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GRAPE MEALYBUG IN PEARS

History and Damage

Grape mealybug has been a pest in some Washington pear orchards for several years. A sedentary, sucking insect, this bug attacks several plant species, including grape and pear. During most of its life it is covered with white waxy filaments that give it a cottony appearance. The insect’s body beneath the wax coating is purple, much like woolly apple aphid. In fact, mealybugs and woolly aphids have a lot in common including sucking mouth parts and general appearance.

The most obvious damage grape mealybug and woolly aphids cause is through their honeydew excretions that stick to fruit. Honeydew is cast off in small drops and falls as a light rain on fruit and foliage. When it lands on fruit it causes a coarse black russet. The russet caused by grape mealybug may be confused with Pear Psylla russetting. But mealybug russetting occurs in a general scattered pattern, while psylla honeydew appears in patches. Mealybug russetting is common in low centers of trees; psylla damage occurs more evenly, or in tops of trees.

When mealybugs are numerous, they may invade the entire tree. Some may enter the calyx, or base, cuplike ends of fruit. Their feeding in the calyx causes a softening of tissues there and around the seed cavity. The symptoms resemble those of the disorder called “pink end.”

Life History

Grape mealybugs overwinter as newly hatched crawlers under bark scales on larger limbs and trunks, or in trash at the base of pear trees, where mature females have placed eggs. Most crawlers stay in the nest where they hatched until spring
temperatures warm enough to make them active. Crawlers emerge from the egg sac in February and March, about the time pear psylla begin laying eggs. This activity coincides with bud swell. Earliest crawlers emerge and begin feeding at the bases of buds. When buds open, crawlers go directly to new shoots and leaves. Because some overwintering sites are exposed to sun while others are shaded, crawler emergence occurs over a long period of time, ending about petal fall stage of tree development. There is only one generation per year on pear in this area.

Control

The strategy for controlling grape mealybug on pear is to kill crawlers before they settle on new shoots. Once they settle and cover themselves with waxy strands they are less susceptible to chemical sprays. Since crawlers emerge from delayed dormancy until petal fall stages, effective residues must be maintained throughout that period. However, insecticides must not be applied during bloom.

The two most effective times to spray are at cluster bud and petal fall stages, but be sure that bees are removed from the area before applying a petal fall spray. Both sprays are needed. If possible, apply the second spray going in the opposite direction or at right angles to the first to improve coverage of hard to hit areas. Good spray coverage is essential to controlling this pest, just as it is with San Jose scale. Handgun spraying of trunks and bark scales on limbs is advisable.

If the infestation is spotty as it often is when this pest first invades an orchard, mark infested trees so they can be given special attention. It is easy to detect infested trees in late June or July when mature females are crawling back to larger limbs and trunks to deposit eggs, or during harvest when damaged fruit is evident in bins; little can be done in the way of control at those times.

Removal of water sprouts in late June will destroy many nymphs if control is not obtained earlier. This method will reduce both fruit damage and overwintering populations.

This control program takes a great amount of work just for one pest, but it is better to make an intensive effort for 1 or 2 years than to fight year after year and still have damage. Check EB 0419, The Spray Guide for Tree Fruits in Eastern Washington, for suggested chemicals to control grape mealybug on pear.