

Problem: Fireblight - *Erwinia amylovora*



Host Plants: Apple, flowering crabapple, pear, ornamental pear, firethorn, hawthorn, cotoneaster, quince, mountain ash.

Description: Fireblight affects a wide range of rosaceous plants including apple, flowering crab, pear, firethorn, hawthorn, cotoneaster, quince and mountain ash. Although fireblight can be a devastating disease, it is not as common in Kansas as scab and cedar-apple rust.

Symptoms of fireblight are most noticeable in the spring on blossoms and succulent new growth. Infected blossoms become water-soaked and turn dark-green or brown. Young, infected shoots rapidly wilt as if scorched by fire. The terminal end of the diseased shoot becomes hooked and is commonly referred to as a shepherd's crook. During wet weather, small droplets of amber-colored ooze containing millions of bacteria can be seen leaking from infected tissue. After initial infection of the shoots, the bacterium may move long distances within the living tissue and kill large portions of the tree. Infected areas of the bark on branches and trunks become slightly depressed and darker in color than surrounding healthy bark. When the outer bark is peeled away, the inner tissues appear red and water-soaked.

The bacteria overwinter in dead portions of the trunk or scaffold branches called holdover cankers. During wet weather in the spring, bacteria ooze from canker margins in gelatinous strands. The bacteria in the strands are splashed to flowers by rainfall or carried to the flowers by insects. The bacteria enter through natural openings in the floral parts. Infection is favored by wet weather and temperatures between 65 and 86 F. Honeybees visiting diseased flowers become contaminated with the bacteria and spread them to adjacent healthy flowers. Shoot infection may also occur at wounds caused by pruning cuts or hail injury.

Recommendations: Several cultural practices will reduce or prevent the occurrence of fireblight on both apple and flowering crab. During the winter, remove all dead shoots, infected spurs, and larger holdover cankers which harbor the fireblight bacterium. Pruning cuts should be made at least 6 inches below the margin of dead tissue. Pruning tools should be disinfected in a 10% bleach solution (1 part household bleach to 9 parts water) or in a 70% ethanol solution. Household bleach is corrosive, so pruning tools should be cleaned thoroughly and oiled after use. During the summer, periodically inspect the trees for symptoms of fireblight. Diseased areas may be pruned out during the summer provided a few precautions are taken. Never prune during wet weather. Pruning cuts in the summer should be made 8-10 inches below diseased tissue and pruning tools should be disinfected between each cut.

Fireblight is most severe on trees and shrubs which have an abundance of succulent shoot growth. Avoid over-fertilization, fertilizing late in the growing season, and over pruning, which leads to the formation of numerous adventitious sprouts. Do not plant susceptible cultivars of flowering crab or apples in areas where fireblight has been a problem.

References:

1. [Fire Blight](#), University of Missouri Extension, G6020
2. [Fire Blight](#), Colorado State University Extension, no. 2.907

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