

ENTOMOLOGY FACT SHEET

Cabbage and Seedcorn Maggot

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PLANTS ATTACKED

Cabbage maggots can be very destructive pests of early-season plantings of cole crops: cabbage, cauliflower, broccoli, and brussels sprouts. Additional hosts include beet, radish, turnip, and celery.

Seedcorn maggots are known to attack asparagus, cabbage, turnip, radish, onion, beet, spinach, potato, and sprouting corn seeds. Seedcorn maggots can also be very damaging to beans and peas and new plantings of alfalfa.

DESCRIPTION OF DAMAGE

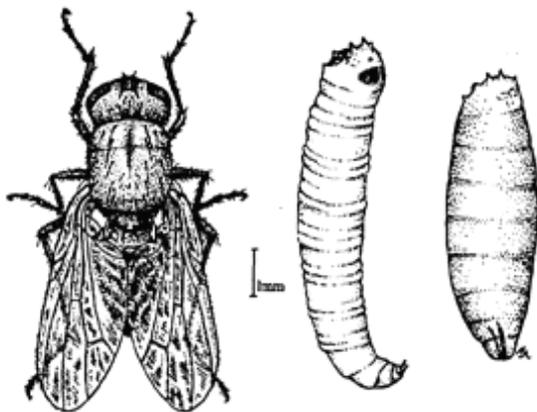
Cabbage maggots feed on feeder roots and tunnel into the taproot producing visible brown streaks on root crops such as radish and turnip. Lower leaves of infested cabbage and cauliflower plants often turn yellow, with severe damage resulting in arrested plant growth. Secondary infections of blackleg and bacterial soft rot diseases typically accompany cabbage maggot infestation. Factors such as cool temperatures and wet conditions, which delay germination during spring

plantings, can greatly increase the damage caused by both the cabbage and seedcorn maggots.

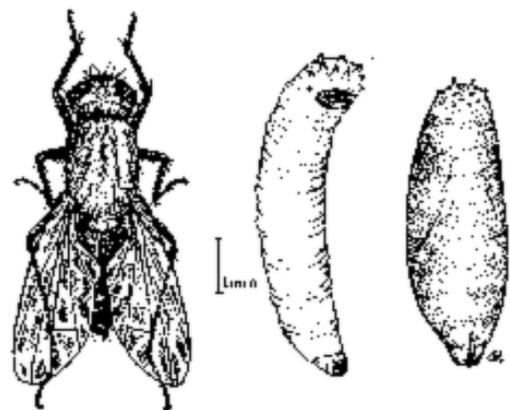
Seedcorn maggots feed on sprouting seeds of numerous field and garden crops, but unlike cabbage maggots, typically do not infest plantings beyond the early seedling stage. In corn, seedcorn maggots bore into the germinating seed, often killing the germ. Failure of seedlings to emerge is usually the first indication of a seedcorn maggot infestation.

IDENTIFICATION

The adult stage of the cabbage and seedcorn maggots is a small (about 1/4 inch long), dark-grey fly that is similar in appearance to the house fly. The legless larvae of both species are white, tapered maggots that reach a size of about 1/3 inch long when fully grown. Maggots of these species are virtually indistinguishable from one another in the field. The cabbage maggot, *Delia radicum* (L.), and the seed corn maggot, *Delia platura* (Meigen), are members of the family Anthomyiidae in the order Diptera.



Cabbage Maggot: adult, maggot, pupa



Seedcorn Maggot: adult, maggot, pupa

LIFE HISTORY

Cabbage and seedcorn maggot adults typically emerge in April and begin laying eggs. Female cabbage maggot flies actively seek out and lay eggs on the lower portions of stems of young host seedlings or in nearby cracks in the soil. Within a few days the eggs hatch and the tiny maggots burrow down to the roots and begin feeding. About three to four weeks later pupation occurs in the soil which is followed about a week later by the emergence of second generation adults. Several generations may occur as late as early July, but the first generation is the most destructive. Soil-borne pupae of the last generation serve as the overwintering stage. The life cycle of the seedcorn maggot is similar to that of the cabbage maggot; however, the seedcorn maggot prefers to lay eggs in freshly-tilled soil that is high in moisture and organic matter, and especially in soil where animal manure has been applied because it is highly attractive to female seedcorn maggot flies during egg laying. The eggs of the seedcorn maggot hatch within a few days and the maggots begin feeding on decaying organic matter or the germinating seeds of wild or crop plants. Seedcorn maggots are known to be highly attracted to odors produced by germinating seeds.

CONTROL

No action thresholds or scouting techniques currently are available for cabbage or seedcorn maggots, thus control measures typically rely on preventive use of soil-applied granular insecticides or insecticidal seed treatments at planting. Ground beetles and other predators may provide some degree of control, but serious damage can occur if conditions after planting are cool and wet. Mechanical barriers such as tar paper, plastic mulch, and foam-rubber collars placed at the base of plants have been used with some success to prevent egg laying by cabbage maggots; however, insecticidal seed treatments or the more expensive granular insecticides, when used at planting, are considered the best methods for controlling seedcorn maggots. Because subsequent generations of seedcorn maggots are not as damaging, replanting usually is effective, although costly. Also, gardens with a history of seedcorn maggot problems may benefit from the application of an insecticidal seed treatment at planting.

REMARKS

Each spring, seedcorn maggot flies infected with a certain type of fungi, seek out objects such as stems of small grains or dogwood or other flowers that allow them to climb to a high point. The flies then settle and eventually die as a result of the fungal infection.