

Fire Blight of Pears and Apples

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Figure 1. Fireblight Symptoms on an Apple Tree (1)

Fireblight (*Erwinia amylovora*) is a destructive disease of pears and apples that affects blossoms, shoots, limbs and can wipe out entire orchards (Figure 1).

Most apple or pear trees can flourish in landscapes and orchards with proper care, techniques and prevention.

Many symptoms of fire blight can be seen quickly after infection. In young shoots, a “shepherds crook” will form which is the most distinguishing feature of fire blight in the landscape (Figure 2), (2). Other symptoms are scorched leaves, ooze, necrotic bark and limbs, and necrotic leaves that wilt and wrap around branches (4).

The symptoms are caused by bacteria entering the



Figure 2. Shepherds crook on young shoots (4)

plant and disrupting growth habits.

Once fireblight has infested an orchard, it takes some time to get rid of it, but through many mechanical and chemical controls, it can be done. The best way to eliminate fire blight in a tree is to prune out the infected area with sterile tools and dispose of the debris properly. The debris should be taken away or burned. If left in the area the disease will over winter and infect the following season's crop (4). Copper based pesticides can be used to control the disease but are better used as a protectant spray applied several times throughout the growing season (3). By spraying the wounds or infected tissue with the Bordeaux mixture or Mancozeb, chances of recontamination decrease but are not eliminated. Using other sprays as protectants will reduce disease virulence and protect the tree from fire blight (3). If fireblight has not yet reached an orchard, the best way to protect against the disease is to use resistant varieties. Delicious, Golden Delicious, and McIntosh varieties are shown to be fairly resistant to fireblight unless contaminated by susceptible cultivars. Jonathan and Rome Beauty apples are highly susceptible to fire blight and if they are in the same orchard as the resistant varieties, the disease is easily transmissible and the whole orchard will suffer (5). Biological control is also a great way to keep disease to a minimum. A formulation called Blight BanTM uses the bacterium *Pseudomonas fluorescens* to compete for space on the lower stigmas with the pathogen, *Erwinia amylovora*. This formulation is sprayed on the plant one to two times during the growing season, but it must be applied before the pathogen reaches the plant or it will not be effective (6).

Works Cited

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