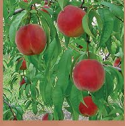




Stone Fruit IPM for Beginners

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Chapter 25

Oriental fruit moth

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Oriental fruit moth

Grapholita molesta (Busck)

Hosts



Peach is the main concern but it can attack all tree fruit.

Time of concern

April through peach harvest.

Damage, symptoms and pest cycle

Attacks all deciduous fruits, particularly peach and apple. On peach, larvae feed first on new terminal growth, tunneling toward the base of the shoot and causing the terminal to wilt and die back, also called “shoot flagging.” This damage may be confused with that caused by periodical cicada oviposition, which can also cause terminal wilt. Young orchards are especially susceptible to this injury and if left unchecked, terminal feeding can lead to serious problems with tree architecture as new shoots emerge to replace the dead ones.

Later, broods attack and tunnel in the developing fruit, usually causing conspicuous entrance or exit holes covered with frass, while the larvae excavate cavities near the pit. Sometimes larvae enter through the stem or through a split in the fruit so that the fruit appears undamaged.

The adult is a small moth with dark gray mottled wings that lighten somewhat at the outer edges.

Oriental fruit moth adult.



Michael Haas, MSU Entomology



Michael Haas, MSU Entomology

Shoot death is a symptom easily seen from a distance.



Michael Haas, MSU Entomology

A wilted tip indicates a larva may be feeding inside.



Michael Haas, MSU Entomology

Cutting open the tip exposes the feeding larva.



Use a red or orange Delta trap for oriental fruit moth. Do not use a white trap as it will also attract bees.

The larva is dirty white to pinkish with a reddish brown head and an anal comb. The anal comb, found at the posterior end, may be seen by applying gentle pressure to the larvae while looking at it with a hand lens or under a microscope. The presence of the comb is what distinguishes oriental fruit moth larvae from early instar codling moth larvae, which they resemble.

IPM steps for beginners

This insect historically has been the major internal worm pest in commercial peaches. Monitor adults with pheromone traps and use a degree-day developmental model to time insecticide sprays. Place Delta style traps 4 to 6 feet from the ground in the outer edge of the canopy with the trap direction so that a moth flying around the tree has the openings at either end of the trap available for trap entry.

Select summer insecticide applications targeting other pests based on whether they are also effective against oriental fruit moth. Practice insecticide rotation with this pest as resistant populations are known to develop when rotation is ignored. Some areas within the state have had problems with oriental fruit moth resistance to pyrethroid insecticides.

Ready for more precision

Successful control of this pest has been achieved using mating disruption alone, especially in area-wide programs, or under heavy population pressure, in combination with insecticide sprays. Do not use mating disruption in newly planted or very young orchards as there is not enough canopy development to “hold”



Evidence of fruit feeding on the exterior of a peach.



Frass from the larva accumulates at the entry point.



Larva feeding inside the fruit.

the pheromone in the orchard. For information on how to use mating disruption, see [“Guide for Using Mating Disruption to Manage Oriental Fruit Moth in Michigan Tree Fruits.”](#)