

Brown Rot

Caused by the fungi *Monilinia fruticola* and *Monilinia laxa*

Host/Site

Stone fruit: ornamental and fruiting stone fruit, especially cherries and plums, but also apricots, peaches, and almonds. Disease affects blossoms, fruit, and stems.

Identification/appearance

Brown rot on blossoms appears as sudden wilting and browning of flower parts. Later, dead flowers may be covered by a grayish brown powdery mass of fungus spores. Fruit shows soft, brown spots, which may enlarge, rot, and become covered with spores. Diseased fruits such as plums may hang on the tree and dry to a firm, mummified state. On twigs and smaller branches, brown rot cankers are oval or elongated, definite in outline, brown in color, and usually sunken. The twig is sometimes girdled and dies. The sap may show as “gummy.”

Life Cycle

The fungus overwinters in infected twigs and fruiting spurs and in mummified fruit on the tree or the ground. In spring, masses of spores are produced on these infected tissues and cause blossom blight. Infection then spreads from the blossom to the fruit. Fungus spores are spread by wind and rain.

Natural Enemies

Not applicable.

Monitoring

Susceptible trees should be monitored regularly from first bud-break for signs of wilted leaves or flowers or diseased fruit.

Action Threshold

To prevent brown rot, it is necessary to act before symptoms show. Perform all appropriate cultural/physical controls (below). Use fungicides only if you have a plant that must be protected. Some plants can go for years with a little bit of brown rot without major damage. If fungicides are used, they must be applied according to a strict program from early bloom to end of bloom at 7 to 10 day intervals to be effective. Many times, wet weather patterns do not allow such a



Brown rot on cherries

program. Haphazard spraying does not help and should be avoided.

Cultural/Physical Controls

Consider replacing susceptible trees with resistant varieties or other kinds of trees. Apple, crabapple, and Asian pear are not susceptible to brown rot and are available in cultivars that resist other common disease problems such as scab. Improve air circulation to eliminate moist conditions. Avoid planting trees too close together, and remove some trees where

too crowded. Remove brush in vicinity. Proper pruning significantly helps with control. Prune trees to provide more open crowns. Remove infected spurs and shoots as soon as they are noticed. Pruning in late spring or early summer makes it easier to see infected leaves and blossoms not present in dormant season, as well as reducing spore counts. Remove mummified fruit from tree and ground below tree. Rake up and dispose of all infected fruit and leaves as they fall, throughout the growing season. Mulch in fall with 2 to 3 inches of non-infected material to further bury fungal spores.

Biological Controls

None known.

Chemical Controls

Organically-certified controls for brown rot include sulfur, lime sulfur, and fixed copper. Sulfur is not recommended during bloom west of the Cascades. Although less hazardous in some respects than other fungicides, these materials may still be toxic or corrosive. Copper does not biodegrade, and excessive use should be avoided to prevent soil levels from building up over time.

Conventional fungicides: Captan is registered for use on cherries, plums, peaches, and apricots, but it is hardly a least-toxic control. Captan is a suspected carcinogen and endocrine disruptor. Chlorothalonil (*Daconil*) is also registered, but it too is suspected of causing cancer.



The Green Gardening Program is sponsored by Seattle Public Utilities to promote alternatives to lawn and garden chemicals. Funded by the Local Hazardous Waste Management Program in King County.

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