THE GIVING GROVE

FIRE BLIGHT

Giving Grove Orchard Resources

Fire Blight (Erwinia amylovora) is a disease that infects Asian pear and other pear varieties, apples, and many rose family relatives. It primarily spreads during the blossom period and wet weather. It can cause bacterial ooze, blackened and wilting branch tips, and shriveled and blackened fruit. Fire blight can kill trees if left untreated. Once the tree is infected, it can harbor the disease indefinitely.





Cause:

- Bacteria initially spread primarily during the blossom period, but also later in the season during wet weather.
- The bacteria are spread by pollinators, wind, and rain, from and previously infected trees

Symptoms:

- Flower clusters wither and blacken, with floral parts adhering
- Tips of branches will blacken and wilt; forming the shape of a shepherd's hook
- Watery, light tan bacterial ooze exudes from cankers on branches, twigs, or trunks
- Shriveled and blackened fruit

Timing:

- In spring the cankers begin to ooze, and the bacteria are transferred to the new blooms, or damaged leaves and shoots.
- Ideal temperatures for infection are 70-90°F (21-39°C)
- Occurs mainly in May and June, especially when rainy or humid weather occurs.

How to Avoid:

- Purchase varieties and rootstock that have a higher degree of resistance to fire blight (see list of suggested varieties here).
- Prune out all cankers from limbs over 1-inch in diameter. Cut apple limbs at least 8 inches below external evidence of the canker and 12 inches below for pear limbs.
- If the infection reaches the leader/trunk in small trees (1-3" diameter), remove the tree.
- Pruning/removal should take place on the coolest and driest days possible.
- Sanitize pruning equipment between trees and remove all pruning wood from the area.

How to Treat:

- Copper should be applied in early spring (February/March) when buds start to show green tissue. To avoid damage to the tree, do not apply copper after the ¼-inch green leaf stage or when drying conditions are cool and slow.
- The use of Serenade (Bacillus subtilis) has been successful on small trees and some susceptible varieties. Protecting flowers as they open is the best time to apply. Serenade Opti is compatible in tank mixes and with other bactericides including copper.

Sources: MyIPM, Pennsylvania State University Extension, Washington State University Tree Fruit Endowment, University of California IPM, Patrick L. Byers, Horticulture Specialist, and Michael Phillips, "The Holistic Orchard." Additional photo credits: USU Extension and MSU Extension.