

# Seedcorn Maggots And Cool Wet Weather



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Commercial producers and home gardeners have struggled to get their ground worked and crops planted this the spring and those that did get planted have been slow to grow due to cool soil temperatures. Seedcorn maggot is a pest favored when ground is worked just before planting/transplanting, heavy cover crops, and cool-wet weather. Cool soil temperatures slow seed germination and plant growth and keep seeds and young plants vulnerable to seedcorn maggot. 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, but most of this seed is protected with insecticide seed treatments. They also attack a wide range of vegetable crops including beans, peas, cucumber, melon, onion, corn, pepper, potato and other vegetables. Seedcorn maggot eggs are laid just below the soil surface in tilled ground that is high in organic matter. The flies can often be seen running over the soil surface just after cover crops have been turned under. 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 smokey-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.

Seedcorn maggots damage 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 de-



Figure 1. Seedcorn maggots feeding on a young transplant.

stroyed. 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 (two or more weeks before planting) 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. Δ

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