

Pepper Maggot in Kentucky

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In the summer of 2002, pepper maggot was found attacking peppers in two central Kentucky pepper fields. These are the first records of this pest in Kentucky. Pepper maggot, *Zonosemata electa* (Say), is a sporadic pest of peppers along the Atlantic coast, Indiana, and Missouri. Like European corn borer, pepper maggot feeds inside the fruit tunneling underneath the cap on the pericarp. While European corn borer does leave some evidence on the outside of the pepper, pepper maggot leaves little evidence on the outside other than a small dimple where the female fly deposited her egg in the flesh of the fruit. At harvest, the cap of the infested peppers often separates from the pod as a result of the tunneling damage. Although there is little evidence of attack on the outside of the fruit, there is considerable internal tunneling and discoloration. Often fruits attacked by pepper maggot turn color prematurely.



Figure 1. Pepper seed, pepper maggot pupa and larva inside a pepper fruit.

It is common to find tiny fly maggots feeding on decaying material in peppers that have succumbed to disease or European corn borer attack. These larvae feed on decaying material and do not injure

sound peppers. But the pepper maggot is a different type of fly. The pepper maggot is a relatively large larva, nearly a half inch in length, feeding on otherwise sound fruit. When mature, the larva is light yellow in color. The body is pointed near the head and blunt toward the rear. After feeding on the pepper for two to three weeks, the maggot drops to the soil, and pupates two to four inches below ground. Adults begin to emerge from the soil the following year in early summer through mid-August. The adult pepper maggot is a brightly colored fly with a pale yellow head, green eyes, tan thorax, pale yellow abdomen and clear wings with brown bands. There is only one generation per year.

As with many disease problems of peppers, sanitation and rotation are used to control pepper maggot. Adult flies are attracted to rotting peppers, so removal of rotting fruit from fields reduces the attractiveness of fields to egg laying flies. Destroy infested fruit and cull piles as they serve as reservoirs for future infestations. Another cultural control is rotation. When possible, do not plant peppers in or near fields with a history of pepper maggot. Horsenettle is an alternate host for pepper maggot, so destruction of horsenettle near pepper fields aids pepper maggot control.

Yellow sticky cards are used to monitor for pepper maggot adult activity. Traps should be placed around the margins of fields and observed weekly. In other states where pepper maggot has been a problem, sprays are applied when the flies are detected on the traps and reapplied weekly while the flies remain active. Mustang Maxx is labeled for control of pepper maggot flies. This must be applied prior to egg laying to be effective.

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