Pest Profile

Common Name: Onion Maggot, Onion Fly

Scientific Name: *Delia antiqua*

Order and Family: Diptera: Anthomyiidae

Size and Appearance:

	Length (mm)	Appearance
Egg	I.25 mm	Eggs are white and elongated. Can be found on the soil near the stem and occasionally on the young leaves and neck of the onion plant.
Larva	8-10 mm	Larvae are tapered and creamy white in color.
Adult	3-6 mm	Greyish, looks similar to a housefly, except they have a narrower abdomen, longer legs and overlap their wings when at rest.
Pupae	7 mm	They are chestnut brown and elongated, found in the soil at a depth of 5-10 cm.

Type of feeder (Chewing, sucking, etc.): Chewing (hooked mouthparts)

Host plant/s: Serious pest of onion and related Allium crops such as garlic and leeks.

Description of Damage (larvae and adults): Only the larva causes damage. Larvae use their hooked mouth parts to enter the base of the plant and then feed on the internal plant tissues. The kind of damage varies depending on time of year and which of three generations is causing the damage. All three generations can be destructive, but the first generation is the most damaging because it can routinely reduce unprotected plant stands by over 50%.

First generation:
Younger plants are more vulnerable to larval feeding and damage than older plants because as the plants grow the underground portion of the plant and bulb become more difficult for the larvae to penetrate. Damage from the first generation attack usually can be seen in mid-to-late June as onion seedlings first wilt, then become flaccid, and finally die. If you try to pull the wilted

plant, it is likely to break just below the rotting stem of the seedling. If the seedling dies before the maggot is full-grown, they will move down the row to the next seedling.

Second generation:
By the time the second generation of larvae have hatched, onions plants should have matured enough to form bulbs and survive being fed on. Larvae that feed on developing bulbs can distort their growth, resulting in grossly misshapen onions that are not suitable for market. This feeding can also provide entry points for bacterial pathogens that can cause bulbs to rot. Damage can be determined by pulling the plants and observing the maggot infestation.

Third generation:
By the time the eggs for the third generation are ready to be laid, most onions will be in windrows drying; however, they are still vulnerable to damage. Adult onion flies will lay their eggs either directly on the bulbs or on the soil immediately next to and beneath the drying onions. The onion maggots that hatch from these eggs can bore into the onion bulb at any point, allowing easy entry by plant pathogens, and remain unnoticed. These maggots will be taken with the onions to storage after harvest, allowing the infested onions to rot and infect other onions in storage.

References:

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