

Bugs and Blights: Winter Inspections in the Orchard

Sharon J. Collman

WSU Snohomish County Extension – December 2010

Winter is that time when trees are leafless and all the wee beasties are in a dormant state. Or are they? Certainly the orchardist/gardener is inclined to catch up on back issues of newsletters and the Goodfruit Grower, preferably in a cozy room with fire or view.

But there's more to do in the orchard, with winter pruning and shaping. When your energy flags, it's a great time to LOOK at those trees. No leaves gives a great view of trunk and structure and yes, insects and diseases. Especially if the gardener is up in the tree with pruners, loppers and saw (and camera?).

What might these be you may ask? Indeed you have guessed it – various stages of Bugs and Blights.

Tent caterpillar eggs – are laid in July and winter over with fully developed larvae inside. The eggs are covered with a gray foam-like material called spumaline. Pick off the eggs when you notice them. Flick them away so any tiny parasitoid wasps can emerge normally. The caterpillars aren't likely to make it to a host plant even if they do hatch later.



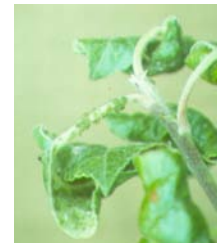
Western tent caterpillar eggs wrapped around toward tip of branch. (Photo: sjc)

There are two kinds of tent caterpillars. Western tent caterpillar lays the eggs in a circle around a twig out toward the tip (top). The forest tent caterpillar, as the name implies, is more common in the forested area of the foothills and is rare in Seattle. They lay egg mass further inward in the tree in a patch at the twig crotch. Both appear in profile as uncharacteristic bumps around twigs as you look up.



Forest tent caterpillar egg mass. White spots are lenticels: normal structures for O² and CO² exchange. Note the foam-like material covering eggs. sjc

Aphid eggs, on apple, are laid in fall. Males and females meet, greet and the females lay large eggs (relative to her body size – ouch!) on the bark of twigs. The one time I found the, eggs they were pretty much all over the tallest most upright branch on the apple. Prune out infested twigs but leave the branches nearby so any parasitoids will emerge. (These eggs pictured are on a pine needle; aphid eggs on apple will be more scattered and look more like sooty bits on the twig.)



Photos: S.J. Collman

Lecanium scale is the larger rounded bumps on twigs. I've seen branches encrusted with females,

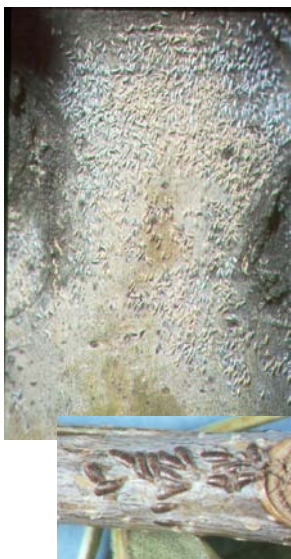


and dripping excess liquids, in the spring. The overwintering crawler stage looks a bit like a rounded spot of gelatin on the twigs.

Left: clear, scale crawler in winter;

Right: crawlers are beginning to expand; slim white scales are males. They will split the scale

<http://jenny.tfrec.wsu.edu/opm/displaySpecies.php?pn=510>



Oystershell scales – do indeed look like mini-oysters piled up on each other just like oysters at the beach. The scale covering protects the eggs, and also protects any mites and parasitoid wasps, beneath the “shell” through the winter months. Dormant oils or lime sulfur are not likely to be effective on these. Crawlers hatch in late June in Seattle (despite the books and journals that report that they hatch from March through early June). When this insect first appeared in orchards in the early 1900s, there was considerable research conducted on the life cycle and control of this insect. It was found that lime sulfur did not penetrate or creep under the scale cover, thus eggs were not affected.

This scale builds up rapidly on stressed trees. The crawlers emerge in late June and settle within hours as soon as they find a good spot to tap into. They lose their legs and cannot move again. While there are over 400 known hosts, apple, ash, cottonwood and willow are particularly affected.

<http://jenny.tfrec.wsu.edu/opm/displaySpecies.php?pn=500>

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San Jose scale – are not common, if they occur at all, on the west side of the Cascades. I've not seen them in the Seattle area and would welcome any observations the membership may have. With scion material, stools and plants moving about the state, there is reason to believe they could arrive and survive here. The scale also has a wide host range that includes other tree fruits and ornamental plants. The scales are shaped like lopsided volcanoes and may be found on bark, branches, twigs, flowers and fruit. A red spot develops around the scale when it is feeding on fruit. Scales may become so numerous that they encrust, and may cause death of, twigs and branches. There is an excellent fact sheet at the WSU Tree Fruit Research and Extension Center website:

600 128th Street SE, Everett, WA 98208-6353
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<http://jenny.tfrec.wsu.edu/opm/displaySpecies.php?pn=490>

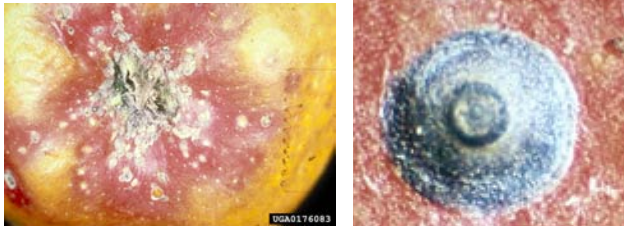


Photo: Biologische Bundesanstalt für Land- und Forstwirtschaft Archive, Biologische Bundesanstalt für Land- und Forstwirtschaft, Bugwood.org
UGA0660002 and UGA0176083 and UGA176084 respectively

Shothole borer – While you are up in the tree, check for signs of shothole borers. There are several beetles which will mine under the bark of fruit trees. Holes that are exuding sap and sawdust indicate borer activity; while those that are clean may indicate old exit holes. Often the only evidence is a small hole under or to the side of a bud or twig. Several species of borers cause different patterns of damage. Usually they attack weakened branches. For more detail specific to tree fruits, see <http://jenny.tfrec.wsu.edu/opm/displaySpecies.php?pn=530>



Photo credits: Beat Forster, Swiss Federal Institute for Forest, Snow and Landscape Research, Bugwood.org (photo 1 & 2) and Clemson University - USDA Cooperative Extension Slide Series, Bugwood.org (photo 3)

Natural lenticels allow oxygen and carbon dioxide exchange between interior of the wood and outside.

TARGET THE PEST, PROTECT THE REST

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(Kindly report your findings and any unusual occurrences – early detection for best results.)



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