

How to Control Cabbage Maggots in Your Vegetable Garden

The cabbage maggot, *Hylemya brassicae* (Weidemann), is a serious pest of radishes, turnips, cauliflower, cabbage, and other crucifers (so called because of the four-petaled flowers they bear that resemble a cross). The larvae feed in the stem and roots, causing stunting, wilting during the day, and in some cases death of the plants. Root crops may be riddled with holes by the time they are harvested (Figure 1). The cabbage maggot is native to Europe, but it is now distributed throughout North America. It is a serious pest in western states from California to Alaska.

Description

Adult cabbage maggots are pale to dark gray flies about ¼ inch long, with a conspicuous black stripe down the center of the abdomen. Larvae are whitish or yellowish maggots that reach a length of about ½ inch when mature. The body is cylindrical, tapering toward the head and blunt behind (Figure 2). Eggs are white with minute, longitudinal grooves.

Life History

In Oregon the cabbage maggot has two to three generations a year. It lays eggs in the spring on stems or roots just below or at the surface of the soil. These hatch in 4 to 10 days, and the tiny maggots immediately enter the stem or roots. As the larvae grow, they may completely hollow out the stem of the host plant.

In about 3 weeks, the larvae mature, leave the stems, and pupate 1 to 3 inches under the soil surface. The adults emerge in about 2 weeks and lay eggs for a second generation. The resulting larvae overwinter in the pupal stage in the soil or in plant litter. The following spring the adults emerge, mate, and lay eggs to resume the cycle.

Control

Both insecticides and cultural practices are important in the control of cabbage maggots.

Most chemical control measures rely on placing an insecticide on the soil around the plants where the hatching maggots will come into contact with it. Timing is important as the eggs hatch soon after they are deposited by the flies.

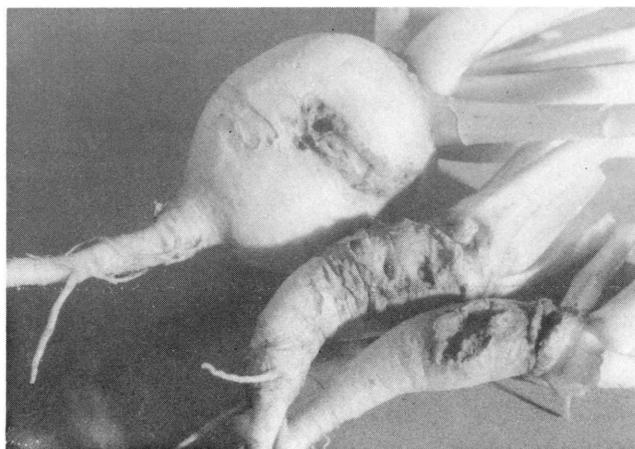


Figure 1. Cabbage maggot damage to turnips

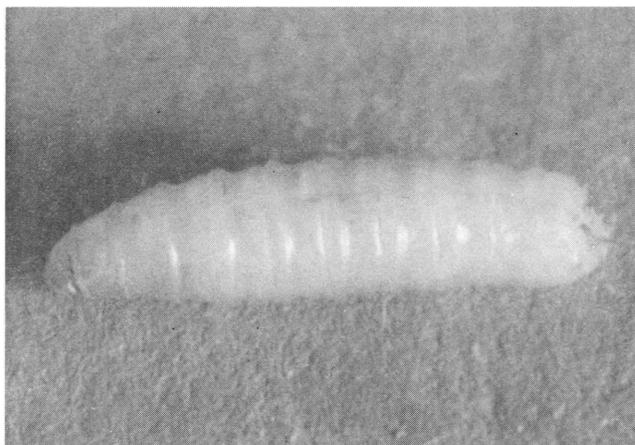


Figure 2. Larval stage of the cabbage maggot

Leafy Crucifers

Cabbage, broccoli, brussels sprouts, and cauliflower generally need protection only during the early stages of growth. Protect *plant beds* by a broadcast soil treatment of diazinon. Disc this in before planting. Protect *transplants* with a drench of diazinon. Apply this at the base of each plant immediately after transplanting.

Dipping bare-rooted transplants in diazinon also gives some control, but it is not as effective as a



drench. In all cases, the purpose is to carry the plants past their most susceptible stage until they are well established and better able to withstand maggot injury.

Root Crucifers

Control on radishes, turnips, and rutabagas is more difficult as plants must be protected for their entire period of growth. On *radishes*, apply diazinon as a furrow treatment at planting time. For *turnips*, the diazinon you apply as a foliar spray to control aphids and flea beetles will generally also give a good deal of maggot control. Do not apply diazinon to turnips within 10 days of harvest.

Malathion foliar sprays, applied weekly and after each rain for aphids, will give good control of adult flies on turnips, radishes, and rutabagas. Do not apply malathion within 7 days of harvest for radishes, or within 3 days of harvest for turnips and rutabagas.

Contact your local Extension agent for recommended rates and formulations of these insecticides. When using diazinon, the wettable powder (WP) formulation is preferable to the emulsifiable concentrate (EC), as the latter may cause root damage. Be sure to follow the directions on the label carefully.

Cultural Practices

In some cases, it may be possible to shift planting dates to avoid periods of cabbage maggot abundance. Early plantings of radishes, for example, are more likely to escape maggot damage than later ones. Plant more plants than you will need to compensate for some loss.

You can eliminate overwintering sites for the pupae by destroying crop refuse and trash in the fall.

Controlling wild mustards, an additional host, in the field margin will also help reduce the cabbage maggot population.

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