

Fire Blight

Erwinia amylovora

SYMPTOMS: Blights of blossoms, fruitlets, and leafy shoots are initial indications of fire blight. Individual flowers (or flower clusters) appear to be water-soaked and quickly droop, shrivel and turn brown or black. Lesions can move inward to the twigs. Subsequent formation of twig and branch cankers can cause dieback. Cankers caused by fire blight begin as small, slightly sunken, brown or black areas in twigs and branches. Affected plant tissue in pear is black, while brown in most other hosts. If many shoots are affected at the same time, the plant appears burned by fire, hence the name fire blight.



Fire blight damage to Bradford Pear.

An important diagnostic feature is that the sapwood of newly infected shoots or twigs is discolored reddish-brown. Infected twigs often produce a “shepherd crook” effect (inverted “U”) with discolored leaves remaining on trees. Damage to ornamental plants caused by fire blight ranges from mild disfiguration to death.

CAUSE: Fire blight commonly attacks plants in the rose family (Rosaceae) including: apple, firethorn, mountain ash, cherry, cotoneaster, hawthorn, pear and quince.

Bacteria may infect blossoms or twig growth, or may infect branches and the trunk of trees via wounds. During moist weather, a bacterial ooze from recently infected plant parts leads to the dispersal of the disease. Under drier conditions, strands of bacteria are produced and may also be dispersed in water. Other transmitters of this disease are insects, birds and humans.

Infection and spread of the disease is promoted by warm, humid weather. Cultural practices such as sprinkler irrigation, use of quick-release, high nitrogen fertilization and severe pruning also favor the spread of this disease.

SOLUTION: Careful pruning of all blighted twigs and branches can delay the spread of fire blight. It is important to make cuts at least eight inches below the infected area. This tactic is most successful when done during cool, dry periods. Pruning tools must be disinfected after each cut.

Resistant varieties of apples, crabapples, pears, firethorn and cotoneasters are available. There is sometimes a trade-off, however, in that plants resistant to fire blight are susceptible to other diseases such as scab.

Quick-release, high nitrogen fertilizers should be avoided, especially in the spring when new growth is most susceptible. A program of proper fertilization, irrigation, mulching and pruning will maintain the vitality of plants and support their natural abilities to survive this disease. Management of the disease is difficult, although applications of such products as Streptomycin Sulfate or Aliette, may reduce disease severity.