

MAGGOTS THAT CAN DAMAGE VEGETABLE CROPS

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SEEDCORN MAGGOTS. Many vegetable growers are troubled in some years by the seed corn maggot; one of the first maggot flies to emerge in spring. These maggots readily attack beans, beets, corn, crucifers, such as cauliflower, Brussels sprouts, cabbage, broccoli, kohlrabi, turnip and radish, cucurbits, potatoes, onion, spinach, and pepper. Flies can become abundant in Southern New Jersey during late April and early May when the adults are laying their eggs. Emergence in more Northern parts of the state may occur later in spring. The adults soon die and the dead flies are often seen hanging on clotheslines, dogwood tree leaves, shrubs, etc. The maggots attack seed and seedlings, resulting in poor plant stands.

Seedcorn maggots cause the most severe damage to spring crops grown in high organic, or cool and wet soils in which the vegetable seed is planted too deep, becoming more vulnerable to maggot attack. There are usually a total of 4 generations of seedcorn maggot each year, although the later generations are much less damaging.

Management strategies for seedcorn maggot include:

- 1) avoid planting susceptible crops in fields having cold, wet, high organic soil.
- 2) delay planting until soil temperatures reach 55 degrees (if possible).
- 3) do not plant seeds too deep to get rapid germination.
- 4) apply a seed treatment to the seed (diazinon, Lorsban) or use pre-treated seed.
- 5) broadcast or use an at-plant an insecticide labeled for maggots prior to planting in problem fields (fields that are typically cool or wet, or where crops grow more slowly than expected, or where maggot problems have previously been noted). These types of insecticide applications are generally not as effective as seed treatments since to be most effective the insecticide must be in contact with the seed or seedling.
- 6) as a general rule, replant when damage resulting in seedling death or seeds that do not germinate reaches more than 35%.

ONION MAGGOTS. Onion maggots emerge slightly later than seedcorn maggots, usually around late April and early May. First generation onion maggot generally peaks around the first week of May, the second generation peaks around the first week of July, and the third generation around mid-to late August. Flies emerge after an accumulation of around 400 degree days, depending on soil type, soil moisture, soil temperatures, etc. Many farmers note that onion maggot flies emerge around the same time as the weed

'Yellow Rocket' blooms. If in doubt, maggot traps are available, or easily constructed, that will catch the early flies so that you can monitor their activity.

Management strategies for onion maggot include:

1) rotation to non-onion related fields and planting into clean fields is very important. Flies migrate up to 1 mile distances to find a host crop for egg deposition, and are highly attracted to onion culls, onion waste piles, etc.

2) damaged plants encourage onion maggot infestation. Avoid mechanical injury to bulbs in the field.

3) use seed commercially treated with labeled insecticides for onion maggot.

4) at-plant applications of insecticides labeled for onion maggot control. Follow all label directions and restrictions.

CABBAGE MAGGOTS. Cabbage maggot flies attack primarily plants in the cruciferous family, including broccoli, Brussels sprouts, cabbage, cauliflower, collards, kale, kohlrabi, mustards, radish, and turnips. Larvae attack the primarily the roots of host plants, but will also feed on the stems and petioles. Like other maggot attacks, plant damage appears as wilting or drooping of the leaves, and under severe attack, the whole plant wilts, resulting in delayed maturity or stunting. Damage is usually evident when drought or water stress occurs.

The most damaging generations are the spring and fall generations, with little damage from the summer generation. Research has shown that damage tends to be greater on loamy-sand soil than on sandy soils as a general rule. Management tactics for the cabbage maggot are basically the same as for seedcorn maggots (see above).