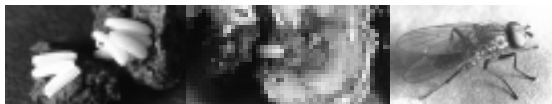


Dry Beans XIII-1

Seedcorn Maggot

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Seedcorn maggot eggs, left; larva, center; adult, right

Seedcorn maggot is a sporadic pest of dry beans that is most often seen when beans are planted into fields with high organic matter, especially recently tilled small grain stubble.

Identification (and life cycle/seasonal history)

The seedcorn maggot overwinters in the pupal stage, and the first adult activity in the spring occurs in April or early May. The adult seedcorn maggot is a hairy, gray fly about 1/5 inch long that lays eggs in areas high in decaying organic matter (i.e. manure, plant residue) that have just been tilled. In this region, small-grain stubble increases the risk of damage. The maggot is yellowish white, legless and about 1/4 inch long. Offspring of these adults mature to form a second generation of adults in late May or early June, and another generation is produced that is most likely to affect dry beans.

The maggot has a minimum developmental temperature of 39°F, and it takes 677 F degree-days (about 4 weeks) to develop from egg to adult. Adults are active in temperatures down to the mid 40's. But, when temperatures consistently reach above the mid 80's, adults do not survive well, and pupae become dormant until the following spring.

Plant Response and Damage

Seedcorn maggots have a wide host range and even feed on organic matter in the soil. In dry beans, maggots feed on the germinating bean seed and hollow out or otherwise damage the cotyledons. Severely damaged seeds may not emerge. If maggots damage the growing point of the plant, a "snakehead" plant may result. Snakehead plants are characterized by much reduced cotyledons and ragged edges at the growing point where feeding occurred. They will be very slow to produce their first leaves, if they produce them at all. Later, maggots feed by burrowing within the stem. This feeding may increase the incidence of secondary disease within the stem. Damaged seedlings will be stunted and have reduced vigor.

Management Approaches

Seedcorn maggot is most likely to cause serious problems during periods of cool and wet conditions. Typically, dry beans are planted later in the spring when soil temperatures are optimal for emergence and establishment of the beans. To reduce the risk of damage from seedcorn maggot: plant when soil conditions will enable rapid emergence of seedlings and plant establishment, use seed treatments when planting in a high risk field, such as, recently worked small grain stubble or other fields with high organic matter, and manage areas with high crop residue by fall or early spring tillage to avoid attracting flies for fly egg laying just before planting.

Products for Seedcorn Maggot:

Insecticide	Product	Preharvest Interval, remarks
Thimet 20G ^R	4.5-7.0 oz/1000 row ft	Apply at planting; drill to side of seed, not in contact with seed; PHI 60 days; REI 72 hrs.
Seed Treatment		
Cruiser 5FS	1.28 fl oz/100 lb seed	See treatment directions and precautions on label.

^RRestricted use pesticide ¹Labeled for chemigation

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Categories: Dry Beans, Insects, Seedcorn Maggot

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