

Fire blight

The bacterium *Erwinia amylovora* causes fire blight.



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Host plants:

Susceptible plants include over 130 members of the rose (Rosaceae) family, including but not limited to apple and crabapple, cotoneaster, firethorn, hawthorn, mountain ash, and pear.

Description:

Infected twigs, leaves, flowers and fruit turn dark brown to black. Fire blight blackens the surface of smooth-barked green branches and there is often a distinct margin between healthy and diseased tissue. The tips of blighted shoots may bend into a “shepherd’s crook.”



Left: Late spring fire blight on crabapple



Right: Early spring fire blight on apple shoots and fruit.

Photos: (left) Minnesota Department of Natural Resources Archives, MN DNR. (right) Clemson University - USDA Cooperative Extension Slide Series. www.ipmimages.org

Disease cycle:

Fire blight bacteria overwinter near the margin of branch cankers. As the weather warms during wet springs, milky-brown bacterial ooze commonly exudes through the bark. Rain splash, insects (especially bees and flies), birds, tools and people carry the bacteria to flowers, green leaves and shoots. Warm, humid weather when host plants are flowering favors fire blight infections. Once in the plant, the bacteria rapidly reproduce and kill succulent tissues as the disease progresses.

Management strategies:

Remove infected shoots anytime the conditions are dry, but optimally in late winter. Cut the blighted branch 8-12 inches below visible evidence of fire blight during the growing season and disinfect pruning tools between each cut. Disinfect tools with a thorough spray or dip into 70% alcohol or 10% bleach solution. However, during the dormant season, it is necessary to remove only 4 inches of healthy wood below the fire blight cankers, and there is no need to disinfect pruning tools. Avoid practices that promote succulent growth such as applications of high nitrogen fertilizer to the root zone as well as extensive pruning. If fire blight is a persistent problem on a site, consider replacement with plants that are resistant to the disease. There are cultivars and/or species of apple, crabapple, cotoneaster, firethorn and ornamental pear available. Flowers are typically where severe infections begin, so time applications of copper compounds and antibiotics to protect them. Begin at the “green tip” bud stage and repeat the treatment every 5-7 days until “petal-fall” during warm wet springs.

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