

Fire blight is one of the most destructive diseases of pears in Washington. It also affects apples, quinces, serviceberries and other members of the rose family.

Bacterial canker is one of the more common problems of cherry trees in western Washington, though it can also attack other stone fruits (peaches, nectarines, apricots, plums), and other plant species including weeds. Infection is favored by cool, wet weather though symptoms may not be visible until later. The bacteria overwinter in cankers, buds and other host tissues.

Infection can be spread by wind, rain, insects, or pruning tools, and usually enters the tree through breaks in the bark such as pruning cuts, injuries from weed whackers, or rodents or insects nibbling the bark. Sunscald or freezing can also cause bark or bud/leaf damage allowing the bacteria entry. The disease may spread throughout the entire tree (systemic infection) with or without visible symptoms. Young trees are particularly vulnerable.

Fire Blight

Fire Blight, *Erwinia amylovora*, Fire Blight may occur on young pear and apple fruits. Fire Blight overwinters in the cankers (small area of dead tissue) on larger branches. During moist weather, drops of bacterial ooze are produced on the canker surface. This ooze contains masses of the bacterial that cause Fire Blight. In the spring, the bacteria ooze from the cankers can be spread to the blossoms, twigs and branches by insects, rain and pruning tools. The infected leaves die but do not fall. They remain on the tree, giving it the appearance of having been scorched. Infected fruit becomes water-soaked and under humid conditions ooze appears on the surface. They then turn brown, shrivel and finally become black. Infected blossoms wilt, turn brown and die. Infected twigs shrivel, their tips curl over, and they become dark brown or black. There can be dark, slightly sunken cankers on the larger branches. Cankers are usually separated from the healthy bark by narrow cracks. Protective sprays may help prevent blossom infection. Cut off infected branches 15 to 18 inches below the visible margin of the canker. Disinfect all pruning tools after each cut. Dilute one part of household bleach to five parts water for an effective disinfectant solution.

Symptoms

The first visible symptom is usually cankered areas on trunks and branches developing in early spring. The infected tissues may weep gum, although gumming can also be caused by other factors. The cankers often girdle twigs and branches, causing dieback above the lesion. Leaves on girdled twigs often yellow and fall by late summer. Infected buds may be killed, or leaf infections may occur as the new growth emerges resulting in collapse of leaves.

Cultural Practices to Limit Bacterial Canker

Plant resistant varieties. Cherry varieties with resistance to canker include: all sour (pie) cherries, and sweet cherry varieties Black Gold, Lapins, Lambert, Sam, Stella, Vandalay, and White Gold. Rainier, Sweetheart, and Tehranivee have shown resistance in some conditions.

Site Management/Spacing: be sure to site your fruit trees in full sun and spaced well apart. Be sure to give cherries and other stone fruits excellent drainage and avoid planting them in frost pockets.

Pruning: Do not prune cherries or other susceptible trees during cool or wet weather. Prune only in summer, and when rain is not expected. If infection is seen or suspected on any of your trees, always sterilize your pruning tool between cuts by wiping with a bleach solution. Prune proactively to increase air movement and light penetration.

Avoid Breaking the Bark: do not mow or weed whack near susceptible trees. Use tree guards on young trees to protect from rodents. You can whitewash the trunk to help protect it from sunscald and bark splitting.

Watering: Avoid overhead watering.

Proper Tree Care: Avoid drought and nutrition stress on trees; stressed trees are vulnerable.

Weed Control: Do not allow weeds to grow near susceptible trees as some can harbor the bacteria.

Sanitation: If a tree is affected, remove and destroy all fallen branches or leaves immediately; then as soon as the weather is dry, prune out any infected branches several inches below the canker and remove any infected twigs/leaves. You may need to remove a badly infected tree to protect your other plants.

Cauterize Cankers: A tree company may be able to burn or cut out cankers on branches or trunks. Cauterizing should be done in the spring prior to bloom.

Spraying to Limit Recurrence:

- Make one application in October during leaf fall prior to fall rains.
- Then make a second application in early January.
- Products may have limited efficacy due to resistance.
- Homeowners should not make foliar applications to trees over 10 ft tall.
- Consult a commercial pesticide applicator for treatment of trees and shrubs over 10 ft. tall.
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Organic Spray to Limit Infection
Bonide CAPTAIN JACK'S™ Liquid Copper Fungicide

Chemical Spray to Limit Infection

Monterey Liqui-Cop A non-organic formulation of copper. Use at recommended rates (do not overapply).