecked in a neighboring garden. The removal of broken stakes, rough supporting ties and loose bark will greatly reduce the number of suitable over-wintering sites for the larvae.

USE CHEMICALS SAFELY: ALWAYS READ THE LABEL

When using chemicals it is most important to follow the manufacturer's instructions precisely. Only use on the fruits that are listed on the manufacturer's label. An accurate weighing machine and measuring cylinder should be obtained. Chemicals can be wasted by making concentrations unnecessarily strong or by making them too weak and ineffective. Furthermore, if chemicals are too strong they may cause damage to the foliage.