



Pest Management in Western WA Cherry Orchards

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In western Washington a number of serious disease and insect pest problems may affect both sweet and tart cherries, though tart cherries as a class tend to be more disease tolerant. In general, trees that are nutritionally sound, healthy, and well maintained will stand up better to pests than weak, poorly nourished trees. Home orchardists should look over their trees often to catch problems early. Good orchard sanitation, such as removing infected leaves and fruit from the orchard area, will help to reduce the level of disease inoculum for the following season. Master Gardener volunteers and county Extension staff can often help to identify a disease symptom or specific insect.

DISEASES

Bacterial canker – a major disease of sweet cherry trees in western WA. Dark cankered areas on trunks and branches may develop and expand in early spring. Infected tissues may produce gum, and cankers often girdle twigs and branches, causing dieback. Infection can be spread by wind, rain, insects, and pruning tools. Burn or cut out cankers on branches or trunks. Cauterizing should be done in the spring prior to bloom. Prune out and destroy infected tissues during dry weather. Make cuts well below visible canker and sterilize tools frequently. Do not remove cankers at the same time as regular pruning. If you supplement with chemical control, make one application in October during leaf fall prior to fall rains. Then make a second application in early January (see **EB0419** for materials and timing of sprays).

Brown rot – a blossom-infecting fungal disease that also infects fruit at pre-harvest. Infected flowers wilt and die. Blossom or fruit infections can spread to twigs, which may develop sunken, elongated cankers with gumming at the margins. Prune these out in late spring or summer. Do not wait until the dormant season, when infected twigs are difficult to distinguish. Infected fruit show a small brown spot which rapidly enlarges. Fruits remain fairly firm and often become covered with gray-brown fungus, later hardening into mummies, which are a source of infection the next spring. Apply fungicides just before blossoms open, at full bloom, and when most blossom petals have fallen.

Coryneum blight (shothole) – a fungal disease that attacks leaves and sometimes fruit. Lesions on leaves are initially small, purplish areas which expand into brown spots up to 1/4" in diameter. Infected leaf spots may die and drop out, giving leaves the characteristic "shothole" appearance. Fruit may develop one or more large brown spots. The fungus probably overwinters on the bark and in infected buds. Spores are easily spread by water and wind. Apply fungicides just before blossoms open, at full bloom, and when most or all of the blossom petals have fallen.

Gummosis – a nonspecific condition in which gum is exuded through the bark. Gum is produced in response to any type of stress, not necessarily a wound, and may be due to insects, mechanical injury, drought, cold injury or disease. Trees that have received too much water or nitrogen fertilizer (causing a sudden growth spurt) may produce gum. It is also seen in branch crotches that are too narrow. If disease is not present, gummosis in itself is not a danger to the tree though it may be unsightly.

INSECTS

Spotted Wing Drosophila (SWD) – resembles other fruit flies or vinegar flies but unlike them attacks healthy fruit as it ripens, laying eggs within the fruit which develop into small larvae that feed in the fruit, causing it to soften, collapse, and rot. This is a new invasive pest and management options are still being researched (see **FS 049E**, below). Trapping is NOT an effective control method; however, it can be used to identify SWD and determine correct timing of pesticide sprays. Timing of sprays is of critical importance. Good spray coverage of leaves and fruit is also essential to prevent oviposition by the

females. Chemical applications are effective ONLY against adults, and will not control SWD larvae once they are in the fruit.

Cherry Bark Tortrix (CBT) – attacks trees in the rose family, including cherry. All life stages occur within the host tree except for the eggs and adults. Eggs are laid singly on the bark surface. Hatching larvae penetrate the bark through openings (natural and mechanical) and feed on the living tissue of the tree's bark. During feeding, CBT larvae construct a frass tube in which pupation takes place. Frass tubes are an excellent indication of CBT infestations and susceptible trees should be regularly monitored for frass tubes (see **EB 1893**, below). Only use pesticides for large infestations. For best results, apply in mid-September to early October when temperatures are warm and conditions are dry. Treat only infested areas, such as the trunk or graft union.

Black Cherry Aphid – a shiny, black insect that feeds in colonies on the tips of new growth, causing curling and distortion of the shoots and leaves. Aphids overwinter on the trees as eggs, then young aphids feed on buds and leaves in the spring. Winged adults migrate to plants in the mustard family, their summer hosts. Controlling weeds, especially mustard types, helps reduce insect survival. Natural predators like ladybird beetles and parasitic wasps are also useful. Washing aphids off with a strong water stream is only effective before insect feeding causes leaves to curl. Dormant oil sprays can be used during delayed dormant period to control overwintering aphid eggs.

VERTEBRATE PESTS

The most troublesome vertebrate pests of cherries are birds. Both flock birds (crows, starlings) and lone feeders (robins) can essentially strip the trees of fruit and damage what they do not consume. The only reliable protection is to net the trees before the fruit begins to ripen. This solution is more practical now that dwarfing cherry rootstocks such as Giesela 5 are more available. Net cages also protect trees against larger vertebrate predators, e.g. raccoons and deer. Various scare devices (scare-crows, hanging flashers, flags, balloons, water sprays, etc.) can reduce damage if they are moved about so the predators do not become accustomed to them. The repellent Methyl anthranilate, a naturally occurring compound derived from grape skins, has recently been registered for home use on a variety of crops including cherries. It has proven useful in reducing bird damage in test plots; however, effectiveness in field situations is variable.

INFORMATION

Hortsense – web resource for home gardener fact sheets to manage plant problems; cultural controls and Washington-registered pesticides are included. <http://pep.wsu.edu/hortsense/>

EB 0419 2012 Crop Protection Guide for Tree Fruits in Washington – updated annually, lists products registered for use against insect, disease, and weed pests in WA orchards, with tips on spray timing and techniques.

FS 049E Spotted Wing Drosophila (SWD) Monitoring, Identifying, and Fruit Sampling – fact sheet with instructions for trap construction, fruit sampling, and identification of the pest <http://www.mountvernon.wsu.edu/ENTOMOLOGY/pests/FS049E.pdf>

EB 1893 Cherry Bark Tortrix: Biology and Population Management – this bark borer feeds on rosaceous trees (including cherry) in humid valleys west of the Cascades with sometimes fatal results.

EB 1323E Field Guide to Sweet Cherry Diseases in Washington - includes numerous photos to help identify diseases from viruses, bacteria, fungi, and herbicide disorders. <http://cru.cahe.wsu.edu/CEPublications/eb1323e/eb1323e.pdf>

Pacific Northwest Plant Disease Management Handbook –online guide from Oregon State U. <http://pnwhandbooks.org/plantdisease/>