

## Seedcorn Maggots

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Entfact-309

Commercial producers and home gardeners often want to get their crops in the ground as soon as possible in the spring trying to get the earliest possible summer harvest. Seed corn maggots is a pest favored by early planting dates, heavy cover crops, and cool-wet weather. When stand loss or plant injury due to seedcorn maggot becomes apparent, there are no effective rescue treatments available.

Although the seedcorn maggot feeds primarily on decaying organic matter, they will feed on seeds and seedlings of soybean and field corn. They also attack a wide range of horticultural crops including beans, peas, cucumber, melon, onion, corn, pepper, potato and other vegetables. Seedcorn maggot eggs lays just below the soil surface in tilled ground that is high in organic matter. The maggot is yellowish white and about 1/4 inch when mature. The body is legless with a pointed head and a blunt tail. After about 21 days, the larvae pupate in the soil.

The brown pupal cases are hard and football-shaped and are found in the soil near the roots. The adult is a dark gray fly with smoky-gray wings, black legs, and three stripes on its back. It resembles a house fly. They overwinter in the soil as pupae. When the soils warms in the spring, adults emerge, mate, then search for suitable host plants for egg laying. While there are 4 to 5 generations per year, it is the first and second that can cause serious damage.



Figure 1. Seedcorn maggots on broccoli seedling and their damage.

Seedcorn maggot damages newly planted seeds by feeding on seed contents. Often the shells of the seeds are empty and germination is greatly reduced. Seedlings that do emerge are spindly with few leaves. Occasionally, seedcorn maggots tunnel seedling stems.

Attack is most severe when moist, cool spring conditions contribute to delayed, slow germination and emergence.

While seedcorn maggots can severely reduce plant populations, there are a number of other factors that can reduce germination. If seedcorn maggots are suspected, carefully dig up the seeds in the row skips and examine them for evidence of seedcorn maggot damage. Damage may range from a few meandering tunnels in the seeds to the entire contents of the seed destroyed. Cotyledons and first leaves of the remaining seedlings may be deformed or spindly. Cutworms, wireworms, and white grubs are other insects that can contribute to stand loss.

### *Management*

Crops planted early when the weather is cool and wet for long periods of time are potentially at greater risk to damaging infestations. With this insect, planting in well-prepared seedbeds, planted

sufficiently late for quick germination is one means for preventing injury. Where possible, heavy cover crops should be turned over early to render the field less attractive to egg laying seedcorn maggot flies in the spring. Depending on the crop, insecticide treatments at planting, transplant water, or even seed treatments may be available to control these insects. After damage is observed on the crops, rescue treatments are not usually effective. Resetting or replanting of crops may be necessary if stand loss is severe.

Occasionally, crops are seeded when soil temperatures are below those for optimal or rapid germination. Shallow planting will increase germination rates and aid in speeding up germination and reduce losses to seedcorn maggots. Under these conditions, higher seeding rates should be considered to offset stand loss.

Revised: 11/19