



FIRE BLIGHT

Cause: Fireblight is a plant disease caused by the bacterium *Erwinia amylovora*. Fireblight can attack pear, quince, apple, mountain ash and crabapple trees, as well as *Pyracantha* species. In eastern Washington fireblight most often affects apple trees, pear trees, and mountain ash. The most serious damage occurs in apple and pear orchards.

Occasionally fireblight affects hawthorn (*Crataegus*), *Spiraea*, Cotoneaster, serviceberry (*Amelanchier*), (*Sorbus*), and other related plants. Fire blight infections can destroy limbs and even entire shrubs or trees.

Symptoms: The principal symptoms are blight of blossoms, fruitlets, spurs and leafy shoots, as well as the formation of cankers that cause dieback of twigs and branches. Gummy, consisting of a bacterial ooze, may occur in damaged areas. The earliest symptom is often blossom blight, where flowers or flower clusters appear water-soaked and droop, shrivel and darken. The bacteria next moves into the peduncles (flower stems) and then into spurs, twigs and branches. Temperatures of 65°F or warmer, coupled with rain or high humidity (65% or more), are necessary for infection. In our region where it is often cool when trees are blooming, shoot blight is likely to be the first sign of infection. The tips of blighted shoots droop and turn black on pears and turn brown on other hosts. Many shoots may be blighted at once and give the tree the appearance of being scorched by fire and hence the common name for the disease, fireblight. Fireblight may be very common some years, seldom seen in other years.

Damage: Death of blossoms, fruit spurs, branches and major limbs. Death of entire trees may also occur. Ornamental trees may be disfigured and their appearance will be less pleasing.

Cultural Control

Monitor your area for the environmental conditions that are necessary for infection.

- Plants that are resistant to fireblight bacterium are known within every host genera. When planting or especially when replacing a plant that was lost to fireblight, choose a resistant variety.

Pears - The pear trees that are commonly grown in our area, *Bartlett*, *Anjou*, *Comic*, and *Bosc* are all susceptible to fireblight. The pear varieties *Seckel*, *Orient*, *Moonglow*, *Mac*, and *Maxine* are resistant. The Asian pears *Seuri*, *Shinko*, and *Ya Li* are fairly resistant. Bradford pears, which are ornamental, are also resistant to fireblight.

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Apples - Resistant apples are *Delicious*, *Red Delicious*, *Liberty*, *Prima*, *Stayman*, and *Winesap*.

Mountain Ash - No resistant varieties identified.

- Pruning is the most practical form of control for plants in home yards. Remove and burn all traces of blight whenever noticed. Cut 12 or more inches beyond any visible discoloration. **Cutting tools must be disinfected after each cut to prevent spread of bacteria to healthy tissue.** Use a reliable disinfectant, such as a 10% Clorox solution, 70% ethyl alcohol (shellac thinner), or Lysol.

During the fall, immediately after harvest, inspect plants and remove any infected material missed earlier. This is important because the bacteria overwinter at the edges of cankers.

- Use only moderate amounts of fertilizer to prevent excessive shoot growth.
- Remove late blooms during fruit thinning.

Chemical Control

An application of 0.5% Bordeaux mixture or other copper fungicide applied several times as blossoms open can reduce some new infections. It will not eliminate existing infections. Once blossoms begin to open, make the first application when the average temperature for a 24-hour period exceeds 60°F. Apply at four to five-day intervals until late bloom is over. For pear trees, this may mean several applications per season. Copper fungicides can cause a scarring of the fruit surface. The risk of this damage begins during bloom and increases as fruits enlarge.
