



Insect Answers: Cabbage Maggot in the Home Garden

WASHINGTON STATE UNIVERSITY EXTENSION FACT SHEET • FS010E

The cabbage maggot, *Delia radicum*, is a common insect pest in Washington. It attacks a variety of plants including cabbage, broccoli, cauliflower, radishes, and rutabagas.

Damage

Cabbage maggots eat tunnels and grooves in the roots and lower stems of plants. Small roots may be eaten away. The maggots spread soft rot which additionally damages root tissues. The leaves of damaged plants are light green or yellowish and stunted. If damage is severe, the plants wilt and eventually die. Heavy populations of cabbage maggot are difficult to control.

Description and Life History

Cabbage maggots spend the winter in a resting stage called a puparium, an elongate brown structure with rounded ends. Somewhat hard, it is buried from 1 to 5 inches in the soil.

In early spring, the adult cabbage maggot, a fly, emerges from the puparium and rises to the soil surface. The fly is gray and resembles a house fly, but is only 5 mm or 3/16 inch long. It lays very small, white, oblong eggs on or just below the soil surface near the base of the host plants.

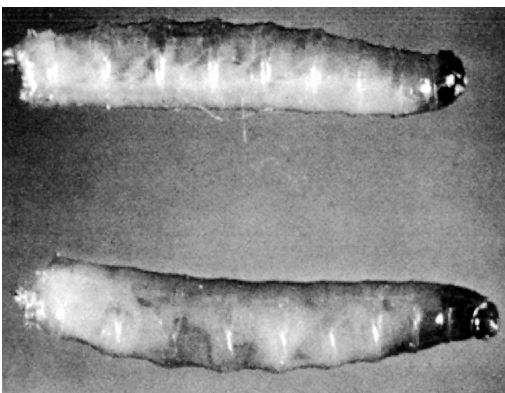
Maggots hatch from the eggs in three to seven days, then migrate through the soil and feed on underground plant parts. The maggots are cream to white in color



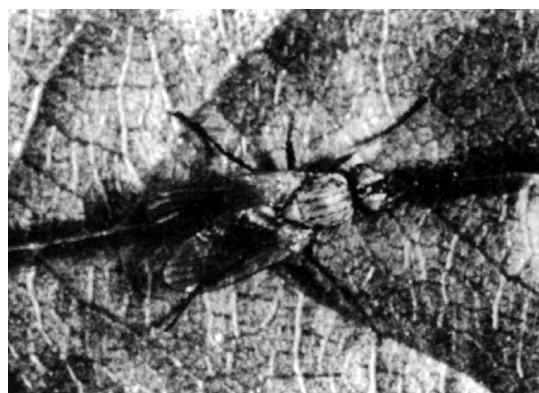
Cabbage maggots in turnip.



Cabbage maggot puparia.



Immature cabbage maggot.



Cabbage maggot adult.

and about 10 mm or 3/8 inch long when mature. The insect causes damage only during the maggot stage, which lasts from three to five weeks.

Mature maggots leave the plant and change to pupae in the soil nearby. In two to four weeks the adult fly emerges. There are usually three broods or generations a year.

Cultural Control

Precursors to floating row covers were tested by the author at WSU Puyallup REC in the 1970s. They

proved to be excellent in preventing female flies from laying eggs at the base of plants. Place them on soil not previously infested and be sure a tight seal exists between the soil and the netting. Washington State University scientists tested other non-chemical techniques on experimental plots. Two popular treatments, use of garlic sprays or wood ashes, had little value (see photos).

Chemical Control

There are no chemicals registered for control of this pest.



Screen cages keep female cabbage maggot flies from laying eggs near base of plants.



Nonchemical pest control methods were tested on experimental plots.



Cage-grown turnips (top) escape damage suffered by uncaged turnips (bottom).



Cabbages treated with pesticides (left), garlic spray (center), and wood ashes (right).

WASHINGTON STATE UNIVERSITY EXTENSION

By Arthur Antonelli, Ph.D., Washington State University Extension entomologist, and Roy M. Davidson, Jr., Ph.D., former Agricultural Research technologist, WSU Puyallup REC.

Use pesticides with care. Apply them only to plants, animals, or sites as listed on the label. When mixing and applying pesticides, follow all label precautions to protect yourself and others around you. It is a violation of the law to disregard label directions. If pesticides are spilled on skin or clothing, remove clothing and wash skin thoroughly. Store pesticides in their original containers and keep them out of the reach of children, pets, and livestock.

WSU Extension bulletins contain material written and produced for public distribution. Alternate formats of our educational materials are available upon request for persons with disabilities. Please contact Washington State University Extension Communications and Educational Support for more information.

You may order copies of this and other publications from WSU Extension Publishing and Printing at 1-800-723-1763 or <http://pubs.wsu.edu>.

Issued by Washington State University Extension and the U.S. Department of Agriculture in furtherance of the Acts of May 8 and June 30, 1914. Extension programs and policies are consistent with federal and state laws and regulations on nondiscrimination regarding race, sex, religion, age, color, creed, and national or ethnic origin; physical, mental, or sensory disability; marital status or sexual orientation; and status as a Vietnam-era or disabled veteran. Evidence of noncompliance may be reported through your local WSU Extension office. Trade names have been used to simplify information; no endorsement is intended. Revised April 2009. Subject code 352. This publication replaces EB0859E.