Pest Profile

Photo credit: Whitney Cranshaw, Colorado State University, Bugwood.org

Common Name: Woolly apple aphid

Scientific Name: *Eriosoma lanigerum*

Order and Family: Hemiptera, Aphididae

Size and Appearance: The lifecycle of the woolly apple aphid is complicated and involves several different hosts depending on the season. Most reproduction is done by females bearing live young asexually. They overwinter on elm trees as eggs, then hatch and reproduce for a few generations before migrating to apple trees as the summer host. First instar nymphs are active, called crawlers, and can disperse by the wind to different areas. The wingless females reproduce asexually in the summer. Colonies that are above ground have long filamentous white wax but if they are underground, the wax is bluish white in color and shaped like a rod. Over the season, several generations of wingless female aphids are produced on apple trees. When winged females disperse to elm trees in the fall, they produce wingless males that then mate with the females, which lay eggs. When no winter host of elm is found, the aphids can survive the winter by asexually reproducing and feeding on roots and tree trunks of other hosts.

	Length (mm)	**Appearance**
Egg	0.6 x 0.3mm	Eggs are rare; elliptical shaped; brown to purplish color; surrounded by a waxy secretion; overwinter in elm tree bark.
Larva/Nymph	1st instar: 0.6 mm 4th instar: 1.3 mm	Undergo four instars; dark reddish-brown body color; have bluish-white wax covering that increases with instars.
Adult	1.8 mm	Reddish or dark purplish brown body color hidden by white wool-like wax; females are wingless until a migrating generation appears; lack cornicles (small tubular extensions on rear); single branched media vein on female wings; males are wingless.
Pupa (if applicable)		

Type of feeder (Chewing, sucking, etc.): Larvae and adults: Piercing-sucking

Host plant/s: Host plants include apple, crabapple, pears, alders, oaks, hawthorn, ash, pyracantha, and elms.

Description of Damage (larvae and adults): Woolly apple aphid nymphs and adults feed on the roots, trunks, and branches of trees with their piercing sucking mouthparts. They colonize the roots and branches and trunks on apple and crabapple in the summer. These aphids don't feed on the leaves. The aphids feed on the bark and roots and cause irregular growths, splitting, and blisters. Their saliva is toxic to trees. Wound healing is interfered with by aphid feeding, causing knot like growths and blisters as well as deformations to grow on the tree. Roots can be girdled by swellings which can kill the roots. The deformations and galls can result in secondary infection from diseases or fungi to the tree roots. Sooty mold can grow on surfaces from the aphids' honeydew.

References:

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