Tree Fruit Pest Management Strategies

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Fruit trees are a common fixture on many small farms, even if the produce is not marketed. If you have a home orchard or have fruit trees in your landscape, it is extremely important to carry out a pest management program that prevents the spread of injurious pests to nearby commercial orchards. There are numerous insect pests and diseases that may be harbored in unmanaged or under-managed trees and spread from there to commercial blocks. In the Mid-Columbia area, three of these pests are of particular concern.

Codling moth is a pest of apple and pear and also infests crabapple, hawthorn, and quince. Adult codling moths lay their eggs on fruitlets. The eggs hatch out as worms that tunnel into developing apples and pears resulting in characteristically wormy fruit. Western cherry fruit fly is a pest of all fruiting cherry varieties. Adult fruit flies lay eggs in cherry fruitlets. These eggs develop into small wormlike larvae inside the fruit. Apple maggot is a pest of apples but can also infest crabapple and hawthorn. Also a fruit fly, the apple maggot lays its eggs in apple fruitlets. These also develop into small wormlike larvae inside the fruit. Fruit infested with any of these pests is commercially unacceptable.

Tree fruit growers carry out routine management programs for each of these pests, but regular control methods can become ineffective when there are unmanaged trees nearby, resulting in unmarketable fruit. Additionally, western cherry fruit fly and apple maggot are quarantine pests, meaning that shipment of fruit from areas with detections of these insects may be restricted or prohibited. Again this causes loss to the commercial grower.

In the Mid-Columbia area, increasing numbers of pear and apple growers are adopting a non-chemical approach to managing codling moth known as pheromone confusion or mating disruption. Instead of applying an insecticide in the orchard to protect the fruit, growers distribute dispensers throughout the orchard that emit a blanket of the sex pheromone that male moths use to find unmated females. Male moths are overwhelmed by the invisible cloud of pheromone and are unable to find females to mate with. Unmated females do not produce viable eggs. Without eggs there are no larvae to destroy the fruit.

One of the potential downfalls of mating disruption is that mated females can fly into an orchard and lay eggs on fruit that is not protected with a conventional insecticide. Unmanaged or under-managed pear and apple trees can serve as reservoirs of mated female codling moths that ruin the efforts of growers to employ environmentally-friendly methods of pest management.

Realizing the importance of the tree fruit industry to the local economy and the negative impacts of pests harbored in unsprayed trees, several Mid-Columbia counties have established pest abatement ordinances. For example, Hood River County Amended Ordinance Number 149 requires that diseases and pests be controlled on host plants, including fruit trees and non-commercial hosts. If pests are not controlled, the County may require destruction of the crop and/or trees at the owner's expense. Washington State counties have similar laws.

Pear, apple, and other fruit trees are not appropriate landscape plants in fruit-growing areas like the Mid-Columbia. For serious fruit enthusiasts, growing your own can be a very rewarding experience. One must realize, however, that lack of a rigorous pest management program for those fruit trees may jeopardize efforts by commercial growers to adopt new pest management practices and may result in significant economic losses to growers already facing an unfavorable economic outlook.

If you have fruit trees in your yard or landscape that are maintained strictly for shade or aesthetic value, you should consider replacing those trees with more appropriate plants that do not harbor economically important
pests. If you do intend to maintain fruit trees for fruit production or other hosts of these insect pests, it is critical that you prevent their spread to commercial orchards.


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